STIGMA'S IMPACT ON PEOPLE WITH MENTAL ILLNESS: ADVANCES IN UNDERSTANDING, MANAGEMENT, AND PREVENTION

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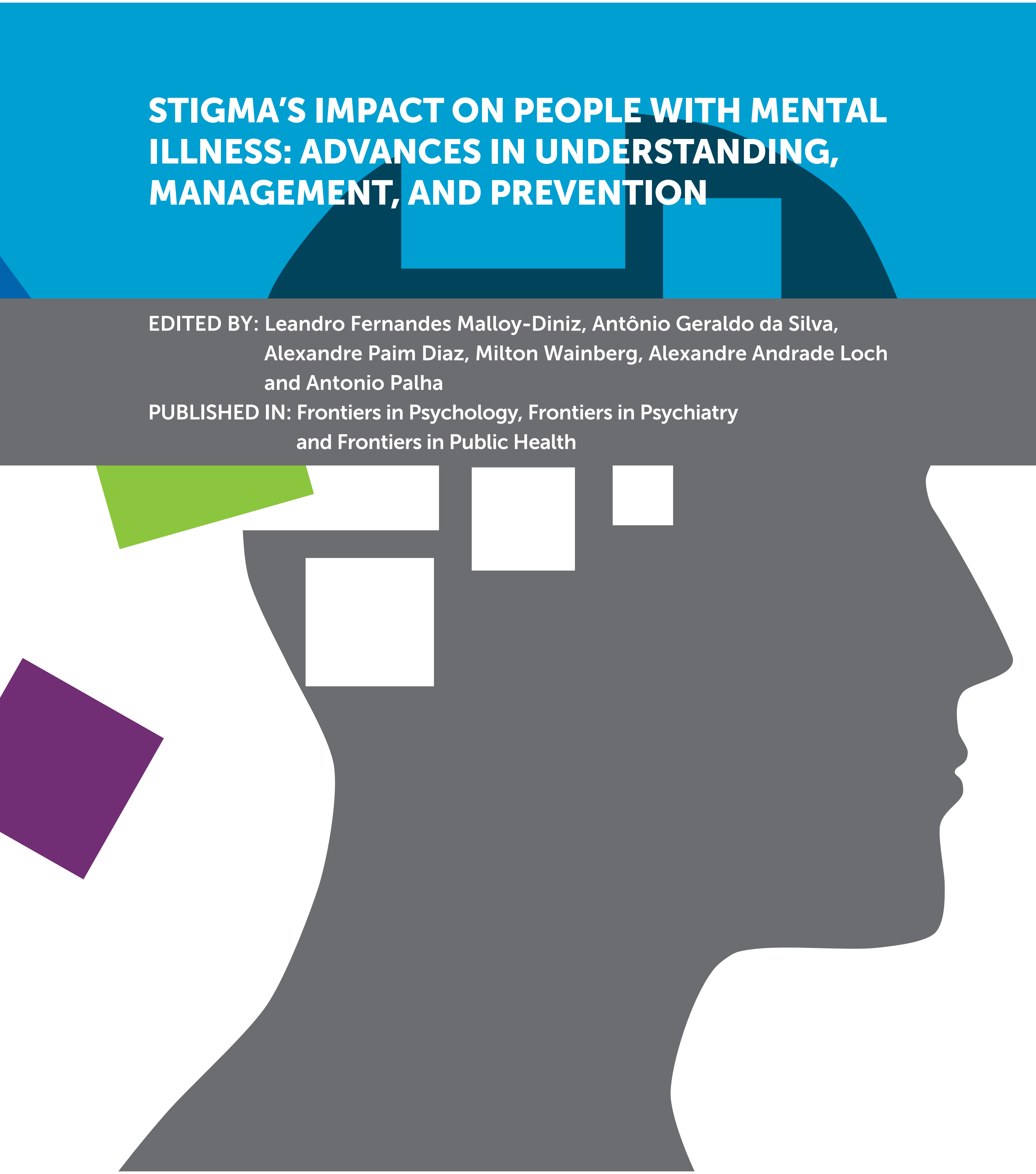
PUBLISHED IN: Frontiers in Psychology, Frontiers in Psychiatry
and Frontiers in Public Health



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ISSN 1664-8714
ISBN 978-2-88971-296-0
DOI 10.3389/978-2-88971-296-0

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STIGMA'S IMPACT ON PEOPLE WITH MENTAL ILLNESS: ADVANCES IN UNDERSTANDING, MANAGEMENT, AND PREVENTION

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Citation: Malloy-Diniz, L. F., da Silva, A. G., Diaz, A. P., Wainberg, M., Loch, A. A., Palha, A., eds. (2021). Stigma's Impact on People With Mental Illness: Advances in Understanding, Management, and Prevention. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88971-296-0

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frontiers
in Psychology

EDITORIAL
published: 09 July 2021
doi: 10.3389/fpsyg.2021.715247

Editorial: Stigma's Impact on People With Mental Illness: Advances in Understanding, Management, and Prevention

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Keywords: stereotype (psychology), prejudice & discrimination, mental health professional, empowerment, hysteria

Editorial on the Research Topic

Stigma's Impact on People With Mental Illness: Advances in Understanding, Management, and Prevention

The stigma toward mental illness is a persistent problem. Stemming from our tribal necessity to separate "them" from "us" to increase our belonging to a certain group, stigma endures and transmutes itself across time. From the witch hunts in the XVI and XVII centuries to the vanishing of the term hysteria from diagnostic manuals, the prejudice related to mental illness' stigma assume diverse forms (Loch and Wang, 2012). Increasing efforts have been carried out to understand and reduce it, reflected in an escalating number of works published on the issue in the international literature in the past 20 years. Nevertheless, still in the present days people with mental disorders continue to suffer with distorted opinions and prejudiced attitudes coming from a multitude of sources. For example, patients netative attitudes directed to own's mental illness (self-stigma) figures as an frequent cause of avoidance to help-seeking (Loch et al., 2013). Other one of these sources of stigma are mental health professionals (Schnyder et al., 2017; Valery and Prouteau, 2020). These gatekeepers should be addressed regarding prejudiced opinions, for they could act as important barriers preventing people with mental illness from seeking adequate help for their general health issues (Clement et al., 2015). In this sense, Wu et al. examined stigmatizing attitudes in non-mental health professionals in several Chinese hospitals. Authors found that most professionals held prejudiced opinions toward people with mental illness. Their beliefs were informed predominantly by mass-media information—one of the greatest sources of misinformation, responsible for perpetuating stereotypes related to psychiatric disorders. This was also observed in non-psychiatry doctors and in medical students in Portugal in the study conducted by Oliveira et al. This reinforces the idea that the struggle between "insiders" and "outsiders" is still taking place. And the label of "mentally ill" —evoking the idea of pathological behavioral changes and "madness" in people's common belief—would constitute a vulnerability to an outsider status. The insider vs. outsider segregation is particularly depicted by Martinez's et al. interesting results, showing that immigrant status was the only variable significantly related to personal depression stigma in adolescents in Chile and Colombia.

These results update and integrate a large corpus of research that nourishes puissant gold-standart tools to fight stigma: information, contact and protest (Corrigan and Penn, 1999).

Edited and reviewed by:
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Specialty section:
This article was submitted to Psychopathology, a section of the journal Frontiers in Psychology

Received: *26 May 2021*
Accepted: *04 June 2021*
Published: *09 July 2021*

Citation:
Loch AA, Diaz AP, Pacheco-Palha A, Wainberg ML, da Silva AG and Malloy-Diniz LF (2021) Editorial: Stigma's Impact on People With Mental Illness: Advances in Understanding, Management, and Prevention. Front. Psychol. 12:715247. doi: 10.3389/fpsyg.2021.715247

Information to dismantle biased and distorted public beliefs about mental illness. Contact—with individuals with psychiatric disorders—should further demystify negative stereotypes attached to those with mental disorders. And protest/empowerment should make people with the disorders deny currently circulating stereotypes and make them fight for their rights—fight public and structural stigma seen in mental healthcare delivery, for instance. However, it seems that stigma resists even to high-profile national campaigns employing these powerful tools. Walsh and Foster address this issue in depth in their work "Why do the public resist efforts to challenge mental health related stigma? A critical review of public health campaigns." Authors discuss the social processes which "Other" individuals with experiences of mental illness, taking a closer look into these campaigns and suggesting possible subtle mechanisms that might be undermining their effectiveness.

At last, we bring then to the reader of our Research Topic works on promising interventions delivering diverse ways to fight stigma. One of the greatest issues feeding self-stigma and causing stress for those with psychiatric disorders is the diagnosis' secrecy. In this sense, Modelli et al. present an interesting adaptation of the Honest-Open-Proud (HOP) protocol to the Brazilian context. The HOP-based program addressed the stigma and stress related to disclosing or not one's diagnosis of mood disorder and was accessed through a controlled trial. Depressed individuals under the intervention group improved in their perception of stigma as a stress, and depressed and bipolar individuals improved in their feelings of authenticity. As to accurate information to reduce stigma, Ueda et al. conducted an educational program with schoolteachers consisting in a 50-min video lesson designed to improve mental health literacy. It was efficacious in improving knowledge in mental disorders, and improved teachers' intention to assist students with depression. Surprisingly, it was not successful in decreasing the stigma toward mental illness *per se*. Likewise, Tan et al. showed the efficacy of a knowledge-contact-based intervention in improving university students' stigma. 309 students had to attend an one-off intervention which comprised a lecture on depression and personal contact with a person with lived experience of mental illness. After the intervention, their recognition of depression and help-seeking preferences improved, suggesting this brief tool as an important one to tackle stigma as a barrier to treatment. Focusing on the main stakeholders to understand stigmatization mechanisms and individuals' empowerment, Ong et al. employed focus group discussions with 42 individuals with mental illness to analyze their experience with stigma. Public and structural stigma were the main themes that emerged in participant's everyday life. However, 4 themes regarding participant's strategy do reduce stigma were also identified: non-disclosure of condition, standing up for themselves, individual efforts in raising awareness, and improving themselves and live life as per normal. The three last ones are prototypical of what should be employed by people with mental disorders: stereotype disconfirmation, empowerment and protest.

By bringing this state-of-the art Research Topic, we wish to inform the reader about the several aspects of stigma. Our goal is to provide insights so that the reader can echo our concern and embrace our cause in reducing the suffering of people with psychiatric disorders. Fighting the stigma of mental illness is like catching a fish with one's own hands: it's tricky, slippery. One needs to employ the right tools and have the right information to do so in a way that effectively works.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychiatry

ORIGINAL RESEARCH
published: 10 January 2020
doi: 10.3389/fpsyt.2019.00946

Stigmatizing Attitudes Towards Mental Disorders Among Non-Mental Health Professionals in Six General Hospitals in Hunan Province

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Background: There have been few studies on the stigma associated with mental disorders among non-mental health professionals in general hospitals in China. This study seeks to explore mental health-related stigma and the desire for social distance among non-mental health professionals in general hospitals in Hunan Province in China.

Methods: The study was carried out with 1123 non-mental health professionals in six general hospitals in Hunan Province by using a questionnaire with a case vignette describing either schizophrenia, depression, or generalized anxiety disorder (GAD). Questions were asked about the attitudes of participants and other people towards individuals with mental disorders and the willingness to come into contact with them.

Results: The people described in the vignette were considered dangerous by 84.4% of participants for schizophrenia, 72.0% of participants for depression, and 63.1% of participants for GAD. Besides being dangerous, people with schizophrenia were perceived as unpredictable and as the least suitable for voting for as a politician or employing. Around 50% of participants believed the problems described in the vignette were due to personal weakness. Over 70% of the non-mental health professionals were not willing to have the people described in the vignette marry into their family. The participants had gained their mental health-related knowledge mainly through the media, mostly from newspapers.

Conclusions: The current study found a significant stigma towards individuals with mental disorders and a desire for social distance from such people among non-mental health professionals in general hospitals in Hunan Province. Anti-stigma interventions should focus on addressing non-mental health professionals' beliefs on dangerousness and unpredictability.

Keywords: non-mental health professionals, stigma, social distance, schizophrenia, depression, general anxiety disorder

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Specialty section:
This article was submitted to
Public Mental Health,
a section of the journal
Frontiers in Psychiatry

Received: *17 August 2019*
Accepted: *29 November 2019*
Published: *10 January 2020*

Citation:
Wu Q, Luo X, Chen S, Qi C, Yang WFZ, Liao Y, Wang X, Tang J, Tang Y and Liu T (2020) Stigmatizing Attitudes Towards Mental Disorders Among Non-Mental Health Professionals in Six General Hospitals in Hunan Province. Front. Psychiatry 10:946. doi: 10.3389/fpsyt.2019.00946

INTRODUCTION

Stigma is a mark of shame or disgrace which sets an individual apart from others (1). It includes public stigma (attitudes from other people) and self-stigma (attitudes about self). Individuals with mental disorders usually have to struggle with the symptoms and skills deficits that arise from these disorders and the stigmatizing attitudes towards them from other people (2). Individuals with mental disorders are stigmatized when they are labeled as different from others, linked to undesirable attributes (i.e., stereotypes, such as dangerousness, unpredictability, and personal weakness), separated from others, and experience status loss and discrimination, which they usually do not have social, economic or political power to counter (3, 4). Mental health-related stigma could inhibit treatment-seeking, increase psychological distress, and adversely affect social activities and the ability to succeed in education and the workforce (5–7).

Mental health-related stigma is not only an interpersonal issue but also a health care system issue that could result in a health care crisis. There is a growing body of evidence on mental health-related stigma in the health care system and among health professionals (8). Previous studies have reported that the frequency of discrimination being experienced by individuals with mental disorders ranges from 17% to 31% in a physical health-care setting (5, 9–11). Previous research shows the average reduction in life expectancy for individuals with mental disorders ranges from 10 to 39 years compared to the general population (12–15). The mortality gap is not only driven by increased suicides and injuries but also by poor physical health, which results from the side-effects of medications and poor lifestyle. According to Daniel Vigo, years lived with disability and disability-adjusted life-years due to mental disorders were 32.4% and 13.0%, respectively (16). Furthermore, individuals with mental disorders have a higher risk of physical disorders compared to the general population (17). Therefore, individuals with mental disorders may seek treatment more frequently than the general population. When individuals with mental disorders seek physical-health treatment in a physical health-care setting, they may experience unequal, ineffective, or disrespectful treatment because of the stigmatizing attitudes towards them, which could act as a barrier to treatment-seeking by them and their family (18). Furthermore, some health professionals may attribute their physical complaints to pre-existing mental disorders, ignore the real physical conditions, and provide poor-quality health care. Some research has reported that individuals with a history of mental disorders experience poorer health care quality for their physical health conditions (19–21). The unequal treatment they experience could, in turn, increase morbidity and premature mortality (15, 22).

A great number of countries have studied mental health-related stigma based on vignettes describing a person with a certain mental disorder, including investigating the participants' attitudes about people in the vignette (known as personal stigma), their beliefs about the attitudes of others (perceived stigma), and their willingness to have social interactions with them, both among the public and health professionals (23–26). Most previous studies have focused on stigmatizing attitudes towards depression and schizophrenia, but little is known about generalized anxiety disorder (GAD). GAD is the most common anxiety in primary health care and is associated with significant disease burden (27). According to the Stigma in Global Context – Mental Health Study conducted in China, less than one-third of people could recognize schizophrenia or depression in vignettes as a mental illness, while less than 20% of people could accurately recognize the specific disease (28). Less than 5% of patients first visited psychiatrists and over 70% of patients first visited non-mental health professionals in general hospitals, according to a study conducted in a general hospital (29). Moreover, patients with depression or anxiety are more likely to present with somatic complaints rather than emotional distress (30–32). Most mental health-related facilities are psychiatric hospitals that are located in urban areas, and over 98% of mental health professionals work in psychiatric hospitals (33). Due to these factors, non-mental health professionals in general hospitals have a high probability of contact with individuals with mental disorders and play an important role in referring patients to psychiatrists in time. In China, there are few studies on mental health-related stigma conducted with non-mental health professionals (health professionals who provide health care services rather than mental health services). Given the central role health professionals play in stigma reduction campaigns and programs, it is necessary to further understand the stigma towards individuals with these common mental disorders among non-mental health professionals. The aim of the current study was to explore the stigma and social distance related to schizophrenia, depression, and generalized anxiety disorder in non-mental health professionals.

METHODS

Sample

Data for this analysis were drawn from the survey of mental health literacy and stigma conducted in six general hospitals in Hunan province from 2014 to 2015 (34). These hospitals were Xiangya Hospital of Central South University, the Second Xiangya Hospital of Central South University, the First Affiliated Hospital of the University of South China, the First People's Hospital of Hengyang, the Fifth People's Hospital of Hengyang, and the People's Hospital of Hengyang County. These hospitals comprised four tertiary hospitals and two secondary hospitals, all of which are teaching hospitals. The convenience sampling method was applied in this study. Our previous work found that a limited number of studies concerning mental health stigma had been conducted in Hunan province. Hence, the sample size for this study was calculated based on the proportion of mental health knowledge at the chance level (50%), set at the 95% confidence interval and with 5% marginal error. Additionally, a non-response rate of 10% was included in the calculation. Based on these parameters, a sample size of 424 for each questionnaire was required. Therefore, we recruited 75 respondents for each questionnaire (three questionnaires in total) within each hospital. A total of 1350 questionnaires were distributed for the non-mental health professionals to complete on their own.

The protocol received ethical approval from the ethics committee of the Second Xiangya Hospital of Central South University. The aim of the study was clearly stated in the questionnaires, and oral informed consent was obtained from the participants.

Survey Questionnaire

The questionnaires were based on a vignette (see **Supplementary Material**) describing a person with one of three mental disorders: schizophrenia, depression, or GAD, and adapted from the questionnaire used by Jorm et al. (35). Participants were allocated to receive one of the three vignettes on a random basis. The symptoms described in the vignettes satisfied the diagnostic criteria according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) and the International Classification of Diseases, Tenth Revision (ICD)-10.

After presenting the vignette, participants were required to answer a range of questions, including the most likely diagnosis, likely helpfulness of diverse interventions, likely outcomes for the person with or without treatment, likely causes and risk factors, and stigmatizing attitudes towards the person in the vignette, desire for social distance, and ways that they had learned about mental health. Data associated with these other questions are reported in our previous article (34). The main emphasis of this paper is the participants' stigmatizing attitudes towards individuals with mental disorders and desire for social distance.

Personal and Perceived Stigma

Stigma was estimated with two subscales (9 items each) by asking participants 1) their own attitudes (personal stigma) and 2) the participants' beliefs about most people's attitudes towards people with the problem described in the vignette (perceived stigma) (36). The perceived stigma subscale includes the same statements as in the personal stigma subscale but starts with "Most other people believe that…" Statements are beliefs such as dangerousness, unpredictability, or a sign of personal weakness. A five-point scale was used to measure the response to each item, which ranges from "strongly agree" to "strongly disagree."

Social Distance

A five-item scale developed by Link et al. (37) was used to measure the willingness to come into contact (such as making friends, working closely) with the person in the vignette. A four-point scale ranging from "definitely willing" to "definitely unwilling" was used to measure response to each item.

Statistical Analysis

Data analysis was conducted in R 3.6.1 within Rstudio 1.2.5001 (38). The median (interquartile range) and frequency (percentage) were used for demographic data, and percentage frequencies and 95% (CI) were computed for stigma and the desire for social distance. Chi-square tests and Kruskal-Wallis tests were performed to investigate whether there were any demographic differences between vignettes. For easy presentation, the categories "agree" and "strongly agree" were combined for stigma items to form a composite agreement in the analyses. For social distance items, "definitely unwilling" and "probably unwilling" categories were combined in the analysis. The detailed responses are described in **Supplementary Tables 1–3**. For each item on the stigma scales and social distance scale, we used the Pearson's Chi-square test to investigate whether there was any significant difference between different vignettes in the proportion of agreement.

RESULTS

Out of the 1350 distributed questionnaires, a total of 1123 qualified questionnaires were included in the final sample (response rate of 83.26%). The number of responses for each of the three vignettes were: schizophrenia (377), depression (372), and GAD (374). The detailed demographic characteristics of the participants are shown in **Table 1**. Over 80% of participants had at least a bachelor's degree, about 60% of them were physicians, and 54% of them were male. Over 70% of the respondents were from tertiary hospitals. The median age and work duration were 28 years old and 4 years, respectively. There were no significant differences between the demographic characteristics of respondents for the three vignettes. The rates of recognition of schizophrenia, depression, and GAD were 48.8%, 58.1%, and 31.8%, as reported in our previous paper (34).

Personal Stigma

The participants' own attitudes towards the three mental disorders are described in **Table 2**. Participants were most likely to agree with the item "people with this problem are dangerous" in all the vignettes. This was particularly notable for the schizophrenia vignette, where 84.4% participants agreed or strongly agreed with the statement. Over 60% of participants for both the depression and GAD vignettes agreed or strongly agreed that people with this problem are dangerous. Participants were least likely to agree with the statement "the problem is not a real medical illness" in the schizophrenia vignette (23.9%) and "avoid people with this problem" in the depression (13.7%) and GAD (13.9%) vignettes. Endorsement of the personal stigma items that the problem is a sign of personal weakness (51.2%) and that the person with the disorder is dangerous (84.4%), unpredictable (51.7%), or non-suitable for hiring (44.8%) or being voted for as a politician (56.8%) were highest in schizophrenia. Beliefs that the person could get rid of the problem (52.1%) and that the problem is not a real medical illness (23.3%) were highest in GAD. More than 80% of the participants showed their willingness to disclose the problem.

Perceived Stigma

Participants' agreements about the items reflecting the beliefs of most other people are given in **Table 3**. Although there are slight differences in the endorsement pattern in different vignettes, participants were most likely to agree that most

TABLE 1 | Demographic characteristics of participants responded to each vignette.

Participant characteristics	Total N = 1123		Schizophrenia N = 377		Depression N = 372		GAD N = 374		P value*
	n	%	n	%	n	%	n	%	
Gender									0.999
Male	611	54.4	204	54.1	203	54.6	204	54.5	
Female	512	45.6	173	45.9	169	45.4	170	45.5	
Age (years)[#]	28	(25-35)	28	(25-35)	27	(25-35)	28	(25-34.3)	0.882
Marriage									0.999
Married	548	48.8	185	49.1	179	48.1	184	49.2	
Unmarried	566	50.4	189	50.1	190	51.1	187	50.0	
Others (divorced, widowed)	9	0.8	3	0.8	3	0.8	3	0.8	
Specialty									0.921
Physician	676	60.2	230	61.0	223	59.9	223	59.6	
Surgeon	447	39.8	147	39.0	149	40.1	151	40.4	
Educational level									0.824
< Bachelor's degree	203	18.1	67	17.8	70	18.8	66	17.6	
Bachelor's degree	506	45.1	174	46.2	168	45.2	164	43.9	
Master's degree	347	30.9	119	31.5	109	29.3	119	21.8	
Doctor's degree	67	5.9	17	4.5	25	6.7	25	6.7	
Work duration (years)[#]	4	(2-10)	4	(2-10)	4	(2-10)	4	(2-10)	0.886
Hospital level									0.876
Tertiary hospital	807	71.9	275	72.9	273	73.4	259	69.3	
Secondary hospital	303	27.0	102	27.1	99	26.6	102	27.3	

**P-value was calculated for different vignettes, with Chi-square test for categorical variables and Kruskal-Wallis test for continuous variables.*

[#]Data descriptive with median (interquartile range).

TABLE 2 | Percentage (and 95% CI) of participants who "agree" or "strongly agree" with statements about their own attitudes towards the person in the vignette.

Statement about personal belief	Schizophrenia N = 377		Depression N = 372		GAD N = 374		P-value
	n	%	n	%	n	%	
1. The person could snap out of the problem	156	41.4[c] (36.4-46.5)	175	47.0 (41.9-52.3)	195	52.1[a] (46.9-57.3)	0.013
2. Problem is a sign of personal weakness	193	51.2 (46.0-56.3)	180	48.4 (43.2-53.6)	173	46.3 (41.1-51.5)	0.439
3. Problem is not a real medical illness	56	14.9[c] (11.4-18.9)	70	18.8 (15.0-23.2)	87	23.3[a] (19.1-27.9)	0.013
4. People with this problem are dangerous	318	84.4[bc] (80.3-87.9)	268	72.0[ac] (67.2-76.5)	236	63.1[ab] (58.0-68.0)	<0.001
5. Avoid people with this problem	68	18.0 (14.3-22.3)	51	13.7 (10.4-17.6)	52	13.9 (10.6-17.8)	0.176
6. People with this problem are unpredictable	195	51.7[bc] (46.6-56.9)	117	31.5[a] (26.8-36.4)	107	28.6[a] (24.1-33.5)	<0.001
7. If I had this problem, I wouldn't tell anyone	74	19.6 (15.7-24.0)	64	17.2 (13.5-21.4)	64	17.1 (13.4-21.3)	0.595
8. I would not employ someone with this problem	169	44.8[bc] (39.7-50.0)	119	32.0[ac] (27.3-37.0)	112	29.9[ab] (25.3-34.9)	<0.001
9. I would not vote for a politician with this problem	214	56.8[bc] (51.6-61.8)	174	46.8[ac] (41.6-52.0)	146	39.0[ab] (34.1-44.2)	<0.001

Symbols flagging table entries denote significant differences relative to [a]schizophrenia; [b]depression; [c]GAD.

other people believe that the person is dangerous (>50%) and consider the problem as a sign of personal weakness (>50%). Participants tended to agree that most other people would not hire someone with this problem (>40%) and not elect a politician with this problem (>45%). These items were generally rated the highest in the schizophrenia vignette and lowest in the GAD vignette. In the schizophrenia vignette, around 60% of participants were most likely to agree that other people believe the people described in the vignette are unpredictable. Meanwhile, in the depression vignette and GAD vignette, around 50% of participants endorsed the item that the person could get rid of the problem. Between 30% and 36% of participants believed other people would not disclose the problem if they had this problem.

TABLE 3 | Percentage (and 95% CI) of participants who "agree" or "strongly agree" with statements about other people's attitudes towards the person in the vignette.

Statement about others' belief	Schizophrenia N = 377		Depression N = 372		GAD N = 374		P-value
	n	%	n	%	n	%	
1. The person could snap out of the problem	162	43.0 ^{c} (37.9-48.1)	185	49.7 (44.5-54.9)	194	51.9^{a} (46.7-57.0)	0.039
2. Problem is a sign of personal weakness	198	52.5 (47.3-57.7)	191	51.3 (46.1-56.5)	188	50.3 (45.1-55.4)	0.862
3. Problem is not a real medical illness	90	23.9 ^{b} (19.7-28.5)	121	32.5 ^{a} (27.8-37.5)	112	29.9 (25.3-34.9)	0.027
4. People with this problem are dangerous	290	76.9 ^{bc} (72.3-81.1)	225	60.5^{ac} (55.3-65.5)	189	50.5^{ab} (45.3-55.7)	<0.001
5. Avoid people with this problem	160	42.4 ^{bc} (37.4-47.6)	119	32.0^{a} (27.3-37.0)	109	29.1 ^{a} (24.6-34.0)	<0.001
6. People with this problem are unpredictable	225	59.7 ^{bc} (54.5-64.7)	162	43.5^{a} (38.4-48.8)	160	42.8^{a} (37.7-48.0)	<0.001
7. If I had this problem, I wouldn't tell anyone	138	36.6 (31.7-41.7)	121	32.5 (27.8-37.5)	113	30.2 (25.6-35.1)	0.169
8. I would not employ someone with this problem	200	53.1^{c} (47.9-58.2)	179	48.1 (42.9-53.3)	163	43.6^{a} (38.5-48.8)	0.041
9. I would not vote for a politician with this problem	218	57.8 ^{c} (52.7-62.7)	193	51.9 (46.7-57.1)	174	46.5^{a} (41.4-51.7)	0.01

Symbols flagging table entries denote significant differences relative to ^{a}schizophrenia; ^{b}depression; ^{c}GAD.

Social Distance

Participants' endorsements for "probably unwilling" or "definitely unwilling" to have contact with the person described in the vignettes are shown in **Table 4**. For all of the vignettes, participants were most unwilling to marry into the family of someone with the problem (> 70%) or work closely with them (> 45%), while their willingness to spend the evening socializing tended to be higher than for other social interactions (30-40%). 30% to 50% of participants were unwilling to live next door to or make friends with the people described in the vignettes.

Participants' Usual Sources of Mental Health Knowledge

Non-mental health professionals mostly learn their knowledge about mental health from newspapers (77%), followed by books (65%; see **Table 5**). Websites (50%) and television (38%) are also important ways to learn about mental health, although they are not utilized as much as newspapers and books. Less than 25% of the participants learn from other people's explanations.

TABLE 4 | Percentage (and 95% CI) of participants who "probably unwilling" or "definitely unwilling" to have contact with the person described in the vignette.

Social interactions	Schizophrenia N = 377		Depression N = 372		GAD N = 374		P-value
	n	%	n	%	n	%	
Live next door	191	50.7^{bc} (45.5-55.8)	136	36.6^{a} (31.7-41.7)	128	34.2^{a} (29.4-39.3)	<0.001
Spend the evening socializing	151	40.1^{bc} (35.1-45.2)	112	30.1^{a} (25.5-35.0)	113	30.2^{a} (25.6-35.1)	0.005
Make friends	178	47.2^{bc} (42.1-52.4)	130	34.9^{a} (30.1-40.0)	125	33.4^{a} (28.7-38.5)	<0.001
Work closely	207	54.9^{bc} (49.7-60.0)	172	46.2^{a} (41.1-51.5)	176	47.1^{a} (41.9-52.3)	0.04
Marry into family	307	81.4^{bc} (77.1-85.2)	263	70.7^{a} (65.8-75.3)	269	71.9^{a} (67.1-76.4)	0.002

Symbols flagging table entries denote significant differences relative to ^{a}schizophrenia; ^{b}depression; ^{c}GAD.

DISCUSSION

This study explored the stigma towards individuals with mental disorders among non-mental health professionals in six general hospitals in Hunan Province. The survey showed that beliefs about dangerousness, unpredictability, and signs of personal weakness, unwillingness to hire someone with this problem, unwillingness to elect a politician with this problem, and desire for social distance were universally highest for schizophrenia, while beliefs that the "person could get rid of the problem" or "the problem is not a real medical illness" were higher in GAD

TABLE 5 | Usual source of mental health knowledge of participants.

How do you usually learn about mental health issues?	Schizophrenia N = 377		Depression N = 372		GAD N = 374	
	n	%	n	%	n	%
Newspapers	295	78.2 (73.7-82.3)	284	76.3 (71.7-80.6)	291	77.8 (73.3-81.9)
Televisions	144	38.2 (33.3-43.3)	148	39.8 (34.8-45.0)	139	37.2 (32.3-42.3)
Websites	185	49.1 (43.9-54.2)	188	50.5 (45.3-55.7)	194	51.9 (46.7-57.0)
Books	248	65.8 (60.8-70.6)	252	67.7 (62.7-72.5)	242	64.7 (59.6-69.5)
Other people's explanations	89	23.6 (19.4-28.2)	78	21.0 (16.9-25.5)	84	22.5 (18.3-27.0)

than in the other disorders. The findings are consistent with previous reports that individuals with schizophrenia faced higher level stigma compared to other mental disorders (23–25).

The results indicated that the patterns of personal stigma and perceived stigma varied between schizophrenia, depression, and GAD. The beliefs that people with the problem are dangerous and unpredictable were significantly higher for the schizophrenia vignette and much higher than in other studies about stigma among the pubic (23). With the development of internet media in recent years, media reports about violence related with schizophrenia may have contributed to the perception of dangerousness. Furthermore, non-mental health professionals may also have more access to news about violence that has happened in psychiatric wards than the general population. Violence against doctors in China may also contribute to the beliefs in dangerousness and unpredictability (39). According to a survey that included 316 hospitals in more than 30 provinces, violence against medical staff occurred in 96% of the hospitals. The same survey also reported that intentional hurting or even killing of medical staff happened in 63.7% of the hospitals in 2012 (39). Around 30% of these offenders have a history of mental disorders; 40% are introverted, isolated, and paranoid (39). These kinds of violence in the hospital may partly influence non-mental health professionals' beliefs regarding the dangerousness and unpredictability of individuals with mental disorders. People usually hold negative beliefs about individuals with mental disorders, especially schizophrenia, such as dangerousness and unpredictability, which result in high rates of unemployment. This study also demonstrated high endorsement of unwillingness to employ individuals with schizophrenia. A study conducted in four provinces in China reported that 66% of urban people with schizophrenia were unemployed and 89.6% of rural people with schizophrenia worked as farmers or fishermen (40). These professions are in less organized, low-skill sectors, and people holding these jobs do not have as much contact with other people in the community as with other jobs, and thus they are less discriminated against. Unemployment could further lead to social withdrawal, which increases the family burden, since most of the people with schizophrenia live with their families in China. Financial burden is the most common family burden reported by caregivers of schizophrenia patients in rural China (41).

Many non-mental health professionals in this study think that GAD is not a real medical illness or that the patients could get rid of the problem. This was higher than for other mental disorders. This is consistent with our previous result that GAD is less recognized as a mental disorder and is therefore less likely to be linked with stigmatizing attitudes (34). To our knowledge, the current survey is the first to assess stigma against GAD at a non-mental health professional level. Few studies have assessed the stigma and social distance related to GAD, especially in non-mental health professionals in general hospitals in China. According to an epidemiological study, anxiety disorders are the most common mental disorders (42). The prevalence of GAD amounts to 5.3% in urban China, and only 0.5% of these people have been diagnosed (43). The majority of individuals with anxiety or mood disorders do not seek immediate help from a mental health professional but instead visit a general medical practitioner, which would usually cause a delay in treatment of at least one month (44). People with GAD not only have functional impairments and lower quality of life but also have greater utilization of medical resources in the previous six months compared to people without GAD (43). In addition to the low recognition rate of GAD among non-mental health professionals (34), this may partly reflect the beliefs that GAD is not a real medical illness and that individuals could get rid of the problem that are held by non-mental health professionals.

In the current study, perceived stigma was universally higher than personal stigma throughout the items except for beliefs in dangerousness. Social desirability and perceived social norms may contribute to this difference (23, 45). Participants tend to give answers to meet social acceptance. Non-mental health professionals tend to believe other people would hold more stigmatizing attitudes towards individuals with mental disorders than themselves, as has been shown by the results in other studies (23, 25). It may also indicate that non-mental health professionals may be unwilling to accept their own mental disorder (if they have one), since they believe other people would discriminate against them and it may impact their career.

As with personal stigma and perceived stigma, the desire for social distance of non-mental health professionals was greatest for schizophrenia when compared with depression and GAD, which may reflect their beliefs in the dangerousness and unpredictability of people with the disorder. Participants were least willing to marry into the family across each disorder, which is in line with previous studies (23, 24). This may be related to the level of intimacy. Non-mental health professionals prefer not to have contact with the person with the disorder, such as working closely or spending an evening with them, even though less than 20% of them endorsed the item that they would avoid the person with a mental disorder in the personal stigma items. The desire for social distance increased with the level of intimacy of the activity.

The high level of stigma and social distance non-mental health professionals held in the current study may be due to a lack of knowledge and training about mental health. In the current survey, newspapers were the most common source of mental health knowledge of non-mental health professionals, which is troubling. Most undergraduate medical education programs in China have few mental health-related course hours and do not provide a clinical psychiatry clerkship and preclinical curriculum (46), which is consistent with the low mental health literacy reported in our previous paper (34). Some transferred psychiatrists in China were general medical practitioners and did not receive additional mental health-related education or training. Neither the quantity of mental health-related professionals nor the quality of mental health services is sufficient. Although the number of psychiatrists has increased during the last decades in China, there remains a shortage of mental health resources. By 2016, there were 2.20 psychiatrists and 5.42 mental health nurses per 100,000 population in China, compared to 11.9 psychiatrists and 23.5 mental health nurses per 100,000 population in high-income countries, according to the World Health Organization's Mental Health Atlas (47, 48). Furthermore, these mental health resources are distributed inequitably in urban and rural areas. People with mental health disorders in rural areas usually have limited access to mental health services: there were no psychiatrists in over 60% of counties in China (49) by 2015. The mental health-related stigma could further compound the shortage of mental health resources. Furthermore, in our previous study, less than 2% of medical students chose psychiatry as their first choice of career due to negative attitudes about psychiatry (50). Mental health resources, especially human resources, are inadequate worldwide, particularly in low-income and middle-income countries (51). In addition to training more psychiatrists, non-mental health professionals in the primary health care system could be helpful in closing the treatment gap for mental disorders. Non-mental health professionals with brief mental health-related training by mental health professionals are able to detect, diagnose, give an in-time referral and even treat individuals with mental disorders (51). Integrating mental health services into the primary care system along with general hospitals and communities is the goal of the ("686 program,") started in 2006. Given the fact that most individuals with mental disorders first visited local general hospitals to seek help from non-mental health professionals (52), the ability of these non-mental health professionals to diagnose and refer patients and their attitudes towards them are quite important. Most non-mental health professionals believed that the problem in the vignette is a sign of weakness rather than a real medical illness and believed they could get rid of the problem, which may lead to individuals with mental disorders, especially those with non-psychotic disorders, not receiving timely referral or relevant treatment. Less than 10% of patients who first contacted non-psychiatric hospitals were diagnosed with mental disorders by their first healthcare provider, and less than 13% of them were diagnosed with mental disorders before they contacted mental health professionals (52). The high health resource expenditure before they could receive in-time referral not only increases the financial burden on patients but also occupies limited medical resources. Besides mental disorders, individuals with mental disorders have a high prevalence of physical illness due to the poor lifestyle and the side effects of psychotropic medications (53). Stigmatizing attitudes towards these patients would further inhibit treatment-seeking and affect the quality of health care (8). The poor quality of health care they received would further worsen treatment compliance, decrease psychiatric stability, shorten their life span, and reduce quality of life as well as increase family burden (53).

This study has several limitations. The major limitation is the convenience sampling we used to collect data from non-mental health professionals. Convenience sampling could induce a higher sampling error, less representativeness, and lack randomization, which may impact the validity and generalizability of our findings. Due to the convenience sampling method we used and a lack of related information, we could not adjust the clustering effects in these hospitals, which may lower the accuracy of the results. However, over 80% of the respondents had a bachelor's degree or a higher educational level, while only 57.1% of the health professionals in China have a bachelor's degree, according to the 2014 statistics (54). Moreover, more than 70% of respondents were from tertiary hospitals. We speculate that the stigma level may be higher than indicated by the results in this study, since higher-level education is associated with less stigma (55, 56). Another limitation is that around 17% of participants did not return the questionnaires or complete all the questions, which may reduce the generalizability of the results. These non-respondents may have different opinions to those of the respondents. There may also be some differences in demographic variables between non-respondents and respondents. In addition, we did not ask about non-mental health professionals' interpersonal contact with individuals with mental disorders (such as friends and family members) or their training experience regarding mental disorders. Previous studies reported that greater exposure to mental disorders and higher knowledge of mental disorder predict lower personal stigma and social distance (57, 58). Most health professionals receive at least five-year undergraduate training and a three-year standardized residency program after they complete their undergraduate training. Most non-mental health professionals in China do not have mental health training experience, especially clerkship training. Hence, the number of respondents who have mental health training may be small in our study sample.

CONCLUSIONS

The results of this survey show a high level of desire for social distance from and stigma against individuals with mental disorders in non-mental health professionals. In addition to increasing the mental health-related course hours in medical education, mental health-related knowledge training and anti-stigma interventions regarding mental disorders among non-mental health professionals are of the utmost importance. Furthermore, the emphasis of anti-stigma interventions among non-mental health professionals should be on addressing perceptions of dangerousness and unpredictability and perception of mental disorders as a result of weakness. Since the media plays an important role in promoting mental health knowledge, the quality of disseminated knowledge is important.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the ethics committee of the Second Xiangya Hospital of Central South University. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

YL, JT, XW, and TL contributed to the conception and design of the study. QW, XL, SC, and CQ organized the database. QW and

WY performed the statistical analysis. QW wrote the first draft of the manuscript. WY, XW, YT, and JT revised the manuscript. TL and YT advised on the statistical analysis and interpretation of findings and reviewed drafts of the manuscript.

FUNDING

This study was supported by the National Key R & D Program of China (2017YFC1310400), National Natural Science Foundation of China (Grant No. 81671324 and 81371465 to TL), and Hunan Provincial Innovation Foundation for Postgraduate (Grant No. CX2017B071 to QW).

ACKNOWLEDGMENTS

We acknowledge all of the health professionals who participated in this survey. The support provided by the China Scholarship Council (CSC) during a visit of QW to Texas Tech University is acknowledged.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyt.2019.00946/full#supplementary-material

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers
in Psychiatry

BRIEF RESEARCH REPORT
published: 30 April 2020
doi: 10.3389/fpsyt.2020.00326

Stigmatizing Attitudes Toward Patients With Psychiatric Disorders Among Medical Students and Professionals

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Specialty section:
This article was submitted to
Public Mental Health,
a section of the journal
Frontiers in Psychiatry

Received: *25 January 2020*
Accepted: *01 April 2020*
Published: *30 April 2020*

Citation:
Oliveira AM, Machado D, Fonseca JB, Palha F, Silva Moreira P, Sousa N, Cerqueira JJ and Morgado P (2020) Stigmatizing Attitudes Toward Patients With Psychiatric Disorders Among Medical Students and Professionals. Front. Psychiatry 11:326. doi: 10.3389/fpsyt.2020.00326

Introduction: Stigma attached to mental health encompasses discrimination and exclusion of psychiatric patients and hinders their opportunities to have more productive and fulfilling lives. Moreover, stigma also exists among health professionals, and therefore, it hampers the provision of treatment and care and the promotion of mental well-being. This manuscript intends to assess and compare the levels of stigmatization toward patients with mental illness between medical students and doctors from different specialties.

Methods: The Portuguese version of Attribution Questionnaire (AQ-27) was used to assess the attitudes of medical students (n = 203), non-psychiatry doctors (n = 121), and psychiatry specialists (n = 29) from the University of Minho and three hospitals in the region of Braga, Portugal (Hospital de Braga, Hospital Senhora da Oliveira, and Hospital de Fafe).

Results: Psychiatrists were the group that displayed lower levels of stigmatizing attitudes in all the items of the AQ-27, followed by the students. The regression analyses revealed that professional group and presence of a relative with mental illness were the factors that have a significant impact on the levels of stigmatization.

Conclusions: Mental illness stigma is widely spread in community and reaches not only general population but also health professionals. Psychiatrists presented lower levels of stigma compared with non-psychiatry physicians and medical students. We found that stigma is related with age and the presence of relatives with psychiatric disorders. These findings highlight the critical relevance of raising awareness on this topic and, therefore, break stereotypes to reduce the negative consequences of stigma.

Keywords: stigma, mental health, psychiatrists, students, schizophrenia, AQ-27, mental illness

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Abbreviations: AQ-27, Portuguese version of Attribution Questionnaire; WHO, World Health Organization.

INTRODUCTION

Stigma can be defined as a sign that distinguishes a person in a negative way resulting in an additional difficulty for him/her. Stigma toward people with mental health problems consists in an attitude of social disapproval based on certain personal characteristics, beliefs, or behaviors that are in conflict to the sociocultural norm (1). These may be viewed as marks of disgrace and discredit leading a person to be casted away from a standard group (2).

The process of stigmatization may be understood under the social attributions model that establishes a causal relationship between stigma signals, stereotypes, and discriminatory behavioral responses (3). In accordance to this paradigm, the discriminative cues are given by persons suffering from psychiatric disorders through their symptoms, skill deficits, and appearance. Then, the general public will generate impressions and expectations regarding these individuals that are commonly seen as dangerous or responsible for causing their illness (controllability and responsibility). Therefore, these negative beliefs give rise to a wide range of stigmatizing discriminatory attitudes including coercion (mandatory treatment), segregation (treating patients away from society), avoidance, and hostile behavior (physical maltreatment or threats of harm) (4).

Stigma stands as one of the most significant contributors for diminishing the quality of life of mental patients and their families and as a barrier for the development of mental health care programs (5, 6).

The World Health Organization (WHO) has already pointed out some of the devastating consequences of stigma since it leads to social exclusion and isolation, hampers family relationships, limits social functioning, and favors human right abuse. These problems can be intensified by self-stigma that results from a process of internalization of public stereotypes, leading to decrement of self-esteem and self-efficacy and delays the search for psychiatry treatment and recovery (7, 8). It is known that people suffering from severe mental illness show a shorter life span and higher mortality rates compared to general population due to polypharmacy, physical illness, and suicide (9, 10). According to WHO one of the pivotal reasons explaining why people with mental problems have less access to health care is the stigma and discrimination associated with mental illness (8).

Alongside with general social stigma, the literature shows that stigmatizing attitudes toward patients with mental illness among mental health professionals and students exist in higher proportions than expected given the current knowledge on this topic (5, 11). Despite that, there is evidence that the literacy on mental health and the interaction with patients have positive effects on reducing stigma (11). This can be seen through the improvement on stigmatization scores as the students get more contact with mental health patients (12, 13).

There are many gaps in the research about stigma toward persons suffering from psychiatry disorders, mainly those intended to understand how it develops during medical education. The aim of the present study was to characterize and compare the presence of stigmatizing attitudes toward mental illness among medical students, psychiatrists, and non-psychiatry doctors in order to find if there are differences in attitude among different specialty and formation/working status.

METHODS

This is a non-interventional, observational, cross-sectional, and analytic study. The population assessed comprised the students of all classes of the Medical Degree of the University of Minho and medical doctors from psychiatry, internal medicine, and surgery working in public hospitals in Braga's region (Hospital de Braga, Hospital Senhora da Oliveira and Hospital de Fafe). All the participants signed a written informed consent, and the study protocol was approved by the ethics committee of School of Medicine.

Printed copies of a sociodemographic questionnaire and the Portuguese version of Attribution Questionnaire (AQ-27) (14) were given to the participants, and the answers were collected in ballots in order to ensure confidentiality.

The sociodemographic questionnaire included questions on age, gender, professional group, and information on previous personal and familiar experience of mental health disorders.

AQ-27 is a validated instrument designed to measure stigmatizing attitudes and reactions regarding nine dimensions: responsibility (patients with mental illness can control their condition and are responsible for it), pity (mental illness is beyond the control of the patients and they deserve other's sympathy), anger (patients with mental illness are blamed for their conditions and cause irritation and rage), dangerousness (people with mental illness are unpredictable and can be harmful for themselves and others), fear (patients with mental illness should be feared because they are dangerous), help (willingness to provide assistance people with mental illness), coercion (mandatory management of patients with mental illness), segregation (people with mental illness should be isolated from the community), and avoidance (effort to stay away from patients with mental illness). The items regarding responsibility, dangerousness, fear, anger, coercion, segregation, and avoidance can be associated with discriminatory behaviors in contrast with help and pity. This questionnaire contains a vignette of a patient with mental illness (in this case was a person suffering from schizophrenia) followed by 27 sentences that should be scored on a Likert scale ranging from 1 point ("no or nothing") to 9 points ("very much or completely"). Higher factor scores represent greater endorsement of the corresponding attitude or belief.

The statistical analysis was performed using the *Statistical Package for the Social Sciences (SPSS) 19.0®* for *Windows®*. The AQ-27 dimensions were statistically compared between professional groups. The normality assumption was assessed using the Shapiro-Wilk test. If this assumption was met, one-way analysis of variance (ANOVA) was conducted; otherwise, the groups were compared with the non-parametric Kruskal-Wallis test. The differences between groups were determined using a *post hoc* Tukey test (*p* value was considered significant when <0.05). The contribution of individual variables on AQ-27 scores was assessed with linear regression modeling. For this, purpose demographic variables (age and gender), information on previous personal and familiar experience of mental health disorders and variables related to the professional group were set as independent variables. To account for the categorical nature of the professional group, two dummy variables were created: Student (1 if the participant is a student; 0 otherwise) and Psychiatrist (1 if the participant is a psychiatrist; 0 otherwise). This approach enables the use of categorical variables in the different regression models. Statistical significance was defined at the $p < 0.05$ level.

RESULTS

The sample included a total of 353 participants of which 203 (57.5%) were students, 121 (34.3%) were non-psychiatry doctors, and 29 (8.2%) were psychiatry specialists. The majority of the responders were female (65.2%, n = 230) and the age ranged from 17 to 73 (mean = 29.81; standard deviation (SD) = 12.42).

Global results obtained for each item evaluated on AQ-27 are shown in **Table 1**. Overall, coercion and avoidance were the dimensions that got the highest scores. Responsibility was the item with the lowest score (**Table 1**).

The significance of the Shapiro-Wilk tests demonstrated that for most AQ-27 dimensions, there were statistically significant deviations from the normal distribution at least in one of the groups. Thus, the scores on these dimensions were compared using the Kruskal-Wallis test. The between-group differences are graphically represented in **Figure 1**. Psychiatrists displayed lower levels of stigmatizing attitudes in all categories analyzed, except "pity." Students, on other hand, showed significantly lower stigmatizing attitudes in help, pity, and avoidance when compared with non-psychiatrist doctors. No differences were found between groups among coercion and segregation. All p values were corrected for multiple comparisons with Tukey test.

The regression analyses revealed statistically significant main effects for fear (F (6,337) = 8.523, $p < 0.001$), help (F ($_{6,339}$) = 5.042, $p < 0.001$), pity (F $_{(6,339)}$ = 5.121, $p < 0.001$), avoidance (F $_{(6,341)}$ = 7.057, $p < 0.001$), anger (F $_{(6,341)}$ = 3.909, $p = 0.001$) and dangerousness (F $_{(6,341)}$ = 5.286, $p < 0.000$). When it comes to the contribution of the variables studied on the scores, we verified that the professional group was the one that showed more significant statistical differences in several stigmatizing attitudes like fear, help, avoidance, anger, and danger. Comparing to the remaining professional categories, being a psychiatrist is relevant to express significantly lower stigmatizing attitudes in fear, anger, and danger dimensions. When it comes to help and avoidance dimensions, both psychiatrists and students expressed fewer stigmatizing views than non-psychiatry doctors.

TABLE 1 | Stereotypes means obtained in the AQ-27 in our sample, mean (SE).

	Psychiatrists	Non-Psychiatrists	Students
Gender (F/M)	17/11	58/59	155/48
Age	41.52 (2.49)	40.89 (1.04)	21.64 (0.21)
AQ-27 Responsibility	6.48 (0.64)	8.6 (0.38)	8.16 (0.27)
AQ-27 Fear	8.43 (0.65)	14.15 (0.59)	16.14 (0.36)
AQ-27 Help	24.41 (0.42)	19.04 (0.44)	22.07 (0.26)
AQ-27 Pity	16.68 (0.90)	16.25 (0.51)	18.56 (0.32)
AQ-27 Coercion	19.14 (0.50)	18.55 (0.34)	18.66 (0.24)
AQ-27 Segregation	10.55 (0.84)	16.18 (0.52)	16.81 (0.34)
AQ-27 Anger	12.71 (0.72)	14.95 (0.42)	13.79 (0.34)
AQ-27 Avoidance	6.17 (0.52)	10.61 (0.44)	10.75 (0.30)
AQ-27 Danger	13.38 (1.11)	19.58 (0.44)	14.74 (0.38)

Age was an independent predictor of "pity," with older participants revealing higher stigmatizing attitudes. The presence of a relative with mental illness also influenced significantly the scores on pity and help items by promoting fewer stigmatizing attitudes (**Table 2**; **Figure 2**).

DISCUSSION

The present study aimed to characterize stigmatization attitudes among medical students, psychiatrists, and non-psychiatry doctors, and it showed that psychiatrists hold the lowest scores on stigmatization levels (except for coercion), followed by students and doctors of other specialties.

Our observation that psychiatrists have the least negative attitudes toward patients with mental illness comes in line with others studies that show the same conclusion (15). Particularly, the difference with other doctors who have higher levels of stigmatization may be explained by the *contact hypothesis*. Psychiatrists as a professional group have more personal contact with mental illness and that has been proven to significantly reduce stigma and enhance positive approach to it (16, 17). In the same vein, physicians who have a relative with mental illness also expressed fewer stigmatizing attitudes with significantly higher scores on pity and help. Together, these results are in line with convincing evidence that increased contact with people suffering from mental illness is associated with lower stigma (15–17).

Another factor that can help to understand this difference is the *physicians bias* that states that the attitudes held by a health provider may be conditioned by training and/or past experiences with patients with mental illness. We hypothesize that doctors from other specialties may have contact with more complicated patients that have to be seen in emergency room setting with self-inflicted lesions or disruptive conduct in virtue of severe psychiatry illness. Our study showed a statistically significant higher score on avoidance that may be related to the aforementioned factors.

Students' scores are placed in an intermediate level between psychiatrists and non-psychiatrists. As previously shown by several studies, older people are more prone to engage in stigmatizing attitudes toward mental patients (18, 19). Our study showed similar results once age appeared as an independent factor in the regression: being younger, students will present a more positive attitude. Moreover, psychiatrists included in this study coach students from the medical school. Interestingly, there are studies that show that when professors exhibit less stigmatizing attitudes, as shown in our study, student's negative attitudes will tend to improve toward both psychiatry and patients with mental illness (16). Plus, some of

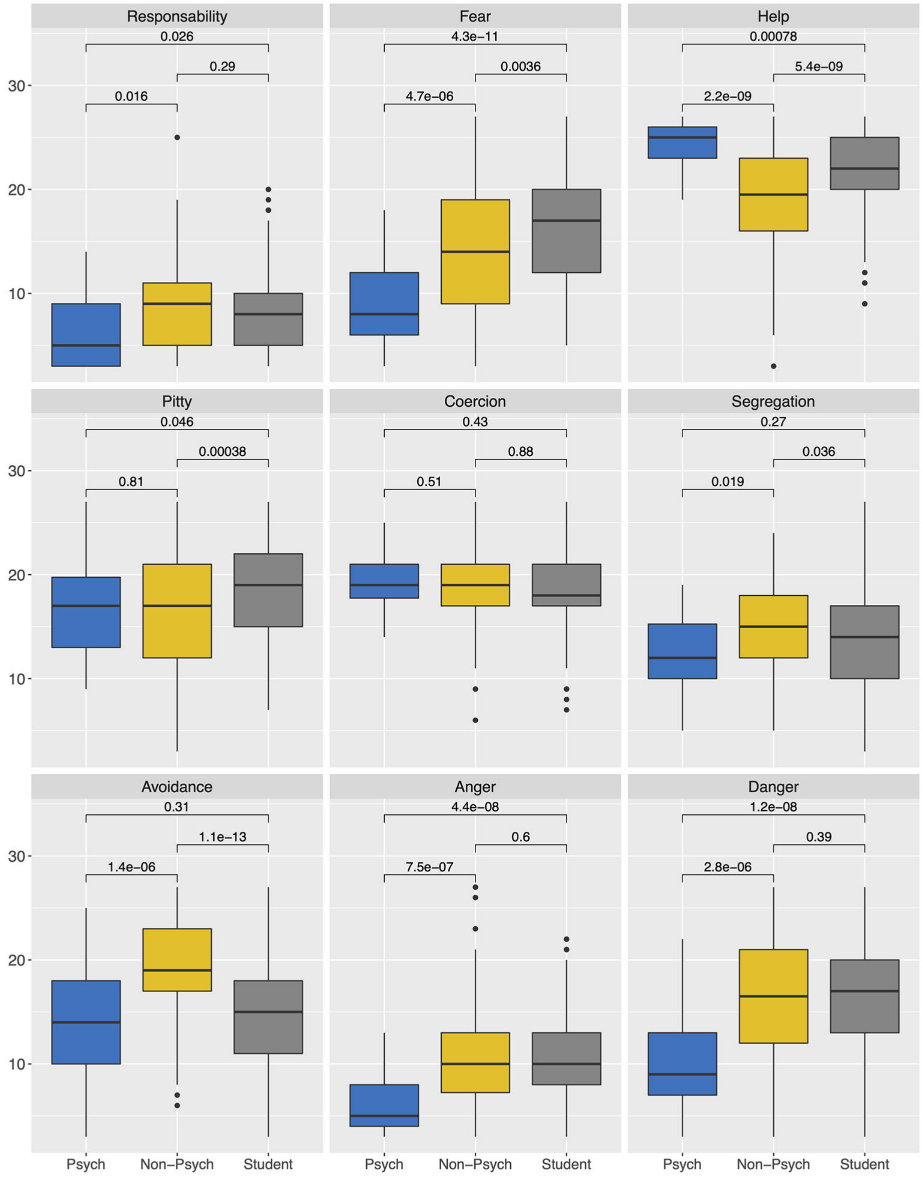

FIGURE 1 | Comparison of AQ-27 score means for each stereotype according to the professional group.

the students in our sample had already attended psychiatry rotation which makes them more prone to change the way they view psychiatric patients. Studies comparing pre- and post-clinical students demonstrate that as the level of education in psychiatry rises, the level of stigmatization decreases (17).

Even though our results are in accordance with the literature, it is relevant to point out that the group we studied relied on a convenient sample that included students and doctors of a particular geographic area. The same applies to students from this particular medical school, which includes a specific program of psychiatry training that offers early contact with psychiatric patients and simulated clinical consultations of different psychiatric syndromes (20). Furthermore, being a cross-sectional study, it does not allow to follow the changes of student's attitudes over time, considering that students from different degrees of the medical course were included together as a group. Other limitations of the study include the use of preliminary version of the AQ-27 in Portuguese, the limited variability of the samples, and the unequal sample size for each group. Additionally, it might be interesting in future research to compare medical students/professionals' stigma with other health professionals and the general population.

TABLE 2 | Regression Models: contribution of different variables on each AQ-27 score.

	Dependent Variable								
	Responsability	**Fear**	**Help**	**Pity**	**Coercion**	**Segregation**	**Avoidance**	**Anger**	**Dangerousness**
Predictor									
Constant	B = 9.081 (SE = 1.468), t = 6.187, *p* < 0.001	B = 16.792 (SE = 2.07), t = 8.113, *p* < 0.001	B = 19.267 (SE = 1.493), t = 12.903, *p* < 0.001	B = 19.705 (SE = 1.822), t = 10.816, *p* < 0.001	B = 17.838 (SE = 1.338), t = 13.327, *p* < 0.001	B = 16.248 (SE = 1.758), t = 9.243, *p* < 0.001	B = 17.553 (SE = 1.964), t = 8.938, *p* < 0.001	B = 11.924 (SE = 1.624), t = 7.344, *p* < 0.001	B = 17.562 (SE = 1.878), t = 9.35, *p* < 0.001
Psychiatrist	B = −1.765 (SE = 0.849), t = −2.078, *p* = 0.038	B=−5.811 (SE = 1.194), t=−4.867, *p* < 0.001	B = 4.854 (SE = 0.863), t = 5.622, *p* < 0.001	B = −0.128 (SE = 1.068), t = −0.12, *p* = 0.905	B = 0.443 (SE = 0.769), t = 0.577, *p* = 0.565	B = −2.275 (SE = 1.022), t = −2.227, *p* = 0.027	B = −6.378 (SE = 1.145), t=−5.573, *p* < 0.001	B = −4.114 (SE=0.946), t = −4.347, *p* < 0.001	B = −5.323 (SE = 1.095), t = −4.863, *p* < 0.001
Student	B = −0.833 (SE = 1.074), t=−0.775, *p* = 0.439	B = 1.039 (SE = 1.495), t = 0.695, *p* = 0.488	B=3.454 (SE=1.093), t=3.161, *p* = 0.002	B=0.603 (SE=1.335), t=0.452, *p* = 0.652	B = 0.492 (SE = 0.971), t = 0.506, *p* = 0.613	B = −1.801 (SE = 1.27), t = −1.417, *p* = 0.157	B = −3.215 (SE = 1.432), t = −2.245, *p* = 0.025	B = −0.553 (SE = 1.184), t = −0.467, *p* = 0.641	B = −0.361 (SE = 1.37), t = −0.263, *p* = 0.792
Age	B = −0.004 (SE = 0.028), t = −0.141, *p* = 0.888	B = −0.078 (SE = 0.04), t = −1.953, *p* = 0.052	B=−0.03 (SE=0.028), t= −1.066, *p* = 0.287	B=−0.081 (SE=0.035), t= −2.308, *p* = 0.022	B = 0.015 (SE = 0.025), t = 0.591, *p* = 0.555	B = −0.03 (SE = 0.034), t = −0.887, *p* = 0.376	B = 0.019 (SE = 0.037), t = 0.493, *p* = 0.622	B = −0.029 (SE = 0.031), t = −0.92, *p* = 0.358	B = −0.018 (SE = 0.036), t =−0.5, *p* = 0.617
Gender	B = −0.051 (SE = 0.206), t = −0.247, *p* = 0.805	B = 0.172 (SE = 0.284), t = 0.605, *p* = 0.545	B=0.027 (SE=0.231), t=0.119, *p* = 0.906	B=−0.193 (SE=0.256), t= −0.754, *p* = 0.451	B=−0.054 (SE=0.183), t= −0.296, *p* = 0.767	B=−0.158 (SE=0.241), t= −0.657, *p* = 0.512	B = 0.073 (SE = 0.277), t = 0.265, *p* = 0.791	B = 0.06 (SE = 0.229), t = 0.262, *p* = 0.793	B = 0.371 (SE = 0.265), t = 1.402, *p* = 0.162
Personal relation	B = −0.379 (SE = 0.309), t = −1.23, *p* = 0.22	B = 0.258 (SE = 0.432), t=0.598, *p* = 0.55	B = 0.681 (SE = 0.317), t = 2.146, *p* = 0.033	B = 0.91 (SE = 0.387), t = 2.352, *p* = 0.019	B = 0.33 (SE = 0.277), t = 1.19, *p* = 0.235	B = 0.147 (SE = 0.369), t = 0.397, *p* = 0.691	B = 0.03 (SE = 0.415), t = 0.073, *p* = 0.942	B = −0.397 (SE = 0.343), t = −1.158, *p* = 0.248	B = −0.08 (SE = 0.397), t = −0.202, *p* = 0.84
Frequency	B = −0.335 (SE = 0.357), t=−0.939, *p* = 0.348	B=−0.464 (SE=0.495), t= −0.938, *p* = 0.349	B=−0.021 (SE=0.361), t= −0.059, *p* = 0.953	B=0.237 (SE=0.443), t=0.535, *p* = 0.593	B = −0.553 (SE = 0.318), t = −1.74, *p* = 0.083	B=−0.451 (SE = 0.432), t = −1.044, *p* = 0.297	B = 0.227 (SE = 0.479), t = 0.474, *p* = 0.636	B = −0.433 (SE = 0.396), t = −1.095, *p* = 0.274	B = −0.28 (SE = 0.458), t = −0.613, *p* = 0.54
Profissional help	B = 0.306 (SE = 0.836), t = 0.366, *p* = 0.714	B = 0.636 (SE=1.155), t = 0.551, *p* = 0.582	B = 0.622 (SE = 0.842), t = 0.739, *p* = 0.461	B = −1.144 (SE = 1.041), t = −1.099, *p* = 0.272	B = 0.395 (SE = 0.742), t = 0.532, *p* = 0.595	B = 0.354 (SE = 0.982), t = 0.36, *p* = 0.719	B=1.292 (SE=1.109), t=1.165, *p* = 0.245	B = 0.612 (SE = 0.917), t = 0.667, *p* = 0.505	B = −0.927 (SE = 1.061), t = −0.874, *p* = 0.383
Model summary									
	F (7,337) = 1.401, *p* = 0.204; R2 = 0.028; R2adj = 0.008	F (7,336) = 8.25, *p* = 0.000; R2 = 0.147; R2adj = 0.129	F (7,338) = 9.72, *p* = 0.000; R2 = 0.168; R2adj = 0.15	F (7,338) = 4.388, *p* = 0.000; R2 = 0.083; R2adj = 0.064	F (7,337) = 0.835, *p* = 0.559; R2 = 0.017; R2adj = −0.003	F (7,334) = 1.294, *p* = 0.253; R2 = 0.026; R2adj = 0.006	F (7,340) = 10.274, *p* = 0.000; R2 = 0.175; R2adj = 0.158	F (7,340) = 4.737, *p* = 0.000; R2 = 0.089; R2adj = 0.07	F (7,340) = 6.1, *p* = 0.000; R2 = 0.112; R2adj = 0.093

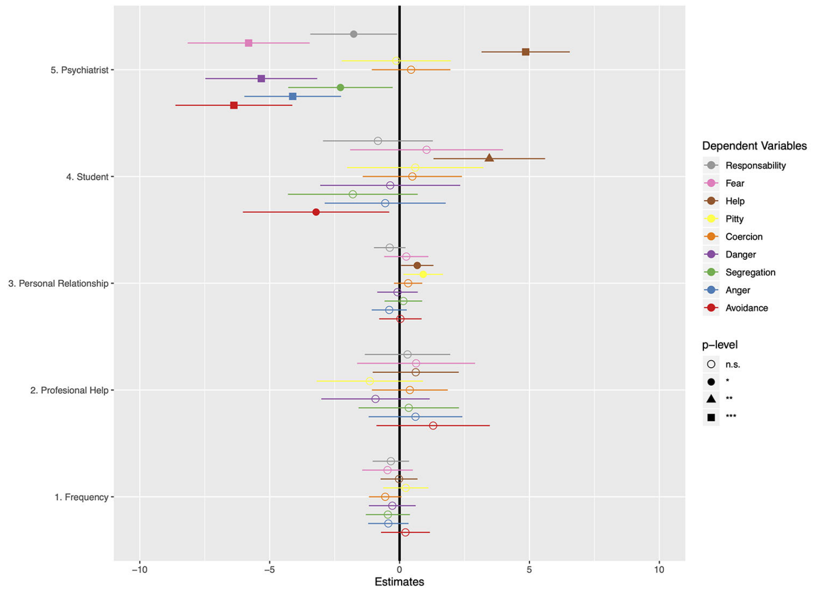

FIGURE 2 | Graphical representation of the influence of each predictor on each AQ-27 score (*p* level: * < 0.05; ** < 0.01; *** < 0.001).

CONCLUSIONS

In brief, this study shows that stigmatization still exists inside medical community. Psychiatrists presented lower levels of stigma compared with non-psychiatry physicians and medical students. We found that stigma is related with is related with age, lower professional contact with persons suffering from psychiatric disorders and the presence of a relative with mental health disorders. Thus, interventions regarding this matter are crucial to bring insight about the negative impact of stigmatization against patients with mental illness. Measures like changing the curriculum of medical schools in order to lecture on this topic to the students and promote contact with patients with psychiatric disorders could prove beneficial to break stereotypes and to reduce the negative consequences of stigma. Finally, psychiatrists should promote educational interventions among other medical specialties in order to reduce stigma against psychiatry itself.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The study was conducted according to Declaration of Helsinki and obtained ethical approval from the Board of School of Medicine of University of Minho. Written informed consent was obtained from all the participants.

AUTHOR CONTRIBUTIONS

PM, FP, JC, and NS designed the study. AO, DM, and PSM collected the data. JF, PSM, and JC analyzed the data. All authors contributed to the writing of the manuscript. All authors reviewed and edited the final version of the manuscript. All authors read and approved the final manuscript.

FUNDING

This work was partially funded by the FEDER funds, through the Competitiveness Factors Operational Programme (COMPETE), and by national funds, through the Foundation for Science and Technology (FCT), under the scope of the project UID/Multi/50026/2019. This manuscript has been developed under the scope of the project NORTE-01-0145-FEDER-000013, supported by the Northern Portugal Regional Operational Programme (NORTE 2020), under the Portugal 2020 Partnership Agreement, through the European Regional Development Fund (FEDER).

ACKNOWLEDGMENTS

We would like to thank all the participants who took part in the study.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers
in Psychology

ORIGINAL RESEARCH
published: 23 October 2020
doi: 10.3389/fpsyg.2020.577177

Stigmatizing Beliefs and Attitudes to Depression in Adolescent School Students in Chile and Colombia

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Specialty section:
This article was submitted to
Psychopathology,
a section of the journal
Frontiers in Psychology

Received: *28 June 2020*
Accepted: *22 September 2020*
Published: *23 October 2020*

Citation:
Martínez V, Crockett MA,
Jiménez-Molina Á,
Espinosa-Duque HD, Barrientos E
and Ordóñez-Carrasco JL (2020)
Stigmatizing Beliefs and Attitudes
to Depression in Adolescent School
Students in Chile and Colombia.
Front. Psychol. 11:577177.
doi: 10.3389/fpsyg.2020.577177

Major depressive disorder (MDD) affects between 4 and 5% of adolescents. However, there is still a huge gap between adolescents who meet criteria for MDD and those who receive mental health care. Stigmatizing attitudes toward depression are among the main barriers to seeking professional help. The aim of this article is to examine the individual characteristics associated with stigmatizing attitudes toward depression in a sample of adolescent school students from Chile and Colombia, and present the adaptation and psychometric properties of the Personal Depression Stigma Scale (DSS-Personal) for both countries. A total of 2971 adolescents, aged 10–19 (M = 14.6, SD = 1.5), who were recruited from eight schools in Santiago, Chile (n = 2022), and eight schools in Medellín, Colombia (n = 949), completed the DSS-Personal, the Patient Health Questionnaire (PHQ-9), and a questionnaire of individual sociodemographic characteristics. Factor structure, internal consistency, and validity of the DSS-Personal were assessed. Multiple linear regression models were used to evaluate the association between DSS-Personal scores and sociodemographic information, depression scores, and the use of health services by country. Confirmatory factor analysis supported the unidimensional structure of the DSS-Personal, while the estimated reliability of its scores was acceptable. Results show that DSS-Personal scores were higher in adolescents in Colombia than in Chile (U = 9.36, p < 0.001). Immigrant status was the only variable significantly related to personal depression stigma in both samples. Being female was associated with lower levels of stigma in adolescents in Chile, while depressive symptoms were associated with lower levels of stigma in adolescents in Colombia. Age, having been diagnosed with depression, and being in pharmacological or psychological treatment were not related to levels of personal depression stigma in either sample. The identified associated factors of personal depression stigma should be considered in the development of anti-stigma campaigns; also, gender differences require special attention. The results of this study suggest that it is important to offer school-based programs to reduce personal stigma, and that specific anti-stigma campaigns should address personal stigma in men and immigrants.

Keywords: stigma, depression, adolescents, Latin America, gender differences, depression stigma scale

INTRODUCTION

Major depressive disorder (MDD) affects between 4 and 5% of adolescents (Thapar et al., 2012) and it is estimated that up to 25% will have experienced at least one depressive episode before reaching adulthood (Kessler et al., 2001). In an epidemiologic study conducted in Santiago, Chile, the annual prevalence of depression associated with social disability for adolescents aged 12–18 was 7.8% (Vicente et al., 2012). In Medellín, Colombia, a study showed a prevalence of adolescent depression of 13.1% (CES and Alcaldía Medellín, 2009). Depression is associated with negative consequences such as functional impairment, poor school performance, difficulty in interpersonal relationships, suicidal thoughts and behaviors, physical health problems, other psychiatric disorders, and worse quality of life in adulthood (Fergusson et al., 2007; Thapar et al., 2012; McLeod et al., 2016).

Adolescence is considered a critical time for the early detection and adequate treatment of depression (Kieling et al., 2019). There are psychotherapeutic and pharmacological treatments with proven efficacy for depression in this period of life (Thapar et al., 2012; Weersing et al., 2017). Unfortunately, there is evidence for low rates of care-seeking behaviors among adolescents (Rickwood et al., 2007). Stigma and self-stigmatizing attitudes to mental illness are among the most prominent barriers to help-seeking for mental health problems (Barney et al., 2006; Clement et al., 2015), especially in adolescence (Gulliver et al., 2010; Kaushik et al., 2016). Self-stigmatization makes it difficult for adolescents to report emotional or behavioral manifestations of mental health problems in a timely manner and leads to an avoidance of interventions, resulting in poorer long-term outcomes (Kaushik et al., 2016).

Stigma has been described as a set of negative attitudes and beliefs that motivate people to fear, reject, discriminate against, and socially exclude people with mental illness (Goffman, 1963; Brohan et al., 2010). Stigma can manifest itself in various ways. People with depression may experience perceived stigma, which reflects peoples' beliefs about the negative attitudes of others toward depression, personal stigma, which refers to the own negative feelings and attitudes toward people with depression, and self-stigma, which occurs when the stigmatized individual internalizes the negative ideas and responses of others, leading to negative thoughts and emotional reactions to themselves (Griffiths et al., 2008; Livingston and Boyd, 2010; Corrigan et al., 2012).

Multiple factors may be associated with stigma toward depression. There is evidence that stigma is greater among men, people with less education, and those with higher levels of depressive symptoms (Pyne et al., 2004; Crisp et al., 2005; Griffiths et al., 2008). Likewise, it has been suggested that personal stigma toward physical and mental health issues is more prevalent in immigrant populations (Griffiths et al., 2008; Henderson, 2016). Personal stigma may be associated with higher levels of depressive symptoms, greater psychological distress, and poor quality of life (Mak et al., 2007; Griffiths et al., 2008; Livingston and Boyd, 2010; Boyd et al., 2014; Lien et al., 2015).

Although stigma in mental health remains a global problem, there is evidence that the sociocultural environment (collective and individual values, ideals, norms, and social expectations) may shape the way stigma is expressed in different social groups and modulate its severity (Yang et al., 2007, 2013; Lien et al., 2015; Chang et al., 2016; Mascayano et al., 2020). Therefore, it is important to conduct studies with populations in a variety of sociocultural contexts. While most stigma-related research has been conducted in Europe and North America, over the last decade there has been a significant increase in information about the stigma associated with mental disorders in Latin America (Mascayano et al., 2016). These studies have shown that Latin America and developing countries are characterized by high levels of public and self-stigmatization toward mental illness (Alonso et al., 2008; Mascayano et al., 2016).

In Chile and Colombia some studies have shown a high presence of stigmatizing beliefs and attitudes toward mental disorders, which have been associated with a reduction in seeking help and accessing to health services (Uribe Restrepo et al., 2007; Álvarez Ramírez and Almeida Salinas, 2008; Yang et al., 2013; Mascayano et al., 2016; Hernández Holguín and Sanmartín Rueda, 2018; Sapag et al., 2018; Campo-Arias et al., 2020). In Chile, one of the specific objectives of the 2017–2025 National Mental Health Plan is "to reduce the stigma associated with mental health problems" (MINSAL, 2017, p. 75), which includes initiatives such as an evaluation of mental health-related stigma in primary health care. A national survey by the Colombian Ministry of Health shows that about 50% of the population reports that personal stigma along with limited availability of services is one of the main barriers to accessing mental health services (MINSALUD, 2015). In this context, stigma has been recognized by policy makers and organizations in Chile and Colombia as an important public health issue (MINSALUD, 2015; MINSAL, 2017); also, some guidelines and psychosocial interventions have been developed for reducing stigma in mental health care (Yang et al., 2013; Rodríguez Araújo, 2014; Schilling et al., 2015; Sapag et al., 2018).

Despite these advances in research in the Latin American context, there is still a lack of research on stigmatizing beliefs and attitudes toward depression in adolescents. This lack of knowledge makes it difficult to design anti-stigma campaigns targeting this population and implement effective interventions to improve the management of adolescent depression.

Likewise, despite the increase in research on stigma associated with mental illness in developed countries, methodological discrepancies between existing studies constitute a major limitation (Kaushik et al., 2016), especially because multiple instruments have been used to measure personal stigma (Watson et al., 2007; Rüsch et al., 2010; Corrigan and Rao, 2012).

The Depression Stigma Scale (DSS; Griffiths et al., 2004) is a brief questionnaire commonly used to assess depression stigma in the general population and people with depression. Since the DSS is already used in other countries (Griffiths et al., 2006, 2008; Dietrich et al., 2014; Boerema et al., 2016), this scale allows cross-cultural comparisons. Currently, there are few studies in adolescents (e.g., Calear et al., 2011; Dardas et al., 2017; Howard et al., 2018) and, furthermore, no research has been conducted in Latin America using the DSS.

The DSS comprises a 9-item Personal Stigma subscale (DSS-Personal) that assesses people's personal beliefs and attitudes toward depression and a 9-item Perceived Stigma subscale that assesses people's beliefs about others' attitudes toward depression. Previous research highlights the importance of measuring and validating the concepts of personal and perceived stigma separately, while also estimating predictors and designing interventions independently for each dimension of stigma (Griffiths et al., 2008; Yap et al., 2014; Boerema et al., 2016).

In this context, the aim of this study is to examine the individual characteristics associated with stigmatizing attitudes toward depression in a sample of adolescent school students from Chile and Colombia, and present an adaptation of the DSS-Personal for both countries along with its psychometric properties.

Since this study was conducted with adolescent population in a school setting, and not with a clinical population treated in health centers, we decided to explore the factors associated with personal stigma, a dimension that is more likely to be modified by school-based interventions, including Internet-based programs (Corrigan et al., 2012; Griffiths et al., 2014). Additionally, the literature on perceived stigma is more inconsistent than that on personal stigma, especially due to sociodemographic factors (Griffiths et al., 2008); furthermore, prior research has shown that the personal stigma construct works relatively well in multiple populations and cultural contexts (Griffiths et al., 2006; Dietrich et al., 2014; Boerema et al., 2016).

MATERIALS AND METHODS

Participants and Setting

The data were collected as part of the baseline assessment of two randomized controlled trials (one in Chile and one in Colombia) to evaluate the efficacy of "*Cuida tu Ánimo*" ("Take Care of Your Mood," in English), an Internet-based program for prevention and early intervention of adolescent depression (Parada et al., 2020). The inclusion criteria for the schools were: be coeducational, have at least two classes per course, have no more than 60% students of one sex, and have a counselor or psychologist. In Santiago, Chile, State-subsidized schools from municipalities in the north of the city were invited to participate. Eight out of 20 invited schools met the inclusion criteria and agreed to participate. In Medellín, Colombia, public schools were invited to participate in collaboration with the Ministry of Education. Eight out of 12 invited schools met the inclusion criteria and agreed to participate. All students within the same class were invited to participate in the study. The participants were 2971 adolescents, from 6th to 11th grades, 2022 from Santiago, Chile, and 949 from Medellín, Colombia. A total of 207 classes participated in the study, 85 in Chile, and 122 in Colombia. Overall, 52.2% of the participants were female, their mean age was 14.6 years (±1.5), and 6.5% were immigrants (**Table 1**). All participants spoke Spanish.

Measures

Depression Stigma Scale (DSS; Griffiths et al., 2004)

The DSS is a self-report instrument composed of two 9-item subscales, Personal and Perceived stigma, that measure one's own and others' attitudes to depression, respectively. The Personal subscale (DSS-Personal) was used in this study. It has a 5-item response format (from 0 = *strongly disagree* to 4 = *strongly agree*). The total score is composed of the sum of its item scores. A higher score indicates greater stigma.

The DSS was developed in Australia and has been used in several countries (e.g., Australia, Japan, Germany, Netherlands) and populations (e.g., national survey, local community, and distressed subset of a local community) (Griffiths et al., 2004, 2006, 2008; Dietrich et al., 2014; Boerema et al., 2016). The DSS-Personal subscale has shown adequate psychometric properties: 0.71 test-retest reliability, 0.76 internal consistency (Griffiths et al., 2004), and r = 0.53 convergent validity with a measure of social distance (Griffiths et al., 2008). In adolescent samples, DSS-Personal subscale scores have shown low (α = 0.54; Dardas et al., 2018) to moderate

TABLE 1 | Characteristics of the sample.

	Chile *n* **= 2022**	**Colombia** *n* **= 949**	**Total** *n* **= 2971**
Sex (%)			
Male	50.5	42.3	47.8
Female	49.5	57.7	52.2
Age [mean (SD)]	15.2 (1.0)	13.4 (1.7)	14.6 (1.5)
Lives with (%)			
Both parents	55.8	43.3	51.9
Mother or Father	40.0	51.2	43.5
Other	4.2	5.5	4.6
Immigrant status (%)	6.6	6.3	6.5
History of depression (%)	16.5	17.1	16.7
Current psychological treatment (%)	9.7	10.4	9.9
Current pharmacological treatment (%)	2.7	2.9	2.7
PHQ-9 scores [mean (SD)]	9.1 (5.9)	9.0 (5.8)	9.1 (5.9)
DSS-Personal scores [mean (SD)]	11.3 (4.5)	13.2 (5.1)	11.9 (4.8)

SD, standard deviation.

(α = 0.70–0.79; Calear et al., 2011; Howard et al., 2018) internal consistencies. In this study, the DSS was translated into Spanish through a multi-stage forward and backward procedure. Two independent bilingual people from Chile and Colombia translated the questions from the original English questionnaire into Spanish. Differences in translation were discussed and a consensus version was generated. This version was then translated back into English by a third bilingual person and compared with the original version of the DSS. Potential differences were again discussed by two authors (VM and HDE) in order to have only one version for Chile and Colombia.

Patient Health Questionnaire-9 (PHQ-9; Johnson et al., 2002)

The PHQ-9 is a self-report questionnaire composed of 9 items. It is used for the evaluation of depressive symptoms according to the Diagnostic and Statistical Manual of Mental Disorders-IV criteria. It has a 4-point ordinal scale (from 0 = *not at all* to 3 = *nearly every day*). Total scores are composed of the sum of the items, which can range from 0 to 27. Higher scores indicate greater severity of depression. In this study, the PHQ-9 had an internal consistency of α = 0.87, and Spearman-Brown coefficient = 0.89 for the sample in Chile, and α = 0.84, and Spearman-Brown coefficient = 0.87 for the sample in Colombia.

Mental Health Service Utilization

Three self-report questions about mental health service utilization were included: history of treatment for depression (*Have you ever received any type of depression treatment sometime in your life?*), pharmacological (*Are you currently being treated with any antidepressant medication (e.g., fluoxetine, sertraline, escitalopram, citalopram, venlafaxine, and bupropion)?*), and psychological treatment for depression (*Are you currently in treatment with a psychologist (psychotherapy) outside of school?*). They had a two-choice response format (1 = *yes*, 0 = *no*).

Sociodemographic Variables

A self-report questionnaire was included with the rest of the instruments. The sociodemographic variables considered were sex (0 = *male*, 1 = *female*), age (in years), living with parents (1 = *both parents*, 2 = *mother or father*, and 3 = *other*), and immigrant status of the participating adolescents, operationalized as having a nationality other than that of one's country of residence (0 = *non-immigrant*, 1 = *immigrant*).

Procedure

All procedures were approved by the Ethics Review Boards of both participating Universities. Ethical approval was obtained from the Ethics Committee of Human Research of the Faculty of Medicine of the Universidad de Chile (Chile) and the Institutional Ethics Committee of Human Research of the CES University (Colombia). Informed consent was obtained from young people over 18 years of age, while informed assent was obtained from minors, along with informed consent from their parents or primary caregivers. The questionnaires were answered by the adolescents on school computers, supervised by a member of the research team.

Data Analysis

Descriptive statistics of the DSS-Personal items were estimated, along with the corrected item-test correlation. Univariate normal distribution of the items was assessed using the Kolmogorov-Smirnov test. Since univariate normal distribution was not accomplished ($p < 0.05$), multivariate normal distribution was rejected. The psychometric properties of the DSS-Personal subscale were assessed using Confirmatory Factor Analysis (CFA) for both samples separately. Since the item response format is on an ordinal Likert scale and multivariate normality was not achieved, we used the Unweighted Least Squares method of estimation. Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Normed Fit Index (NFI), Adjusted Goodness of Fit (AGFI), Root Mean Square Residual (RMR), and Root Mean Square Error of Approximation (RMSEA) were used to assess model fit. Values of CFI, TLI, and NFI > 0.95, AGFI > 0.90, RMR < 0.06, and RMSEA < 0.08 were considered an acceptable model fit (Hu and Bentler, 1999). Measurement invariance was tested across samples. A decrease in CFI equal to or greater than 0.01 indicated that the more restrictive model should be rejected (Cheung and Rensvold, 2002). Internal reliability of the subscale was estimated using Cronbach's alpha and the Spearman-Brown coefficient. Validity evidence based on relations with other variables was explored using a correlation matrix that included all the study variables. The Spearman correlation for continuous non-normally distributed variables, the point-biserial correlation for continuous-categorical variables, and the phi coefficient for categorical variables were used.

Descriptive statistics were used to detail the sample characteristics, PHQ-9 score, and DSS-Personal stigma subscale score. To compare the characteristics of the Chilean and Colombian samples, the χ^2 test was used for categorical variables and the Mann-Whitney *U* test for continuous variables (PHQ-9, DSS-Personal, and age), since they were not normally distributed within each sample according to the Kolmogorov-Smirnov test ($p < 0.001$). To further evaluate the differences between DSS-Personal scores by sex and country, the Mann-Whitney *U* test was also used, since they were not normally distributed (Kolmogorov-Smirnov test, $p < 0.001$). Multiple linear regression models were used to evaluate the association between DSS-Personal scores and sociodemographic information, depression scores, and the use of health services by country. The regression models were stratified by country due to differences in the distribution by sex and age in both samples ($p < 0.001$) and as a result of unmeasured cultural differences. Most of the variables had complete data, except for age, which had 0.03% of missing data. No imputation method was used. The psychometric properties of the DSS-Personal were examined using JASP (version 0.13.1) and AMOS v.24, while the rest of the analyses were performed in Stata 13.

RESULTS

Regarding the characteristics of the sample (**Table 1**), the proportion of males/females and the mean age were different by country ($p < 0.001$), with the Colombian sample having more female and younger adolescents. The proportion of adolescents living with both parents and with just one parent was different in both samples ($p < 0.001$). The proportion of immigrant status of the adolescents was similar between samples ($p = 0.754$). In total, 98.5% of the immigrants in the Chilean sample and 79% in the Colombian sample came from other Latin American countries.

The proportion of adolescents with a history of depression and in current psychological and pharmacological treatment for depression was similar in both samples ($p < 0.785$). The PHQ-9 scores were also similar in both samples ($p = 0.444$).

Personal Depression Stigma Subscale

The descriptive statistics of the DSS-Personal items are presented in **Table 2**. According to the CFA, the 9-item DSS-Personal subscale had a poor fit for the Chilean sample (CFI = 0.76; TLI = 0.68; NFI = 0.76; AGFI = 0.91, RMR = 0.11; and RMSEA = 0.15), and the Colombian sample (CFI = 0.94; TLI = 0.93; NFI = 0.94; AGFI = 0.97, RMR = 0.78; and RMSEA = 0.10). Since the 9-item factor structure had a poor fit, a version of the DSS-Personal with fewer items was tested. Items 1 and 7 were dropped because their corrected item-test correlation was lower than 0.20. Item 7 in the Colombian sample had a corrected item-test correlation of 0.22, but in order to have the same set of items in both samples, it was dropped for the analysis. The one-factor solution of the 7-item subscale was satisfactory for both the Chilean sample (CFI = 0.99; TLI = 0.98; NFI = 0.99; AGFI = 0.99; RMR = 0.03; and RMSEA = 0.04), and the Colombian sample (CFI = 0.99; TLI = 0.98; NFI = 0.98; AGFI = 0.99; RMR = 0.05; and RMSEA = 0.06) after adding a covariance term between the errors of items 2 and 3 and those of items 8 and 9. Both pairs of items have semantic similarities that could explain the need to add the covariance term.

Using the 7-item DSS-Personal subscale, measurement invariance was tested across samples, but only configural invariance was met ($\chi^2 = 105.640$; $df = 24$; CFI = 0.99, TLI = 0.98; and RMSEA = 0.05), indicating that the factor structure of Personal Stigma was equal for both groups, unlike the other types of measurement invariance (decrease in CFI = 0.025 for scalar invariance).

The reliability of the 7-item subscale scores was $\alpha = 0.65$ and Spearman-Brown coefficient = 0.69 for the sample in Chile, and $\alpha = 0.70$ and Spearman-Brown coefficient = 0.74 for the sample in Colombia.

In order to obtain validity evidence based on the relationship with other variables, correlations of the study variables are presented in **Table 3**. The top right section presents the correlations from the Chilean sample, while the bottom left section shows the correlations from the Colombian sample. DSS-Personal scores had weak but statistically significant correlations with other variables in both samples, except for age and current pharmacological treatment in both samples and current psychological treatment in the Colombian sample.

TABLE 2 | Descriptive statistics for DSS-Personal items by sample.

	Chile					Colombia				
	Mean	SD	Skew	Kurt	Item-test cor	Mean	SD	Skew	Kurt	Item-test cor
1. People with depression could snap out of it if they wanted	2.99	1.12	−1.02	3.31	0.12	2.88	1.11	−0.83	3.02	0.19
2. Depression is a sign of personal weakness	2.31	1.29	−0.36	2.09	0.36	2.58	1.12	−0.65	2.73	0.27
3. Depression is not a real medical illness	1.96	1.23	0.05	2.13	0.26	2.20	1.23	−0.05	2.03	0.26
4. People with depression are dangerous	1.38	1.12	0.49	2.62	0.41	1.77	1.21	0.21	2.22	0.46
5. It is best to avoid people with depression so that you don't become depressed yourself	0.97	1.11	1.01	3.28	0.42	1.48	1.29	0.53	2.21	0.55
6. People with depression are unpredictable	2.23	0.99	−0.18	2.96	0.25	2.18	1.08	−0.11	2.53	0.40
7. If I had depression I would not tell anyone	1.83	1.32	0.18	1.91	0.03	2.05	1.36	−0.03	1.80	0.22
8. I would not employ someone if I knew they had been depressed	1.15	1.12	0.79	2.93	0.37	1.36	1.26	0.67	2.43	0.47
9. I would not vote for a politician if I knew they had been depressed	1.30	1.14	0.55	2.61	0.38	1.62	1.26	0.40	2.23	0.48

SD, standard deviation; Skew, skeweness; Kurt, Kurtosis; Item-test cor, corrected item-test correlation.

TABLE 3 | Correlation matrix of study variable.

	1	2	3	4	5	6	7	8
1. DSS-Personal	–	−0.06**	−0.04	−0.14***	0.07**	−0.05*	−0.01	−0.06**
2. PHQ-9 scores	−0.16***	–	0.06**	0.30***	−0.02	0.28***	0.13***	0.20***
3. Age	−0.04	0.26***	–	−0.04	−0.07**	0.09***	0.06**	0.04
4. Female sex	−0.09**	0.20***	−0.02	–	0.05*	0.12***	−0.01	0.07**
5. Immigrant status	0.10**	−0.05	0.01	−0.01	–	−0.07**	−0.04*	−0.08***
6. History of depression	−0.07*	0.35***	0.14***	0.12***	−0.07*	–	0.30***	0.26***
7. Current pharmacological treatment	−0.04	0.19***	0.02	0.03	−0.04	0.29***	–	0.30***
8. Current psychological treatment	−0.00	0.14***	−0.00	0.03	−0.05	0.27***	0.34***	–

The left-lower columns from the diagonal present the correlations in the Colombian sample, and the right-upper columns the correlation in the Chilean sample. $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

Factors Associated With Personal Depression Stigma

The participants' DSS-Personal scores were higher in Chile than in Colombia ($U = 9.36$, $p < 0.001$). DSS-Personal scores were higher in males than in females in the total sample ($\bar{x}_{male} = 12.46$ vs. $\bar{x}_{female} = 11.39$, $U = 6.18$, $p < 0.001$), in the Chilean sample ($\bar{x}_{male} = 11.95$ vs. $\bar{x}_{female} = 10.64$, $U = 6.53$, $p < 0.001$), and in the Colombian sample ($\bar{x}_{male} = 13.74$ vs. $\bar{x}_{female} = 12.77$, $U = 2.93$, $p = 0.003$).

Regarding the correlates of DSS-Personal scores from multiple linear regression models (**Table 4**), immigrant status was the only variable significantly related to personal depression stigma in both samples, meaning that immigrant adolescents had higher DSS-Personal scores than non-immigrant adolescents.

On the other hand, differences were also observed between the two social contexts. Depression scores were negatively related to depression stigma in adolescents in Colombia, while being female was related to lower DSS-Personal scores in adolescents in Chile. However, the *p*-value of being female bordered on a statistically significant value in the Colombian sample.

Age and service utilization variables (history of depression, current psychological and pharmacological treatment) were not associated with depression stigma in either sample. However, the *p*-value of current psychological treatment bordered on a statistically significant value in the Chilean sample.

The models were statistically significant for Chile [$F(7,2013) = 8.93$, $p < 0.001$], and Colombia [$F(7,941) = 7.64$, $p < 0.001$], but the independent variables explained only 2.7% of the variance (adjusted R^2) in the Chilean sample, and 4.7% in the Colombian sample.

DISCUSSION

Regarding the psychometric properties of the DSS-Personal subscale, our research findings support the one-factor structure of the 7-item DSS-Personal for Colombian and Chilean adolescents, with an adequate internal consistency in the Colombian sample, but lower in the Chilean one. Our results on the one-factor structure of the DSS-Personal subscale are consistent with those obtained by the authors of the DSS (Griffiths et al., 2004).

According to our review of the literature, there are no published studies with adolescent-only samples that have examined the factor structure of the scale using CFA. In adults, a one-factor structure of the DSS-Personal subscale has been reported by a study with a Chinese community sample (Yang et al., 2020), but other studies have failed to reach a one-factor solution and have proposed that the DSS-Personal subscale could be composed of two (Zhu et al., 2019) and three factors (Boerema et al., 2016). A study with a sample comprising adolescents aged 15 and adults up to 25 years of age also yielded a two-factor solution for the DSS-Personal subscale (Yap et al., 2014). In this regard, the factor structure of the scale was examined by its authors using Principal Component Analysis (Griffiths et al., 2004, 2008), which could explain the differences in the number of factors of the DSS-Personal observed in the aforementioned studies. In addition, the reliability coefficients obtained in our study are similar to those of other studies with samples of adolescents aged 12–17 years ($\alpha = 0.54–0.70$; Calear et al., 2011; Dardas et al., 2018), while better values have been found with adolescents aged 16–19 years ($\alpha = 0.79$; Howard et al., 2018). These results show that it is necessary to continue exploring the psychometric properties of the DSS-personal subscale. It might be advisable to reformulate its content in order to have an instrument with proven validity, adequate internal coherence in terms of scores, and factor invariance among different cultures and age groups.

Likewise, the results show similarities and differences regarding the variables associated with personal depression stigma in samples of adolescents from two Latin American countries. First, in Chile and Colombia, the highest levels of stigma were associated with the immigrant status of adolescents. Second, being female was associated with lower levels of stigma in adolescents in Chile, while the presence of depressive symptoms was associated with lower levels of stigma in adolescents in Colombia. Likewise, age, having been diagnosed with depression, and being in pharmacological or psychological treatment were not related to levels of personal depression stigma in either sample. Interestingly, a previous study indicated that people reporting a history of depression showed lower personal stigma and that the level of current

TABLE 4 | Multiple linear regression models to evaluate the correlates of depression stigma by country.

	Chile				Colombia			
	B	**CI 95% *B***	**β**	***p***	***B***	**CI 95% *B***	**β**	***p***
PHQ-9 scores	−0.01	−0.04, 0.03	−0.01	0.710	−0.16	−0.22, −0.10	−0.19	<0.001
Age	−0.14	−0.34, 0.06	−0.03	0.157	−0.05	−0.24, 0.13	−0.02	0.573
Female sex	−1.28	−1.69, −0.87	−0.14	<0.001	−0.59	−1.25, 0.07	−0.06	0.077
Immigrant status	1.28	0.48, 2.07	0.07	0.002	1.93	0.63, 3.23	0.09	0.004
History of depression	−1.18	−0.76, 0.40	−0.01	0.540	0.15	−0.79, 1.10	0.01	0.749
Current pharmacological treatment	0.31	−1.00, 1.62	0.01	0.645	−0.35	−2.43, 1.73	−0.01	0.743
Current psychological treatment	−0.66	−1.38, 0.48	−0.04	0.068	0.51	−0.61, 1.63	0.03	0.368

CI, confidence intervals.

psychological distress was associated with higher personal stigma (Griffiths et al., 2008).

DSS-Personal scores were higher in Colombia than in Chile. This difference may be associated with the disparity between both countries' levels of social development and depth of knowledge about mental health. In fact, Chile has the highest human development index and the greatest level of development of mental health services in primary care centers in Latin America (Minoletti and Sepúlveda, 2017). While some studies have reported that perceived stigma is more prevalent in countries with lower levels of socio-economic development (Alonso et al., 2008), the difference in personal stigma between both countries should be interpreted with caution and corroborated in future studies, since full measurement invariance was not held across samples in this study.

In the bivariate analysis in both samples, statistically significant gender differences were observed with respect to DSS-Personal scores, with women obtaining lower scores than men. When controlling for the other variables in the multiple regression models, these differences were statistically significant for the Chilean sample and bordered on significance in the Colombian sample. These results are consistent with those reported by Calear et al. (2011) in a sample of Australian adolescents, but not with those found by Dardas et al. (2017), who observed no gender differences in the DSS-Personal subscale in a sample of Arab adolescents. Although there is no strictly direct relationship between gender and stigma in mental health among young people, men in general tend to be more stigmatized and stigmatizing than women, which may be due to lower awareness of depression than females and socially embedded gender constructs that hold that men should handle their mental problems on their own (Kaushik et al., 2016). Likewise, phenomena such as "machismo" [macho culture] and the "culture of honor" in Latin America may be associated with gender role expressions of stigma (Yang et al., 2013), where men often have a cultural mandate to show that they are emotionally strong and hide their feelings (Mascayano et al., 2015).

Another interesting finding is that personal stigma is greater among immigrant adolescents, most of them Latin Americans. Previous studies have shown that stigma toward people with mental disorders can be present in immigrant communities, which has significant consequences for their health, exacerbating their vulnerability and health inequities (Henderson, 2016). This finding shows that stigmatization can also occur within stigmatized populations. In the study conducted by Calear et al. (2011), it was found that adolescents who did not speak English as their first language had higher levels of stigma toward depression, which could be in line with our results. The literature suggests that personal stigma increases in adolescents who perceive less control over their mental health difficulties and in families where parents have stigmatizing attitudes toward mental health problems (Kaushik et al., 2016), which could be the case for immigrant families in Chile and Colombia. Likewise, young people's attitudes have been shown to have specific associations with those of their parents (Jorm and Wright, 2008). This interpretation requires further exploration, since during the last 5 years there has been a significant increase in migration in Chile and Colombia (Chilean Department of Foreign Affairs, 2020).

A common concern in this field is that questionnaires for measuring stigma may be especially susceptible to social desirability bias. However, research suggests that self-administered questionnaires for assessing stigma may avoid this social desirability bias (Michaels and Corrigan, 2013). In this study, the questionnaire was administered under conditions of confidentiality and anonymity, which may have made it less likely for respondents to modify their answers due to social desirability.

To our knowledge, this study is one of the first to explore personal depression stigma in adolescents in Latin American countries. However, there are some limitations that need to be considered when interpreting the results. The first one concerns the cross-sectional design of the study, which does not make it possible to establish causal relationships. Secondly, we did not explore other factors that could be associated to personal depression stigma like mental health literacy or contact with close ones who have had depression. Third, potential confounders like psychiatric illness were not assessed. Another limitation of our study derives from the low internal consistencies of the DSS-Personal subscale, especially in the Chilean sample. Likewise, the variables considered in this study explain little of the variance of the DSS-Personal subscale scores. Therefore, future studies should continue to explore other variables that may be related to the stigma of depression in adolescents.

The findings of the present study suggest that additional research is needed to examine the psychometric properties and validity of the DSS-Personal subscale and its use in other Latin American samples.

Despite these limitations, our results suggest that attitudes of personal stigmatization toward depression are culturally sensitive, which should be further explored in future qualitative research. The results of this study are consistent with the notion that immigrant adolescents are especially susceptible to stigmatizing personal beliefs regarding depression (Griffiths et al., 2008). In societies with increasing ethnic diversity levels, as is the case today in Chile and Colombia, culturally homogeneous intervention strategies are likely to fail, as the attitudes of adolescents involved in the stigmatization process are influenced by cultural beliefs.

Since stigmatizing beliefs and attitudes toward depression are responsible for substantial distress and reluctance to seek appropriate help among adolescents (Gulliver et al., 2010; Kaushik et al., 2016), anti-stigma programs should not be limited to public health campaigns but should also be implemented in school settings. Educational interventions, either alone or combined with other interventions, have been consistently associated with a reduction in personal depression stigma, especially in young people (Griffiths et al., 2014). The findings of this study highlight that individual differences associated with personal stigmatizing beliefs and attitudes to depression should be considered in the development of these programs. These interventions can be more effective if they target specific groups that are most at risk of personal stigmatization, including men and immigrants (Griffiths et al., 2008, 2014). Digital technologies could be an effective complement to stigma reduction programs in school settings. In fact, Internet-based anti-stigma interventions have been shown to be as effective as those conducted by other means (Griffiths et al., 2014). This has important implications, since online interventions in mental health can be carried out more flexibly and with fewer material and human resources (Jiménez-Molina et al., 2019).

CONCLUSION

Stigmatizing attitudes toward depression were found to be associated with the immigrant status of the adolescents in the Chilean and Colombian samples, while being female and having depression were associated differently across samples.

The results of this study suggest that it is important to offer school-based programs to reduce personal stigma, and that the development of psychosocial programs against stigmatizing beliefs and attitudes toward depression should be gender-sensitive and consider relevant sociocultural features of each community, especially the cultural beliefs of immigrant populations regarding mental health problems.

Additionally, using the scores of Chilean and Colombian adolescent school students, this study examined the validity and internal consistency of the Spanish-language adaptation of the 7-item DSS-Personal stigma subscale. While the results obtained support the use of the DSS-Personal stigma subscale in both countries, future studies should keep exploring the psychometric properties of the DSS, striving to improve it in order to ensure the availability of a reliable and valid instrument for assessing depression stigma in multiple cultures and age groups.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee of Human Research, Faculty of Medicine, Universidad de Chile, Chile and the Institutional Ethics Committee of Human Research, CES University, Colombia. Written informed consent to participate in this study was provided by the participants, and where necessary, the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

VM was the principal investigator of the original research project ("Cuida tu ánimo") in Chile and conceived this study. HDE-D was the principal investigator of the original research project ("Cuida tu ánimo") in Colombia. MAC and JO-C performed the statistical analyses. All authors analyzed the results, contributed to the drafting of this manuscript, and approved the final manuscript.

FUNDING

This project was funded in Chile by CONICYT, Chilean National Fund for Scientific and Technological Development, FONDECYT (project number 1161696), Vicerrectoría de Investigación y Desarrollo (VID) of the Universidad de Chile (project number ENL01/19), and ANID – Millennium Science Initiative Program – NCS17_035, ICS13_005 and NCS17_15. In Colombia was funded by the Department of Science, Technology and Innovation COLCIENCIAS (project number 55374). MAC received funding from ANID/PFCHA/DOCTORADO NACIONAL/2019-21190859. ÁJ-M received funding from ANID/FONDECYT POSTDOCTORADO/2020-3200944. This article is also part of the work of the e-Mental Health Network of University of Chile, VID U-REDES-C_2018_07. The funding sources had no influence on study design; the collection, analysis, and interpretation of data; or the writing of the report.

ACKNOWLEDGMENTS

We would like to thank the adolescents and school staff who contributed to this project.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychology

ORIGINAL RESEARCH
published: 30 October 2020
doi: 10.3389/fpsyg.2020.590844

Daily Encounters of Mental Illness Stigma and Individual Strategies to Reduce Stigma – Perspectives of People With Mental Illness

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OPEN ACCESS

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Specialty section:
This article was submitted to Psychopathology, a section of the journal Frontiers in Psychology

Received: *03 August 2020*
Accepted: *06 October 2020*
Published: *30 October 2020*

Citation:
Ong WJ, Shahwan S, Goh CMJ, Tan GTH, Chong SA and Subramaniam M (2020) Daily Encounters of Mental Illness Stigma and Individual Strategies to Reduce Stigma – Perspectives of People With Mental Illness. Front. Psychol. 11:590844. doi: 10.3389/fpsyg.2020.590844

Introduction: A qualitative evaluation of mental illness stigma experienced by people with mental illness (PMI) is currently lacking in Singapore. This study aims to employ qualitative methods to identify the common encounters of mental illness stigma experienced by PMI in Singapore and uncover their individual strategies and efforts to reduce mental illness stigma.

Methods: This study is part of a larger research project that explores the concept of mental illness stigma among different stakeholders in Singapore. Focus group discussions (FGDs) were conducted with 42 PMI to collect qualitative data on their experience with mental illness stigma, including encounters of stigma and individual strategies to reduce stigma. The inductive thematic analysis method was employed to analyze the data.

Results: The eight emergent themes associated with encountering stigma in PMI's everyday life were categorized into two over-arching themes, public stigma (i.e., negative beliefs and attitudes, subjected to contemptuous treatment, social exclusion, over-scrutinizing, and receiving excessive care and concern) and structural stigma (i.e., the requirement to declare psychiatric conditions during job interviews, excluded from consideration after the declaration, and requirement of medical endorsements for employment). Four themes regarding PMI's individual strategies to reduce stigma were also identified (i.e., non-disclosure of condition, standing up for themselves, individual efforts in raising awareness, improving themselves, and living life as per normal).

Limitations: Participants may be influenced by social desirability bias due to the presence of other participants in an FGD setting. Also, those who agreed to participate in the study may possess strong views or beliefs about mental illness stigma and may therefore be inherently different from those who refused to participate.

Conclusion: Our findings on instances of public and structural stigma encountered by PMI in Singapore can guide policymakers with the development of future policies and strategies to reduce mental illness stigma in the Singapore society. Furthermore, our study also identified individual strategies that PMI employed to reduce mental illness stigma. However, the effectiveness of these strategies was unclear and little is known of their effect on PMI themselves. Hence, there is a need for future studies to examine these strategies.

Keywords: mental illness stigma, individual strategies, reducing stigma, public stigma, structural stigma, Singapore, qualitative, patients perspective

INTRODUCTION

The stigma of mental illness is ubiquitous and found consistently across different cultures (Angermeyer and Dietrich, 2006; Thornicroft et al., 2009). Mental illness stigma could lead to various ramifications such as, but not limited to, negative impacts on help-seeking, treatment adherence, self-esteem, and quality of life (Alonso et al., 2009; Livingston and Boyd, 2010; Henderson et al., 2013). Public, structural, and self-stigma are some of the different constructs of stigma described in the current literature (Corrigan and Bink, 2005; Rüsch et al., 2005). Public stigma is defined as the endorsement of stereotypes, prejudices, and acts of discrimination toward people from a stigmatized group (Corrigan et al., 2004; Rüsch et al., 2005). Common stereotypes faced by people with mental illness (PMI) include the beliefs that they are dangerous, unpredictable, and incompetent (Angermeyer and Dietrich, 2006; Parcesepe and Cabassa, 2013). These stereotypes can lead to negative attitudes, such as fear and uncertainty (Corrigan and Bink, 2005; Angermeyer and Dietrich, 2006; Parcesepe and Cabassa, 2013). Furthermore, PMI are also subjected to discriminatory behaviors like social exclusion or not been taken seriously by others (Parcesepe and Cabassa, 2013; Mestdagh and Hansen, 2014). Structural stigma comes in the form of institutional policies that intentionally or unintentionally restrict the opportunities of people from the stigmatized group (Corrigan et al., 2004; Rüsch et al., 2005). Examples of structural stigma include the requirement to disclose the history of mental illness during school and job applications, reducing one's privacy, and discrimination over job opportunities due to one's mental illness (Suto, 2012; Pugh et al., 2015). PMI may also internalize the public and structural stigma experienced in their daily life leading to self-stigmatization (Corrigan and Watson, 2002).

Existing literature has highlighted the importance of cultural influences on the expression of mental illness stigma and consistently identified cultural differences in terms of stigmatizing beliefs and attitudes toward PMI across different countries (Angermeyer and Dietrich, 2006; Yang et al., 2007; Abdullah and Brown, 2011; Cheon and Chiao, 2012). For example, Asian families may develop a sense of shame toward family members with mental illness resulting from their collectivist nature, and people of African descent are likely to perceive PMI who are unable to take on different roles within a family as irresponsible or unreliable due to the significance of role flexibility in their culture (Abdullah and Brown, 2011). More importantly, the literature on mental health literacy and anti-stigma interventions has highlighted the need for culturally and contextually developed interventions (Dalky, 2012; Kutcher et al., 2016). Hence, it is vital to obtain contextual information about mental illness stigma encountered by PMI in a specific culture in order to inform future interventions. This can be better achieved via qualitative methods instead of quantitative methods that use pre-defined questions and hypothetical situations.

Singapore is a multi-ethnic country with a total population of four million residents that comprise 74.4% Chinese, 13.4% Malays, 9.0% Indians, and 3.2% of other ethnicities (Singapore Department of Statistics, 2019). Although multiple quantitative studies have been conducted locally and have consistently found considerable mental illness stigma toward PMI across Singapore, an in-depth qualitative understanding of mental illness stigma encountered by PMI in Singapore is currently lacking (Lai et al., 2001; Picco et al., 2017; Subramaniam et al., 2017). Therefore, for a country with a unique blend of traditional beliefs and cultures rooted in the local community, it is necessary to explore and understand the lived experience of mental illness stigma by PMI residing in Singapore.

Thus, this study aims to conduct focus group discussions (FGDs) to identify the everyday encounters of mental illness stigma (i.e., public and structural stigma) experienced by PMI in Singapore. Also, as little is known about how PMI in Singapore respond to mental illness stigma, this study seeks to explore PMI's individual strategies and efforts to reduce mental illness stigma.

MATERIALS AND METHODS

This study is part of a larger research project that explores the concept of mental illness stigma among different stakeholders (i.e., the general public, PMI, caregivers of PMI, healthcare professionals, and policymakers/influencers) in Singapore. This study utilized the qualitative data collected from PMI. The study was approved by the National Healthcare Group Domain Specific Review Board.

Sample

A total of 42 PMI, aged 21 years and above were recruited between March 2018 to May 2018 through convenience and snowball sampling. As Singapore is a multi-ethnic country with English being the common language of use across different ethnicities, we recruited participants who were conversant and literate in English. Furthermore, we acknowledged that the encounter and degree of stigma experienced by PMI might vary depending on their diagnosis (Subramaniam et al., 2017). Hence, we recruited patients with two specific diagnoses only, i.e., psychotic disorders and mood disorders, to ensure a homogenous account of the encounters of stigma amongst PMI. All participants provided their written, informed consent before the commencement of data collection.

Data Collection

Data collection was done via FGDs. Participants were grouped according to their diagnosis (i.e., psychotic disorder group and mood disorder group) to ensure homogeneity in the FGD groups. This can help participants feel more comfortable while expressing their opinions. A total of six FGDs were conducted (three psychotic disorder groups and three mood disorder groups). Each FGD comprised 5–8 participants and lasted between 1.5 and 2 h. The FGDs were conducted in a meeting room within a community center to ensure the neutrality of the venue. At the start of the session, background information (i.e., age, gender, education level, ethnicity, religion, diagnosis, and age of diagnosis) was collected from the participants with a socio-demographic form. Each FGD was conducted by a facilitator with a note taker present. The facilitators were trained and experienced in qualitative research methodologies. The topic guide that was developed by the study team was used for all the FGDs. The topic guide consisted of open-ended questions that explored various areas of mental illness stigma such as encounters of stigma, reasons for stigma, individual strategies to reduce stigma, knowledge and comments on existing intervention for mental illness stigma, and suggestions for future interventions. The FGDs were audiotaped and transcribed verbatim for analysis.

Analysis

The data were analyzed with an inductive thematic analysis method (Braun and Clarke, 2006). Transcripts were first distributed amongst five study team members (WJ, SS, GT, JG, and MS) for familiarization with the collected data. Subsequently, each study team member independently identified preliminary codes from their respective transcripts. The study team members then came together and generated themes through an iterative process of sorting the collated preliminary codes into potential themes, assessing the congruency of code within the themes, and ensuring there was no overlap between the themes. A codebook was developed with the derived themes to guide the coding process. To ensure consistency of coding among the study team members, the same transcript was coded to establish inter-rater reliability. The study team continued to discuss, refine the codebook and repeated the coding with another transcript until a satisfactory inter-rater reliability score was achieved (Cohen's Kappa score >0.75). After coding three transcripts, Cohen's kappa was established at 0.77. Transcripts were then distributed among the study team members for coding. Data analysis was completed with Nvivo Version 11.0.

RESULTS

Participants were between 21 and 58 years old. The majority of them were female (57.1%), and of Chinese ethnicity (64.3%). Additionally, the number of participants diagnosed with a mood or psychotic disorder were 18 and 24, respectively. Socio-demographic information is displayed in **Table 1**.

Daily Encounters of Mental Illness Stigma

A total of eight broad themes associated with encountering stigma in PMI's everyday life emerged from the analysis (refer to **Table 2** for the frequency of reoccurrence of the themes amongst the FGDs). The themes were categorized into two over-arching themes, (1) public stigma and (2) structural stigma.

Public Stigma

Negative beliefs and attitudes

Participants indicated that they were perceived negatively by others in their daily lives. Three sub-themes relating to negative beliefs and attitudes were identified: (1) dangerous,

TABLE 1 | Socio-demographic characteristic of the participants.

Variable	Range	Mean
Age (in years)	21–58	33.4
	N	**Percentage**
Sex		
Male	18	42.9
Female	24	57.1
Ethnicity		
Chinese	27	64.3
Malay	10	23.8
Indian	4	9.5
Others	1	2.4
Education level		
Secondary school/O/N level/completed secondary education	7	16.7
A level/completed pre-U or junior college	4	9.5
Vocational institution/ITE Nitec Cert	4	9.5
Polytechnic diploma	12	28.6
Other diploma	6	14.3
University degree	7	16.7
Post-graduate degree (e.g., masters/Ph.D.)	1	2.4
Diagnosis group		
Mood disorder	18	42.9
Psychotic disorder	24	57.1

1 missing response for Education level (2.4%).

TABLE 2 | Frequency of reoccurrence of themes amongst the FGDs.

Identified themes	Frequency of reoccurrence amongst FGDs
Public stigma	
Negative beliefs and attitudes	6
Subjected to contemptuous treatment	5
Social exclusion	4
Over-scrutinizing	4
Receiving excessive care and concern	3
Structural stigma	
The requirement to declare psychiatric condition during job interview	2
Excluded from consideration after declaration	3
Requirement of medical endorsements for employment	2
Individual strategies to reduce stigma	
Non-disclosure of condition	3
Standing up for themselves	3
Individual efforts in raising awareness	6
Improve themselves and live life as per normal	4

unpredictable, and simply crazy, (2) inferior and incapable, and (3) having a character flaw instead of a medical disorder.

Dangerous, unpredictable, and simply crazy. It was believed by the participants that the general public held a firm belief that PMI possessed a great tendency toward violence. They were also perceived as volatile, mentally unstable, and having a high propensity to act in sudden and unexpected ways. Furthermore, it was not uncommon for PMI to be seen crudely as being simply crazy, regardless of their diagnosis. Consequently, as believed by the participants, these negative perceptions had brewed fear and wariness among the general public toward PMI.

> "*Mental illness equals mental instability and mental instability means everything also unstable, means you are even more prone to attack." (Mood Disorder Group 2)*

> *"They probably feel fearful toward you cause they don't know what to expect." (Psychotic Disorder Group 1)*

> *"Even worse, sometimes it's that people generally think crazy is crazy. There's no such thing as bipolar, no such thing as schizophrenia, depression. They just label it as under one which is crazy." (Mood Disorder Group 3)*

Inferior and incapable. As expressed by the participants, it is common for PMI to be looked down upon by others across various settings. People felt that PMI were inferior, incapable, and could not be trusted with responsibilities. Some participants articulated that they were often seen by employers as being less competent at work as compared to other colleagues. Moreover, PMI were also viewed as having poor prospects in life. Parents, too, were reported to develop a sense of shame toward their children with mental health problems for such reasons.

> *"I think people may think that those with mental illnesses are not capable of doing things as what the others can do." (Psychotic Disorder Group 1)*

> *"I think it is more like negative meaning like the person couldn't achieve much in life, couldn't live a normal life, like other normal people, don't have a family and so forth." (Psychotic Disorder Group 1)*

> *"I think people are ashamed to admit that or to address, even as a parent for you to say to another parent that my child is mentally ill. That is going to be equals to he's not going to fare well in his exams." (Mood Disorder Group 1)*

Having a character flaw instead of a medical problem. Participants complained that PMI were perceived as possessing character flaws by the public such as being lazy or weak. PMI were frequently perceived as being lazy by teachers and their family members when accompanying symptoms of their illness, such as avolition affected their ability to complete their school work or look for a job, respectively. Furthermore, it was believed that PMI were weak, and hence they were not capable of handling life stresses which resulted in their mental illness.

> *"I think people have this misconception that most of the time mental illness and psychological disorders are a character problem." (Psychotic Disorder Group 3)*

> *"The teachers don't really know or understand what you're going through. So, they tend to just look at me as like oh lazy, never do homework or they just have this very bad idea of me like they don't really know what's going on so they kind of judge me as the bad student." (Psychotic Disorder Group 3)*

> *"You know, you're just weak you know. Just toughen up", if we all can rise through difficult situations... you know especially my mom, she went through divorce when she was 35 with 4 kids. So she said that to me if I could go through something so tragic like that, why for you, you're not even married and you know you're just going through breakups and stuff like that so why are you behaving this way. (Mood Disorder Group 1)*

Subjected to contemptuous treatment

As highlighted by some participants, it is not uncommon for PMI to be at the receiving end of a range of contemptuous treatment by their family members, relatives, and healthcare professionals. Some participants complained about family members treating them with disrespect, such as using stigmatizing language and making threats against them. Furthermore, some of the participants felt that they were regarded as the object of ridicule by their relatives. One of the participants described that her relatives tried to intrude in her personal matters to satisfy their own curiosity and for their amusement. Participants also pointed out instances where healthcare professionals behaved rather unkindly toward them. In addition, their opinions were often not taken seriously by healthcare professionals.

> *"So he(brother) will use the mental illness to agitate me even more and say that I can go and stay in the hospital or all that when I am actually perfectly alright." – Psychotic Disorder Group 1*

> *"They(relatives) are not like sympathetic like they want to help or what you know. They just want to satisfy their curiosity, that's all. They are... even like visiting, she(mother) feels like my relative will see this place like a circus" (Psychotic Disorder Group 1)*

> *"There was this nurse there, that like was openly being rude about other patients in the wards... toward my friend. Calling them lunatics." (Psychotic Disorder Group 3)*

Social exclusion

Participants also experienced social exclusion in their daily life. Specifically, friends, acquaintances, and colleagues tried to avoid being in close proximity with PMI and were reluctant to form any social relationship with them upon learning that they had a mental illness.

> *"I think they doesn't want a friend in their list that is labeled as mental illness." (Mood Disorder Group 3)*

> *"My colleague... I don't like you, I don't want to sit beside you kind of thing will really mentally torture me." (Mood Disorder Group 3)*

Over-scrutinizing

Participants stated that they were constantly scrutinized by those who knew about their condition. They provided instances where family members and friends overreacted and associated their day-to-day behaviors as signs of relapse. Furthermore, it was also pointed out that some employers/supervisors were fixated on PMI's condition and became overly critical of their work performance.

> *"Especially from your mom like she knows that I have bipolar and then it's like she will always always always look like… there's symptoms and see if I'm like… something wrong with me ah. Like sometimes I cannot sleep, sometimes I sleep too much, she will note down you know okay must be something wrong with him. Must be manic today, depressive today you know." (Mood Disorder Group 3)*

> *"The supervisor knows that I have mental issues and the way she treat me… she says "you are slow", when in fact I am not. Her expectations are so much higher. It's different, I can sense it." (Psychotic Disorder Group 1)*

Receiving excessive care and concern

It was highlighted by participants that some people who knew about their condition expressed excessive care and concern. Although these people had good intentions, participants saw it as being "over-compensating" and instead felt that such acts were stigmatizing. As described by participants, this behavior can be demeaning, discomforting, and sometimes intrusive.

> *"Because the overcompensation is… it makes me feel suffocated ah you know, people constantly checking are you okay? Are you okay? Are you okay? Then I like feel like what, what is this? You know I'm not like retarded or anything like that." (Mood Disorder Group 3)*

> *"I do feel that they're overcompensating slightly as he said in that sense because they're offering stuff like okay if you let's say you have bipolar disorder correct, err if you are having a depressive phase, they you know may extend your assignment deadline." (Mood Disorder Group 3)*

> *"We don't know each other very well. But they (colleagues) will be too concerned about me. They will ask about how I'm doing, do you feel better, but actually they don't know about me at all. I don't want to share with my, the things with them. So I'll feel a bit weird. They will try to feel very close to me but actually not so close." (Psychotic Disorder Group 3)*

Structural Stigma

Participants reported encountering structural stigma primarily within the employment setting.

The requirement to declare psychiatric condition during a job interview

As mentioned by the participants, some job interviews required applicants to declare any history of psychiatric conditions via a declaration form. Participants perceived this practice as stigmatizing. They reasoned that having a history of psychiatric conditions does not determine one's ability to work; hence, it was not necessary for employers to collect this piece of information.

> *"Sometime I don't understand also why when you have an application form you must declare mental illness. Why is it an issue about… so if you have, what does it say? You think the person won't perform on the job, why not? I mean you still go through interview process." (Psychotic Disorder Group 1)*

Excluded from consideration after the declaration

Participants also felt that once they declared their psychiatric illness during job interviews, they would procedurally be removed from consideration. Specifically, interviewers lose interest in them and abruptly end the interview. As believed by the participants, employers and human resources departments operate in the interest of the business and hiring a PMI was perceived as a risk to their business.

> *"During job interview, once I declare my condition they cut short the interview and say oh we'll let you know if we would like to proceed on with your application." (Psychotic Disorder Group 3)*

> *"So HR unfortunately again, if the businesses are run purely on business profit, then HR will always raise that question (hiring PMI)." (Mood Disorder Group 2)*

Requirement of medical endorsements for employment

Some participants shared that they were required to provide endorsements such as a letter from physicians to certify that they were fit for work in order to be employed or continue their employment.

> *"I was dealing with children so, she actually needs letter to prove that I am actually fit for work. If not she will think I'm violent or whatever it is due to my illness. So what we need is the proof." (Psychotic Disorder Group 2)*

> *"Since 2010 they ask me to see psychiatrist so every year they ask for my medical report." (Mood Disorder Group 3)*

Individual Strategies to Reduce Stigma

The analysis also found four themes regarding the individual strategies that PMI employed to reduce mental illness stigma (refer to **Table 2** for the frequency of reoccurrence of the themes amongst the FGDs).

Non-disclosure of Condition

To avoid being subjected to mental illness stigma, many participants chose not to disclose their condition. Participants felt that there was no need to tell others about their mental illness as many would not empathize, which could result in unnecessary problems and disclosure was unlikely to yield any benefits. A participant also commented that it was easier to get a job without disclosing their mental illness.

> *"I don't talk about it, I don't explain it. Explaining it people won't believe you what, right or not, so don't talk about it and then you don't need to explain anything. So, there won't be any stigma." (Psychotic Disorder Group 3)*

> *"From then onwards I didn't declare and it's easier to get the job." (Mood Disorder Group 3)*

Standing up for Themselves

Some participants commented that they stood up for themselves when they encountered mental illness stigma by confronting the perpetrator's stigmatizing behavior/attitudes.

> *"because I'm a very straight forward person. I just told them that, your close-mindedness has got to go. Yeah, it's… I've had enough of whatever you guys have had to say. I'm sharing with you how I feel,*

> *then if you're not going to take it then I'm not going to talk." (Mood Disorder Group 1)*

Individual Efforts in Raising Awareness

To reduce mental illness stigma, many participants had made an effort to educate others, especially their families and friends, on mental illness, their experiences with the condition, and how to better communicate with them. Furthermore, a few of the participants also took on the role of more formal mental health advocates, such as appearing in a mental-health documentary.

> *"My thoughts on it I guess to help people understand what mental illness is, is the key. And as an individual I feel that I can do that as well. It's not only you know the government or anybody else who should do it I feel it's everybody's responsibility." (Mood Disorder Group 3)*

Improve Themselves and Live Life as per Normal

Some participants sought to improve themselves and their condition and live their life as per normal to prove that they could also be a contributing member of society. As mentioned by some of the participants, they believed that they had to first change themselves before changing the opinion of others regarding PMI.

> *"Before we become the change in others we need to change ourselves first. So we need to get well, eat our medication and then get... resume our normal activities" (Psychotic Disorder Group 2)*

> *"I just do the best, whatever I can. Work, try to act normal. Do my part in work, I just do my best in whatever I do to give others a good impression." (Psychotic Disorder Group 3)*

DISCUSSION

Our study has identified multiple themes of public and structural stigma. The themes categorized under public stigma were primarily associated with stereotypes, prejudices, and acts of discrimination. These themes were largely consistent with existing literature on mental illness stigma found across different countries.

Our study suggests that PMI are subjected to a range of stereotypes, and they are aware that the general public perceives them as dangerous, unpredictable, incapable or possessing a character flaw. Reviews of qualitative and quantitative literature have consistently identified being unpredictable, violent, and often in need of help as common stereotypes ascribed to PMI by the general public across countries (Angermeyer and Dietrich, 2006; Parcesepe and Cabassa, 2013; Mestdagh and Hansen, 2014). Sadler et al. (2012) also found that the general public in the United States rated PMI lowly on competency, comparable to poor people. Furthermore, the perception of PMI having a weak character is especially prevalent among Asian cultures due to their belief that it is a cause of mental illness (Abdullah and Brown, 2011).

PMI are also exposed to various prejudices from the general public, such as fear, wariness, and especially among family members, shame. Participants believed that these negative attitudes are consequences of the respective stereotypes held by the general public. Consistent with our findings, fear and uncertainty are well established in the literature as negative attitudes held by the general public against PMI internationally (Angermeyer and Dietrich, 2006). These are also frequently alluded to be a result of the stereotype that PMI are dangerous and unpredictable (Corrigan and Bink, 2005). Furthermore, studies have also highlighted that family members may perceive PMI as a source of shame for their family (Corrigan and Miller, 2004; González-Torres et al., 2007). Corrigan and Miller (2004) suggested that this prejudice stemmed from two types of stereotypes faced by the family members, the belief that family members are responsible for mismanaging their loved one's condition and the transmission of mental illness from parents to the child. However, in our study, PMI shared that the shame experienced by family members was in relation to the beliefs that PMI are seen as incapable and their low prospects in life. This opinion might be specific to the Asian culture, especially among the Chinese, where "face" is a social construct rooted deeply in the Chinese culture. It can represent an individual's or a family's social status and standing in the community. As suggested by Yang and Kleinman (2008), due to the perception that people with schizophrenia are incompetent, having them in the family may lead to loss of "face." Thus, family members may experience a sense of shame because having PMI in their family may have negative consequences on their family's social status within the community.

Our study also identified daily instances of discriminatory behaviors encountered by PMI in various settings. Themes identified were, being subjected to contemptuous treatment, social exclusion, over-scrutinized, and receiving excessive care and concern. Our finding indicates that PMI are often faced with a range of contemptuous treatment by their family members and healthcare professionals. One example that came out strongly was the use of stigmatizing language toward PMI. A qualitative study conducted among healthcare professionals in Malaysia identified family and healthcare professionals as two of the most common perpetrators of mental illness stigma (Hanafiah and Van Bortel, 2015). Also, studies across cultures have consistently found that PMI are often subjected to name-calling and negative comments related to their condition in their daily life (Dickerson et al., 2002; Rose et al., 2011; Hanafiah and Van Bortel, 2015). On this note, participants had also complained that healthcare professionals could be rude and disrespectful to PMI. In addition, they felt that their opinions were often not taken seriously by healthcare professionals. In line with our findings, studies across cultures have also suggested that some healthcare professionals were guilty of talking down to PMI in a demeaning manner, involving PMI minimally with their own treatment experiences and frequently doubting PMI's opinions (Thornicroft et al., 2007; Mestdagh and Hansen, 2014; Hanafiah and Van Bortel, 2015). Moreover, some of our participants also provided instances where they felt that they had been treated as a subject of ridicule by their relatives. Although few studies have explored PMI's experience as a source of amusement and a target of mockery, it is documented in the literature that PMI are also often portrayed derisively in the media, apart from being dangerous (Stuart, 2006; Rose et al., 2011). This may have encouraged the perception that it is permissible for people to deride PMI.

Another theme that emerged from our study was social exclusion. Social exclusion has been extensively explored internationally as a form of discrimination toward PMI (Morgan et al., 2007; Parcesepe and Cabassa, 2013; Mestdagh and Hansen, 2014). Subramaniam et al. (2017) have also found that a sizeable percentage of the public in Singapore are unwilling to form social relationships with PMI. Our findings reiterate that the unwillingness to socialize with PMI is a universal obstacle faced by PMI in their everyday life across different cultures as posited by the literature.

Although over-scrutinizing was not identified widely in existing literature, it emerged as a theme associated with discriminatory behaviors amongst PMI in Singapore. Our participants highlighted that they were subjected to constant scrutiny by people who knew about their condition. Specifically, our participants provided examples such as family members being constantly on the lookout for telltale signs of relapse and work supervisors being fixated on PMI's condition, which resulted in overcritical judgment with PMI's work performance. These behaviors may be explained with the concept of confirmation bias (Nickerson, 1998). A study showed that caregivers of patients with psychosis were well aware of their care recipient's risk of relapse (Chan et al., 2015). Moreover, as previously mentioned, PMI are often perceived as incompetent (Sadler et al., 2012). Hence, it is probable that people may actively seek out and interpret PMI's behaviors as consistent with their respective beliefs such as proneness to relapse or incompetence.

Last but not least, PMI also complained that people expressed excessive care and concern toward them, which could affect their dignity and self-esteem. These findings resemble elements of both emotional over-involvement and infantilization, two types of maladaptive behaviors that care recipients may receive from their caregivers. Emotional over-involvement is often linked to a range of intrusive, overprotective, and self-sacrificing behaviors, whereas infantilization, is associated with the treatment of care recipients, especially older adults, as children such as using patronizing and overfamiliar languages (Singh et al., 2013; Marson and Powell, 2014). Consistently, studies across cultures have found that people with schizophrenia are exposed to infantilization, emotional over-involvement and forms of overprotection which may limit their privacy, personal growth and self-identity (González-Torres et al., 2007; Yang and Kleinman, 2008; Mestdagh and Hansen, 2014). It was also suggested that these behaviors again emanate from the perception that people with schizophrenia are incompetent (Yang and Kleinman, 2008). Our findings, suggest that such behaviors come not only from caregivers but also from others whom the PMI meet in various types of settings (i.e., work, school, and social setting). In general, the instances of public stigma experienced locally by PMI were generally congruous to findings across different cultures. However, as a country in Southeast Asia, the Asian culture seems to have a strong influence over the public stigma experienced by PMI in Singapore. Hence, local policymakers can reference existing policies and interventions implemented in Asian countries when formulating future policies and interventions.

Our participants reported encounters of structural stigma predominantly in the area of employment. First of all, they felt that they had been excluded from consideration once they disclosed their condition during a job interview. A systematic review examined the employment of people with disability (i.e., someone with a physical or mental impairment) from a human resource development perspective (Procknow and Rocco, 2016). An institutional barrier identified by the review was that employers may have economic concerns regarding the productivity of people with disabilities and deemed them as less attractive candidates (Procknow and Rocco, 2016). Therefore, organizations may be reluctant to hire PMI due to the perception that it is a financially risky decision. Secondly, our participants viewed the practice in which they were required to declare their psychiatric illness via a declaration form during job interviews as discriminatory and uncalled for. The relevant laws in various countries have disallowed this practice because of the possibility that it may expose people with disabilities to various unjustified employment barriers and dismissals (De Schutter, 2004). Only very recently, has this practice been disallowed in Singapore (Zhou, 2020). Participants also perceived the need to produce a "fit for work" medical endorsement from doctors for their employment as discriminatory. However, this practice may be necessary to safeguard the interest of PMI. Corrigan et al. (2004) cautioned that some institutional policies or procedures might restrict the opportunities of a certain group of people; however, they may still be justifiable and should not be deemed as discriminatory. A doctor's assessment on patients' fitness for work can help to identify patients who are not suitable for a particular type of employment which could prevent potential occupational hazards at work due to their illness (Coggon and Palmer, 2010). They could also provide employment advice (i.e., possible functioning difficulties faced by the patients and job modification recommendation) to both patients and employers (Coggon and Palmer, 2010). Overall, PMI in Singapore perceived strong structural stigma in the employment setting. Despite improvements made in recent years, more work needs to be done locally to reduce mental illness stigma amongst organizations (i.e., employer and co-workers). Regulation and policies need to be introduced to ensure equal opportunities for PMI and curtail the use of certain procedures required during employment which are stigmatizing.

Our study also identified individual strategies that PMI employed to reduce mental illness stigma in their daily life. Some PMI chose to conceal their condition to avoid being subjected to mental illness stigma. Concealment of one's condition is commonly employed by PMI as a coping strategy against stigma (Holmes and River, 1998; Corrigan et al., 2013). As mentioned by Corrigan et al. (2013), there are both pros (e.g., avoid stigmatizing people and fewer concerns with others' perception) and cons (e.g., less opportunity for social support and experience of guilt from concealing condition) of keeping one's condition concealed. Hence, PMI who perceived the benefits greater than the costs subscribed to this strategy.

On the other hand, some PMI preferred to stand up for themselves against the perpetrators of discrimination.

Discrimination is commonly regarded as an unjust behavior toward a certain group of people (Knight, 2013). Miller's (2001) review suggested that victims of unjust treatment may seek justice through their own actions in order to challenge the threat, restore their self-esteem, and educate the offenders on their wrongdoings. Thus, when PMI encounter stigmatizing behaviors, some may be motivated and decide to retaliate against their perpetrators and demand appropriate treatment.

Furthermore, some PMI were also committed to raising mental health awareness amongst the general public, including their loved ones and friends, to reduce mental illness stigma. Lack of awareness and knowledge of mental illness is frequently identified as a cause of mental illness stigma (Shrivastava et al., 2012). A survey conducted amongst 300 psychiatric patients in Singapore to understand their perception of mental illness stigma and its contributing factors found that the majority of the patients endorsed a lack of knowledge of mental illnesses among the general public, hence indicating the need to increase public awareness on mental illnesses (Lai et al., 2001). This recognition by PMI may have motivated them to educate their family members and friends on mental illnesses and encouraged them to participate in public mental health advocacy in order to lessen mental illness stigma.

Lastly, to reduce mental illness stigma, PMI also sought to better themselves and continue with their life as per normal. While it is well-established that perceived mental illness stigma may result in self-stigmatization among PMI, research has postulated that some PMI remain empowered or feel indifferent toward stigma (Corrigan and Watson, 2002). It is suggested that this is influenced by how much PMI identify with their condition and their perception on the legitimacy of the stigma (Corrigan and Watson, 2002). Hence, PMI, who identified less with their condition and perceived the stigma as less legitimate, may be less attentive toward the stigma or more motivated to improve themselves in order to change others' opinions of PMI.

Our study has some limitations. Firstly, our participants may be influenced by social desirability bias due to the presence of other participants in an FGD setting which may have resulted in them withholding their truthful opinions. To minimize this bias, participants were assured that there are no right or wrong answers to the questions and information shared will be kept strictly confidential. Secondly, participants who agreed to participate in our study may possess strong views or beliefs about mental illness stigma and therefore may be inherently different from those who refused to participate, thus affecting the representativeness of our sample.

Our findings have highlighted instances of public and structural stigma that PMI in Singapore encountered in various contexts of their daily life. This information can guide policymakers with the development of culturally appropriate policies and strategies to reduce mental illness stigma in the Singapore society and identification of potential audiences who may benefit the most from such interventions. Furthermore, our study also identified individual strategies which PMI employed to reduce mental illness stigma. Although studies have established some effectiveness of large scale interventions such as education and contact-based programs in reducing mental illness stigma (Rüsch et al., 2005; Dalky, 2012), it is unclear whether individual versions of these approaches by PMI will achieve the same results. Moreover, it is also not known whether these individual strategies are beneficial and adaptive to PMI themselves. Hence, there is a need for future studies to examine the effectiveness of these individual strategies and their possible impact on PMI.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because participants did not consent to this data being shared publicly. Requests to access the datasets should be directed to MS, mythily@imh.com.sg.

ETHICS STATEMENT

The study was reviewed and approved by the National Healthcare Group Domain Specific Review Board, Singapore. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

WO wrote the first draft of the manuscript. MS, SC, and SS designed the study protocol. MS, SS, WO, CG, and GT were involved in the development of the topic guide, collection of qualitative data through focus group discussions, and analysis of the data with inductive thematic analysis method. All authors gave their intellectual input to the manuscript and have read and approved the final draft of the manuscript.

FUNDING

The study is funded by Tote Board, Singapore. However, the funder did not play any role in the design of the study, data collection and analysis. They were not involved in any way in the writing of the manuscript.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychiatry

ORIGINAL RESEARCH
published: 30 October 2020
doi: 10.3389/fpsyt.2020.532600

The Utilization of Cultural Movements to Overcome Stigma in Narrative of Postnatal Depression

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Background: Despite affecting 15% of new mothers, experience of postnatal depression has often been hidden by stigma, cultural beliefs, and lack of medical understanding. We examined the barriers to women sharing their experience and gaining help, using their own words to illuminate the experiences of stigma and injustice. This study examines the narratives of women across the twentieth century, explores cultural movements that framed and contextualized their experiences, and marks how women became more empowered to speak of maternal distress.

Methods: Narrative literature was identified via searches of literature catalogs. Narrative accounts provided a lens through which to analyze cultural understandings of postnatal depression according to historical method. Contemporary medical and sociological literature discussing postnatal depression was used to contextualize the social climate within which these narratives were written. This work combines historical analysis with philosophical framework to develop insight into patient experiences of mental ill-health and associated stigma.

Results: This research identified three core cultural movements providing women with a framework in which to discuss their experiences of postnatal depression: the labor movement in the early twentieth century, the second-wave feminism movement in the mid-twentieth century (ca. 1960–1980), and the so-called "Prozac revolution" emerging at the end of the twentieth century. These movements provided distinct culturally acceptable etiologies around which women were able to frame their experience of postnatal depression. This provided women with space in which to share and process their experiences and aided them in overcoming contemporary stigma against mental illness by challenging disparaging stereotypes of the depressed mother.

Conclusions: Despite the stigmatizing nature of mental illness, women have demonstrated resilience and ingenuity by utilizing acceptable cultural movements to reframe their experiences of postnatal depression, challenging traditional perceptions of motherhood and effectively earned recognition of their sufferings. During this period, concordance between patient perceptions of postnatal depression and clinical understandings of the condition has been variable. Highlighting the detriment to therapeutic relationship when discordance is present, the narrators have demonstrated

Edited by:
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Specialty section:
This article was submitted to Public Mental Health, a section of the journal Frontiers in Psychiatry

Received: *04 February 2020*
Accepted: *05 October 2020*
Published: *30 October 2020*

Citation:
Elliott GK, Millard C and Sabroe I (2020) The Utilization of Cultural Movements to Overcome Stigma in Narrative of Postnatal Depression. Front. Psychiatry 11:532600. doi: 10.3389/fpsyt.2020.532600

the need to destigmatize illness and facilitate cooperation between physician and patient and remind clinicians of the importance of placing patient experience at the center of care.

Keywords: postnatal depression, postpartum depression (PPD), stigma, motherhood, patriarchy, chemical imbalance, experience, narrative

INTRODUCTION

In this article, we will explore how women have written about their postnatal mental health over the last 100 years. A series of poignant, sometimes agonizing, narratives reveal the women who challenged societal stigma to share their experiences of postnatal mental illness in the twentieth and early twenty-first century. Utilizing theories of epistemic injustice identified by philosopher Miranda Fricker, this article also delineates how women have used cultural movements to reframe and contextualize their experiences. Presenting their experiences in a more accessible, and perhaps more acceptable, way has allowed women to communicate with a society that highly stigmatizes mental illness and frequently devalues female experience. As a piece of interdisciplinary research, this article combines historical analysis with philosophical framework to provide clinicians with greater insight into patient understandings of mental illness and experience of stigma.

In 1920, the notable British writer and sociopolitical activist Marie Stopes proclaimed emphatically that "Every lover desires a child," thus introducing her latest work, *Radiant Motherhood: A Book for Those Who Are Creating the Future* (1). Her insistence was that parenthood, and motherhood particularly, was an integral feature of adult life and relationships was echoed by contemporaries, and it continues to be echoed by many in the society today. Ideas around female identity have long been intertwined with pronatal rhetoric, on both a societal and personal level (2). One doctor stated in 1911 that "[children] are as necessary to [a woman's] happiness as the food she eats and the air she breathes" (3), while actress Brooke Shields wrote in 2005 that she had "always dreamed of being a mommy" (4). Traditional narrative of motherhood has framed it as a time of excitement and affection, particularly in the first few fleeting months after delivery. However, with estimates suggesting that around 15% of women experience the mental health condition postnatal depression (5), it is evident that this narrative is at best an embellishment and at worst a falsification of the reality many women face in early motherhood.

Like many mental health conditions, postnatal depression has at times been stigmatized, poorly understood, and misrepresented. Today, as many as 58% of women experiencing postnatal depression will not seek help or speak out about their experiences, with many citing they were "too scared" to seek help (5). Furthermore, the ambiguity associated with the condition due to its perinatal onset has often caused it to be marginalized, an issue that neither falls entirely under the remit of psychiatry or women's health. Combining this marginalization with patriarchal traditions that have ignored women's voices, constituting what Miranda Fricker terms "testimonial injustice," results in both historical research and qualitative psychiatric research having overlooked the condition frequently. There is no mention of the topic in otherwise-comprehensive histories of depression and psychiatry [such as that of (6–8)] and limited exploration in histories of obstetrics (9).

This pa*per seeks* to begin closing this gap in the academic literature by exploring the relationship between stigma and the cultural understandings of postnatal depressive illness throughout the twentieth century. The literature included is primarily British in origin; however, given the great cultural exchange between Britain and the United States and the dominance of American culture on the international stage, some works of American literature have also been included. Those included interact with, mirror, or are otherwise relevant to themes highlighted in contemporary British literature. They work, therefore, to complement the British dataset analyzed, rather than provide a comprehensive review of American attitudes toward postnatal mental illness. The article focuses on three periods of time in which key narrative texts have been identified. These are the early twentieth century (1910–1925), the early 1960s to the early 1980s, and the turn of the twenty-first century. These periods have been chosen, as they are central periods of discussion on postnatal depressive illness in which a noticeably higher volume of literature concerning postnatal depression was published. Furthermore, each period is dominated by distinct sets of ideas pertaining to postnatal mental illness, and jumping between these periods allows this article to effectively summarize the evolution of postnatal depression over the preceding 100 years.

METHODS

Source Selection

Narrative accounts of postnatal depression constitute the primary literature analyzed in this article. These texts are used as a lens through which to view cultural understandings of postnatal depressive illness in the twentieth and early twenty-first century. Complementary texts, such as medical literature or literature of sociological and cultural importance, are also used to contextualize the social climate within which these narratives were written, better delineating the impact of societal stigma on experience of postnatal depression. All texts were written in the vernacular, in English.

The use of "illness narrative" in academic research, once referred to as an "orphan genre" by Arthur Frank, has enjoyed increasing popularity as a data source across both clinical disciplines and medical humanities in recent years (10). On the use of narrative in medical disciplines, Dr. Angela Woods has written:

> "Advocates for the use of narrative have a commitment to understanding the centrality of the illness experience in the medical treatment of disease, taking seriously stories of illness, and valuing the individual as the empowered author-narrator of her own story" (11).

However, in the same piece, Woods highlights several limitations that she perceives with analysis of narrative. These include a tendency to "overlook the cultural and historical dimensions of narrative form" and "overinflating what counts as narrative…including painting, poetry and dance" (11). This article has addressed these concerns in its methodology: the former, by including in this analysis supplementary literature contemporary to the narrative accounts and the second in the selection process for inclusion in this work.

"Narrative" in this instance has been defined as first-person accounts, all of which describe the emotional experience and impact of mental distress resembling contemporary understandings of, or identified by the author as, postnatal depressive illness. The narratives chosen for inclusion were largely autobiographical letters, memoirs, and chapters. Also included were excerpts from published interviews or oral accounts of early motherhood because, like the autobiographical pieces, they provide first-person recollection of experiences.

To compile the literature used, a range of databases, both academic and commercial, were searched. Academic databases searched were the EBSCO Historical Abstracts database, Literature Online (Lion), and PubMed. The search terms used were one of "postnatal depression," "postpartum depression," and "motherhood" in conjunction with one of "history," "memoir," "narrative," "autobiography," "diary," or "account." These early literature searches focused on establishing the type of literature that had already been published examining postnatal depression from a historical perspective. Indeed, this search proved limited. A search of medical database PubMed, for instance, with the search terms "history" and "postnatal depression" revealed a plethora of studies examining trends among women with a medical history of postnatal depression but little in the realm of historical or qualitative research. The Lion and EBSCO searches were equally limited, indicating that little historical research on the phenomena of postnatal depression was available. However, examining the bibliographies of the few secondary sources identified in these searches proved useful in identifying primary sources of discussion on postnatal mental health.

Expanding the repertoire of databases, the historical archives of The Guardian and The Observer were also searched; when searching these archives, the search terms "motherhood," "maternity," "postnatal depression," and "postpartum depression" were used to identify articles discussing postnatal mental health. This search yielded a multitude of confessional letters in which women discussed their experiences. It also provided wider societal context for discussion of postnatal mental health and motherhood. We also searched other databases such as Amazon Books and Google Books with the same search terms. While unconventional search engines in academic literature, not only did they yield a plethora of published works, but they also indicated which texts had been most popular in terms of sales and were particularly useful for identifying later (published 1990s—2000s) literature. In using articles published in the press, we recognize that narratives identified may not represent an impartial view of public opinion, prone as such outlets are to sensationalism. We do not claim to provide an unbiased survey of women experiencing postnatal depression in the twentieth century; however, we do believe the sources selected represent the tone and content of published literature exploring experiences of postnatal depression. The combination of search methods used above, while atypical in scientific research, constitutes sound historical method used in the humanities.

In addition to synthesizing a timeline of narrative, concurrent timelines of medical and sociological literature discussing motherhood and perinatal mental health were also created. The medical timeline was largely put together through analysis of contemporary textbooks, which provide a good basis for understanding the dominant views of the medical community at the time of publishing. Also included were articles from prominent British and American medical journals, notably, *The Lancet*, *The British Medical Journal*, *Journal of the Royal Society of Medicine, Journal of Mental Science*, and *Obstetrics & Gynecology.* The sociological literature included in this discussion focuses on that produced by prominent female writers, discussing mental health and motherhood from a feminist–sociological perspective. This group of literature includes some of the most influential and acclaimed feminist works of the twentieth century, such as Betty Friedan's *The Feminine Mystique.* When analyzed alongside their contemporary narrative texts, the exchange of ideas between these streams of literature is evident. However, given the abundance of sociological literature discussing mental health and/or motherhood, it must be acknowledged that concentration on this specific stream of sociological literature has overlooked wider sociological perspectives on motherhood and mental health. To include other streams of thought in sociological literature would have been beyond the scope of this research.

Definition of Terms

The integrity of this article relies on sound definition of the terms used in this piece. As discussed above, narrative here has been strictly defined as first-person accounts of the emotional experience and impact of postnatal depression. However, it is essential that we also clarify what constitutes "postnatal depression" in this article.

Modern psychiatry textbooks will typically identify three forms of mental disturbance that commonly occur shortly after the birth of a child. The first, "postnatal depression," usually receives the most attention in discussion (12). Clinical features associated with postnatal depression include emotional disturbances such as negative thought, low mood, anxiety, and feelings of guilt. It may also include physical symptoms such as trouble sleeping, tearfulness, and appetite changes. Particularly distressing are thoughts of harm either to oneself or to the baby. According to many health authorities, including the National Health Service (NHS), symptoms of postnatal depression must last for more than 2 weeks and typically occur 3–4 months after delivery, although they may appear at any time in the year following the birth of a child (12). The International Statistical Classification of Diseases and Related Problems (ICD-10) does not consider postnatal depression to be an entirely separate phenomenon from depressive illness occurring at other times in ones' life but does afford the condition distinct classification in recognition of the unique circumstances arising immediately after the birth of a child (13). The other two forms of perinatal mental disturbance, "baby blues" and "postpartum psychosis," while sharing some features of postnatal depression, are considered separate phenomena and are beyond the scope of this research.

The definition of postnatal depression given above is corroborated by a number of British and American health authorities (12). However, this definition is a relatively recent development in the history of medicine, emerging in the late 1970s. The phenomena resembling the symptoms of postnatal depression have been described by a number of terms in the twentieth century, including, but not limited to, "puerperal insanity" (14), "puerperal melancholia" (15), "childbirth depression" (16), "postpartum emotional distress" (17), "depression with childbirth" (18), and "postpartum depression" (4). Additionally, the aforementioned "baby blues" has at times also been used interchangeably with "postnatal depression." While the so-called "baby blues" share many features of postnatal depression, it is an experience now defined as transient in nature and not largely regarded as pathological. This article will not retrospectively apply the term "postnatal depression" to the literature published before this term became well-defined and its use widespread; however, care has been taken to ensure that literature included describes an experience of sustained distress comparable to modern understandings of postnatal depression. In particular, this applies to the narrative texts included in this research. Furthermore, to avoid misrepresenting the experiences of women who have not themselves identified their experiences as postnatal depression, we will refer to these experiences as episodes of "maternal distress." This, we feel, as well as respecting historical context, also respects the attitudes of the women who wrote these narratives, who for numerous reasons may not have identified their experience according to contemporary medical labels.

Analytic Techniques

These experiences collated will be analyzed in chronological order, with supporting contemporary academic works included in the analysis to contextualize them. Primarily, this article is an interdisciplinary work that uses historical perspective to analyze the relationship between cultural understandings, societal stigma, and etiology of perinatal mental illness through the voices of narrative authors. In addition to exploring and amplifying patient voice, this analysis has meaningfully and representatively charted the development of the condition we now understand as "postnatal depression" throughout the twentieth and early twenty-first century.

Also pertinent to this article is the phenomenon of epistemic injustice described by Fricker (19). Fricker describes epistemic injustice as an "umbrella concept," in which an individual is "wronged in their capacity as a knower" (20). While the concept of epistemic injustice has been expanded by modern scholars, this article will focus on the application of Fricker's early denominations of epistemic injustice: the concepts of testimonial injustice and hermeneutical injustice. In addition to examining ideas articulated by the authors of the narrative pieces, this article will analyze how the phenomena of testimonial and hermeneutical injustice have been applicable to the experiences of the women studied, further developing the contextual understanding of the literature that these women have left for us. Incorporation of Fricker's philosophical ideas into the analysis of these narratives expands the scope of this article, encapsulating the interdisciplinary nature of the medical humanities.

RESULTS

As the primary source of data in the article is the narrative accounts of postnatal depression produced by sufferers themselves, this section serves to summarize these texts and review the main themes highlighted in these pieces. Concurrently, these pieces are contextualized and compared against wider contemporary literature. Analysis of the ideas highlighted by the narrators in these accounts of postnatal depression provides an understanding of how sufferers reconciled their experience with their own personal understanding of mental illness and societal stigma toward mental illness.

Accounts of Motherhood in the Early Twentieth Century

A collection of letters compiled by Margaret Llewelyn Davies, secretary of the Women's Co-operative Guild (WCG), presents the maternity experiences of a group of working-class British women published in 1915 (21). The WCG was a faction of the cooperative movement focusing specifically on issues affecting working-class women. These anonymous letters formed part of a campaign headed by the WCG to provide financial assistance to pregnant women; the letters were shared with politicians to effect change to the current maternity welfare program. The women featured in these letters do not refer to experiences of distress with any contemporary nomenclature. However, they described feelings associated with both contemporary descriptions of "puerperal insanity" and modern understandings of postnatal depression.

One woman (referred to as Guildmember A in this piece) featured in Llewelyn Davies' *Maternity: Letters from Working-Women* (1915) described her emotional struggles following the birth of her third child:

"Many a time I have sat in daddy's big chair, a baby two and a half years at my back, one 16 months and one 1 month (sic) on my knees, and cried for very weariness and hopelessness. I fed them all as long as I could, but I was too harassed… The strain was fearful, and one night I felt I must sleep or die—I didn't much care which"—p. 45–46, Guildmember A, *Letters from Working-Women,* 1915.

Similarly, a second woman (Guildmember B) spoke of a "breakdown" following the birth of her second child and a feeling of having "very nearly lost all my spirit" (p. 140–141). Her language alludes to a hopelessness characteristic of depressive illness, such as feeling she “did not seem to have strength enough to drag through day after day” and having “felt like giving in altogether.” She also stated that during this time “life was a weary existence.” A third woman (Guildmember C) described a case of “nerves” (pp. 181–183), while a fourth (Guildmember D) described having isolated herself from others due to a “weakness” suffered after the birth of her first child (p. 43).

Common to all four of these women is an absence of medical terminology to describe their experiences, despite having relayed experiences resembling contemporary descriptions of puerperal insanity (22). In addition to avoiding the label “puerperal insanity” itself, other descriptors with medical connotation such as “depression” or “melancholia” were also avoided in most of the narrative accounts. This begs the question, why? Was this a conscious distancing of their experiences from mental illness, or did it arise from a lack of understanding of perinatal illness in the early twentieth century?

Also notable in this publication is the deep shame with which women spoke of their experiences of maternal distress. Guildmember D writes with apologetic tones, stating she “kept all to [herself] and was “ashamed to own up” to her experience of “weakness” following the birth of her first child. While she describes symptoms not dissimilar from those now associated with postnatal depression, she did not specifically refer to her mental state in her letter. The language she used attests to the shame she felt for her condition, the label “weakness” itself having connotations of inadequacy, feebleness, and personal shortcomings. Likewise, Guildmember C expressed that she “could have gotten advice” regarding her condition but refrained from doing so out of “fear” that “they would only laugh at me.” The shame evident in the accounts of these women is highly suggestive of a widespread stigmatization of mental distress in early motherhood.

Additionally, Guildmember A explored etiology in her account of maternal distress, claiming that “the root cause is lack of rest and economic strain—economic strain being the greatest factor for ill” (p. 46). This is significant, as it demonstrates that this writer was broadly aware of, and actively challenging, cultural understandings of mental illness (7). Prominent etiological models of the time, which will be explored further in later paragraphs of this article, considered mental illness as hereditary and therefore inevitable and incurable. The etiology also introduced classist undertones, as the hereditary causation led to middle- to upper-class society perceiving of the emergence of a “race” of “degenerate” lower class sufferers (23). Guildmember A’s language suggests an awareness of this perception and is critical of the association of the lower classes with “degeneracy” and “feeble-mindedness,” stating that her living conditions would certainly be “enough to upset the mental balance of a Chancellor of the Exchequer.”

The predominant themes of narrative accounts in the early part of the twentieth century can be summarized as those of shame and uncertainty. The timidity with which women discuss their experiences, apologetic tones, and lack of engagement with sophisticated medical nomenclature is indicative of the stigma and shame associated with mental illness in the early twentieth century. The avoidance of medical labels may also intimate the lack of health literacy among these women. Moreover, there is evidence of discordance between the views of women experiencing maternal distress in the early twentieth century and those of the medical community, with sufferers highlighting the importance of environmental factors in the etiology of their experience. The externalization of causation highlighted by Guildmember A may represent an attempt to challenge or overcome the stigma she perceives in contemporary etiological theories.

Degeneration and Depression: Maternal Mental Health 1910–1925

While we have seen that discussion of mental well-being after childbirth was a popular topic of discussion among the women of the WCG, medical literature published in the early twentieth century had lost its focus on postnatal mental illness. London-based physician Geoffrey Clarke noted in 1913 that “many of the more modern text-books do not devote even a short chapter to the so-called puerperal insanity” (14). This sentiment was also echoed in the United States (24). It is perhaps for this reason that the women writing of their experiences in *Maternity: Letters from Working-Women* avoided using medical nomenclature in their discussion—their contemporary doctors may not have recognized or considered their experiences as illness. Furthermore, as self-described working-class women, access to healthcare and health education was for these women was, at best, greatly limited. Early National Insurance did not extend to women who were not working. Guildmember A exemplified this when she described pleading for medical assistance despite her poor financial circumstances, asking “Doctor, I cannot afford you for myself, but will you come if I need?” (21).

The lack of health literacy among these women, and the omission of medical labels in their literature that may arise from this, is an example of what Fricker has termed “hermeneutical injustice.” Hermeneutical injustice occurs when the “shared resources for social interpretation” that allow one to make sense of one’s experience are inadequate to describe one’s experience (19). As described above, few women writing in *Maternity* possessed the resources to access healthcare when needed, and so it is not unreasonable to suggest that medical labels for their experience were simply beyond the vocabulary of some of these women. Furthermore, when describing mental illness, physicians themselves typically applied these labels to a different type of patient. Psychiatry in the early twentieth century was preoccupied with the institutionalized patient—it was not until the 1950s and 1960s that community psychiatry began to take hold in the United Kingdom (6). The descriptions of mental disturbance published in *Maternity*, while distressing and unsettling, had not resulted in asylum confinement. Such experiences would have flown under the radar of many contemporary physicians such as Clarke who studied institutionalized women. The women writing to the WCG in 1915 may, therefore, have omitted labels from their accounts owing to the hermeneutical injustice denying them the vocabulary and knowledge required to enable them to unify their experiences under a common banner.

However, analysis of wider attitudes toward mental ill-health, particularly during motherhood, elucidates other factors that contributed to this distancing of experience from medical labels, as evident in *Maternity*. Since the nineteenth century, influential psychiatrists such as Benedict Augustin Morel and Henry Maudsley had asserted that mental illness arose from an inherent "degeneration" and was therefore hereditary (23). Clarke in 1913 notes that "congenital mental defect was noted in a good many cases," indicating that he too favored a hereditary etiology of mental illness. This etiological theory was widespread in the early twentieth century, with one physician in 1911 writing to the *Journal of Mental Science* "I take it for granted that we all agree that [heredity] has an enormous influence in the production of insanity" (25). These ideas were assimilated comfortably into a wider societal movement—that of eugenics. The eugenics movement was increasingly popular in the early twentieth century, and it used fear for the "quality" of future generations to try influence social attitudes, public health initiatives, and even the law (23).

Writing about distress in motherhood from a eugenicist standpoint were physician Elizabeth Sloan Chesser and academic campaigner Marie Carmichael Stopes. Sloan Chesser wrote of "nerve strain and anxiety" experienced by women in early motherhood (26), recognizing the difficulties faced by women such as those writing in *Maternity*. Similarly, Stopes described a period of "unbalanced mind" in the postpartum period, observing that in some women, "bearing of a child [results] in a weakening of the sub-conscious control over her emotions" (1). Both Sloan Chesser and Stopes felt that mental illness resulted from a hereditary predisposition, with Sloan Chesser asserting that "hereditary taint is the most predominant factor" (p. 202), while Stopes' attributed "degenerate, feeble-minded and unbalanced" traits to the "little understood force 'heredity'" (p. 2).

However, elsewhere in her publication, Sloan Chesser also observed that "the burden of maternity under present conditions is a source of terrible hardship" and advocated for improvements to conditions such as housing and education to reduce the incidence of "mental exhaustion" (pp. 96–97), showing that Sloan Chesser was exploring multiple ideas and causes but fitting these into an overall eugenicist position. Therefore, Sloan Chesser's work presents a complicated picture of contemporary understandings of postnatal mental illness through which to evaluate the narrative of the WCG. On the one hand, she writes firmly that mental illness is a hereditary affliction, concurring with their male contemporaries, particularly Clarke and Faulkes. This creates an environment in which mental or emotional disturbance are considered stigmatizing and shameful occurrences, hallmarks of "degenerate" stock and therefore provides motivation for women to avoid labeling their experiences as such. On the other, Sloan Chesser also separates some forms of mental and emotional disturbance in the postnatal period from the traditional labels of mental illness.

Like Guildmember A, Sloan Chesser's work offers alternate etiology in the form of pressured living conditions. This suggests that while the stigmatizing hereditary etiology did dominate psychiatry at the time, there were efforts on both the part of the sufferers and academics to reframe the condition in a more favorable light. It also alludes an awareness on the part of Guildmember A, suggesting that she is going to great lengths to carefully frame her experience in an acceptable manner, within the wider context of the stigmatizing hereditary etiology. The concordance between a sufferer and academics demonstrated by Guildmember A and Sloan Chesser is unusual for the period. Stopes, on the other hand, makes a less sympathetic case for mental illness in working-class mothers. Interestingly, Stopes portrayed symptoms of mental distress in early motherhood as "not a thing to fear or be ashamed of" when they are exhibited by "a mother-to-be who deeply desires her child…living under comfortable, protected and happy conditions" (pp. 36–37). Conversely, according to Stopes, those "feeble-minded" mothers "living in the worst of slums" had emphatically fallen victim to the "little understood force 'heredity'" (1). The classist distinction by Stopes is typical of academic literature at the time, which was heavily influenced by the eugenics movement. Indeed, we have seen earlier that Guildmember A sought to address these class distinctions in her narrative. In addition to describing how her living condition would be "enough to upset to the mental balance of a Chancellor of the Exchequer," she deploys language that is often used by the upper classes that developed this etiology, stating that present maternity conditions will result in "race suicide." This again challenges the then-popular medical and eugenicist notions that mental ill-health was the inevitable fate of the tainted, feeble-minded lower class.

A further clue to understanding the level of insight with which the women of the WCG were writing can be found in the writing of Guildmember C. She indicates in her narrative that she did view her experience as an episode of illness, as she sought medical advice (p. 183). Indeed, it was the doctor himself who made the diagnosis of "nerves" (21). This therefore suggests it was the narrator herself who skirted the medical terms, writing euphemistically of "bad times" and "suffering" instead of applying medical nomenclature to her experience. Whether the narrators of the WCG made conscious or unconscious language choices to avoid associating their experience with mental illness cannot be said, but it is evident that stigma had an enormous impact on their experience and is readily reflected in their writing.

Revolutionary Accounts: Accounts of Motherhood 1960s–1980s

Writing in 1915, the women featured in the WCG's *Maternity: Letters From Working-Women* had no right to vote were barred from many professions and had never had representation in parliament. Moving forwards 50 years, the fight for women's rights had moved beyond suffrage to become "women's liberation." This section will analyze some of the literature produced during the period widely associated with the Women's Liberation Movement, beginning in the 1960s and stretching into the early 1980s. The social and cultural changes of these years enabled the movement to carve out a new space within which postnatal mental illness could be discussed, and subsequently new forms of narrative emerged. The Women's Liberation Movement saw the growth of "consciousness raising" groups, which created spaces for women to come together and discuss their experience. Within these groups, women, supported by peers and comrades, began to share and value their experiences (27). Discourse from these groups spilled out into a wide range of literature; sociological works focused on female experience, candid descriptions of female experience circulated in popular newspapers, and a number of part-autobiography, part-investigative journalism critiques of motherhood were published.

Early in this period, two ground-breaking social studies on the experiences of women were published almost simultaneously, which independently identified a revolutionary new theme in discussion of perinatal mental distress. In 1963 and 1966, respectively, Betty Freidan and Hannah Gavron introduced the argument that the pervasive, patriarchal social norms that idolized motherhood were in fact a deception, a false dream that could only result in misery when women confronted the harsh realities of motherhood after the birth of their child (16).

Both Gavron and Friedan featured several extracts from the women they had interviewed, who recounted their realization that their expectations of motherhood had fallen far short of their experience. One woman confided that she felt “so empty somehow, useless” in her role as a housewife and mother (16). The language of the interviewee echoed Friedan’s ideas; feeling “empty” in particular conveys the sense of hollowness and the lack of fulfillment found within the role of housewife–mother. Likewise, Gavron identified conflict between the vision of motherhood society sold to women and the realities they experienced, featuring a woman who expressed that she “felt such a failure not knowing whether the baby was warm enough, or fed enough, or why it was crying” (28). Naming herself as a “failure,” she intimates that she equated success with motherhood in the same way that the archetypal motherhood-as-fulfillment narrative presents it. She also apportioned the blame entirely on herself for struggling to cope with the labors of childcare, suggesting an expectation that child rearing was to be solely her responsibility. According to both Friedan and Gavron, the crisis of identity that resulted from the conflict between the archetypal “ideal” and the realities of motherhood resulted in great emotional distress for many new mothers.

Of course, there are methodological issues with narrative provided by work of this type—how far were Gavron and Friedan selective in their choices of what to include in their books? How representative were these particular experiences? However, it is clear that the archetype of motherhood-as-female-fulfillment—and the distress it caused when it failed to match reality—continued to be pervasive throughout the period, as the theme was revisited again in later narratives.

The autobiographical preface of American author Adrienne Rich’s feminist critique of motherhood, *Of Woman Born: Motherhood as Experience and Institution* (1976), relayed a similar sense of distress and disenfranchisement in taking on the role of a mother for the first time. Rich described herself as “an anti-woman—something driven and without recourse to the normal and appealing consolations of love, motherhood, joy in others” (29). Identifying as the “antiwoman” when experiencing postnatal mental distress, Rich demonstrates the deep intertwining of motherhood with one’s identity as a woman. Her experience is evidence of the identity struggle faced by new mothers as they tried to reconcile their feelings of distress and despair with the dreams of fulfillment and happiness that they had imagined. Given that Rich’s work was strongly influenced by Friedan’s initial critique of the role of the housewife-mother, it is perhaps unsurprising that Rich echoed the dissatisfaction with the false-promise of fulfillment and happiness in motherhood that she felt she was sold by society. Other subsequent work followed the same structure and echoed these themes, notably that by Oakley (3) and Welburn (30).

Into the 1980s, women continued to write on the theme of fulfillment in motherhood. As well as the semiautobiographical commentaries produces by Rich, Oakley, and others, “ordinary” women were also sharing their experiences of postnatal depression in national forums. One woman, Alison Coles, might be used as an illustrative example. She wrote to the *Guardian* in 1986 to question the image of motherhood that she had been sold all her life, asking “was this all there was?” (31). Again, Coles highlighted the discrepancy between the ideals of early motherhood and the realities of it. Coles did not come from any kind of academic background herself, but her narrative demonstrates that the feminist analysis and critique of motherhood had been internalized by women of the period and was being incorporated into their understandings and experiences of postnatal depression. In the same way that the WCG had been able to provide an outlet for women’s experiences in the cooperative movement, women’s liberation in the 1960s, 1970s, and 1980s enabled women to discuss their experiences and had provided a vocabulary with which to articulate them.

In addition to the disconnect between expectations and experiences, later narratives began to identify a second factor that was damaging women’s participation with early motherhood. Maternity care had changed dramatically since the 1910s. While almost all births took place at home in the early part of the twentieth century, by 1960, approximately half of women delivered in hospital, rising to 98% of women by the early 1980s (32). In 1979, Oakley was one of the earliest to speak at length in her narrative of postnatal depression about how her experience of birth affected her subsequent mental health (3). Oakley spoke critically of her experience of childbirth, to which she attributed the difficulties she experienced bonding with her baby:

> I remember myself as a passive patient, bewildered, afraid and alone, controlled rather than controlling, his birth more their achievement than mine. There was no euphoria, the baby in the cot was a threatening stranger… I was delivered of my own identity at the same time… it was a long time before I could remove the barrier of his birth from my relationship with him. (pp. vii–viii)

Also stating “the way in which a birth is managed could influence a woman’s whole experience of being a mother” (p.v), it is evident that Oakley identified her experience of childbirth as a critical influence over her early experiences of motherhood. The move toward medicalized birth was a symbolic beginning to the helplessness, lack of autonomy, and relinquishing of control she experienced in early motherhood. For Oakley, it was also symbolic of the continued subjugation of women in British society. The medicalized birth, led by paternalistic, majority-male physicians, undermined women during a pivotal moment in their developing identity as a mother (3).

Writing to *The Guardian* in 1979, Ann Schofield also recounted an emotional "crisis" she experienced after the difficult birth of her second child. Schofield criticized the treatment she received from medical staff after a difficult, premature delivery (33). She described being told by a doctor "pull yourself together for your husband's sake" after her delivery. The doctor's language, appearing to lack in empathy toward Schofield, left her so "outraged" that she decided not to stay in hospital with her baby, who was in intensive care. However, this drove a further wedge between her and her baby, causing "anxieties" and "persistent and aggressive nightmares." Schofield's distress continued, stating "it took me 2 years…to fully resolve the confusion of negative feelings associated with the birth."

There is notable evolution in the discussion of postnatal depression in this part of the century when compared to the narratives produced in the 1910s. Mirroring the themes highlighted in the early narratives, undertones of shame and weakness are evident in both the language of the narrators themselves, who consider themselves as "empty" and "failures" and in the language of the clinicians interacting with them ("pull yourselves together") (33). However, like Guildmember A in 1915, narrators have also highlighted alternative, externalizing etiologies for postnatal depression in order to overcome the shame and stigma they associated with their experience. Highlighting patriarchal social norms—the idolization of motherhood as a path to fulfillment for women, and the paternalistic, dehumanizing medical birth as means of undermining female identity—these narrators have reframed their experience in a way that allowed them to speak out and to challenge prevailing stigmas.

Patriarchal Ideals and Postnatal: Maternal Mental Health in Society 1960s–1980s

Mirroring the women of the WCG earlier in the century, women writing in the 1960s, 1970s, and early 1980s had likewise found a cultural movement through which they could relay their experiences of postnatal depression. Like the women of the WCG, who utilized the cooperative movement's campaign for better living and working conditions to share their experiences, the Women's Liberation Movement had provided a structure within which mental ill-health could be more readily discussed. This movement highlighted the impact that strict societal expectations of women had on their well-being, which placed the onus of "fault" on society rather than personal failings. From here, women were able to share experiences of postnatal depression on the premise that it originated in problematic patriarchal identity constructs or their mistreatment by the male-dominated medical field. While many of the women writing on this theme had sociological backgrounds, it should be noted that their ideas were not largely integrated into medical discussion of postnatal depression until later in the twentieth century, despite sociology's increasing influence on other areas of psychiatry. Indeed, etiology of postnatal depression was poorly defined within medical communities in the 1960s and 1970s Britain (22). The space, however, that feminist narrators created within which they could discuss their experience remained fringe. This discrepancy was commented on by Welburn, who noted that it in medicine, "men must act, control, perform" (pp. 65–67) and could not allow women to occupy space within their field (30). There is evidence that the arguments put forth by these women remained marginalized, and experiences of postnatal depression remained stigmatized. We have seen how Schofield was admonished by her physician and told to "to pull herself together." An equally admonishing reply to Schofield's account published the following week considered that Schofield's letter "oozed self-pity" (34).

There is further evidence of the conflict between narrators and the medical community during this period. It is clear that the experience of birth itself had become a major theme in narratives of postnatal depression by the end of the 1970s, but scientific literature had not yet caught up with this. Welburn criticized the medical profession for their lack of response to the distress that was being caused by this relatively new, highly medicalized approach to birth. The British Medical Journal, Welburn claimed, had refused to publish a letter from a doctor who had written that "dangers arising from accelerated labor are interference with the mutual attachment of mother and child and damage to the mother's confidence in herself as a mother and as a woman" (30). This opinion echoed the thoughts of Oakley and Schofield, who felt that their birth experiences interrupted their ability to bond with their baby and compromised their identities as mothers (3, 33). While the doctor who authored this letter demonstrates that not all in the medical profession were entirely ignorant of these concerns, Welburn argued that the BMJ's decision not to publish this letter were demonstrative of the wider views of the medical community. While anecdotal evidence that suggested a link between delivery experience and postnatal depression was beginning to emerge, no large-scale research had yet tried to establish an empirical link, despite the growing number of mothers who "blame [postnatal depression] on the childbirth, the whole thing" (3). Indeed, modern literature on the subject remains indecisive. A 2017 meta-analysis on the subject found cautiously in favor of an association between cesarean section and postnatal depression, although acknowledged that the association remains controversial (35).

The gradual emergence of medical literature in the late twentieth century, which, to some extent, appears to corroborate the anecdotal evidence first emerging in the 1960s, is evidence of a second type of epistemic injustice encountered by the authors of our narratives: testimonial injustice. Testimonial injustice is described as occurring when a hearer's prejudice causes the hearer to "give a deflated level of credibility to a speaker's word" (20). The BMJ, for example, appear to exhibit testimonial injustice against the women and patients informing the work of Dr. Bardon, the doctor whose work, according to Welburn, was rejected by medicalized-birth endorsing BMJ.

Additionally, the advent of "postnatal depression" (or approximate synonyms) as an *acceptable* label for women to identify their experiences emerged in discussion of postnatal mental disturbance in 1960s, 1970s, and 1980s. This provided women with the means to consolidate their experience in a way in which women writing to the WCG had been unable to. Indeed, in her own work Fricker uses the discussion of postnatal depression in the "consciousness raising" groups America's women's liberation movement as an example of tools that have been utilized to address hermeneutical injustice endured by women in Western society (20). This phenomenon is described as a "lifting" of "hermeneutical darkness" as discussion of postnatal depression expanded in the 1960s, 1970s, and 1980s.

Narrative in this period, while demonstrating a significant shift in the frameworks used by women to discuss their experiences of postnatal depression, continues to be hindered by societal stigma toward the condition. The backlash faced by narrators such as Schofield illustrate the persistent societal view of mental illness as a failing or form of weakness, comparable to the "degenerate" or "feeble-minded" sufferers of the 1910s. Likewise, the narrators of this period have mimicked the women of the WCG in finding a way to externalize etiology of postnatal depression, in an effort to overcome this stigma. As seen in the previous decade, the etiology they propose is largely rejected or ignored by medical authorities. Similarly, language associated with shortcoming such as "failure" continues to be employed by narrators, again reiterating the shame with which they endured their experience. There is, however, also evidence of a larger push-back against stigma in this period. For one, the volume of narrative literature produced in this period appears much higher. Additionally, the position of the narrator themselves has evolved. Where the working-class women of the WCG relied upon the collective power of the cooperative movement to share their experiences, women in the 1960s, 1970s, and 1980s were using a range of channels to share their stories. Space had been carved out in the academic literature, while popular newspapers were beginning to open their platform to the experiences of "ordinary," individual women.

Modern Mothers: Narrative at the Turn of the Century

Around the turn of the century, another cultural shift in the discussion of mental illness occurred. The 1990s and early 2000s oversaw a radical change in medical models used to describe postnatal depression. While historian Clarke Lawlor described psychiatry in the 1970s as "a mess of theories and practices that had little or no consensus" (p. 160), the end of the century brought about a radical new model for describing depression (8). The advent of Prozac, an antidepressant drug, revolutionized models of depression for medical professionals and lay-people alike.

Prozac (generic name: fluoxetine) was part of a class of drugs collectively known as selective serotonin reuptake inhibitors (SSRIs), which work by increasing the levels of a neurotransmitter, serotonin, available to neurons in the brain. This increase was linked to mood regulation and feelings of well-being. Several other types of SSRI would also be released in the late twentieth and early twenty-first century, although Prozac was one of the most popular. Prior to the advent of SSRIs, other psychotropic medications had been developed to treat depression-like symptoms, such as benzodiazepines (like Valium) or barbiturates. However, SSRIs stood apart from their predecessors with a unique selling point that would transform understandings of depression; while other medicines provided symptomatic relief, SSRIs professed to address the cause of depression, the so-called "chemical imbalance" of serotonin. Prozac excelled in clinical trials and when it hit European markets in 1987, its efficacy along with aggressive marketing campaigns lead to prescriptions for fluoxetine rising rapidly throughout the 1990s and 2000s.

This revolution enabled a new form of narrative on postnatal depression to arise. Lauded by some as "astonishingly honest," "brave," and "giving hope to countless women" (4), the early 2000s heralded the emergence of the celebrity exposé memoir. Perhaps, the most well-known of these was actress Brooke Shields' 2005 *Down Came the Rain*, although it was preceded by Marie Osmond's 2002 *Behind the Smile: My Journey Out of Postpartum Depression*. Shields' book became a bestseller, and to this day, she continues to be commended as an advocate for postnatal mental health, revered by some as the "poster girl" for postnatal depression (36). Further memoirs (albeit, less high profile) were also published by Kleiman (37) and British authors Aiken (38) and Busby (22).

Throughout the period, we see the language of "chemical imbalance" that had resulted from the "Prozac Revolution" becoming integrated into the narratives of women relaying their experiences of postnatal depression. For example, a 1992 article published in *The Observer* featured the case of "successful" modern woman "Jane." Her intense experience of postnatal depression following the delivery of her first child left her feeling so trapped by helplessness that the "only thing was to kill myself" (39). However, Jane's remarkable recovery left her confident in the belief that her experience was "a chemical process." Developing this further, she stated "that this is real and the answer is not the stiff upper lip." Jane's confident assertion here demonstrates of the power of the idea of "chemical imbalance" (39).

This attitude is replicated again and again throughout the late twentieth and early twenty-first century. Like Jane, Kleiman also highlights the model of chemical imbalance—Kleiman explained that postnatal depression is "not something you brought on yourself" (37). Additionally, Shields directly and repeatedly reaffirmed the "chemical imbalance" model of understanding postnatal depression in her memoir (4). Like Jane and Kleiman, Shields utilized this model as a defense against the stigma associated with perinatal mental disorder, explaining that "in a strange way, it was comforting when my obstetrician told me that my feelings of extreme despair and my suicidal thoughts were directly tied to a biochemical shift in my body" (40).

These narratives indicate that this new model was welcomed by many women as a destigmatizing explanation of their experience, which legitimized the way they had felt, and, for many, also offered a reliable route to recovery. However, this is not to say that biochemical theories became the only explanation of postnatal depression. Kleiman also emphasized the importance of the "individualistic" approach to mental health, which was more reminiscent of sociological theories, imploring that "no woman is 'just' a disease, or just a chemical imbalance" (37). Additionally, both Shields and Busby regard their experience of childbirth as integral to their early experience of motherhood and the subsequent distress they felt in this role, echoing Oakley's work in 1979. Writing retrospectively in 2004, Busby explored the potential causes for her experience of postnatal depression in the 1980s. She paid close attention to the impact that delivery of her child had on her ongoing relationship with motherhood. Busby recounted the bewilderment and lack of control she felt during her delivery. Like Oakley in 1979, Busby too felt she was a passive onlooker in her own delivery, stating "I [hadn't] realized that C-Section stood for cesarean…I can honestly say that I had absolutely no idea what the obstetrician was talking about" (22). She also described feeling objectified by medical staff, reduced simply to a medical condition and not treated as an individual. "Do you mind" medical students asked, "only it's probably the only time [I] will get to see a transverse lie and CPD?" Busby felt this experience was belittling and isolating.

Shields had a similarly difficult experience during the birth of her daughter, delivered in 2003. While Shields recounts a better relationship with the medical staff present at her delivery, who she recalls treating her "gently" (p. 35), the experience remained overwhelmingly negative (4). Despite their care, she struggled to come to terms with having needed a C-section to safely deliver her baby, an experience that she felt rendered her "emotionally distant" from motherhood (p. 37). Most distressingly for Shields, she interpreted having not delivered vaginally as "a sign of my weakness and failure as a mother" (p. 86). The feelings of failure continued to haunt Shields throughout her experience of postnatal depression. Furthermore, she believed that her family shared this same judgement of her mothering capabilities, highlighting a perceived "disappointment" in the faces of her family when it was decided she should deliver through C-section. Another way in which Shields felt the C-section had contributed to her experience of postnatal depression was the sheer exhaustion and debilitating immobility she was faced with during recovery from surgery. The concentration of her energy onto recovering detracted from her focus on being what she considered a good, successful mother.

Another theme revisited in the narrative of turn-of-the century narrators Aiken and Shields was the idea that their lived experience of early motherhood had failed to meet to the expectations they felt that society had sold them. Echoing the arguments made by Freidan and Rich in the 1960s and 1970s, Aiken stated that "the ante-natal clinic had boosted up motherhood to such an extent. No one had told me the *truth*" (38). Shields, similarly, had placed great importance on becoming a mother as part of her own personal fulfillment. Her memoir opens with a short preface conveying her longing for motherhood.

Once upon a time, there was a little girl who dreamed of being a mommy. She wanted, more than anything, to have a child and knew her dream would come true one day. She would sit for hours thinking up names to call her baby (40).

The child-centered, fairy-tale language Shields adopts demonstrates the idealized version of motherhood she had envisioned. The presentation of this vignette at the very beginning of her memoir further emphasizes her dreams of motherhood. However, like Aiken, Shields found herself disappointed by the reality of her experience, asking "where was the bliss? Where was the happiness that I had expected to feel by becoming a mother?" (4). The recurrence of this theme across four decades is striking, and made more so by its prevalence in a variety of literary forms throughout this time. While criticism of the societal motherhood-as-fulfillment notion among feminist narrative is not unexpected, its appearance in celebrity memoir, and lay-person letters to *The Guardian* exemplifies how central many women find this theme to their experience of postnatal depression.

In particular, this theme was evident in the work of Professor Paula Nicolson, a psychologist in whose work the influence of early feminist literature was particularly evident. Her study of 24 British women's maternity experiences reiterated many of the arguments made earlier in the century; she felt that "romanticization of motherhood [that was] dictated by patriarchal power relations. It suits men for women to mother" (41). Nicolson continued to argue that society's archetypes and expectations of motherhood were responsible for the suffering of many women in the postnatal period—"all mothers are destined to disappoint themselves and their children" (p. 9). Furthermore, she felt that in the women she had interviewed, these factors were more prominent in their experience than the now-popular "chemical imbalance" model, stating that "despite cultural prevalence of the medical model in Western societies, most people who experience depression spontaneously provide an explanation" (42). Interestingly, there is evidence of consensus on this issue between women producing narratives and medical authorities in the early 2000s, contrasting the relationship between medical authority and feminist scholar evident earlier in the century. A leading psychiatric textbook published in 2005, for instance, recognized that for some women, "the hard work involved in the care of the baby" may be a significant causative factor in occurrence of postnatal depression (43).

The transition into the twenty-first century coincided with diverse discussion of postnatal depression in the narratives explored here. The detailed memoirs published by twenty-first century authors Shields, Aiken, and Busby allowed for deeper exploration of the experience of postnatal depression than the shorter earlier narratives had allowed. These intimate memoirs drew wider attention to the topic, with Shields being particularly notable for her contribution to public discussion of perinatal mental health due to her celebrity status (4). The advent of SSRIs and the subsequent "chemical imbalance" model also provided an opportunity for women to discuss their experiences. As several women intimated in their narrative, SSRIs provided a destigmatizing explanation for many women to utilize in their discussion of postnatal depression. Nevertheless, etiological models introduced by feminist–sociologist theory of the 1960s and 1970s, such as issues with the traditional societal perceptions of motherhood, continued to feature heavily in narrative of women experiencing postnatal depression. The diversifying of themes within narrative, combined with the intimate and comprehensive narratives provided by the memoirs published on the subject, demonstrated the way in which the destigmatizing of postnatal depression had allowed for the expansion of discourse on the topic.

The Prozac Revolution: Postnatal Depression in Turn of the Century Society

As discussed above, the late twentieth century introduced a radically different etiological model to describe postnatal depression. The narratives demonstrate the extensive acceptability of this model; for the first time, a model developed by the medical profession was warmly received by the individuals the model purported to describe. While this etiological model internalized causation of postnatal depression by correlating it to "chemical imbalance" inside the sufferer's brain, this clinical, scientific explanation for the condition was a far cry from the accusatory "degeneracy" associated with a heritable etiology. Furthermore, this model was accompanied by a reliable method of treatment, demonstrating reversibility of the condition. In the same way that the WCG had associated mental distress with poverty and the feminist–sociological theories of the 1960s—1980s had externalized causation of postnatal depression in order to fight against the stigmas associated with mental illness, the "chemical imbalance" model had allowed narrators to separate the root of their distress from their own personal character.

We can also see how the relationship between medical expert and patient has moved on between the latter two periods discussed in this article. The experiences of Shields and Busby provide a good case comparison. Although delivering 30 years apart, both women delivered by emergency cesarean section and explore this experience in depth in their discussion of postnatal depression. There are notable differences between their experience; where Busby felt belittled and objectified by the attending medical staff (22), Shields lauded her obstetrician as "nurturing" (4). Indeed, the issues faced by Busby, highlighted by women such as Oakley and Coles in preceding decades, had been acknowledged by two successive government reports in the 1990s, The Winterton Report (1992) and The Cumberlege Report (1993) (32). Both reports advocated for choice and involvement of women in the delivery of their baby and crucially "the right for women to have control over their own body at all stages of pregnancy and birth" (32).

However, despite the apparent reconciliation between medical doctrine and patient experience emerging at the end of the twentieth century, narrative continues to acknowledge the themes first highlighted in the early 1960s. This is perhaps a testament to the power of these ideas, with Freidan and Gavron's critique of traditional female archetypes continuing to resonate with women such as Shields more than 40 years after they were first suggested. Indeed, the permeation of these ideas into the society is evident when we examine the backgrounds of the narrators who have relayed them. The journey of these ideas from their origins as highbrow, academic theories postulated by university scholars, to their incorporation into a lay-person's short media article, to their centrality in an enormous celebrity to memoir is remarkable.

Also remarkable in the work of turn-of-the-century narrators is the structural differences in the literature they produced. Notable to Kleiman and Aiken's work is a collaboration with physicians, who provided self-help style advice to new mothers experiencing postnatal depression. This is, of course, in stark contrast to the attitudes toward contemporary physicians relayed by the narrators in *Maternity* (1915) or later by Welburn and Oakley. This collaboration again reiterates the importance of acceptability when describing the etiology of mental illness and was perhaps made possible by the advent of the less stigmatizing, more favorable explanation the "chemical imbalance" theory offered to women.

DISCUSSION

Limitations of This Work

While this article has endeavored to accurately and fairly represent the experiences of the women whose narratives are central to its development, experience is in its very nature personal and unique to the individual living it. Such work, therefore, cannot claim to present more than one researcher's interpretation of these texts. Interpretation is always subjective and vulnerable to the biases of the reader, unconscious or otherwise, and thus, it must be acknowledged that the arguments set forth in this paper are one of many sets of conclusions that may be drawn from the reading of this literature.

A further limitation to this work arises from the wide period covered by this article, with almost a century separating the earliest sources from the most recent. To progress with clarity through the twentieth century, I have focused this work on specific periods of time in which markedly distinct ideas around postnatal depression lead discussion of the topic. Naturally, this forces the research to skim over the interim developments in cultural understandings of postnatal depression. Furthermore, as stated earlier, the sociological aspects included in this research focused firmly on those postulated by a specific school of sociological thought, the feminist–sociological movement. We maintain that, given the vast interface between those ideas and narrative accounts, both produced by this movement and after it, this was an appropriate and fair representation of postnatal depression in British culture. However, we acknowledge the breadth of contribution that other fields of sociological study have made to modern understandings of postnatal depression.

When covering a significant period of time, it is essential to recognize that, in the interests of simplicity and succinctness, generalizations will be made. Unfortunately, it is often beneath these great generalizations that the nuance and detail that makes each and every story so extraordinary lies. In the face of such challenges, researchers must strive to balance the necessity of this practice with the duty to present the remarkable stories of twentieth century women with the sensitivity and intimacy they are owed.

This article has focused on the interplay between societal stigma toward postnatal depression and narrative of women experiencing the condition. This is just one aspect from which these works can be examined; there is still much to be learned from these exceptional insights into the difficulties of early motherhood, and further thematic analysis, such as examining the thought content or analysis of interpersonal relations in these narratives, would further enhance our understanding of the experience of postnatal depression. Similarly, in concentrating on the impact that etiology had on narrative, there remains space to chronicle in more detail the development of the condition we now understand as "postnatal depression" through focused analysis of the medical discussions of perinatal mental health in the twentieth century.

CONCLUSION

This research has tracked the topics of discussion highlighted by narratives of postnatal depression in the twentieth century and evaluated the impact of societal stigma on the tools employed by narrators to share their experiences. In doing so, it has elucidated fundamental changes that have occurred in both medical and cultural understandings of postnatal mental illness. Throughout this changing landscape, women themselves have used cultural ideas to share and convey their distress in ways that were acceptable to contemporaries. By focusing on three distinct periods, this research demonstrates the development of postnatal depression throughout the century.

In the early part of the twentieth century, narrative was dominated by apologetic, shameful tones, while interpretation of the experience by the narrators differed vastly from the etiological models employed by the medical community to present postnatal mental illness. Women in the early part of the century also failed to label their experiences according to any contemporary medical terms. This research argues that this distancing of their experience from both medical terminology and the medical community's proposed etiology meant women were able to relay their experiences in more culturally acceptable ways. The cooperative movement provided a platform through which women's distresses could be heard.

Later in the century, the rise of the Women's Liberation Movement carved out another acceptable space in which to discuss postnatal depressive illness. While the movement criticized society from a feminist viewpoint, it mirrored the cooperative movement by creating an external, environmental basis from which postnatal depression arose. Despite the permeation of these ideas from academic literature into wider forms of media over the two decades associated with the Women's Liberation Movement, the ideas postulated in this movement remained fringe and were, in some cases, entirely rejected by the mainstream medical community. Thus, the disconnect between the medical community and the experiences that women described continued, and the stigmatism of these narratives persisted.

By the end of the twentieth century, advances in psychiatric pharmacology had transformed understandings of mental ill-health, both within the medical profession and in wider society. The release of SSRI antidepressant drugs propelled the "chemical imbalance" model of depression into public consciousness, where it was readily incorporated into patient narrative. The acceptability of this model allowed a consensus to develop between women experiencing postnatal depression and the medical profession—this was evident not just in women's own language but also by their collaboration with medical professionals when producing their literature. The acceptability of this medical model is evident in narratives produced at the end of the twentieth century and in the early twenty-first century. However, while the scientific approach to postnatal depression gave credence to the experiences of many women, narrative continued to highlight the feminist themes prominent in the literature produced in 1960s and 1970s. While the "chemical imbalance" model, then, had on the one hand helped created space in which women could talk about their experience, it had done little to address the engrained societal expectations of gender and how these affect ones' relationship with motherhood, as evidenced by the repetition of these themes over 40 years later.

In summary, two conclusions can be drawn from this research. First, that despite often stigmatizing cultural and medical attitudes toward mental ill-health, women have found outlets through which to share and discuss their experiences. Beginning with the cooperative movement in the 1910s, then as part of women's liberation in the 1960s, 1970s, and early 1980s, and finally by capitalizing on the end of the century's "Prozac revolution," women have continued to demand that their voices be heard. Second, although being very much oppositional at the start of the twentieth century, there has been a movement toward concordance of ideas between pharmacology, the medical community, and the patient community that they ultimately endeavor to serve.

It may now be beneficial to ask whether or not women's voices have been heard if there were not scientific theories to describe their experiences. While work on serotonin provided a framing for discussions of postnatal depression, this framing was, of course, scientific, rather than narrative or experiential. It must be wondered whether had scientific framework had not emerged, we might still be disregarding women's narratives—and what this implication has on how we view experiential, narrative evidence in other medical arenas today.

AUTHOR CONTRIBUTIONS

The literature search and primary analysis of this research was done by GE. This was supplemented by the direction of CM and IS, whose detailed knowledge of medical history, philosophical frameworks, and medical humanities methodology were instrumental in drawing the conclusions from this work. IS was also central to numerous revisions of this research allowing for close analysis of the texts examined. All authors contributed to the article and approved the submitted version.

FUNDING

IS acknowledges the support of a Winston Churchill Memorial Trust Fellowship.

ACKNOWLEDGMENTS

The deepest gratitude must be extended to the women whose remarkable narratives formed the basis of this research. Common

to all narratives was a desire to improve experiences of motherhood for future generations of women. The camaraderie and compassion shared by narrators throughout the decades was evident in all pieces of work, from the woman who wrote in 1913 [my heart] will grow lighter still when I know that the burden is lifted from the mothers of our race, to Aiken's hope that her work would give you the courage to keep on fighting postnatal mental distress. Were it not for their brave confrontation of intimate, distressing experiences, this research could never have arisen. The support and humanity exhibited in these remarkable stories has, for me, been the most overwhelming feature of this collection of narratives.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychiatry

ORIGINAL RESEARCH
published: 05 November 2020
doi: 10.3389/fpsyt.2020.587321

Education Students' Stigma Toward Mental Health Problems: A Cross-Cultural Comparison

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One of the main obstacles to integrating individuals with severe mental disorders into society today is the stigma directed at them. Although breakthroughs in treatment have been made in recent years, many professionals continue to admit that they do not possess enough training to combat this problem. Considering this situation, the present study analyzes the existing stigma among University Education students in three countries with different education systems and cultures, namely Spain, Russia, and Canada. A total of 1,542 students from these three countries participated in the study. ANOVA, MANOVA, and Multigroup Confirmatory Factor Analysis were applied in the data analysis. The results showed that the highest rates of stigma were in Spain and the lowest were in Canada, while Russia displayed intermediate values. This work addresses the relevance of these results, the influence that cultural difference may have on education policies, and the need to implement anti-stigma programs in countries like Spain, which has a relatively high level of social stigma and where these programs are practically not applied at all.

Keywords: rehabilitation, people with mental disorder, awareness, university students, Spain, Russia, Canada

INTRODUCTION

Currently, one of the difficulties associated with recovery from severe mental disorders is stigma (1–3). Albeit, the problems directly related to the symptoms of these disorders, which can be severe, are intermittent in nature and increasingly treated more effectively, the problems derived from stigma are more stable over time and more resistant to change (4).

The degree to which these circumstances hinder patient recovery has ultimately led stigma to be considered a "second illness" (5). As a result, different international, national, and regional organizations have worked to promote various campaigns seeking to eradicate or diminish this problem (6). Not only is stigma common among the general population, but it is also present in other sectors, such as healthcare (7–11), so much so that several studies demonstrate the importance of including specific training as part of the education of doctors and healthcare professionals (12–14).

Similar findings regarding stigma toward mental health have also been obtained in the education sector. The value of applying specialized training among education professionals has not been investigated to the same extent, despite the prevalence of mental health problems in school environments (15). In fact, epidemiological studies conducted in different countries underline the

Edited by:
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Specialty section:
This article was submitted to Public Mental Health, a section of the journal Frontiers in Psychiatry

Received: *25 July 2020*
Accepted: *30 September 2020*
Published: *05 November 2020*

Citation:
Gallego J, Cangas AJ, Aguilar JM, Trigueros R, Navarro N, Galván B, Smyshnov K and Gregg M (2020) Education Students' Stigma Toward Mental Health Problems: A Cross-Cultural Comparison. Front. Psychiatry 11:587321. doi: 10.3389/fpsyt.2020.587321

high prevalence of such problems among children and adolescents, revealing that between 5 and 15% of minors fulfill enough criteria to warrant a psychiatric diagnosis. Furthermore, research reveals that these figures tend to increase each year (16).

The main anti-stigma programs applied to reduce mental health-related stigma in university or college students utilize social contact with people with mental problems, videos that describe the lives of people with mental illness, and text or lectures that describe the features of mental illness, yet the first two methods have displayed the best results (17).

Several recent works reflect the positive impact of carrying out interventions with education professionals (18–20). In fact, many workers in the education field recognize that they lack sufficient training in dealing with mental health (21). Such circumstances make it necessary to evaluate the conceptions that university Education students possess in this regard, as well as those of professionals in this sector.

Nonetheless, although stigma is a global phenomenon, it must be recognized that it does vary depending on the culture, region, or education system (22–26). Similarly, university policy can also vary a great deal from country to country, making it necessary to conduct an analysis.

Despite the importance of this subject, literature is scarce in terms of dealing with stigma among education professionals, and there are even fewer transcultural studies that compare this problem between different countries (27). Therefore, the objective of the present study is to analyze the stigma that may exist among Education students who are preparing to become teachers in three countries with different education systems, namely Spain, Russia, and Canada. This study seeks to identify the stigma present among future education professionals in order to conduct a comparative analysis. For this purpose, we include as **Supplementary Material** the validation of the questionnaire in Russia and Canada, since the validation in the Spanish context is already published (28). Once the psychometric properties of the QSAS questionnaire were verified in the three countries, the objective of the study was to analyze if there were differences in stigma between the Education students of the three countries.

METHODS

Participants

A total of 1,539 university students pursuing education studies were selected using an incidental non-probability sampling. Ultimately, the sample consisted of 513 men and 1,026 women (Canadian group: 239 men and 290 women; Russian group: 84 men and 220 women; Spanish group: 190 men and 516 women). The Canadian and Russian participants were the same as in Phase 1. The ages ranged between 18 and 58 years old (Mage = 19.91; *SD* = 3.69). There were no significant differences in terms of gender and age between the groups ($p > 0.05$). Students were only excluded from the sample if they refused to give their informed consent to participate. The participants received no incentive for taking part in the study.

Instruments

The *Questionnaire on Students' Attitudes toward Schizophrenia* (QSAS) (29) is comprised of 19 items divided between two factors: social distance ($n = 12$) and stereotypes ($n = 7$). The instrument follows the logic of the stigma process in which undesirable characteristics are stereotypically linked to a condition and serve to justify negative social reactions, i.e., stereotypes from the basis of behavioral intentions. A sample stereotype item is "Mostly, someone who has had schizophrenia comes from a family with little money." Social distance items reflect the willingness to engage in social relationships with individuals with schizophrenia, for example, "If the person sitting next to me in class developed schizophrenia, I would rather sit somewhere else." The items were scored based on a Likert scale with values of 0 (*I disagree*), 1 *(unsure*), to 2 (*I agree*). Sum scores for each subscale indicate the absence of stereotypes and social distance. The original validation of the QSAS was done with a sample of adolescents ages 14–18 years old. The questionnaire displays suitable psychometric properties and a similar structure, both in the Spanish version and in the versions applied in Russia and Canada, as shown in the **Supplementary Material**.

Procedure

Approval to conduct this study was granted from the Ethics Committee of the three universities that participated in this study (Almeria, Stavropol, and Winnipeg). This is a non-interventional, observational, cross-sectional, and analytic study. The corresponding version of the *QSAS* (29) was administered in each country in different courses levels of the various Schools of Education (in Teaching Degree studies) of the respective countries, particularly those were the teaching staff at each university facilitated access to the classrooms to administer the questionnaires prior to the beginning of class. Paper questionnaires were completed individually at the beginning of university lectures. The students filled out the questionnaires anonymously and respecting all standard ethical procedures. A member of the research group was present to answer questions from the participants. The average time to complete the questionnaire was 10 min. Students did not receive any extra credit or points in the class for participating in the study.

Statistical Analysis

By first verifying the normality and homoscedasticity of the data, it was initially confirmed that parametric tests could be used. In order to determine the existence of statistically significant differences in the stigma scores of the three countries ANOVA was applied, supplemented by *eta squared* indicating the size of the effect. Subsequently, a multivariate analysis was conducted using MANOVA to test the influence of education level within each country and gender in relation to stigma scores. The influence of age on stigma was also verified according to country. In this case, the size of the effect was quantified using eta squared.

RESULTS

The analysis of the average differences between Russia, Canada, and Spain, as can be seen in **Table 1**, revealed the existence of

TABLE 1 | ANOVA for the average differences of stigma among Canadian, Russian and Spanish students.

	Russia	Spain	Canada	Anova		
	M (SD)	*M (SD)*	*M (SD)*	*F*	*p*	η^2
Total Stigma Score	11.42 (5.18)	25.55 (8.33)	5.43 (3.84)	1539.63	0.000	0.667
Stereotypes Factor	4.73 (1.81)	9.57 (3.58)	2.17 (1.58)	1160.43	0.000	0.661
Social Distance Factor	6.69 (4.11)	16.00 (5.12)	3.26 (2.80)	1456.86	0.000	0.655

TABLE 2 | Tukey HSD (*post-hoc*) for average differences of stigma between Canadian, Russian, and Spanish students.

Dependent Variable	COUNTRY	COUNTRY	Average difference	Typical Error	Sig.
Total Stigma Score	RUSSIA	SPAIN	– 14.15*	0.44	0.000
		CANADA	5.98*	0.46	0.000
	SPAIN	RUSSIA	14.15*	0.44	0.000
		CANADA	20.14*	0.37	0.000
	CANADA	RUSSIA	– 5.98*	0.46	0.000
		SPAIN	– 20.14*	0.37	0.000
Stereotypes Factor	RUSSIA	SPAIN	– 4.84*	0.18	0.000
		CANADA	2.55*	0.19	0.000
	SPAIN	RUSSIA	4.84*	0.18	0.000
		CANADA	7.39*	0.15	0.000
	CANADA	RUSSIA	– 2.55*	0.19	0.000
		SPAIN	– 7.39*	0.15	0.000
Social Distance Factor	RUSIA	SPAIN	– 9.31*	0.29	0.000
		CANADA	3.42*	0.30	0.000
	SPAIN	RUSSIA	9.31*	0.29	0.000
		CANADA	12.74*	0.24	0.000
	CANADA	RUSSIA	– 3.42*	0.30	0.000
		SPAIN	– 12.74*	0.24	0.000

**The average difference is significant at $p < 0.001$.*

TABLE 3 | Descriptive statistics for stigma between Spanish, Russian and Canadian students by country and gender.

		Spain	Russia	Canada
	Gender	*M (SD)*	*M (SD)*	*M (SD)*
Total Stigma Score	Women	24.85 (8.52)	11.35 (5.29)	4.77 (3.42)
	Men	27.44 (7.49)	11.58 (4.92)	6.24 (4.18)
Stereotypes Factor	Women	9.42 (3.67)	4.70 (1.80)	1.90 (1.46)
	Men	10.44 (3.19)	4.79 (1.85)	2.51 (1.66)
Social Distance Factor	Women	15.61 (5.21)	6.65 (4.24)	2.86 (2.51)
	Men	17.00 (4.74)	6.78 (3.80)	3.73 (3.06)

statistically significant differences in stigma toward people with severe mental disorders, in terms of both total score and the two factors: stereotypes and social distance. By means of the eta squared statistic, it was verified that the differences between the three countries were notable in relation to all the variables. It is observed that Spain is the country with the highest average in stigma, while Canada has the lowest. When analyzed by factors (stereotypes and social distance), the same results are found. *Post-hoc* tests (Tukey) were also conducted which confirmed the differences between the countries in relation to stigma, as can be seen in **Table 2**.

Subsequently, the data were more closely scrutinized using a MANOVA to conduct inferential analysis between students from Russia, Canada, and Spain, but specifying the difference according to gender. Using Wilks's lambda, there was a significant difference stigma levels toward people with severe mental illness in relation to country [Wilks's Lambda $= 0.345$, $F_{(4.000)} = 537.25$, $p < 0.001$; $\eta^2 = 0.412$]. The size of the effect is large according to eta squared.

The differences were also significant by gender [Wilks's Lambda $= 0.990$, $F_{(2.000)} = 8.05$, $p < 0.001$; $\eta^2 = 0.010$]. However, the size of the effect was small, indicating that the difference was low. As can be observed in **Table 3**, women have lower scores in stigma than men, although in some cases the differences are minimal.

Furthermore, there were no statistically significant differences in the country × gender interaction [Wilks's Lambda $= 0.873$, $F_{(2.000)} = 125.21$, $p = 0.088$; $\eta^2 = 0.127$] and the country × education level × gender interaction [Wilks's Lambda $= 0.995$, $F_{(4.000)} = 2.02$, $p = 0.011$; $\eta^2 = 0.003$].

An analysis was also conducted to determine whether the age of the participants had any influence on the differences in the stigma levels by countries. However, MANOVA once again revealed differences according to country [Wilks's Lambda $= 0.383$, $F_{(4.000)} = 312.46$, $p < 0.001$; $\eta^2 = 0.381$]. The size of the effect is large according to eta squared, but it did not reveal differences according to age [Wilks's Lambda $= 0.997$, $F_{(2.000)} = 1.65$, $p = 0.192$; $\eta^2 = 0.003$]. Furthermore, there were no statistically significant differences in the country × age interaction [Wilks's Lambda $= 0.998$, $F_{(4.000)} = 0.450$, $p = 0.772$; $\eta^2 = 0.001$].

Finally, the results obtained by the ANOVA and MANOVA are supported by the Multi-Group Confirmatory Factor Analysis. In this sense, there are significant differences in the comparison between the populations of the three countries ($\chi^2 = 80.54$; $df = 34$; $\Delta\text{CFI} = -0.005$; $\Delta\text{RMSEA} = 0.004$; $p < 0.001$). Similarly, significant differences can be seen when gender and country of origin are taken into account ($\chi^2 = 65.29$; $df = 34$; $\Delta\text{CFI} = -0.004$; $\Delta\text{RMSEA} = -0.002$; $p < 0.01$), as well as when gender, country of origin, and educational level are taken into account ($\chi^2 = 72.83$; $df = 34$; $\Delta\text{CFI} = -0.003$; $\Delta\text{RMSEA} = 0.001$; $p < 0.01$).

DISCUSSION

Although stigma is known to be a universal phenomenon (30), its presence is not the same when examined in the context of transcultural criteria. Culture, tradition, and access to education are, among others, factors that can influence and shape perceptions of mental health (25, 31).

The first studies carried out based on this approach revealed that countries that were more developed displayed less fear, shame, and stigma toward mental health than developing countries (25, 32, 33). The present study compared stigma among Education students in three countries: Russia, Spain, and Canada. The validation of the QSAS was confirmed in Canadian and Russian contexts. Furthermore, the QSAS is a reliable tool to use with university students. The QSAS has suitable psychometric properties, with a similar factorial structure, for application in all three countries.

Upon comparing the results, it was found that Spain was the country where students displayed the most stigma. When compared with the scores obtained for the other two countries, the differences were statistically significant, both when the questionnaire was considered in its entirety and when examining the factors; stigma and social distance. In contrast, Canada displayed the least stigma, as its students demonstrated the least stigmatizing attitudes. In the original study using the QSAS (27) noted that a ceiling effect was evident and that the measure may not be sensitive to pick up on slight shifts in stigma toward mental health, the results from the Canadian sample reflect a similar ceiling effect.

The existence of statistically significant differences between the three countries coincides with other studies that maintain that certain societies are more tolerant than others (25, 34–36). The general attitude of the general population toward mental health problems and recovery influences interest in specific topics, which contributes to changes in education policies (37). This could be the case of Russia, where past studies found high levels of discrimination toward individuals with mental health problems; these levels have decreased in recent years due to political changes and the opening of this country (38).

As for Canada, it is the most tolerant country toward mental health problems and has the most active anti-stigma policies of the three education systems. In the case of Spain, not many works were found which closely analyze this topic, and most of these focus on students in secondary education (39–41). In this regard, more effort must be made in this country, unlike the strong initiatives carried out to address other issues, such as school bullying, substance abuse, and sexuality, among this age group (42). No specific programs for students were found at Spanish universities (43), and the research is aimed more at students enrolled in Schools of Health Science (Medicine, Psychology, and Nursing), but not in the Schools of Education (35, 44–46).

However, when comparing the results, it must be taken into account that they may be influenced by other uncontrolled variables in the study, such as social desirability. This aspect is closely related to stigma and also has a strong cultural component (2, 47). Thus, more studies are necessary to further investigate this possibility.

Therefore, university policies, related to general stigma among a population, can play a fundamental role—if the education of future professionals prioritized stigma as an essential subject during training (as occurs in Canada), such teachings would later influence the attitudes of students (15).

As for other aspects, the data collected in the study also reveal that women display lower levels of stigma toward people with mental disorders, albeit these differences are minor. These results may owe to women's greater propensity to show empathy when compared to men, as indicated in several studies (48).

In this study, age was not found to have a notable influence, probably due to the fact that the sample was a very homogeneous group. In other studies which compared stigma among students and professionals, it was indeed found to be a variable that could affect results (49), and various studies shows that older people tend to reveal more stigmatizing attitudes than young people (50, 51).

Among the limitations of this study, we highlight the relatively small sample used for the three countries and that no follow-up actions were conducted to verify whether the results remain consistent over time. Similarly, no other evaluation instruments were applied to validate the results from the stigma questionnaire utilized. Finally, other variables were not taken into consideration which may have also influenced the results, for example, prior contact with individuals with a mental disorder or if participants themselves or their relatives had received any psychiatric diagnosis. Similarly, the instrument utilized only analyzed stigma toward people with schizophrenia, not including the assessment of stigma toward other mental disorders.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethics Committee of the University of Almeria. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

JG and AC collaborated with the design of the study, and wrote the manuscript. JA and RT did the data analysis. NN entered the data. BG, KS, and MG applied the questionnaire in the different countries. All authors contributed to the article and approved the submitted version.

FUNDING

This work was funded by the Spanish Ministry of Science, Innovation and Universities: (PSI2017-84961-R AEI/FEDER, UE).

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyt.2020.587321/full#supplementary-material

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Public Health

REVIEW
published: 08 January 2021
doi: 10.3389/fpubh.2020.569539

A Call to Action. A Critical Review of Mental Health Related Anti-stigma Campaigns

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Using a knowledge-attitudes-behavior practice (KABP) paradigm, professionals have focused on educating the public in biomedical explanations of mental illness. Especially in high-income countries, it is now common for education-based campaigns to also include some form of social contact and to be tailored to key groups. However, and despite over 20 years of high-profile national campaigns (e.g., Time to Change in England; Beyond Blue in Australia), examinations suggest that the public continue to Other those with experiences of mental ill-health. Furthermore, evaluations of anti-stigma programs are found to have weak- to no significant long-term effects, and serious concerns have been raised over their possible unintended consequences. Accordingly, this article critically re-engages with the literature. We evidence that there have been systematic issues in problem conceptualization. Namely, the KABP paradigm does not respond to the multiple forms of knowledge embodied in every life, often outside conscious awareness. Furthermore, we highlight how a singular focus on addressing the public's perceived deficits in professionalized forms of knowledge has sustained public practices which divide between "us" and "them." In addition, we show that practitioners have not fully appreciated the social processes which Other individuals with experiences of mental illness, nor how these processes motivate the public to maintain distance from those perceived to embody this devalued form of social identity. Lastly, we suggest methodological tools which would allow public health professionals to fully explore these identity-related social processes. Whilst some readers may be frustrated by the lack of clear solutions provided in this paper, given the serious unintended consequences of anti-stigma campaigns, we caution against making simplified statements on how to correct public health campaigns. Instead, this review should be seen as a call to action. We hope that by fully exploring these processes, we can develop new interventions rooted in the ways the public make sense of mental health and illness.

Keywords: public health campaigns, implicit, emotion, mental illness, public health education and health promotion, contact theory, stigma, mental health

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Specialty section:
This article was submitted to Public Mental Health, a section of the journal Frontiers in Public Health

Received: *04 June 2020*
Accepted: *04 December 2020*
Published: *08 January 2021*

Citation:
Walsh D and Foster J (2021) A Call to Action. A Critical Review of Mental Health Related Anti-stigma Campaigns. Front. Public Health 8:569539. doi: 10.3389/fpubh.2020.569539

INTRODUCTION

In 2001, the World Health Organization declared that *"the single most important barrier to overcome in the community is the stigma and associated discrimination toward persons suffering from mental and behavioral disorders"* [(1), p. 98]. Since then, public health professionals have predominately followed a deficit model of health-related behaviors (2), and assumed stigma to be maintained by the public's lack of, or incorrect "knowledge" about mental illness (3–5). Accordingly, the majority of interventions have been education-based (3, 6), of which half were stand-alone interventions to promote mental health literacy (MHL) (7–11), and a further third included some form of contact (7, 11–13). In line with a common mental health treatment gap, more than four in five interventions have been conducted in high income countries (11, 13).

Whilst at the population level anti-stigma campaigns have been shown to have small to medium short-term benefits in positive attitude change (7, 13), and it is hoped these attitudinal effects may be sustained (11, 14), there is a serious lack of evidence for long-term behavioral change (13, 15). Furthermore, the unintended effects of these programs have been of particular concern, especially those which exclusively focused on educating the public in biomedical models of mental illness (3, 4). Such models have been found to promote categorical beliefs of difference amongst the public (16–19), and distance-promoting emotions of fear and pity (20–22).

These unintended effects fit into a wider literature on health and stigma, which suggests that the public response to health conditions often follows a common affective distancing-blame-stigma pattern (23). Specifically, examinations of the public's motivations for maintaining health-related stigmas find beliefs of difference to be psychologically pacifying, as they allow those without a form of health condition to perceive themselves both to be invulnerable to the perceived threat and to maintain positive forms of social identity (21, 23–26). However, to our knowledge, no mental health-related public health campaigns have explicitly been designed to challenge these distancing-blame-stigma patterns.

To understand these limited and unintended effects, this review diverges from the dominant approach followed by other reviewers. Namely, since Corrigan et al. (27) published their seminal meta-analysis there have been a number of high-profile reviews, each evaluating the relative effectiveness of education- and contact-based interventions [e.g., (13, 28)]. In these reviews the relative effectiveness of interventions was almost exclusively evaluated using a KABP paradigm (4). However, limited consideration was paid to whether this paradigm effectively responds to the ways the public make sense of mental health and illness.

This review enriches the literature by following an alternative approach. Namely, we show that researchers may have fallen into the trap known as "type III errors" (29, 30). This is when there are systematic issues in a problem conceptualization (29), as is common in health policy (2, 30). In the health promotion domain common indicators of type III errors include: an undue focus on individual-level cognitions; an under-consideration of structural influences; the neglect of lay and service-user forms of expertise; and interventions with significant but mixed and unintended effects (30–33). By reviewing the ways public health professionals have conceptualized and operationalized mental health related stigma, as well as explaining the mixed-effectiveness of these campaigns, we evidence the need to develop new interventions rooted in the ways the public make sense of mental health and illness.

MENTAL HEALTH RELATED STIGMA

Public health campaigns have largely conceptualized mental health related stigma as a lack of symmetry between public and professional understanding (3–5). However, within the *"psy disciplines"* [(34), p. 2], there is by no means consensus about what professional understanding should be, as disagreements about what are "typical," "positive," or "ordered" forms of behavior are as old as the disciplines themselves (35–38). Nor does holding a form of professional understanding inherently indicate a lack mental health-related stigma, as the history of these of disciplines are intimately interwoven with practices of coercion, violence, and separation (36, 39, 40). Indeed, interventions increasingly focus on challenging professional forms of mental health-related stigma (41–43).

In the absence of a consensual definition, in this section we will describe the common ways professionals have conceptualized mental health-related stigma. Researchers have argued that stigma is a multi-dimensional concept including the co-occurrence of group-based differences, status-loss, social distancing, negative affect, prejudice, and discrimination (28, 44, 45), and that these co-occurrences emerge at multiple levels linking individual expressions of stigma to wider structural and cultural processes (28, 45, 46).

From these broad and multi-dimensional models, public health professionals have typically reduced mental health related stigma into a linear KABP paradigm (4, 28), in which the individual is considered the primary unit of analysis (6, 8, 11, 13, 46). Specifically, they have considered mental health-related stigma to be an individual's lack of professional knowledge, their negative outgroup attitudes, and their desire for social distance from someone perceived as having a mental health problem (3–5).

In part this particularisation reflects some of the agendas involved in their formulation. Specifically, as Corrigan (3) explains that there are three competing agendas involved in the definition of mental health related stigma: (2) a services agenda, which focuses on reducing label avoidance to encourage engagement in evidence-based services; (3) a rights agenda, which focuses on minimizing negative representations of mental illness; and (4) a self-worth agenda, which focuses on encouraging pride for those with experiences of distress.

Reflecting the central role mental health professionals and the pharmaceutical industry have had in the design and financing of anti-stigma campaigns (39, 47), public health campaigns have predominately prioritized a services agenda. The services agenda often draws upon the classic labeling approaches for defining stigma. Namely, it considers stigma to be "*an aversive or hostile attitude toward a person who belongs to a group, simply because he belongs to that group, and is therefore presumed to have the objectionable qualities ascribed to the group* [(48), *p. 7].*" However, the services agenda diverges from these traditional formulations of stigma in an important way: they often reinterpret "objectionable" to be synonymous with 'inaccurate'. Accordingly, to tackle negative public attitudes, they often focus on creating symmetry between professional and public forms of knowledge (4). They pursue this on the assumption that if there is symmetry in forms of knowledge, potential service users would not avoid stigmatizing labels, and would engage effectively with professional services (3).

Expanding upon this, it is important to note that those promoting a services agenda have a particular understanding of mental illness and stigma. Namely, potential service-users are held in opposition to the "normal" majority; they are considered to hold deficient knowledge about mental illness; and their symptoms are largely considered to reflect an underlying form of biological disorder (4, 40, 49, 50). Indeed, this agenda typically prioritizes biogenetic and neurological explanations of mental illness (3, 40).

In contrast to the services agenda's singular focus on access to professional services, advocates of a rights agenda emphasize the asymmetries in social, economic, and political power that imbue components of stigma with discriminatory consequences (51). In many ways, those pursuing a rights agenda prioritize a classic understanding of mental health-related stigma as a form of stigmata: the marks which reduce those with an undesired label to a lower social status (40, 44, 45, 52). Accordingly, in contrast to those who advocate a services agenda, advocates of a rights agenda place a greater emphasis on explaining service user experiences of distress in terms of societal prejudices rather than barriers to professional services (3, 5).

The self-worth agenda has traditionally had limited influence on the design of national public health campaigns (3). It is primarily concerned with challenging the internalization of stigma (3). To do this, those with experiences of distress develop and operate mutual help and peer support programs (3). These programmes which traditionally tend to favor grassroots participation (53). Although the self-worth agenda and rights agenda both highlight the societal aspects which maintain discrediting experiences of stigma, the self-worth agenda places a greater emphasis on locating stigma within everyday experiences (3). Furthermore, in contrast to the services agenda, a self-worth agenda often takes a broader and potentially more critical approach to psychiatric orthodoxy (3, 39, 47). That is, experiences of distress are considered to be meaningful responses that can only be understood with reference to an individual's life history and their particular social, cultural, and familial contexts (49, 50).

To note, this review will be principally concerned with what in the literature is often referred to as public-, community-, or cultural-stigma (54), labels used to "*mark the nature of the contextual climate of prejudice and discrimination*" [(45), p. 94]. In recent years there has been a focus on distinguishing forms of stigma, such as those which compare between public-, self-, and provider-based stigma (12, 45). Although it is very much in evidence that there may be important differences in understandings between those with and without experiences of the mental health services (55, 56), it is important not to consider public forms of stigma as fully divorced from other forms of stigma (45, 51); a consideration that is often advanced by the self-worth agenda (3). Indeed, as will be discussed later on, in part it is assumptions of categorical differences between those with- and without- a label of mental illness (36) that sustains aspects of public stigma.

PUBLIC HEALTH CAMPAIGNS

As noted, anti-stigma campaigns have largely been conceptualized using KABP paradigm (2, 4, 13). Furthermore, reflecting the agendas involved, mental health related stigma has predominately been considered to stem from the lack of professional knowledge. In this section, we will examine the three main ways public health professionals have challenged mental health related stigma: (2) education-based interventions; (3) protest-based interventions; and (4) contact-based interventions (3).

The Knowledge-Attitude-Behavior Practice Paradigm

In line with a KABP paradigm, anti-stigma efforts have predominately been evaluated using the following questionnaires: the Mental Health Knowledge Scale (MAKS) (57); the Community Attitudes toward the Mentally Ill Scale (CAMI) (58); and the Reported & Intended Behavior Scale (RIBS) (59).

MAKS is split into two sections: one that evaluates how accurately the public recognizes psychiatric conditions, and another which evaluates how far the public agrees that professional help can support recovery (57). This is built on the prediction that the public's beliefs about the causes of mental health problems, as well their belief about whether someone with a mental health can fully recover, have a linear and singular relationship with an individual's levels of prejudice and discrimination (28, 60, 61). Prejudice is often evaluated using CAMI (58). These items cover attitudes about social exclusion, benevolence, tolerance, and support for community mental health care (58). Discrimination is predominately measured using a subsection of RIBS, which measures the public's willingness to live with, work with, live nearby, and continue a relationship with someone with a mental health problem (59). The other subsection of RIBS measures whether the public self-reports having had experienced each of these forms of contact (59).

Evaluations of anti-stigma campaigns come in three main forms. First, they compare the relative pre-test/post-test effectiveness of anti-stigma interventions in changing the public's knowledge, attitudes, and behaviors, as well as how these effects may vary by intervention type and target group [e.g., (7, 27, 28)]. Second, time trend studies, which have evaluated at a regional and national level, co-occurrences between exposure to public health campaigns and changes in mean responses [e.g., (16, 62)]. Third, cross-sectional or quasi-experimental techniques, which have measured the relationship between the content of education-based interventions and the contents of individual attitudes, behaviors, and affects [e.g., (63, 64)].

Education-Based Interventions

Education-based interventions are the most common method used to challenge mental health-related stigma (6, 11, 13, 28). Reflecting a services agenda, these interventions have predominately, but not exclusively, relied on theories of MHL (8, 11, 28, 65). This is defined as "*the knowledge and beliefs* *about mental disorders, which aids their recognition, management or prevention*" [(66), p. 182]. Namely, advocates of MHL hope that providing the public with professional forms of knowledge will increase their engagement with professional services (7, 65).

Most interventions have been aimed at educating whole communities (67–71). There is evidence to suggest that these interventions may have small to medium positive effects in challenging stigmatizing forms of knowledge and attitudes (11, 28). This was the approach largely pursued in England in the first stages of the Time to Change Campaign (launched in 2008). Specifically, it aimed to target the whole English population via a large-scale mass media social marketing campaign, in which the public were presented with "myths" and "facts" about mental health problems (28). Similarly, this method was also used by the Beyond Blue campaign in Australia, although it placed a greater emphasis on encouraging the public to seek out professional help (72), engaging further with a services-agenda. Evaluations of both these campaigns have found a dose-effect relationship between exposure to the campaign and regional increases in MHL, positive attitudes toward professional forms of treatment, and help-seeking intentions (72, 73).

A focus on increasing the public's MHL is particularly pronounced in low to middle-income countries (13), and simliar effects have been found have been found in these places (7, 11, 74, 75). Whilst, earlier reviewers pointed to common issues in low-evaluation follow up [e.g., (7, 13)], more recently researchers have noted there is a serious need to give greater consideration to the local contexts which situate understandings of mental health and illness (75, 76). Namely, around only 1 in 10 interventions have been developed "within" the country of intervention, and almost all interventions included some form of educational component (75).

Although cross-culturally we have seen an overall increase in the number of individuals who endorse "modern" understandings of the etiology of mental illness, concerns about trust in familial and work settings have been sustained (77, 78). Indeed, even in countries with high MHL, issues that deal primarily with intimate relationships (e.g., family), vulnerable groups (e.g., children), positions of authority, or power (e.g., work supervisors), or close forms of contact (e.g., shared accommodation), continue to elicit high negative responses (62, 78). It is the prohibitions on contact in these contexts (79) which are considered to be the "*backbone*" of stigma [(78), p. 853].

Reflecting a consideration that certain groups have a disproportionate role in challenging mental health related stigma, over the last 10 years education-based interventions have increasingly been targeted toward key groups (28). Key groups have often been identified on the basis of their frequency of contact with service users (e.g., health care professionals), their position of power (e.g., occupational and criminal services), or their potential for changing the future (students and young people) (3, 28, 80). However, very few have considered stigma at more than one level or the intersections between the multiple forms of health-related stigma (6, 81).

Reviews of mental-health related-stigma in health-care settings, suggest that education-based interventions can be effective in promoting positive attitudes about civil rights, especially for those with little or no formal mental health training (82) and may also reduce desires for social distance and increase feelings of empathy and self-efficacy (83). However, as studies have largely focused on attitudinal outcomes, knowledge, intentions and clinical competence (28), it is unclear how far these programs have challenged stigmatizing behaviors in practice.

Another trend has been the focus on MHFA (15). In many ways, MHFA could be considered an extended form of the traditional MHL programs (10, 84), with an added explicit risk framing (85). Namely, it promotes a belief that experiences of distress present a potential risk to the self and others (3, 86), and that this risk should be managed by promoting the public's ability to recognize the symptoms of distress and help individuals in distress receive professional services (7, 86). However, MHFA can be distinguished from these initial formulations of MHL by the importance it places on social networks (86). Recent reviews of MHFA suggest that it may be an effective method for increasing the public's MHL and intentions to seek to professional services (7), and it is hoped that these intentions will translate into real behavior (7, 87).

However, researchers have also expressed serious concerns about the possible unintended consequences campaigns may have (3, 4), although these effects are not often considered in a narrow application of the KABP paradigm (88). Of particular concern has been campaigns which have exclusively focused on increasing the public's biogenetic and neurological explanations of mental illness (4, 89, 90). This is problematic as both the diagnostic labeling of schizophrenia as an "illness" and biogenetic causal theories, are positively correlated with perceptions of dangerousness, unpredictability, fear, and desire for distance (17, 19). Moreover, the possible stigmatizing effect of genetic attributions may not be restricted to those with a form of mental health problem, as increases in genetic attributions are associated with an increased desire for social distance from the someone's sibling, particularly regarding intimate forms of contact such as dating, marriage, and having children (89). Furthermore, reviews largely find the endorsement of biogenetic causes to be associated with an increase in internalized stigma (18, 91) and may increase negative feelings of fear and guilt (63). Indeed, at the 3-month follow-up, an evaluation of the MHFA found the public to report being significantly less willing to tell someone that they have a mental health problem (92). Furthermore, it seems that the slight reduction in their belief that someone with a mental health problem is dangerous or unpredictable was replaced by a belief that they are weak (92). Whilst some researchers have suggested that biogenetic messages may be useful in motivating those with experiences of mental illness to take an active role in their treatment (18, 93), others have found it to reduce positive beliefs of recovery (94). In addition, it is important to note, that whilst on average among stakeholders, messages which emphasize the biogenetic and neurochemical causes of mental illness, and its treatability through medication, are highly unpopular, there is a clear divergence in opinion between psychiatrists and service-users (95).

We can also see these unintended effects at a national level. Meta-analyses of national time-trend studies found that whilst there was a trend toward greater MHL, in particular toward a biological model of mental illness and support for professional forms of treatment, there were also increases in desires for social distance from someone with a mental illness (19). For example, in the late 1990s the National Alliance on Mental Illness in the United States framed mental illness as a 'brain disorder' (3). Ten years later, although neurobiological explanations of depression and schizophrenia did increase, so too did desires for social distance and perceptions of dangerousness and unpredictability (96).

Recently, to limit these unintended effects, there has been some consideration of whether non-categorical messages are effective in challenging stigmatizing beliefs which divide between "us" and "them." Whilst, there is reasonable correlational evidence to associate continuum-based messages with lower degrees of public and self-stigma (71, 97, 98), the evidence from experimental research is mixed (99). Specifically, whilst those participants exposed to continuum beliefs did see someone with experiences of schizophrenia as more similar to themselves and did increase their belief in possible recovery, the type of message did not significantly impact measures of explicit prejudice and discrimination (99). Similarly, an evaluation of the Time To Change campaign in the UK found that biopsychosocial messages relative to biomedical messages only had an effect on participants' desires for social distance in those who already understood mental illness in dimensional terms (100).

In addition, researchers need to be careful in using continuum-based belief interventions, as they may also have unintended consequences. Specifically, Thibodeau and Peterson (64) found continuum-belief interventions to increase participants experiences of anxiety and threat (64). This is concerning, as public health campaigns aimed at the public's perceptions of health-related threats, are also found to increase group-based prejudices, especially when the recommendation is perceived by the public to be outside of their control (101–103), a description often using by the public when making sense of someone with a mental health problem (21, 104).

In summary, whilst education-based interventions may have been productive in increasing the public's appetite for professional forms of intervention, their limited and likely unintended effects suggest that it may be time to retire their use as a method to challenge mental health related stigma (3, 40). Ultimately, however, reflecting practitioners' narrow use of the KABP paradigm, few interventions have explicitly considered possible unintended effects (88) limiting our ability to make firm causal statements.

Contact-Based Interventions

In part in response to the limited and unintended effects education-based interventions have had, over the last 10 years there has been an appetite for interventions with elements of social contact.

Contact-based interventions are typically conducted in conjunction with an educational component (13, 65, 75), although they may also operate as stand-alone programs [e.g., (105–107)]. As the mechanisms involved in contact are poorly understood (28, 40, 108), public health professionals have often relied on a working definition of these programs, defining them as the "*interactions with people who have a mental illness to change prejudice*" [(28); p. 250].

In practice, contact-based interventions resist a singular definition, and have been used to describe an array of interventions. To illustrate this breadth, we will now briefly describe three national campaigns that all used some form of contact but differed notably in how they conceptualized and challenged mental health related stigma (109). The "Hjärnkoll" campaign in Sweden focused on creating activities and events to promote social contacts with people with lived experiences of mental illness (110). This came in four main forms: direct face-to-face contact in the community; mediated contact through the internet and media campaigns; contact through events organized by local charities; and discussion with managers in the workplace (110). Similarly, the second and third stages of the Time to Change Campaign in England have promoted indirect contact through a broad social marketing campaign including social media and the radio, and typically focused on portraying the friendships between young men (60). In contrast, the "Opening Minds" campaign in Canada did not include a mass media element (111). Rather it took a grass roots approach, in which individuals with experiences of mental illness shared their personal stories of recovery with those in their local community (111). Furthermore, the approach was highly targeted to focus on key groups, such as students, healthcare providers, the media, and human resource managers (111).

Contact-based interventions also vary notably in their understandings of expertise, reflecting the multiple agendas involved in challenging mental health related stigma. For example, in the "Hjärnkoll" campaign, those with experiences of mental illness were very much considered to be an expert by virtue of their experiences, and accordingly were referred to as "föreläsande ambassadörer" (lecturing ambassadors) (110), aligning closer with a self-worth agenda. In contrast, the "In Our Own Voice" campaign run by the National Association for Mental Illness (NAMI), places the emphasis on the expertise of mental health professionals (112). For example, in this campaign, service users undergo a 2-day training program where they learn to format their experiences to fit with the principles of MHL programmes (113, 114).

The evidence for contact-based interventions is mixed. Reviewers have typically concluded that contact-based interventions are more effective in challenging mental health related stigma than education-based interventions (3, 13, 28, 115) although not exclusively (11, 65, 116). After controlling for publication bias, contact-based interventions are considered to have small-to-medium effects in reducing stigmatizing attitudes and desires for social distance in the short term (7). However, it is questionable how far attitudinal changes and behavioral intentions are sustained after the intervention (7, 115, 117). Moreover, whilst population level surveys recurrently find having a close relationship with a person with a history of mental illness to be associated with less stigmatizing attitudes (28, 60, 110), a dose-relationship between contact-based interventions and stigma reduction is yet to be established (65). Specifically, reviewers have not found a relationship between the length or frequency of contact and the degree of stigma reduction (7, 117).

It is important to note that the evidence for contact-based interventions have largely come from comparisons between solely educational- and combined education-contact interventions (65). This is an important issue, as evaluations of stand-alone interventions have found mixed to no effects (9, 11, 116). Indeed, to date, almost all targeted interventions, such as those targeted the police services, have combined a mixture of education and contact-based interventions (28). Furthermore, it is important to remember that the groups that have been targeted for their potential to challenge mental health related stigma (e.g., mental health professionals) are also the most likely to have frequent, if not close, forms of contact (28), questioning how useful it is to consider individuals with experiences of mental illness as "unknown" or "unfamiliar" to these groups. Indeed, whilst some researchers did find a stronger effect of contact in mental health professionals (117), others have also found pessimistic beliefs about the reality and likelihood of recovery to be sustained (118), suggesting that researchers need to pay closer attention to processes involved.

To improve the effectiveness of interventions researchers have increasingly attempted to explicate the "active ingredients" involved in contact (20, 119, 120). To do, so they have often compared the relative effects of different forms of contact (7). The evidence regarding which form of contact is the most effective (e.g., face-to-face vs. video) is mixed and suggests there may be multiple relationships between type of contact, target audience, and form of mental health problem (7, 27, 115, 121). Furthermore, discussions with mental health professionals and service-users suggests that the content of interventions should be practical, encourage myth-busting, and emphasize recovery (20, 120). In addition, it may be useful to focus on engaging the public through shared activities and encouraging them to engage in anti-stigma advocacy efforts (119). However, there is by no means expert consensus (86), and thus far has only been validated in terms of attitudes not behaviors (118).

The lack of understanding about the casual mechanisms involved in contact-based interventions raises important questions about their continued utility. Indeed, as Gillespie (108) points out, a key continuance in the history of contact theory is the repeated discovery that contact is more complicated than we previously thought. Each discovery then encourages the development of an increasing list of conditions considered necessary for positive change. However, with each condition added, the theory is weakened, as it renders the theory impervious to falsification. Namely, failures to find an effect are explained not by the insufficiency of the theory, but instead, as a failure to fully operationalize the theory. Moreover, as the casual mechanisms of contact theory are poorly understood, it is hard to effectively apply the theory in real world situations.

Considering that most evaluations of stand-alone contact-based interventions found limited to mixed-effects (9, 11, 116), there is a dearth of research into contact without change. However, examining this occurrence reveals important aspects about how the public make sense of mental health and illness, and goes to the "backbone" of mental health related stigma (78). For example, Jodelet (122) documents a family colony in rural France in which patients from a local psychiatric hospital lived as "lodgers" in the homes of local families. At the time of the study, the program had been running for over 70 years, and it was common for multiple generations to grow up living with a lodger. However, despite the length and intimacy of the program, magical beliefs about madness were maintained, including fears of contamination. This was expressed through subtle ritualized forms of separation, such as an aversion to drinking from the same (washed) mug or handling liquid forms of medication. Whilst, the program would likely meet the criteria set for a contact-based intervention (e.g., sustained in-person contact with multiple individuals with a mental health problem) (111), stigmatizing beliefs about mental health problems were maintained.

In summary, it is clear that beliefs about contact are an important feature of the public's understandings of mental health and illness (13, 59, 122). Ultimately, it is possible that under certain conditions contact-based interventions may be a more effective method for challenging mental health related stigma than education-based interventions (3, 13, 28, 115). However, we currently lack the evidence base required to explicate the processes involved in why contact may, or may not, challenge mental health related stigma (65).

Protest-Based Interventions

Although less common, national anti-stigma programs may also have conducted protest-based forms of intervention. Examples include the NAMI's StigmaBusters program (27) or SANE Australia's StigmaWatch program (112). These methods tend to align more closely with a rights-based agenda (3), and may consist of targeting stigmatizing advertisements, news stories, and forms of media entertainment through strategic letter-writing campaigns, press releases, marches, sit-ins and boycotts (9, 123). Furthermore, they may operate in conjunction with other education- and contact-based interventions (28, 110). However, whilst in theory protest-based methods challenge a broad array of injustices, in practice, their focus has mainly been on chastising the media for using psychiatric terminology out of context (112). Moreover, it has largely been a reactive strategy focusing on countering negative images about people with mental illness (123). This often includes calling out public bodies for promoting an understanding of mental illness in terms of unpredictability and violence (112), as well as those who sensationalize celebrity breakdowns (124).

As there have been few evaluations of protest-based interventions (9), the sample sizes are too small to be included in reviews comparing the effects of education- and contact-based interventions (27). However, some understanding of the effects of these campaigns may be gleaned from interventions targeted toward the media, although it is unclear how far these effects can be specifically attributed to protest-based methods (125). What is clear, is that there has been an overall reduction in the number of the news reports and social media posts which use psychiatric terminology out of context, and that this is more common for depression than schizophrenia (126, 127). However, it is questionable whether a reduction in content is a desired outcome, as public memories of news reports continue to prioritize images of violence and have not been associated with a reduction in desire for social distance (128). Indeed, it seems that protest-based methods may have reduced the overall amount of content about mental illness, rather than changed publics beliefs or behaviors.

HOW THE PUBLIC MAKE SENSE OF MENTAL HEALTH AND ILLNESS

It may be important for public health professionals to reconsider how KABP paradigm responds to the ways the public make sense of mental health and illness. Whilst, linear and individualistic models of behavior change are appealing for their simplicity, and the clear policy responses they suggest, once context is taken into account, they often fail to appreciate how health-related behaviors are embedded in the flow of everyday social practices (129, 130). These are typically conducted without self-conscious reflection, and instead rely upon practical or tacit knowledge, that which is often treated as "common-sense" (2, 129).

As previously discussed, public stigma describes *"the contextual climate of prejudice and discrimination"* [(45), p. 94]. Examinations of this contextual climate have consistently found group-based practices that Other individuals with experiences of mental ill-health. Broadly, Kalampalikis and Haas (131) define the Other as a belief that guarantees, orchestrates, or institutes difference, something that may often involve descriptions of being uncommon, non-familiar, strange and fundamentally "not-me." Cross-culturally, this treatment ranges from its media portrayal to the beliefs expressed in professional and lay communities (76, 104, 122, 132–134).

Furthermore, it is important to note that this contextual climate is both structured and contested (3, 135, 136). Namely, there is limited consensus both over the "nature" of mental illness or how to challenge its stigmatization (95). Whilst the services-agenda has somewhat singularly focused on remediating the public's perceived lack of professional knowledge, those who advocate a rights-based agenda often emphasize the asymmetric power relations that connect stigmatizing attitudes and beliefs with discriminatory consequences (44, 51).

Appreciating the contested nature of mental health related stigma has profound implications for the continued utility of attitude-based research, a principal component of intervention design and evaluation (8). Specifically, this suggests that understandings of mental health and illness are a feature of public life, and that in times of contestation, individuals and groups are required to advance their particular forms of understanding (135, 136). This is in contrast to attitude-based theories, which often assume individuals to be agnostic toward their attitudes (137). Indeed, even when researchers have attempted to contextualize or structurally locate individual attitudes [e.g., (34, 138)], they often overlooked the power struggles involved in developing public consensus (129, 139). This is of serious concern, as doing so obscures the asymmetric power relationships involved in defining what is taken for granted (139). It is these notions which have been shown to allow the public to think, feel and behave toward someone they perceive to have a mental health problem (21, 122, 136).

This has led some researchers to argue that it may be more productive to consider what particular groups have at stake in maintaining their particular understandings of mental health and illness (8, 51, 140). Indeed, it may be useful to consider individual attitudes as a motivated form of cognition, whose expression provides insight into lay concepts of the social order (63, 141). However, the social order cannot be fully reduced to the explicit contents of individual attitudes. Rather, especially when close attention is paid to the contexts considered to be the *"backbone"* of mental health related stigma (78), common-sense thinking about mental health and illness are expressed through a wide constellation of contextually-defined affects, rituals, images, narratives, and gestures (122, 132, 142), whose meanings are often embodied in the process of everyday life (21, 122, 143).

These constellations of meaning should be considered motivated. Even during sustained interaction, the public are frequently found to represent mental health problems as existing in different spaces and times (36, 144, 145). This often involves describing someone with a mental health problem as distant, foreign, or "out-there" (21, 36, 146). Moreover, these metaphors reflect beliefs held about the spaces thought to locate mental illness, namely the psychiatric asylum, a space which prioritizes beliefs of violence, loss, and contamination (36, 134, 144, 145, 147). Similarly, examinations of public understanding recurrently find that the public place prohibitions against sharing intimate objects (e.g., door knobs, drinking cups, toilet seats), and that the violation of these prohibitions is found to elicit distance-promoting affects of fear and disgust (21, 79, 122).

Indeed, the close examination of these contexts calls into question the very utility of a KABP paradigm. Namely, in contrast to the key assumption that public knowledge is singular, once context is taken into account, the public are found to be polyphasic in their understandings of mental illness (148, 149). Cognitive polyphasia refers to the dynamic co-existence of multiple distinct modalities of knowledge rooted in the multiple relationships between individuals and their environments (136, 150). This is expressed in two ways. First, practices which Other mental illness involve often multiple beliefs. This ranges from beliefs of contagion and demonic possession to more "modern" biomedical forms of knowledge (21, 104, 122, 148, 149). Second, differentiated forms of understanding between types of mental illness do not necessarily disrupt the mental illness degenerated position in the social order (140). Namely, whilst schizophrenia is recurrently found to elicit more negative attitudes and beliefs than depression (78, 104), this is does not overcome the strength of mental illness's unified representation as Other (21, 140).

Drawing on their common-sense notions, individuals and groups intersubjectively sustain and challenge understandings of mental health and illness (136). From an intersubjective perspective, *"not only must the other be physically present with its own body, but the other must also recognize the subject as an intentional and self-conscious self"* [(151), p. 1]. Whilst the nature of this engagement is culturally defined (51), it always involves a transaction between the Self, the object of consideration (i.e., mental ill-health), and a social Other (e.g., family member, friend, mental health professional) (152). This is of key importance as, rather than mental illness being fully "unknown" or "incomprehensible" to the public, beliefs about mental health and illness constitute an important form of self-knowledge. For example, the public often refer to personal experiences when asked to explain their beliefs about mental health and illness (76, 104, 122). Furthermore, whilst the public often legitimize fears of contact by contrasting the perceived unfamiliarity of schizophrenia with the perceived familiarity of depression (19, 104), population-level surveys suggest that up to three-quarters of the public have at some point experienced psychotic-like experiences (153, 154). Indeed, rather than mental illness being fundamentally "unknown," evidence suggests it may be in part the public's recognition of experiences of distress, that motivates them to sustain distancing affects, beliefs, and behaviors (21, 36, 64, 122, 140).

WHY MIGHT THE PUBLIC RESIST ANTI-STIGMA EFFORTS?

In line with service-based understandings of mental health-related stigma, over the last 20 years public health professionals have increased the public's biomedical explanations of mental illness. However, mental illness remains Othered; a practice which often involves prohibitions around close forms of contact (21, 78, 79, 122). In this section, we will elucidate the psychological mechanisms that may explain why these campaigns have had limited- and mixed effects.

To review, in contrast to the assumptions made in KABP paradigm, public understandings of mental health and illness are often not singular. Rather the public are found to maintain polyphasic understandings of mental health and illness, although these multiple forms of understanding are often expressed outside of conscious awareness. In particular, they often expressed through affectively-laden prohibitions on close forms of contact (21, 51, 122), the content of which expresses localized cultural beliefs about the social order (51, 141). Additionally, rather than these understandings being held in the "abstract," they are both motivated and constitute an important form of self-understanding (4, 21, 36).

Examinations of public understanding find Othering to be an important mechanism in sustaining mental health related stigma. Specifically, at the level of representation, the public are found to dissociate themselves from groups they see as Other (23, 155). Indeed, the historical record suggests Othering may be an effective method for the public to distance themselves from threats seen as contagious, foreign or unknown (e.g., HIV/AIDS) (23, 25, 79, 156). For example, it is well-established that media representations of mental illness frequently prioritize representations of violence and despair (36, 134), a representation the public are found to respond to both through beliefs of psychological difference and distancing-maintaining behaviors (21, 51). Similarly, a more recent manifestation of Othering is the belief that the public would not know how to interact with someone with a mental health problem (157, 158), despite mental health and illness being very much an important form of self-knowledge (36).

The tenacity of Othering mental health problems may in part be explained by distancing-blame-stigma patterns, a common response to health-related threats (23, 155). Namely, to maintain beliefs of difference between "us" and "them," the public are recurrently found to emphasize aspects considered to render the afflicted disproportionately susceptible to the perceived threat (23). One manifestation of this is the public's continued appetite for biogenetic and neurological explanations of mental illness over those that which encourage the public to see someone with experiences of distress as a whole person (3, 95). Whilst this is not to suggest that mental illness has no genetic and neurological basis, it is important to note these explanations can be highly effective at maintaining a perception that neither I, nor my in-group, will experience some form of psychological distress (36).

These inter-group practices are often valanced to include negative out-group attributions of responsibility and blame (23, 158, 159). Indeed, a common finding is that marginalized or derogated groups are imagined to be both uniquely susceptible to illness and responsible for their misfortune (23, 81), especially when the illness is considered to be caused by unknown or multiple causes (156). To note, whilst much of the literature on these distance-blame-stigma patterns has come from interventions to limit HIV/AIDS, a recent focus on intersectionality has highlighted that both HIV/AIDS and mental health related stigma at their core are about inequalities in the social order (81).

Whilst it was hoped that emphasizing the public's biomedical knowledge would displace the public's long held belief that individuals with experiences of mental illness are "bad" (4, 104), it seems that polyphasic forms of understanding have been sustained (136). Namely, by promoting a belief that the actions of individuals with a mental health problem are rooted in their genetics or neurology, and hence potentially considered beyond conscious awareness, existing concerns about unpredictability and dangerousness were sustained (90, 160). Furthermore, these perceived risks are likely to have been exacerbated, as increases in biogenetic and neurological explanations of mental illness are consistently correlated with a belief that mental illness is unrecoverable (17–19). Additionally, examinations suggest that rather than displacing the perceived Otherness of mental illness, biomedical explanations of mental illness are frequently drawn upon by the public to legitimize their relative fears of perceived groups of mental illness (e.g., Psychotic vs. Mood disorders) (21, 140). This practice maintains a unified representation of mental illness as Other (23, 140).

As noted, examinations reveal public understandings of mental illness to be motivated and involve aspects of self-knowledge. Specifically, to protect the Self from the perceived threat posed by mental illness, the public are found to engage strategies that maintain a representation of mental illness as "not-me." This representation is arguably pacifying. Namely, it helps protect the Self from what is often feared: experiences of mental ill-health (21, 26, 36, 140, 161). Indeed, since antiquity, mental disturbances have been represented as having profoundly disruptive effects, both for those experiencing the illness and for those around them (161). Moreover, as the public often consider mental illness to involve disorders of perception, volition and morality, experiences of mental illness are considered to threaten the very experience of living (161). Indeed, one could consider Othering to be a highly functional, but unjustifiable, social practice, as it affords the public psychological protection (21, 26, 141).

As described, through the MHFA, practitioners have increasingly framed mental illness in terms of risk, both to the self and to others. Whilst, we are not arguing that in certain circumstances individuals with experiences of mental ill-health may need access to extra services and protections, using risk framings as a method to challenge public stigma is highly problematic (101). Specifically, a recurrent theme in the literature on health and stigma, is that collective practices which attribute risk to a particular group (i.e., individuals with mental illness) often is concomitant with discursive practices that Other the afflicted group (25, 162, 163). Indeed, groups which are constructed by the lay public as "at-risk," are also often materially and symbolically believed to threaten the social order (25, 162). In addition, these constructions are often concomitant with discriminatory practices that unjustifiably remove marginalized groups from public life (79, 164). For example, in the British context, we can see this in the media discourse surrounding the 2002 Mental Health Bill. Whilst a wide number of interested organizations, ranging from the Royal College of Psychiatrists and the Law Society, to the Mental Health Alliance, all considered the bill to be overly focused on the notion of the perceived threat posed to the general public at the expense of service-user rights and freedom, reporting on the bill implicitly sustained a belief that the public need to restrict the movements of service-users before they can a pose a perceived threat (135).

Whilst a diametric opposition between the Self and Other is remarkably historically and cross-culturally consistent (23), the content involved is always particular to the context in which it is practiced (141, 165). For example, in the Chinese context, mental illness is considered as a form of social death considered to threaten the moral and material value of the family (51, 166). In contrast, in the western context, where a greater degree of value is placed on in individual choice and self-reliance, individual's with experiences of mental illness are often degenerated as lacking rationality and self-control (21, 26).

In addition, as these sense making processes are rooted in the everyday task of living, it is important to pay serious consideration to the structural influences which locate understandings of mental health and illness (136). For example, in the Indian context, it has been found that women living in low-income settings, who have an increased likelihood of experiencing gender-based violence, understood the psychological and behavioral experience of distress in terms of family relationships, social roles and poverty, themes also considered to cause mental illness or "madness" (76). However, despite their shared causes, mental illness remained Othered, with participants considering someone with experiences of "madness" to be qualitatively different, a representation achieved through beliefs of danger, difference and more extreme social consequences (76). Similarly, in the British context, where the likelihood of experiencing mental ill-health is structured by socio-economic status, groups who have increased levels of familiarity through personal experience, are also more likely to consider mental illness as unfamiliar (167), suggesting mental illness is distanced at the level of representation. In addition, those most in need of anti-stigma efforts are suggested to be even more likely to develop knowledge about mental illness through their interactions with services, and hence be less responsive to fully informational based campaigns (167).

FUTURE DIRECTIONS FOR RESEARCH

We have evidenced that interventions have relied on an insufficient conceptualization of mental health-related stigma. Specifically, whilst applications of the KABP paradigm have assumed mental health and illness to be "unknown" or "unfamiliar" to the public, at the level of representation, the public continue to engage in strategies which Other individuals with experiences of mental ill-health, even in groups with high MHL and high frequencies of contact (28, 78). Furthermore, we need to heed the unintended consequences campaigns have had in maintaining beliefs of difference between "us" vs. "them," especially those with have exclusively focused on educating the public in biogenetic and neurochemical explanations of mental illness. In response, in this section we take inspiration from the broader behavior change literature, and suggest how practitioners might develop new interventions rooted in the multiple ways the public make sense of mental health and illness.

Whilst, practitioners working in the broader health promotion domain have recurrently reflected on the need to develop new interventions which appreciate the complexity of social life, the field continues to focus on individualized explanations of behavior change (168), often resulting in limited and mixed effects (129, 169). In response, some practitioners are starting to argue that it may be more productive to focus on the context and variability of health-related behaviors, rather than a focus on programmatic or unified theories of change (129, 169).

To do so, one method that is increasingly being explored is "interweaving" (170). This refers to approaches which select the particular context of intervention at the start of the research process (171). In some ways, this fits practitioner's current focus on targeting key groups groups. However, this goes further, as interweaving requires a full examination of the particular physical, cultural, economic, and political architectures which locate sense-making about mental health and illness before intervention (168, 170). Indeed, doing so responds to a key inadequacy of the KABP paradigm—that knowledge is only considered in its abstract form (4)—and instead promotes a contextualized understanding of mental health-related knowledges as embodied and functional (172).

In exploring the contexts of public understanding, we encourage practitioners to pay attention to three principles. First, they should locate individual behavior in the physical, social and organizational environments in which they take place (173). This is important, as both the content and process of Othering are culturally and structurally determined. Second, a broad array of stakeholders should be fully engaged throughout research process (3, 4, 171, 173). In particular, to ensure empowerment remains a key objective of anti-stigma campaigns (40, 173), the voices of those with lived experiences of distress should be centered throughout the research process (3, 51). Third, as causal explanations of change often require interdisciplinary research and engagement of both clincial and non-clinical researchers (30, 174, 175), consideration should be given to multiple theories of mental health related stigma (3). Consequently, an iterative approach to intervention design and evaluation should be taken (30). This will likely require a triangulation of qualitative and quantitative methodologies, which may be conducted sequentially or in-parallel (176).

By paying closer attention to context, hopefully insight will be provided into the limited and mixed-effects contact-based interventions have had (9, 11, 116). Indeed, a focus on how individuals and groups develop representations in and through contact, arguably turns our conceptualization of contact-based interventions on its head. Rather than assuming experiences of mental ill-health to be "unknown" or "unfamiliar" to the public, a focus on process exposes the socio-environmental causes which determine whether mental health and illness is perceived to be a feature of everyday life (108). That is, by centring context in the analysis, researchers can consider how groups even in close physical context maintain a representation of mental illness as "foreign," "different," and fundamentally "not-me" (131). In selecting these contexts, practitioners should pay particular attention to those which involve intimate relationships, differentials in power and perceived vulnerable groups, as it is these forms of contact which are found to be central to mental health related stigma (78).

In addition, as Othering is achieved in part at the level of representation, researchers should not reduce the research field to a wholly material understanding of space. Rather, in line with recent examinations of "more-than-human" spaces (177), researchers should consider the idiographic aspects of representation, and examine how groups may implicitly draw on spatialized representations (e.g., the asylum as foreign) to maintain personal positive forms of social identity and degenerate those with experiences of mental ill-health (144). Furthermore, there is a serious need to closely examine what is taken-for-granted in these spaces, as this form of knowledge provides important insight into the discursive and material practices which sustain a representation of mental illness as Other (143). For example, individuals with mental illness have been found to be represented in strange and chaotic spaces and are less likely to be portrayed in everyday situations (132). To do so, it may be productive for researchers to relegate professionalized models of mental health related stigma, and instead take a subjugated position toward their participants, as this often allows them to express multiple forms of knowledge, which may or may not fit within professionalized paradigms (133), and is a technique which has been productively used to examine the knowledges practiced by both service-users and mental health professionals (133, 178).

Moving forward, practitioners may find it useful to also consider interventions conducted outside of the health-related stigma domain. In particular, as mental health related stigma is sustained through ritualized prohibitions on close shared forms of contact, often practiced outside of conscious awareness, it may useful for learn from practitioners who intervened in the physical environment to limit collective practices in Othering. For example, Joffe et al. (179) designed a "Fix-it" intervention to increase the publics earthquake and home fire preparedness. Although there had been a number of national campaigns (e.g., American Red Cross Home Fire Preparedness Campaign) focused on increasing awareness of potential hazards, there was limited evidence for sustained behavioral change (179), and common cross-cultural practices in Othering were sustained (180). To respond to this, researchers developed a program in which participants took part in two 3-h interactive face-to-face workshops focused on securing items in the household. Rather than increasing the publics knowledge about the causes and effects of natural hazards, the fix-it intervention focused on practical changes that could be made to the physical environment. An aspect of which involved taking photographs of secured objects in their own home. Furthermore, as Othering is both collective and individual, participants were invited to share their learning on a fix-it Facebook group page designed and manged by one the researchers.

A cross-cultural evaluation of the intervention highlights the need to consider routinised individual behaviors within the wider social environment (181). Specifically, collective efficacy—the perception of one's community's ability to prepare for a hazard—had a greater on individual preparedness in Turkey relative the USA, where a greater emphasis is placed impact upon individual efficacy (181). In addition, highlighting the need to contextualize individual behavior in the socio-political environment, they suggest robust legislation sets important social norms for behavior and locating individual notions of responsibility (181).

It is our intention that this inspires practitioners to action and for them to develop new interventions rooted in the multiple ways the public make sense of mental health and illness. Whilst Othering as a motivated and collective practice is very much in evidence, reflecting the near exclusive use of a KABP paradigm, the main criticism we can make of the evidence we have presented, is that we have drawn on broadly descriptive literature, rather than one developed directly thorough anti-stigma interventions. Indeed, there is both a serious lack of interventions which have explicitly been designed to target these distance-blame-stigma practices and the necessary measures needed to evaluate them.

CONCLUSION

Given the significant literature associating biomedical explanations of mental illness with public desires for social distance, there is serious reason to contend that education-based interventions, especially those which have exclusively focused on biomedical explanations of mental illness, have sustained public practices which Other and distance those with experiences of mental illness. Additionally, whilst research shows notions of contact are central to mental health related stigma, we lack causal evidence for contact-based interventions. Indeed, it is especially questionable whether mental illness can be considered "unknown" or "unfamiliar" to those most in need of anti-stigma efforts.

It is for these reasons that we contend there is a serious need for new interventions to be developed rooted in the ways the public make sense of mental health and illness. To some extent, public health campaigns are moving in this direction through the establishment of the Global Anti-Stigma Alliance (GASA) (182), a group of 20 members who conduct national anti-stigma campaigns in Western Europe, North America, and Australasia (e.g., SANE Australia, Time to Change England, & Opening Minds Canada). For example, GASA outlines that anti-stigma campaigns should focus on empowering those with lived experiences of mental health problems to design and lead grassroots social movements (182). Furthermore, they argue anti-stigma programs should focus on promoting the dignity and rights of those who have experienced stigma and discrimination (182). However, it is important to remember that these programmes do not fully operate independently to those pursuing a services agenda (183).

In summary, this review evidences the need for a paradigmatic shift away from a KABP paradigm to a contextualized understanding of the processes which sustain mental health related stigma. It is our hope, that by examining if, how and why, even in close forms of contact, the public sustain practices which represent individuals with experiences of mental illness as Other, that in 20 years' time we can consider antistigma efforts in terms of success rather than failure.

AUTHOR CONTRIBUTIONS

DW and JF contributed to all stages of the manuscript, including conceptualization, drafting, and editing. Both authors contributed to the article and approved the submitted version.

FUNDING

Research supported by King's College London Ph.D. Stipend (K1891793).

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychiatry

CLINICAL TRIAL
published: 10 February 2021
doi: 10.3389/fpsyt.2020.582180

Addressing Mood Disorder Diagnosis' Stigma With an Honest, Open, Proud (HOP)-Based Intervention: A Randomized Controlled Trial

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Introduction: The public stigma and self-stigma contribute to the dilemma of disclosing or not one's own mental illness diagnosis. Studies suggest that revealing it diminishes stress, besides helping with self-esteem. Honest, Open, Proud (HOP) is a group program that aids in the process of deciding on it, reducing its impact. Considering the relevance of this issue, the present study aimed to apply a HOP-based intervention in a group of patients diagnosed with mood disorders.

Methods: A randomized controlled clinical trial was used, including 61 patients with mood disorders, of whom 31 were diagnosed with depression and 30 were diagnosed with bipolar disorder. They were randomly placed on the intervention (HOP) or the control group (unstructured psychoeducation). The evaluations occurred before (T0) and after (T1) the sessions. We administered eight scales, from which three presented relevant results: Coming Out with Mental Illness Scale (COMIS), Cognitive Appraisal of Stigma as a Stressor (CogApp), and Authenticity Scale.

Results: The intervention groups (depression and bipolar) did not present a significant change regarding the decision to disclose their diagnostics. However, the depression group showed a decrease on the perception of stigma as a stressor ($T0 = 0.50$ vs. $T1 = -1.45$; $p = 0.058$). Improvements in post-intervention results were seen for both groups (depression and bipolar) on the Authenticity Scale—self-alienation subscale ($T0 = 10.40$ vs. $T1 = 12.37$, $p = 0.058$).

Conclusion: Our HOP-based intervention appeared to be an important program to aid patients in facing stigma stress, showing positive effects, whether helping to diminish stress or to improve self-conscience, both of which have indirect effects on self-stigma. As it is a compact program, it can bring benefits when applying to public health institutions.

Keywords: self-stigma, disclosure, stigma stress, mental illness, self-conscience, Honest, Open, Proud

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Specialty section:
This article was submitted to Public Mental Health, a section of the journal Frontiers in Psychiatry

Received: *10 July 2020*
Accepted: *23 December 2020*
Published: *10 February 2021*

Citation:
Modelli A, Setti VPC, van de Bilt MT, Gattaz WF, Loch AA and Rössler W (2021) Addressing Mood Disorder Diagnosis' Stigma With an Honest, Open, Proud (HOP)-Based Intervention: A Randomized Controlled Trial. Front. Psychiatry 11:582180. doi: 10.3389/fpsyt.2020.582180

INTRODUCTION

Stigma is a multifaceted construct, a mark that assigns its bearer a condition of depreciation, compared with other members of society (1). In the stigma process, individuals are identified based on an undesirable characteristic of them and are labeled and discriminated, being unappreciated by society. This kind of stigma is called social or public stigma (2–7). An important remark is that the stigma incurs in a vicious cycle of prejudice and discrimination, reinforcing the occurrence of the stigma itself (8, 9).

As someone with a mental disorder becomes self-aware of the negative beliefs others might have toward mental illness, he/she avoids reaching out to health services, to support on work environment, to professional development and emotional relationships (10, 11). Also, possible increase of relapses and hospital admissions is expected (12). The occurrence of such processes is often connected to the patient's agreement with these labels and demonstrates self-stigma—the loss of self-respect and self-rule, among other things (13–17). The consequences are harmful, affecting different aspects of someone's life, besides creating a dilemma about disclosing or not their diagnosis.

Studies suggest that concealing a mental disorder diagnosis as a way to avoid the stigma tends to increase the stress associated with cognitive, emotional, and behavioral aspects, as well as negative self-evaluation (18). Pachankis (19) emphasizes the consequences of occult stigma and the dilemma of disclosing stigmatizing aspects at relevant moments, such as work–life, relationships, and school, and ascertains that cognitive difficulties (decision-making) can lead to affective and self-evaluating distress.

Specific studies on patients diagnosed with mood disorder point out that stigma is an important issue in this population, either as public stigma or self-stigma (14, 15, 20, 21). However, few of those address interventions that can help cope with this situation.

Although there is an increase on possible interventions that contribute to the discussion on revealing one's mental disorder, along with actions that assist on dealing with this decision, a study focusing on the label of mood disorders appears to be necessary.

An important tool in this sense has been the Coming Out Proud intervention. It consists in a brief group intervention (three sessions), designed to diminish the stress related to the dilemma of disclosing or not self-diagnosis of mental illness. A previous version of the program was developed by Corrigan and Lundin, based on a book (2001) and named Coming Out Proud (COP). However, a more updated version was submitted and called Honest Open Proud (HOP)[1]. Studies that utilize the HOP Program (22–24) indicated a decrease of stress due to prejudice (stigma stress), mainly when referring to possibly disclosing a mental illness, besides pointing out tendencies on improving levels of self-stigma, as well as self-rule and independence. There are few studies based on the application of this program, especially considering groups of patients with the same diagnosis (25).

Therefore, this study aimed to identify on a group of patients diagnosed with mood disorders (depression and bipolar) whether HOP-based interventions would allow greater flexibility to socially expose or not one's diagnosis, and whether the interventions would reduce the stress related to secrecy and improvements to self-rule.

METHOD

Study Design and Sample

Patients diagnosed with unipolar depression and bipolar disorder according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) (26) participated in this randomized controlled clinical trial.

Inclusion criteria consisted of the following: minimum age of 18 years old; capacity to provide informed written consent; currently undergoing outpatient follow-up; currently being euthymic; presenting at least a moderate level (grade 4) on a screening question: "How concerned or stressed have you normally felt when deciding to tell others about your mental illness or to keep it a secret?" (1 = not stressed or concerned; 7 = very stressed or concerned).

The exclusion criteria included the following: intellectual deficit, current presence of mood symptoms, and comorbid alcohol or drug use related disorders. Information regarding inclusion and exclusion criteria were gathered through interview and accessing the patient's hospital file.

The subjects were recruited from mid-2018 to the end of 2019, at the Institute of Psychiatry of the University of Sao Psaulo. They were selected through a research call that was broadcasted within the institutional environment and via search through the institution's patients list. Nine patients with depression and three with bipolar disorder responded the research call. Regarding the list search, 90 bipolar patients and 70 with depression were contacted by telephone. Overall, 51 individuals diagnosed with depression and 57 with bipolar disorder corresponded to the inclusion and exclusion criteria, responded to the triage question a grade equal or superior to 4, and were put on two randomized diagnosis-specific lists—one with bipolar individuals and the other with depression individuals.

Randomization

Randomization was provided by the Clinical Trial Randomized Service[2], which randomly assigned numbers to two lists (intervention or control). Each participant in each diagnostic group was consecutively given a study number, according to their entry in the study and agreement to participate, and assigned to the control or intervention listing accordingly. Each time a group of six to eight patients was filled in, in either the intervention or control, individuals were called upon to start the study.

Throughout this process, 12 depression patients and 25 with bipolar disorder withdrew participation (dropouts). After the groups began, eight depression individuals and two bipolar

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[1] www.comingoutproudprogram.org

[2] https://www.randomize.net/

patients attended only the first meeting (dropouts). Accordingly, at the end, our sample consisted of 31 participants on the control group (16 with depression and 15 with bipolar disorder diagnosis) and 30 on the intervention group (15 with depression and 15 with bipolar disorder) (**Figure 1**).

The intervention group of 30 patients underwent a program based on the HOP. The goal of this intervention is to train the patient to be able to lead the group. However, the main researcher (A.M.) was the intervention leader. This procedure is distinct from all previous studies until now (22–24, 27), as the leadership coming from someone with a mental disorder diagnosis can facilitate the bonding process, specially through identification.

However, the decision of appointing a mental health professional was made to allow a better discrimination and understanding of their beliefs and distresses; to review aspects related to biases against mental health and mental health professionals (6, 28); and to allow programs such as HOP, which proposes a short intervention, to be utilized on public health institutions and facilitate the proximity between multi-disciplinary team and patients—for the training of a patient as a facilitator could significantly hamper and delay the process in these settings.

HOP has the main objective of supporting people with mental disorders on deciding to disclose or not their mental illness and treatment. The intervention consisted on a 2-h session on a weekly basis for a 3-week period. The groups consisted of six to eight individuals, and all the participants received a copy of the HOP work folder. Each lesson, according to the manual, dealt with specific topics, such as (1) risks and benefits of disclosing or keeping a secret about their diagnostics on different situations; (2) levels of disclosure, on a scale from complete social withdraw to indiscriminated report of their experience with mental illness; and (3) useful ways of telling their story about mental illness in different scenarios.

For the control group, the same number of sessions and workload was applied, but they were used to make an unstructured discussion on subjects such as mental illness, treatment, adherence to treatment, and family relationship.

Instruments

All the instruments were applied at two moments: T0 = initial evaluation, 3 days before the first group session; T1 = post-intervention evaluation, within a 3-day period after the third session.

The evaluations were personally applied to ensure the data were complete and the participants could ask questions, in case of doubts. Eight scales were administered to measure different individual aspects. The scales were translated from English to Portuguese, then translated back to English and verified regarding their consistency by a bilingual psychologist. After the necessary adjustments, a pre-test of the scales was performed on a random population (three hospital employees and three students where the research was developed). Therefore, we verified the instrument's (1) application period, (2) viability, and (3) language adequacy to the studied population.

The following instruments were applied: (a) Subjective Quality of Life−17 items (29), examining the frequency of social contact, satisfaction with social relationships, amount of leisure activities and respective level of fulfillment; (b) Rosenberg's Self-Esteem Scale (30, 31), which evaluates how someone feels about themselves through 10 sentences, rated from 1 (completely disagree) to 4 (completely agree); (c) Coming Out with Mental Illness Scale (COMIS) (18), measuring the perceived benefits of coming out, followed by 42 declarations regarding the motives (1 = completely disagree, 7 = completely agree); (d) Authenticity Scale (32), a 12-sentence assessment of individual authenticity concerning relationship problems and coping with them (1 = completely disagree, 5 = completely agree); (e) Self-Stigma of Mental Illness Scale—Short Form (SSMIS) (33), which evaluated if the participants applied negative stereotypes, through 20 affirmations, each of them being graded 1 = completely disagree and 9 = completely agree; (f) Internalized Stigma in Mental Illness Scale−29 items (ISMIS) (34–36), measuring the individual's internalized stigma through 29 sentences, 1 = completely disagree and 5 = completely agree; (g) Stigma Stress Scale (CogApp) (37), an eight-item scale, each one rated from 1 to 7, examining the cognitive evaluation of the stigma as a stressor; and (h) Barriers to Access Care Evaluation (BACE) (38, 39), 30 items that inquire about the decision of looking for professional help and possible related difficulties, with scores of 0 = no difficulties to 3 = great difficulty.

Social–demographic data were also gathered, such as age, gender, marital status, years of study, and social–economic status. This last was classified according to the Brazilian Institute of Geography and Statistic (IBGE)[3], where class A = higher income, and E = lowest income.

This study was approved by the Research Ethics Committee of the Hospital das Clínicas, from the University of São Paulo Medical School (CAPPesq HC FMUSP; CAAE n° 57068216.3.0000.0068).

Statistical Analysis

Data were described in terms of mean and standard deviation, for continuous variables, and number and percentage for categorical variables. Differences across groups (intervention vs. controls) were analyzed with ANOVA and Student's *t*-test, and with chi-square for continuous and categorical variables, respectively. Regarding pre- and post-trial comparison, differences between T1 and T0 scores were calculated for controls and for the intervention group, for each individual. As this difference was not normally distributed, Student's *t*-test was used for statistical comparison. All analyses were performed with SPSS version 23 for Mac.

RESULTS

The demographic data are summarized in **Table 1**. Overall, no statistical differences were seen between groups in sociodemographics. It shows a similar predominance of women in both groups, and similar mean ages (42.2 vs. 42.8). The intervention group showed more individuals with higher education, 80% (24 patients) vs. 58% (18 patients) of the

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[3] www.ibge.gov.br

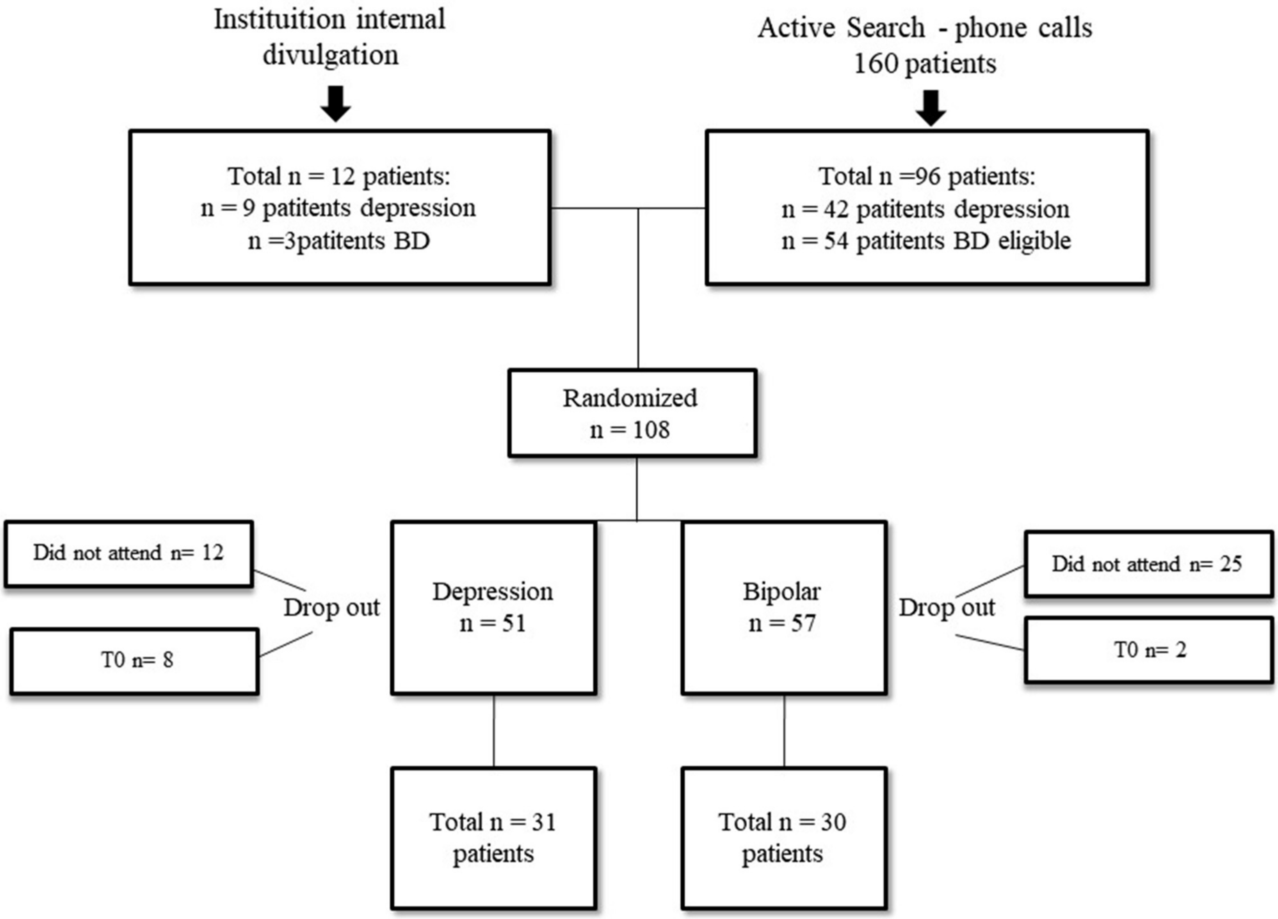

FIGURE 1 | Patient flowchart.

TABLE 1 | Sample characteristics.

	Intervention	Control	*P*
Sex (female; *n*, %)	21 (70%)	24 (77.4%)	0.51
Age (mean, SD)	42.2 (16.8)	42.8 (11.9)	0.87
Years of education (13 or more; *n*, %)	24 (80%)	18 (58%)	0.21
Marital status (single; *n*, %)	17 (56.7%)	12 (38.7%)	0.51
Diagnosis (bipolar; *n*, %)	15 (50%)	15 (48.4%)	0.90
Employed (yes; *n*, %)	14 (46.7%)	12 (38.7%)	0.53

control group. The majority of the intervention group was single (56.7%), unlike controls (38.7%). Also, the intervention group showed that 14 patients (46.7%) were currently employed and, in the control group, that statistic corresponded to 12 patients (38.7%). However, these differences were not statistically significant.

Tables 2, **3** show data of the Cognitive Appraisal of Stigma scale (CoGapp). This scale accesses the stress experienced from prejudice against mental health disorders (HARM— "Prejudice against people with mental disorders will have harmful consequences to me"), as well as the possibility to demonstrate abilities to coping with it (COPING— "I have the resources needed to deal with problems caused by prejudice against people with mental illness"). Stigma-related harm showed a greater decrease in the intervention group compared to the control group (4.68–3.58 vs. 4.56–4.40, respectively). In coping resources, we also observed an increase, which was greater in the intervention group (4.18–5.03 vs. 4.01–4.36, respectively). Difference was marginally significant ($p = 0.058$).

On BD individuals, there was no significant difference between intervention and control regarding the Cognitive Appraisal of Stigma. However, baseline scores for BD were better than those of depression individuals. Stigma-related harm was lower in BD individuals compared to those with depression (4.62 vs. 4.12, respectively, $p = 0.35$) and Coping resources was significantly higher for BD individuals than for individuals with depression (4.95 vs. 4.10, respectively, $p = 0.02$).

As for the decision of disclosing the diagnosis itself, at baseline most of the sample had previously decided to reveal their

TABLE 2 | Scores on the Cognitive Appraisal of Stigma scale on individuals with depression (COGAP).

COGAP	**Intervention**		**Control**	
(mean, SD)	**T0**	**T1**	**T0**	**T1**
Stigma-related harm	4.68 (2.11)	3.58 (1.65)	4.56 (2.14)	4.40 (1.79)
Coping resources	4.18 (1.27)	5.03 (1.41)	4.01 (1.65)	4.36 (1.47)
Stigma stress (=harm-coping)	0.50 (2.40)	−1.45 (2.38)	0.55 (3.36)	0.05 (3.03)

**SD, standard deviation.*

TABLE 3 | Student's *t*-test for differences in the COGAP on individuals with depression.

COGAP (mean, SD)	**Intervention**	**Control**	***P***
Stigma-related harm	−1.10 (1.59)	−0.15 (1.34)	0.084
Coping resources	0.85 (1.16)	0.34 (1.20)	0.243
Stigma stress	−1.95 (1.86)	−0.50 (2.21)	0.058

**SD, standard deviation.*

diagnosis (40 subjects, 66%). After the HOP intervention and the control group, only four new individuals changed their idea and decided to reveal their diagnosis (two of them from the intervention group and two controls). As such, difference was not statistically different ($p > 0.05$).

Tables 4, **5** show the results for the Authenticity Scale, whose goal is to measure a tripartite conception of authenticity: self-alienation, authentic living, and accepting external influences. For the whole sample, we observed that, among those three aspects, self-alienation (self-conscience) demonstrated an improvement after the intervention, which had marginal statistical difference ($p = 0.058$).

All other results from the different instruments showed no statistical difference between intervention and control group.

DISCUSSION

To the best of our knowledge, this study was the first to use a HOP-based program on patients with the same diagnostics, namely, mood disorders. It is worth mentioning that studies on patients diagnosed with the same disorder allow us to recognize specific details, identifying specific interventions and approaches, if necessary (27).

Results showed that our HOP-based intervention improved stigma stress in individuals with depression and improved self-alienation in both BD and depression individuals. Both results had marginal statistical significance. HOP did not significantly interfere with the decision to disclose or not the diagnosis, though. During the conduction of the program, patients from both groups broadly uncovered that living with stigma causes suffering. They discussed experiences of prejudice and discrimination, lived among family members and social situations. Besides provoking discomfort, they also showed the patient's self-stigma, who agreed with beliefs of laziness and lack of interest (depression), or unruly, uncompromised or incapable behavior (bipolar). On that note, the discussion regarding recognizing themselves with the illness, the beliefs, and the pros and cons on disclosure (HOP lessons) pointed out the patient's self-stigma (27, 40), which puts on debate the deconstruction of pre-constructed imagery.

Regarding the decrease of stigma stress on the depression group, this suggests improvements to coping mechanisms on prejudice and discrimination experiences. Other studies addressing diagnosis' disclosure highlight aspects of self-stigma and self-competence enrolled in this process (22–24, 27). However, in the present work, the number of patients that decided to reveal the diagnosis after the intervention did not significantly increased. This might have happened because, at baseline, 66% had already disclosed their diagnosis. Nonetheless, despite this disclosure, the stress of dealing with others' reactions could still be a relevant issue. The intervention could thus help develop skills and indicate a few ways to deal with these situations, perhaps aiding on feelings of guilt, very common to depression.

Another aspect that may be present in these results suggests, as a hypothesis, the presence in the depression group of cognitive distortions (psychological suffering) that are particularly important that could influence a worse perception on the attitudes of others, showing themselves to be more sensitive to other's behavior. This observation is mentioned by Major and O'Brien (41) and Rusch et al. (37) when describing some points related to the understanding of stress with stigma, as well as one of the results indicated by Griffiths et al. (42). Rüsch et al. (37) also mentioned that among the emotional reactions to the stress of the stigma, shame is pointed out when the perception of stigma is seen as more harmful. It is possible to hypothesize that the depression group tends to misinterpret the trivial, neutral, or even the more stressful daily life events at first, usually as evidence of personal effects, demonstrating an exaggerated sense of responsibility for adversity, afterwards being "improved," from the moment that beliefs and concepts can be addressed in targeted activities.

Mendoza-Denton et al. (43) studied another aspect and presents, in an article on status-based sensitivity to rejection, the presence of expectations about rejection based on personal characteristics, as well as based on direct or indirect experiences related to status characteristics, in which the expectation of rejection would be linked to experiences in situations where there are no sharing of their stigma, but stories of exclusion or marginalization. These aspects seem to help in understanding, considering that the dynamics of patients with depression

TABLE 4 | Scores on the Authenticity sub-scales (whole sample; higher scores indicate less stigma).

Authenticity	**Intervention**		**Control**	
(mean, SD)	**T0**	**T1**	**T0**	**T1**
Authentic life	16.20 (2.48)	15.80 (2.80)	16.90 (3.28)	15.61 (3.50)
External influence	13.00 (3.76)	13.80 (4.09)	14.64 (3.82)	14.96 (3.42)
Self-alienation	10.40 (4.12)	12.37 (4.47)	12.80 (4.62)	13.32 (4.11)

**SD, standard deviation.*

TABLE 5 | Student's *t*-test for differences in the Authenticity scales (whole sample).

Authenticity (mean, SD)	**Intervention**	**Control**	***P***
Authentic life	−0.40 (2.93)	−0.29 (2.86)	0.883
External Influence	0.80 (2.72)	0.32 (2.38)	0.469
Self-alienation	1.97 (3.37)	0.51 (2.40)	0.058

**SD, standard deviation.*

are linked to narratives of guilt, worthlessness, hopelessness, disinterest, and lack of value.

However, the bipolar intervention group did not present significant results on diminishing the stress on the dilemma of disclosing the diagnostics. For our BD patients, the disclosure was generally described as "something out of their control," as friends, work/college colleagues and family members witnessed their symptoms—specifically the manic ones—during the illness' critical moments. They also mentioned feelings of embarrassment and shame. At the same time, telling others about the disorder occasionally granted more collaboration at the school/work environment (40, 44).

We emphasize that, although the indexes do not point to significant results, the bipolar group presented, during the study, lower results related to stress, considering less damage and better coping results, both in T0 and T1. These results, even not significative, would point to better cognitive resources demonstrating a "more elaborate" way to face stigma. Major and O'Brien (41) refer to a model where there would be possibilities for involuntary and voluntary responses. Would the Bipolar group have better resources for voluntary responses showing more coping skills compared to the depression group? The author states that voluntary responses would demonstrate conscious efforts with better control over emotions, cognition, and behavior.

Studies pointed out that people with occulted mental illness stigma—which Goffman (1) called "discredited" —, by keeping the condition a secret, would feel apprehensive that they can be discovered during social or work situations, fearing the consequences of this revelation. This reinforces that the "fear of being discovered" —or disclosure—is an independent stress factor to those with occult stigma, on which the condition of being stigmatized is not completely known on every social situation (as opposed to the visible stigma) (19). Therefore, we can hypothesize that the BD individuals presenting stigma stress is more related to the consequences of an episode—losses to finances, work, and relationships—as described by many patients (45), than to disclosure itself.

Still, patients from both groups informed feeling good about sharing experiences with others that suffer with similar symptoms, which provides a sense of belonging. Studies point out that the presence of other people that share the stigma tends to elevate self-esteem and bring out a more positive mood (46), favoring interactions with such group (47). Corroborating with the arguments above, Rüsh et al. (22) refer that people with an extensive record of mental disorders can benefit from HOP, due to having many experiences with stigma, disclosure and secrecy, and to being able to discuss them with a group, besides bringing up opportunities to relate with people with mental disorders.

Mulfinger et al. (24), after using HOP on teenagers with mental disorders, also highlighted positive results on lessening the stress toward the diagnostics and their decision on disclosing it, and affirmed its benefits at the start of the treatment. Adapted to this situation, HOP brought up important discussions, expanding the disclosing environment and considering social media as a valid instrument.

The Authenticity Scale, which measures how authentic someone is toward coping skills, recognition, and daily life responsibilities, reflected another important result. After our HOP-based intervention, improvements to self-alienation were observed.

According to Wood et al. (32), authenticity is not an attribute, but a process of continuous making, consisting of a tripartite conception including self-alienation, authentic living, and accepting external influence. We could assume that authenticity would be the balance of an authentic life ("I always maintain what I believe in"), along with the ability of not being influenced by external sources ("I am strongly swayed by other's opinions") and the ability to not alienate themselves ("I don't know how I really feel inside"). Each of these aspects reveals a condition of dealing with stigma, apart from self-stigma.

The improvement of self-alienation indicates how important it can be to instigate discussions aimed to expand knowledge of the illness and one's relations to it, for instance, recognizing stereotypes that revolve around prejudice against mental disorders, the emotional reactions after disclosing the diagnostics, and behavioral intentions recognized on oneself and on others. This was enabled by group identity. Watson et al. (48) indicate this as relevant to coping with stigma and self-alienation, developing more positive self-perceptions. There were several accounts of self-experienced stigma, how they dealt with it and alternatives they were able to conceive after the HOP intervention. Corroborating with the group identity concept, Corrigan et al. (23) state that the group experience can enhance personal resilience toward stigma and self-stigma, especially due to having shared their stories.

There were some limitations to this study that must be considered. First, a considerate amount of time for active search was necessary. This denotes that there is not a habit of research participation in our country, but also that people are not willing to talk about stigma. As such, the people that are willing to engage to these projects are usually already involved in some way and want to reflect on it or change it, as opposed to those who believe there is nothing to be done. Non-participants could hypothetically have higher levels of self-stigma, as mentioned by Corrigan's term "why try?" (23, 49, 50).

Another limitation concerns the small number of the sample. We recognize that a greater number of subjects is necessary to allow a better interpretation of the results, as well as to possibly enhance the statistical reach of our findings.

An aspect observed by Rüsh et al. (22) and Mulfinger et al. (24) refers to the number of people that previously decided to disclose the diagnostics. Considering the aim of this program, it would be relevant that the intervention also included a number of people with doubts on this topic.

CONCLUSION

Our study corroborated with findings that HOP can contribute to diminishing stress on the dilemma of disclosing or not the diagnosis of depression. Sharing narrative constructions regarding oneself with a group can also be beneficial and influence self-alienation, for both depression and BD patients. We would like to acknowledge that stigma toward mental illness is still an enduring issue worldwide and that the stress related to the disclosure of self-diagnosis depends on the level of public stigma, the perception, and introjection of it by the subject. On the one hand, HOP-based studies should be multiplied with larger samples and with different diagnoses to prove its efficacy and specificity, and mainly to avoid this introjection. On the other hand, public campaigns should be promoted to dispel the stigma toward mental illness.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary materials, further inquiries can be directed to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Research Ethics Committee of the Hospital das Clínicas, from the University of São Paulo Medical School (CAPPesq HC FMUSP; CAAE no 57068216.3.0000.0068). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

WR, AL, AM, VS, MB, and WG: study conception and design. AM, AL, and VS: acquisition of data. AM, AL, and WR: analysis and interpretation. All authors contributed to the article and approved the submitted version.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The reviewer CR declared a shared affiliation, with no collaboration, with several of the authors AM, VS, MB, WG, and AL to the handling editor at the time of the review.

frontiers in Psychiatry

ORIGINAL RESEARCH
published: 25 February 2021
doi: 10.3389/fpsyt.2020.532557

Burden of HIV-Related Stigma and Post-Partum Depression: A Cross-Sectional Study of Patients Attending Prevention of Mother-to-Child Transmission Clinic at Kenyatta National Hospital in Nairobi

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OPEN ACCESS

Edited by:
Alexandre Paim Diaz, Federal University of Santa Catarina, Brazil

Reviewed by:
Janet Turan, University of Alabama at Birmingham, United States
Leonardo Baldaçara, Federal University of Tocantins, Brazil

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Specialty section:
This article was submitted to Public Mental Health, a section of the journal Frontiers in Psychiatry

Received: *04 February 2020*
Accepted: *21 December 2020*
Published: *25 February 2021*

Citation:
Yator O, Mathai M, Albert T and Kumar M (2021) Burden of HIV-Related Stigma and Post-Partum Depression: A Cross-Sectional Study of Patients Attending Prevention of Mother-to-Child Transmission Clinic at Kenyatta National Hospital in Nairobi. Front. Psychiatry 11:532557. doi: 10.3389/fpsyt.2020.532557

Background: We look at how various HIV-related stigma subtypes, especially internalizing types, interact with postpartum depression (PPD) among women living with HIV. Additionally, we identify key psychosocial risk factors that influence stigma and PPD among women attending Prevention of Mother-to-Child Transmission (PMTCT) clinics.

Methods: In this cross-sectional design, 123 women living with HIV were recruited. Participants ages between 18 and 50, who were at least 8 weeks postpartum seeking PMTCT services at Kenyatta National Hospital (KNH), between June and September 2014 participated in the study. *HIV/AIDS Stigma Instrument—PLWHA (HASI–P)* was used to assesses stigma and Postpartum depression was assessed by *Edinburgh Postnatal Depression Scale (EPDS).* Bivariate and multivariate regression models were used to determine the individual characteristics associated with the HIV-related stigma Scale. Post survey a few in-depth-interviews were conducted to explore individuals' stigma and depression experiences.

Results: The mean age was 31.2 years (SD = 5.2). Fifty-nine (48%) women screened positive for significant depressive symptoms. Post-partum depression was a significant predictor of internalized stigma, enacted, and total stigma ($P < 0.05$). Older age was associated with less internalized stigma. Living with a partner was associated with more internalized stigma. Having an income above 100 USD per month was protective against stigma. Having good family social support was protective against internalized stigma. A higher educational level was protective against enacted stigma. Being treated for STIs was a risk factor for both enacted and overall stigma.

Conclusions: HIV-related stigma needs to be addressed through integrated mental health care programs in PMTCT. Postpartum depression requires comprehensive management to improve short- and long-term outcomes of women living with HIV.

Keywords: postpartum depression, internal stigma, HIV related stigma, discrimination and external stigma, prevention of mother to child HIV transmission

BACKGROUND

HIV Burden in Perinatal Women in Sub-Saharan Africa

Several sub-Saharan African (SSA) countries have a high prevalence of Human Immunodeficiency Virus (HIV) among pregnant women and women of childbearing age (1). Although HIV prevalence among the general population has reduced in Kenya, women continue to be disproportionately affected by the epidemic and, as reported in 2014, 7.6% of women were living with HIV compared with 5.6% of men (2). HIV-related stigma and discrimination have become important areas of focus within behavioral research to promote inclusivity and to address social marginalization of affected individuals and their families (3, 4). Acquired Immune Deficiency Syndrome (AIDS) stigma is characterized by, "prejudice, discounting, discrediting, and discrimination directed at people perceived to be living with HIV and the individuals, groups, and communities with which they are associated" (5). HIV-related stigma has also been found to be associated with depression in the general population of persons living with HIV (6, 7). A higher level of HIV-related stigma has been strongly associated with a higher level of depression and a low level of self-efficacy (8).

People living with HIV (PLWH) experience numerous mental and psychological sequela of stigma including, stress, fear, anxiety, decreased self-esteem, and depression (7, 9). Furthermore, pregnant women living with HIV may experience additional stressors including financial hardships (10), reduced social support, and concern for the physical well-being of their children (11, 12). Stigmatized persons may also internalize the beliefs held in the community and develop self-defacing internal representations of themselves (internalized stigma), possibly leading to demoralization, diminished self-efficacy, and emotional distress (13). Self-stigma was reported to be quite potent in a Ugandan study (2011), where participants described themselves as "useless" and the "same as dead" (14). HIV-related stigma has been well-documented to negatively impact quality of life and overall health outcomes among people living with HIV (15).

Association Between Internalized Stigma and Depression

Lack of women's empowerment, as well as depression, may be critical risk factors for HIV-related stigma and discrimination (16). A finding from Kenya confirmed that women experiencing major depression with an EPDS score of 13 and above at the postpartum visit tended to be more likely to have experienced HIV-related stigma (16). In a Kenyan longitudinal observational study, internalized stigma was found to be a significant predictor of depression in women with high internalized stigma (17). HIV-related internalized stigma results in feelings of low self-worth which was found to be one of the strong predictors of PPD (18).

Known Risk Factors Associated With Postpartum Depression

People living with HIV have a high prevalence of depression globally (19). Internalized stigma is the endorsement and internalization of negative evaluations held by others (20). Enacted stigma refers to discriminatory behaviors directed toward people with HIV who are viewed as carrying a stigmatized condition (21). Recent studies have shown that PLWH who report experiences of HIV-related stigma also report low levels of perceived social support (22). Having emotionally supportive family and friends may help decrease the perceived legitimacy of negative evaluations of others and help PLWH develop a more positive sense of self, leading to less internalization of stigma (23). Given that stigma is a substantial barrier to accessing HIV care and prevention services, there is a need to understand the dynamics around internalized and enacted stigma in order to improve these services. In this study, our objective was to determine the association between HIV-related stigma subtypes and PPD among women attending PMTCT clinics. In addition, we tried to identify key psychosocial risk factors that influence stigma and PPD. The psychosocial issues affecting women living with HIV are not adequately addressed in the PMTCT program and thus, this study underscores the need for embedding mental health services across all such facilities. Some conjectures about the relationship between depression and internalized stigma have been proposed in this paper. Both internalized stigma (self-stigma being a variant) and depression have a nexus, so we assume that women are depressed because of the stigma they have experienced, or that because of their depression they are more likely to view people's actions negatively and we assume that this is related to their HIV status (17, 24).

Abbreviations: AIDS, Acquired Immunodeficiency Syndrome; ART, Antiretroviral Therapy; ARV, Antiretroviral Drugs; EPDS, Edinburgh Postnatal Depression Scale; GLMs, Generalized Linear Models; HIV, Human Immunodeficiency Virus; IPT-G, Group Interpersonal Psychotherapy; KNH, Kenyatta National Hospital; LMIC, Low- and Middle-Income Countries; PLWHAs, Persons Living with HIV/AIDS; PMTCT, Prevention of Mother-to-Child Transmission; PPD, Postpartum Depression; SD, Standard Deviation; SPSS, Statistical package for the social sciences; STDGs, Sustainable Development Goals; WHO, World Health Organization.

METHODS

Participant Recruitment

In this cross-sectional study, eligible participants who were postnatal women living with HIV aged between 18 and 50 years were recruited using convenience sampling. All postpartum women who were attending the PMTCT at KNH between June and September 2014, who met eligibility criteria and who were willing to participate were enrolled. Our target population was from an urban setting with the majority having better exposure to formal education. All participants provided written informed consent for study participation. The study was approved by the Kenyatta National Hospital/University of Nairobi Ethical and Scientific Research Committee.

MEASURES

A Socio-demographic questionnaire was used to gather data (that included marital status, age occupation, education level, perceived family social support, monthly income, intimate partner violence, persons residing with them, and being treated for a sexually transmitted infections (STIs) in the past month, or a partner engaging in extramarital affairs).

Severity of depressive symptoms was assessed using the 10-items *Edinburgh Postnatal Depression Scale* (25). EPDS is an internationally validated tool for screening perinatal depression and has previously been used in other studies in sub-Saharan Africa (26). EPDS has been shown to have good test-retest reliabilities as well as good sensitivity for detecting major depression (27). A cut-off of 13 is recommended for probable major depression and a cut-off of 10 is recommended for probable minor depression (28). In our study, we used a cut-off 13 for significant depressive symptoms. This tool has been used in similar studies such as the Kenyan study addressing linkage to HIV care, postpartum depression, and HIV-related stigma in pregnant women that found EPDS had good internal consistency (Cronbach's $\alpha = 0.82$) (7). EPDS has also been translated and validated into Kiswahili in Kenya (29). An EPDS cut-off score of 13 has been identified as being a marker for significant depressive symptoms (30).

HIV-related stigma was assessed using *HIV/AIDS Stigma Instrument—PLWHA (HASI–P). HASI–P* is a 33-item instrument assessing six subscales of HIV-related stigma (31). HASI-P has six sub-scales each with items inquiring on perceptions toward life in relation to living with HIV. The five items on negative self-perception look at HIV-related stigma within one's self in the form of negative automatic thoughts whereas as the other five sub-scales (verbal abuse-8 items, social isolation-5 items, fear of contagion−6 items, health care neglect-7 items, and workplace stigma-2 items) assess one's perception toward others and the external environment during their day-to-day interaction while living with HIV.

Both internalized and enacted stigma combined, yielded an overall stigma score. Another study from Kenya also used *HASI–P* when addressing linkage to HIV care, postpartum depression, and HIV-related stigma in pregnant women and the HASI-P had good internal consistency of $\alpha = 0.87$ (16, 17). HASI–P in our study findings had good internal consistency (Cronbach's $\alpha = 0.85$). Therefore, the reliability of this tool was 93.9%. After administering the sociodemographic questionnaire and assessing HIV-related stigma using HASI-P, qualitative interviews were carried out with six participants: three participants with elevated EPDS scores of >20 and another group of three with low EPDS scores of <13. These participants were interviewed using *semi-structured open-ended questions* exploring their feelings and perceptions of their HIV status in relation to PPD, HIV-related stigma and gauging of available support and quality of their interpersonal relationships.

CONCEPTUAL FRAME WORK FOR HIV-RELATED STIGMA

Our interest is to understand HIV-related stigma (internalized and enacted stigma). We sought to understand some of the individual and interpersonal level determinants of mental health such as -intimate partner violence (IPV), partner extra-marital affairs, verbal abuse; poverty or a low economic status, inadequate shelter, poor nutrition, and lack of social support including either being single, divorced, or having marital conflicts that influence how people react to the challenges of life including self-blame, shame, self-doubt, and despair. Although borrowed from Turan's model of mechanism associated with intersectional stigma, we do feel that elements of the model inform our thinking on postpartum depression and stigma in the current work (32). Persistent manifestation of these self-perceived deficiencies will alter how one interacts or engages with others in the society (reduced social functioning, reduced social interaction) thus informing on the forms and levels of HIV-related stigma (See **Figure 1**). These altogether impact depression that occurs during the postpartum context and the intensity of these factors modulate the severity of depression experienced.

DATA ANALYSIS

Descriptive statistics for socio-demographic variables, depression, and HIV-related stigma scores were computed. HIV-related stigma means, median, and SD were reported as the outcome scores. We generated data on HIV-related stigma, internalized and enacted, to assess the prevalence and associated risks with each stigma type. Some of the stigma subscales (health care neglect and workplace stigma) were less relevant to our population so this collapsing of the categories into internalized and enacted were considered important. Both Pearson's correlation for continuous variables and Spearman's correlation for categorical variables were used to determine factors that were associated with HIV-related stigma variables at the bivariate level. Variables that were found to be associated with HIV-related stigma at a significant level of $P < 0.05$ were entered into the multivariate analysis using generalized linear models (GLM) with identity links. Negative coefficients were interpreted as being protective factors of stigma whereas positive ones were interpreted as risk factors of stigma. All tests were two sided with a statistical threshold set at $P < 0.05$. All the statistical analyses

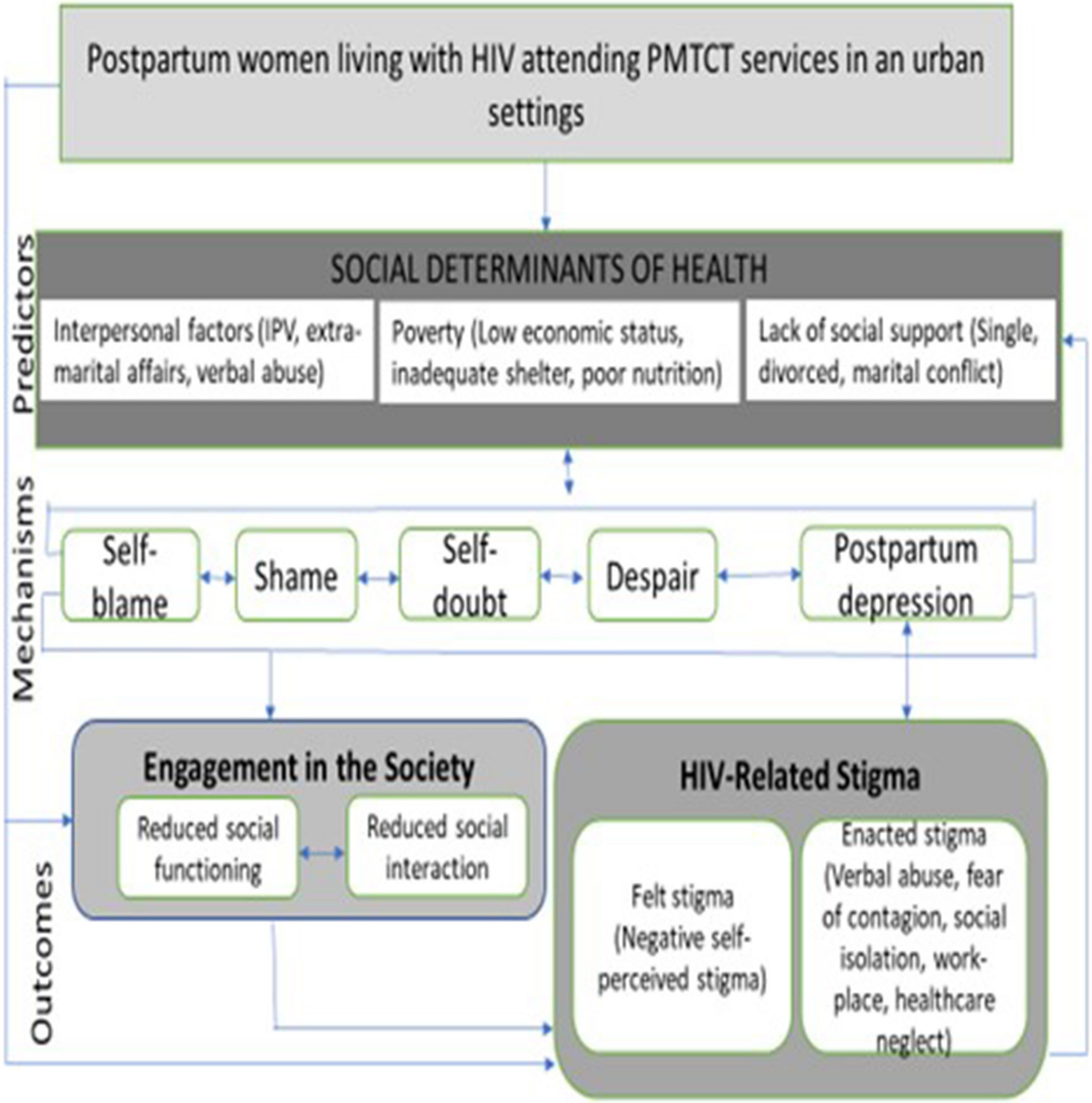

FIGURE 1 | Conceptual framework for HIV-related stigma (Adapted from (32)).

were conducted using SPSS version 23. In-depth interviews were conducted among the six participants to understand their perceptions and experiences while living with HIV. Emerging themes were identified with a view to explore psychological issues associated with HIV-related stigma. We chose to identify women with high depression vs. low depression scores to better understand articulation of their HIV related life experiences, stigma, and general psychological well-being.

RESULTS

Socio-Demographic and Other Characteristics of Respondents

Table 1 presents the socio-demographic characteristics of the respondents. A total of 123 HIV infected postpartum women were enrolled in the study. The majority of the women were married (68.3%), with a median age of 32 years (IQR). About 23 participants (18.7%) of our sample had completed primary school education or below, 38 participants (30.9%) had completed secondary school education, and 62 participants (50.4%) had attained an education level of college and above. About 41 (33.3%) participants were unemployed at the time; average income among those employed was 100 USD. More than half of our participants, about 69 (56.1%), reported having no social support from the family. Fifty-nine (48%) women screened positive for significant depressive symptoms.

Stigma and Various Subtypes

Table 2, **Figure 2** present the reliability and descriptive statistics of the HASI-P scale. The reliability of different sub-scales ranged

TABLE 1 | Social demographic, psychosocial and healthcare characteristics of the respondents.

Variable	Category	Frequency ($N = 123$)	Percent (%)
Marital status	Lives without male partner	39	31.7
	Married	84	68.3
Age	(Mean; Median; SD; Range)	(31.2; 32.0; 5.2; 19–48)	
Occupation	Unemployed	41	33.3
	Employed	82	66.7
Education level	Primary and below	23	18.7
	Secondary	38	30.9
	College and above	62	50.4
Income (USD)	<100 USD	68	55.3
	100 USD and above	55	44.7
Family Social Support	No	69	56.1
	Yes	54	43.9
Experience of Intimate Partner Violence	No	77	62.6
	Yes	30	24.4
	Missing	16	13.0
Partner engaging in Extra marital affairs	No	81	65.9
	Yes	25	20.3
	Missing	17	13.8
Have been treated with STI in the past 1 month	No	111	90.2
	Yes	12	9.8
Persons residing with the participant	Alone	6	4.9
	Others	117	95.1
Clinical outcome on PPD and stigma			
Post-Partum depression	Normal	64	52.0
	Probable major depression	37	30.0
	Probable Minor depression	22	18.0

from 0.780 (fear of contagion) to 0.902 (workplace stigma). Participants' internalized stigma ranged from a score of 0–3. Participants' mean internalized stigma score was 0.75 (SD = 0.40), mean enacted stigma score was 0.18 (SD = 0.03) and, mean total stigma score was 0.27 (SD = 0.39).

Correlation Analyses Results

Table 3 presents the correlation between HIV-related stigma and other outcomes. There were statistically significant positive correlations ($P < 0.05$) between internalized stigma and PPD ($r = 0.43$), internalized stigma and marital status ($r = 0.19$), enacted stigma and PPD ($r = 0.37$), enacted stigma and treated for STI ($r = 0.24$), and total stigma and PPD ($r = 0.50$). Negative correlations with internalized stigma were found for age ($r = -0.28$), social support ($r = -0.26$), and family income ($r = -0.22$). Negative correlations were also found with enacted stigma on education ($r = -0.34$), and income ($r = -0.20$), and with total stigma on education ($r = -0.31$), income ($r = -0.31$), and social support ($r = -0.27$).

Multivariate Analyses Using Generalized Linear Model (GLM)

Table 4 presents the independent predictors of stigma after controlling for other factors.

Internalized Stigma

Participants who were older ($\beta = -0.04$, $p = 0.002$, *95% CI:* –0.06 to –0.01) and received social support from family members ($\beta = 0.31$, $p = 0.014$, *95% CI: −0.55 to −0.06*) experienced significantly lower levels of internalized stigma, as compared to those who were young (older age was associated with less stigma; each year increase in age was associated with 4% lower odds of internalized stigma) and those who lacked social support.

Participants who had postpartum depression ($\beta = 0.64$, $p < 0.001$, *95% CI*:0.38–0.89) and those who are married ($\beta = 0.27$, $p = 0.041$, *95% CI*:0.01–0.54) had significantly higher levels of internalized stigma as compared to those who did not have postpartum depression and those who are single, divorced, separated, or widowed.

Enacted Stigma

Participants who had PPD ($\beta = 0.14$, $p = 0.018$, *95% CI*:0.02–0.26) and those who have been treated for STIs ($\beta = 0.41$, $P < 0.001$, *95% CI*:0.22–0.60) had significantly higher levels of enacted stigma, as compared to those who did not have PPD and those who had never been treated for STI.

Participants who earned 100 USD and above per month ($\beta = -0.14$, $p = 0.017$, *95% CI:* –0.26 to –0.03) experienced significantly lower levels of enacted stigma, as compared to those who had an earned income of <100 USD per month. Participants who had a college education and above had significantly lower levels of enacted stigma ($\beta = -0.18$, $p = 0.029$, *95% CI:* –0.35 to –0.02) as compared to those with a primary school education or below.

Overall Stigma

Participants who had PPD ($\beta = 0.22$, $P < 0.01$, *95% CI*:0.10–0.34) and have been treated for STIs ($\beta = 0.37$, $P < 0.001$, *95% CI*:0.18–0.56) had significantly higher levels of total stigma, as compared to those who did not have PPD and those who had never been treated for STIs. Participants who earned 100 USD and above per month ($\beta = -0.16$, $p = 0.008$, *95% CI:* –0.28 to –0.04) experienced significantly lower levels of total stigma, as compared to those who had an earned income of <100 USD per month.

Experiences and Perceptions of Post-partum Women Living With HIV

We offer some observations from the interviews we conducted at the end of the survey.

Barriers to Improved Psychological Well-Being While Living With HIV

Lack of social support, verbal abuse, and poverty seems to lower their ability to cope with their HIV status as shown by participants who had scored >20 on EPDS. Some male partners who verbally abuse their female partners could further aggravate HIV-related stigma. One of the respondents, Beatrice

TABLE 2 | Reliability scores and descriptives of the stigma subscales.

Scale	No. of Items	Reliability (Cronbach's α)	Mean(SD)	95% C.I	Median	Range	IQR
Verbal abuse	8	0.856	0.23 (0.46)	0.15–0.31	0.00	0.00–2.63	0.13
Negative self–perception	5	0.857	0.75 (0.40)	0.60–0.89	0.89	0.00–3.00	1.40
Health care neglect	7	0.893	0.11 (0.37)	0.05–0.18	0.00	0.00–2.00	0.00
Social isolation	5	0.862	0.25 (0.55)	0.15–0.34	0.00	0.00–2.40	0.00
Work place stigma	6	0.902	0.16 (0.47)	0.07–0.24	0.00	0.00–2.83	0.00
Fear of contagion	2	0.78	0.13 (0.47)	0.05–0.21	0.00	0.00–2.50	0.00
Enacted stigma[†]	n/a	n/a	0.18 (0.03)	0.11–0.25	0.12	0.00–2.00	0.18
Overall stigma[‡]			0.27 (0.39)	0.20–0.34	0.12	0.00–2.00	0.33

[†] Mean of five scales excluding negative self-perception constitute the enacted stigma. [‡] Mean of all the subscales constitute the overall stigma; IQR-Interquartile Range.
The enacted stigma signifies a combination of the four subscales (Verbal abuse, health care neglect, social isolation, work place stigma and fear of contagion). The overall stigma signifies a represents both Enacted and felt stigma.

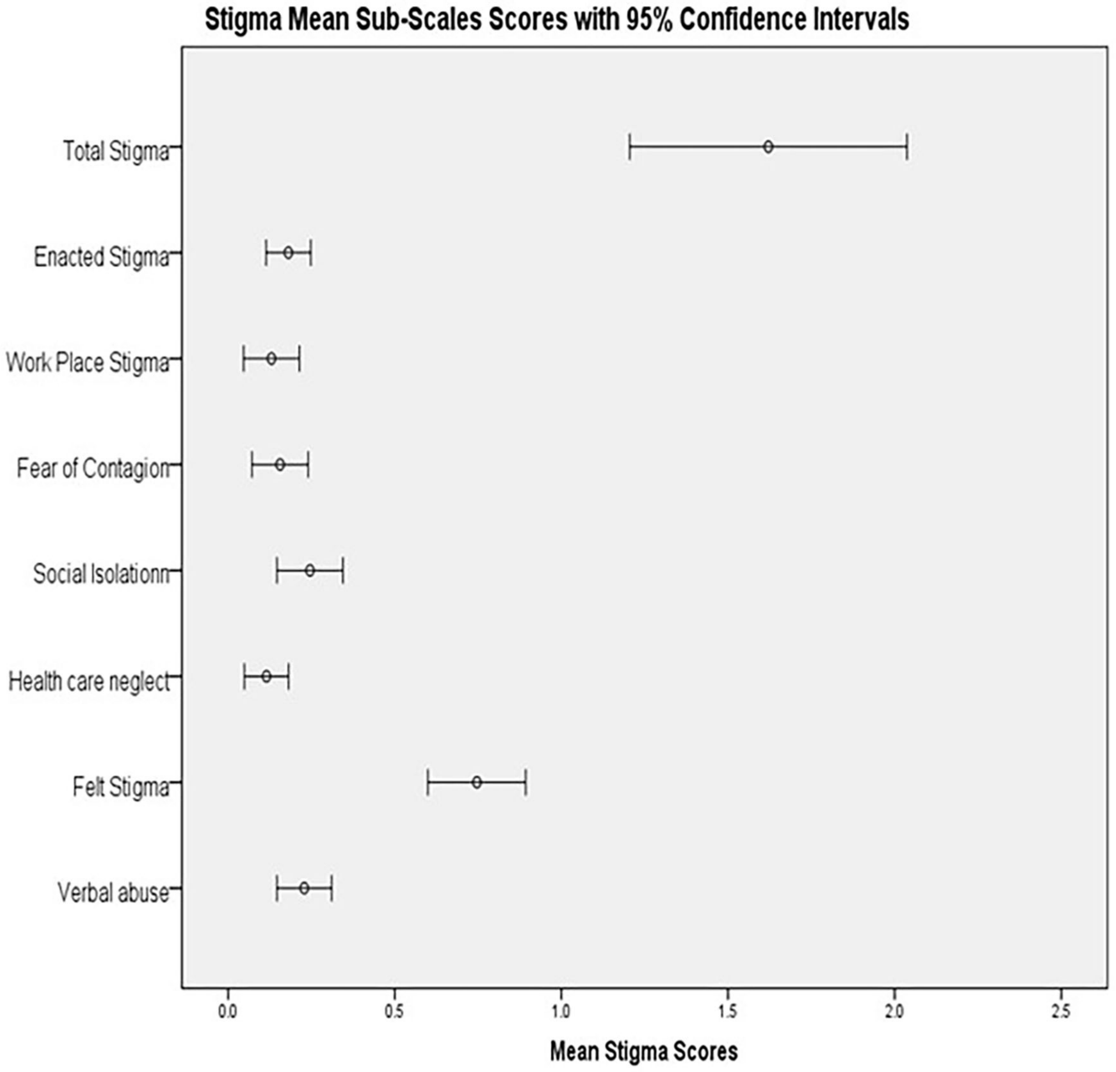

FIGURE 2 | Mean subscales HIV-related stigma scores with 95% CI.

TABLE 3 | Correlations between HIV stigma and socio-demographic and other characteristics of the participant's ($N = 123$).

Spearman's correlation	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Internalized stigma	1													
Enacted stigma	0.35**	1												
Overall stigma	0.83**	0.75**	1											
Postpartum depression	**0.43****	**0.37****	**0.50****	1										
Age in years‡	**−0.28****	−0.08	−0.16	0.01	1									
Marital status	**0.19***	−0.13	−0.01	0.06	0.05	1								
Occupation	−0.05	−0.04	−0.06	0.02	0.15	−0.04	1							
Education level	−0.16	**−0.34****	**−0.31****	−0.32**	0.10	0.07	0.18*	1						
Income per month	**−0.22***	**−0.20***	**−0.31****	−0.11	0.23*	0.02	0.39**	0.29**	1					
Social Support by Family	**−0.26****	−0.16	**−0.27****	−0.23*	0.04	0.04	−0.03	0.13	0.00	1				
Spouse Abuse	0.08	0.09	0.09	0.03	−0.05	−0.01	0.06	0.11	−0.04	−0.22*	1			
Engaging in Extramarital affairs	−0.08	−0.04	−0.08	0.14	−0.10	0.05	0.04	−0.02	−0.03	−0.11	0.34**	1		
Treated with STI	0.13	**0.24****	0.15	0.07	−0.17	0.05	0.06	−0.02	−0.02	−0.07	0.13	0.18	1	
Persons Living With	0.04	0.06	0.04	−0.01	−0.05	0.09	0.08	−0.03	−0.02	0.05	−0.10	0.11	−0.05	1

***Correlation is significant at the 0.01 level (2–tailed): ‡Pearson's correlation.*

**Correlation is significant at the 0.05 level (2-tailed). The bold values depicts the significant correlations between the variables.*

TABLE 4 | Multivariate generalized linear models of factors associated with HIV stigma ($N = 123$).

Variable	Category	Internalized stigma *Model 1*			Enacted stigma *Model 2*			Overall stigma *Model 3*		
		β (S.e)	95% C.I	Sig.	β (S.e)	95% C.I	Sig.	β (S.e)	95% C.I	Sig.
Postpartum depression	Yes	0.64 (0.13)	0.38–0.89	**<0.001**	0.14 (0.06)	0.02–0.26	**0.018**	0.22 (0.06)	0.10–0.34	**<0.001**
	No	Ref.			Ref.			Ref.		
Age in years	Years	−0.04 (0.01)	−0.06 to −0.01	**0.002**	0.00 (0.01)	−0.01 to 0.01	0.522	0.00 (0.01)	−0.01 to 0.01	0.662
Marital status	Married	0.27 (0.13)	0.01–0.54	**0.041**	−0.12 (0.06)	−0.24 to 0.00	0.060	−0.06 (0.06)	−0.18 to 0.06	0.345
	Single	Ref.			Ref.			Ref.		
Education level	College and above	0.15 (0.18)	−0.20 to 0.50	0.400	−0.18 (0.08)	−0.35 to −0.02	0.029	−0.13 (0.08)	−0.30 to 0.03	0.112
	Secondary	0.16 (0.19)	−0.20 to 0.53	0.387	−0.08 (0.09)	−0.25 to 0.10	0.393	−0.04 (0.09)	−0.21 to 0.13	0.652
	Primary and below	Ref.			Ref.			Ref.		
Income per month	10, 000 and above	−0.25 (0.13)	−0.50 to 0.00	0.049	−0.14 (0.06)	−0.26 to −0.03	**0.017**	−0.16 (0.06)	−0.28 to −0.04	**0.008**
	<10,000	Ref.			Ref.			Ref.		
Social Support	Yes	−0.31 (0.12)	−0.55 to −0.06	**0.014**	−0.05 (0.06)	−0.16 to 0.07	0.411	−0.09 (0.06)	−0.20 to 0.03	0.136
	No	Ref.			Ref.			Ref.		
Treated with STI	Yes	0.15 (0.20)	−0.25 to 0.55	0.449	0.41 (0.10)	0.22–0.60	**<0.001**	0.37 (0.10)	0.18–0.56	**<0.001**
	No	Ref.			Ref.			Ref.		

The bold values depicts factors that were significantly associated with the outcome variables at significant level of $p < 0.005$.

(a pseudonym) who was diagnosed with significant depressive symptoms explained how this could worsen the situation.:

> *"I got pregnant while in form 3 when I was of age 18 years and I have always regretted that day. My husband continues to beat me and telling me to go away with allegations of having infected him with HIV which pains me a lot since I know I had no other friend since I got married to him. My neighbor in a rented house told me 'why are you coughing too much, you could go to be tested or you have HIV already?' This made me feel like dying since I thought they had been discussing me with other women in the neighborhood."*

Diana (a pseudonym) who has significant depressive symptoms could actually demonstrate how her poor family background made her more vulnerable to PPD and HIV-related stigma:

> *"I dropped out of form two (2) in the year 1998 due to lack of school fees and stayed at home. In the year 2007 I got pregnant to a man and we got married and since then he has taken me through hell. At the moment, I only believe prayers could help. If God can touch my husband to avoid verbal abuse and assist in financial support, life could be better. Also, I wish God could provide me with some work to do for a living even if washing clothes for pay."*

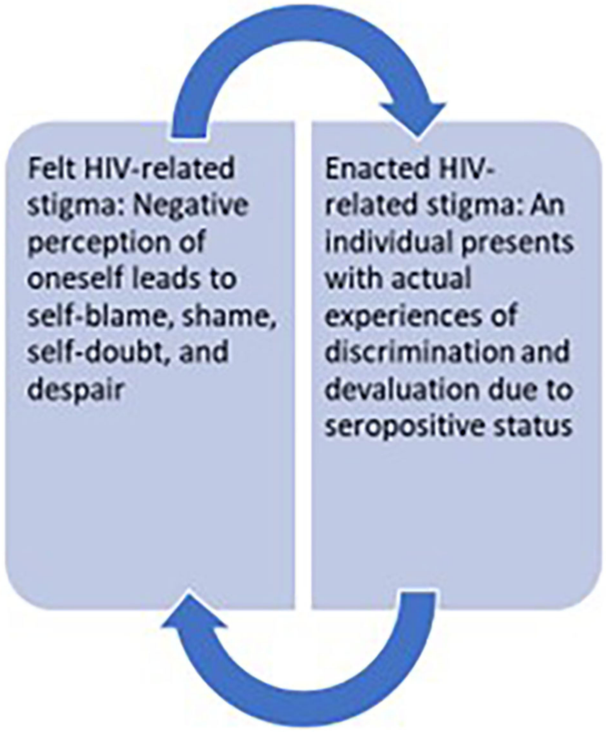

FIGURE 3 | Perpetuation of HIV-related stigma and psychological distress.

Lack of social support from the male partner was also noted to affect their quality of life. Rachel (not her real name), who has significant depressive symptoms shared the following:

> *"I lack sleep mostly when I am angry with my husband. I cry because of life challenges without good social support. I have thought of separating from him but where will I go... I don't have parents... I think those with parents are lucky since most of them will never get tired of listening and helping them. All my remaining brothers are alcoholic and never got married hence I get no support from them."*

Facilitators to Improved Psychological Well-Being While Living With HIV

Those participants with EPDS<13 narrated how they are coping fairly well with their daily living in the society. Jacquie (a pseudonym), who did not have significant depressive in her testimony affirms the success of the PMTCT program at KNH:

> *"I am a mother of two children and through PMTCT efforts, my last born of the year 2012 has tested negative for HIV. I think of my kids and I get the will power to live and care for them further. I have shared my status with one of my brothers, my mother and also my husband are aware. My friends who are infected should find someone talk to. Like for me I share with my mum and crying and expressing oneself also helps."*

Ester (a pseudonym) who did not have significant depressive symptoms in the EPDS pointed out an important realization about the value of education and its connection with livelihood:

> *"My advice to others is that if they can afford to go back to school, they should pursue education. Currently I am working as a cleaner at a local secondary school which is very unreliable job. I have worked there since the year 2009 and still struggling to survive."*

In our study, Pamela (not her real name), who did not have significant depressive symptoms appeared to have a great insight into the value of social support and had this to say:

> *"Those with this disease (HIV) should make themselves busy with their daily work, avoid anger, accept one's status, take medication, share concerns with their husbands or close friends they trust. Also, one should create time to visit the affected and vulnerable children since it makes one feel good for helping others."*

DISCUSSION

Socio-Demographic and Other Characteristics of Respondents

In our findings, 68.3% of the women living with HIV were married and this figure is lower than some other studies from Kenya which reported 96% (33), and with a 79.7% (34) marriage rate amongst their participants. The lower rate of those who are married in our study population could be due to the fact that they had better education and therefore were made up of more independent urban women. It has been found that higher educational levels are associated with a single or divorced status in urban settings with changes in cultural values among Kenyan women (35). In addition, 50.4% of our participants had educational levels above secondary school level education which was higher than the study carried out in the Kibera slum (25.4%) where educational levels were significantly lower. In Kenya, PPD for women within the general population has been reported to be 18.7% (36) and a systematic review in Ethiopia found PPD to be at 22.89% (37) with another one in the same country reporting a prevalence of 23.7% (38). The higher PPD for this study population could be due to the greater challenges faced by people living with HIV in general as well as depression along with treatment fatigue being known side-effects of ART.

Internalized Stigma: Contributor to the Depression Pathogenesis

Our study highlights that postpartum depression is significantly associated with internalized stigma. Internalized stigma impacts people's daily lives, it affects the way in which they cope with their HIV-positive status and how they behave socially (39). Being of older age, having an income above 100 USD per month, and good family social support were found to be positively associated and may potentially be protective factors safeguarding individuals from internalized stigma. However, most of our study participants had an income below 100 USD per month which increased the odds of additional life adversities including health care burden, as supported by findings of a previous study where up to 48% of low-income mothers reported elevated postpartum depression symptoms (40).

People living with HIV perceive the negative stereotypes to be legitimate and suffer negative cognitive, emotional, and behavioral consequences such as ambivalence about identity, low-self-esteem, and low self-efficacy (20, 41). Lack of family and social support was seen as a trigger for negative self-perceived stigma. Recent studies have shown that PLWH, who report experiences of HIV-related stigma also report lower levels of perceived social support (22). Social support refers to the provision of psychological and material resources by people within one's social network (42). At the individual level, interventions should be focused on enhancing social support by activating or strengthening existing ties (43). Our study's findings concur with a South African study where HIV internalized negative attitudes perceived to be associated with HIV and resulted in feelings of low self-worth which became strong predictors of PPD among women living with HIV (18). Negative self-perception is an internalized stigma that perpetuates and feeds into depression (with key cognitions being feelings of shame, self-denial, guilt, secrecy, no disclosure, and despair) and needs to be addressed through support groups and individual psychotherapy work.

Enacted Stigma and Its Association With Depression

Postpartum depression was also found to be closely associated with enacted stigma which is consistent with previous studies where a high level of HIV-related stigma has been strongly associated with a high level of depression and a low level of self-efficacy (8). Similar findings from a systematic review including those of a study from Uganda, demonstrated a strong association between HIV-related stigma and PPD among PLWH even in the general population (44). Our findings are consistent with other previous studies that showed thar HIV-related stigma can manifest in social isolation (45, 46). Enacted stigma presents in the form of blaming, judging, insulting, and name calling which also featured in our in-depth-interviews with some of the participants (47).

Association of Overall Stigma With PPD

Overall, postpartum depression was considerably associated with internalized stigma, enacted stigma, and total stigma scores. As in this study, PLWH, who report experiences of HIV-related stigma also report low levels of perceived social support (22). Overall, we found that our participants with more severe depressive symptoms had high levels of stigma ($\beta = -2.65$, $p = 0.001$, *CI:* -3.93 to -1.37). We did find a significant relationship between stigma and depressive symptoms similar to a study conducted in Kenya (17) (see **Figure 2**). HIV-related stigma has been well-documented to negatively impact quality of life and overall health outcomes among persons living with HIV (15). Our findings also concur with a study from Canada where a higher level of HIV-related stigma was strongly associated with a higher level of depression, accompanied with poor self-efficacy (8).

Perpetuation of Psychological Distress Emanating From Both Types of Stigma

Internalized and enacted stigma association clearly demonstrates that persons living with HIV experience numerous mental and psychological sequela of stigma, including stress, fear, anxiety, decreased self-esteem, and depression (7, 9). HIV remains a complex concept associated with blame, shame, disgrace, and social unacceptability (48).

In our study, social isolation was the most common form of enacted stigma (See **Figure 2**). However, in our study we internalized that more than the enacted stigma, certain social determinants of health such as poverty, intimate partner violence, and spousal extramarital relationships added more vulnerability in the lives of our participants as found during the in-depth interviews. HIV-related stigma may instill shame in people living with HIV with psychological torture arising from persistent negative feelings toward oneself (49) (also see **Figure 3**). Generally, pregnant women living with HIV experience a lot HIV-related stigma and discrimination which predisposes them to depressing and suicidal thoughts, most of the time within the society (13). In our study, in-depth interviews revealed lower perceived social support from their spouses which has been reported as one of the things that poses challenges to people living with HIV (50).

Prioritizing Stigma Reduction and Mental Health in Future HIV Prevention and Care

Previous studies concur with findings reported in this study which show that HIV-related stigma is a strong predictor of PPD among HIV-positive women (18). Negative self-perceived stigma has been predominant in other studies such as the one carried out in the rural Nyanza province of Kenya (16). High prevalence of negative self-perceived stigma was also reported in a Ugandan study where participants described themselves as "useless" and "same as dead" (14). Social support is a critical effect modifier in addressing HIV-related stigma as reported in one of the developed countries (51). Meaningful interventions should target spousal or familial support as being critical to enabling persons living with HIV to overcome enactments of HIV-related stigma and other obstacles to care, and to successfully adhere to treatment (52, 53). We recommend an integrated care approach, where mental health services could be embedded within the PMTCT clinic to screen and diagnose early features of mental illness, to mitigate various psychosocial risks, and to offer curative and preventative health care.

LIMITATIONS

Our study was not without its limitations. Our data did not capture information relating to the family structure and living conditions of the participants. Possible sources of enacted stigma may therefore not be clearly defined to a specific variable which might have been valuable in further interpreting our findings. We used EPDS, which is a screening tool and not a formal clinical assessment, in the service of time and ease of assessment. We began this research as a primary focus on PPD and HIV-related stigma as a secondary risk factor, therefore, our focus may have been regimented and not open enough to understand other factors that may impact HIV-related stigma more directly. Items used to measure both constructs of both internalized stigma and depression had closely related symptoms. The study was somewhat underpowered, and this might have caused some variability in results. Future research should explore issues with male partner involvement in the PMTCT program and assessment of community perception toward persons living with HIV, which we were not able to ascertain in this study. We carried out a limited qualitative exploration and future studies might want to use more intensive mixed-methods to understand participant stigma and depression experiences.

CONCLUSION

From our findings, HIV-related stigma burden and postpartum depression in women attending PMTCT needs urgent redress and health services' attention. Future interventions should be aimed at empowering persons living with HIV with life skills and depression care that will improve their quality of life and the well-being of their baby.

We also recommend interventions involving spousal and family support. PMTCT is the key to safe motherhood and child health outcomes in this subgroup of women and in this care cascade; measures have to be developed to enhance mental health including mitigating PPD.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethical approval was obtained from the Kenyatta National Hospital/University of Nairobi Ethical and Research Committee (KNH/UoN-ERC) Ref. no. P171/03/2014. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

The work was carried out by OY as part of the Masters' degree in clinical psychology at the department of Psychiatry University of Nairobi. OY collected data and wrote the findings. MK was the primary mentor and helped in conceptualizing, writing, and conducting statistical analysis. MM was the second supervisor who assisted during planning of the research concept and reviewed the results. TA analyzed and interpreted the results. All authors read and approved the manuscript.

FUNDING

This work was supported by a grant from the National Institute of Mental Health (National Institutes of Health) under award number U19MH98718 for the Partnerships for Mental Health Development in Sub-Saharan Africa (PaM-D) project.

ACKNOWLEDGMENTS

We would also like to thank our study participants, numerous PMTCT nurses, and personnel who supported data collection. We would also like to thank Professor Francis Creed for his comments on the paper during the Partnerships for Mental Health Development in Sub-Saharan Africa (PAM-D), MDB006-MD104-0044-11-2016 workshop on manuscript where Obadia participated. Acknowledgments are due to TA for assistance with statistical analysis, Dr. Rose Bosire for her comments on the manuscript and Sahiba Turgesen for proofreading.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychiatry

ORIGINAL RESEARCH
published: 26 February 2021
doi: 10.3389/fpsyt.2021.596293

A Randomized Controlled Trial Evaluating the Effectiveness of a Short Video-Based Educational Program for Improving Mental Health Literacy Among Schoolteachers

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Specialty section:
This article was submitted to Public Mental Health, a section of the journal Frontiers in Psychiatry

Received: *19 August 2020*
Accepted: *08 February 2021*
Published: *26 February 2021*

Citation:
Ueda J, Yamaguchi S, Matsuda Y, Okazaki K, Morimoto T, Matsukuma S, Sasaki T and Kishimoto T (2021) A Randomized Controlled Trial Evaluating the Effectiveness of a Short Video-Based Educational Program for Improving Mental Health Literacy Among Schoolteachers. Front. Psychiatry 12:596293. doi: 10.3389/fpsyt.2021.596293

Background: Mental illness-related stigma represents a barrier to seeking and receiving appropriate mental health care. Mental health literacy (MHL) can improve mental health knowledge, decrease stigmatizing attitudes, and enhance help-seeking behavior. Starting from 2022, mental illness-related education is due to be introduced in high schools in Japan. For this current situation, we conducted a parallel group, randomized controlled trial to examine the effectiveness of MHL educational program for teachers.

Methods: The educational program described in this study comprised a 50-min video lesson designed to improve teachers' MHL. All participants were schoolteachers and were assigned either to an educational group or a waitlist control group. The assessment was conducted for both groups twice: first at baseline and then at 1-h post-intervention. The outcome measures for this trial were changes in knowledge, attitudes, and intended behaviors.

Results: The educational group showed a greater improvement in knowledge regarding mental health than did the control group. The program was not effective for decreasing stigma toward mental illness. However, the educational group showed an increased intention to assist students with depression.

Limitations: No long-term follow-up was implemented, which means the persistence of the educational program's effect could not be determined. Further, we could not report whether the program induced a change in teachers' behaviors regarding providing support for their students.

Conclusions: The short video-based MHL educational program could improve schoolteachers' MHL and increase their intention to assist students. These findings can help in the development of similar educational programs in countries/regions experiencing similar issues regarding mental health.

Keywords: mental health literacy, stigma, schoolteacher education, mental health, video education, randomized controlled trial

INTRODUCTION

Mental disorders are the most important cause of disability for 20–50-year-olds and account for the increase in total disease burden during early adulthood (1). Many people develop mental illness as teenagers [(2), p. 593−602]; however, a large number of young people with mental disorders tend to not seek help or support [(3), p. 113]. As a result, young people often lack adequate support and treatment, resulting in severe impairment of their social functions [(4), p. 1026–32]. In Japan, the number of young people with mental illness is also increasing (5); the country's Ministry of Health, Labor and Welfare reports that the rate of suicides as a result of mental illnesses such as depression and schizophrenia remain high (6).

Goffman (7) defined stigma regarding mental illness as "a trait that is deeply discrediting that reduces the bearer from a whole to a tainted, discounted one." A more recent definition describes such stigma as negative attitudes and beliefs that motivate individuals to fear, reject, avoid, and discriminate against people with mental illness [(8), p. 765–76]. That is, stigma relates to ignorance, prejudice, and discrimination. Stigma can lead to reduced autonomy and self-efficacy, as well as segregation [(9), p. 907–22; (10), p. 619–25]. Such mental illness-related stigma, along with a lack of associated knowledge, can create a barrier that prevents youths from seeking help and accessing treatment services [(11), p. 11–27]. Therefore, dispelling stigma is very important for their mental health.

Mental health literacy (MHL) is designed to reduce stigma [(12), p. 154–58] via five components: (1) knowledge regarding means of preventing mental disorders, (2) ability to recognize when a disorder is developing, (3) knowledge of help-seeking options and available treatments, (4) knowledge of effective self-help strategies for milder problems, and (5) first-aid skills to support others who are developing mental disorders or who are experiencing a mental-health crisis [(13), p. 231–43]. Providing education regarding mental disorders and associated treatment methods can result in improving knowledge and reducing stigma. Indeed, the World Health Organization recommends that mental health promotion activities be implemented in schools (14).

Although MHL programs have already been implemented in schools in other countries [(15), p. 11–27], no such program has yet been included in the school curricula developed by Japan's Ministry of Education, and no information regarding mental health has been included in Japanese school textbooks for over 40 years [(16), p. 941–48]. However, because the number of suicides among young people with mental disorders has not decreased, the Ministry of Health, Labor and Welfare's 2017 suicide-prevention guidelines included "further promoting suicide prevention for children and adolescents" and "provision of education regarding how to cope in difficult situations and when experiencing severe psychological burden (i.e., how to send an SOS)." In addition, the course of study due to be implemented in high schools from 2022 includes the provision in health and physical-education classes of active content regarding mental-health education (17).

The aforementioned developments indicate that the need for MHL education in schools will soon increase. However, most teachers do not have sufficient knowledge regarding mental illnesses and have no experience of teaching such a discipline to students [(18), p. 452–73]. In addition, Rinke et al. (19) reported a global lack of experience and training for supporting children's mental health needs. Both a lack of knowledge regarding mental health and the stigma attached to mental illness impair teachers' ability to identify children who are experiencing mental disorders, as well as their ability to educate and relate to those children [(20), p. 61–8]. As a result, it is clearly necessary to provide MHL education to teachers before they begin to provide such education to students.

Research on MHL in Japan has been conducted sporadically. Only one study specifically focused on developing a program for schoolteachers [(21), p. 358–66]; however, this was a before–after comparative study, and was not a randomized controlled trial (RCT). Consequently, as there was no existing standardized educational MHL tool supported by scientific evidence Yamaguchi et al. [(22), p. 14–25] developed MHL education for teachers that featured an original 50-min video (DVD). In Yamaguchi et al. [(22), p. 14–25] pilot study, the authors reported that teachers' knowledge about mental disorders was improved in the single group before-and-after comparison.

Given the paucity of evidence of effective MHL education programs for teachers in Japan, and the encouraging results observed in Yamaguchi et al. [(22), p. 14–25] pilot study, it is necessary to assess the efficacy of such a program on a larger scale.

Therefore, in this study, we conducted an RCT as an extension of the pilot study to research whether schoolteachers' knowledge of and stigma regarding mental illness could be improved through the MHL intervention featuring this DVD program.

MATERIALS AND METHODS

Trial Designs

This study comprised a two-arm, parallel-group, non-blinded RCT. Reporting of the results of this study is in accordance with the CONSORT 2010 Statement [(23), p. 100–7].

Teachers who consented to participate were individually and randomly assigned either to the educational group (which received the intervention) or the control group (which simply waited for the educational group to complete the program), for which a 1:1 ratio was used. Assignments were performed using computer-generated random numbers. Randomization was stratified by gender and age (< 37, ≥ 37 years). The intervention delivery team was not involved in the randomization procedure. It was not possible for participants to be blind to intervention status. However, other staff members who assisted with data collection, and data input and statistical support were blinded to the group assignments.

Participants

This study targeted schoolteachers. Participants were recruited between April 2018 and May 2019. Exclusion criteria included refusing to provide informed consent and withdrawal of consent. All teachers in the targeted schools were approached, irrespective of their gender. All teachers were allowed to participate, regardless of the type of school to which they belonged.

Interventions

The intervention comprised watching a 50-min anime film on DVD. The short video [(24), p. 14–25] was developed by experts in child and adolescent psychiatry and early education, who were members of the Department of Physical and Health Education, Graduate School of Education, University of Tokyo.

The short educational video provided information regarding the epidemiology of mental disorders, the most prevalent psychiatric problems among children and adolescents, general descriptions and examples of the clinical symptoms of mental disorders (depression, panic disorder, schizophrenia, eating disorders, alcohol use, etc.), the importance and necessity of seeking help, means of responding to students' attempts to obtain help, and means of securing cooperation between schools and medical institutions.

Outcomes

The participants completed self-report questionnaires regarding their socio-demographic characteristics. Before and after the program, they completed questionnaires regarding their mental health-related knowledge, as well as the Japanese version of the Reported and Intended Behavior Scale (RIBS-J), which was used to determine their intentions to provide help to students with depressive symptoms.

Questionnaires

The assessment questionnaire comprised five domains (A–E). It was developed by combining self-developed items (domains A, B, and D) and items from existing measures (domains C and E). The five domains of the questionnaire were structured as follows:

(A) General knowledge about mental health/illnesses. The first part of the questionnaire comprised 19 questions regarding general knowledge about mental health/illnesses (**Table 1**). The possible answers to these questions were: "True," "False," or "I don't know." Correct answers were scored 1 (otherwise scored 0) and the scores were summed. The total score for this domain (0–19 points) represented the participants' knowledge regarding mental health/illnesses, which was the primary outcome of this study.

(B) Measurement of the participants' ability to recognize specific mental disorders (depression, panic disorder, and schizophrenia). In this domain, the teachers were given three case vignettes describing three adolescent students with symptoms of depression, schizophrenia, and panic disorder. Having read each vignette, teachers were asked to give the name of the illness each student was experiencing. The answer was selected from 6 choices: "no illness," "depression," schizophrenia," "panic disorder," "social phobia," and "I don't know" (**Table 2**).

(C) Attitudes toward students with depressive symptoms. Items 1–3 from the Depression Stigma Scale [DSS; [(25), p. 342–49]] with the construct "weak-not-sick" (item 1: "People with depression could snap out of it if they wanted;" item 2: "Depression is a sign of personal weakness;" and item 3: "Depression is not a real medical illness") was used. One of the DSS items "It is best to avoid people with depression so you don't become depressed yourself" was excluded; the item may be inappropriate for school teachers. The items were scored using a five-point Likert scale ranging from 1 ("strongly agree") to 5 ("strongly disagree"). The total scores could range from 3 to 15, with lower scores indicating greater stigma.

(D) Measurement of the participants' intentions to help students with depressive symptoms. In this domain, the teachers were asked, "When you encounter students like student A, you will consult with..." and were presented with a list of 10 possible people to consult (targets to consult). The 10 targets to consult could be classified as "in the school" or "outside the school." Answers were provided using a six-point Likert scale ranging from 1 ("strongly disagree") to 6 ("strongly agree") (**Table 3**).

(E) Behavior regarding mental health-related stigma (the RIBS-J). The RIBS [(26), p. 263–71] measures behaviors relating to stigma regarding mental health. It can be administered to participants from the general public in conjunction with attitude- and behavior-related measures. The RIBS-J, developed by Yamaguchi et al. (27), has good internal consistency, and reasonable test-retest reliability and construct validity, similar to the original version. Thus, it can be considered an appropriate and psychometrically robust scale for assessing behavior regarding mental health-related stigma. The RIBS-J comprises two subscales, both of which contain four items. The first subscale (the "past domain"), which assesses "reported behavior," includes four statements relating to past or present

TABLE 1 | General knowledge about mental health/illnesses.

1. The incidence of most mental illnesses sharply increases in adolescence.
2. About one in every 20 people will experience a mental illness.
3. Staying up late and lack of sleep influence the development of and worsen mental health/illnesses.
4. Duration of treatment for depression and schizophrenia is about half a year on average.
5. People with mental illnesses may only have somatic symptoms, including headaches, abdominal pain, and nausea.
6. When depressed mood, if decreased motivation and diminished interest continue over time, it may be major depression.
7. In depression, both lack of sleep or insomnia, and oversleeping are possible.
8. People with mental illnesses may have difficulty riding vehicles (i.e., taking public transportation), leading to difficulties in attending school.
9. Auditory hallucinations and delusions of being persecuted can be treated by talking.
10. More than 10% of people will experience depression.
11. Approximately 1% of people will experience schizophrenia.
12. Asking about suicidal ideation should be avoided, because it can lead to suicide attempts.
13. Students should return to school after treatment for their mental illness has been completed.
14. When you cannot sleep, drinking alcohol can help you sleep better.
15. Drinking alcohol worsens anxiety and depression.
16. People with bipolar disorder are mostly identified when they are depressed.
17. Due to a mental illness, people may be unable to talk to others due to worry/nervousness.
18. In high school students, 7-h of sleep is best to decrease the risk of depression.
19. When you view bright lights late at night, you will have difficulty falling asleep.

TABLE 2 | Vignettes for depression, schizophrenia, and panic disorder.

Q1	Student A goes to the health care room in the school, reporting having a headache and stomachache, and feeling tired. Student A has trouble sleeping, doesn't feel like eating, doesn't have fun watching his/her favorite TV program, and can't keep his/her mind on his/her studies. Student A is often late for school these days.
Q2	Student B appears to have trouble concentrating in class, compared to before. Student B covers his/her ears during break time. When asked, Student B says, "I feel that someone is always spying on me. People in class are always saying bad things about me/talking about me behind my back. When strangers pass by, I feel like they are also saying bad things about me. I feel nervous and concerned about noises and voices in the surroundings."
Q3	In the bus on the way to school, Student C sometimes suddenly feels his/her heart pounding and has difficulty in breathing. When this happens, cold sweats and trembling do not stop, and Student C feels scared that he/she will suddenly die. Due to fear of this happening again, Student C became unable to take the bus.

TABLE 3 | Intentions to help student with depressive symptoms.

When you encounter to students like student A, you will consult with...
1. Family of the student
2. Your boss
3. Health care teacher
4. Colleague teacher
5. School counselor
6. Social worker
7. School doctor
8. Experts out of school
9. The student himself
10. Friends of the student

contact with people with mental health problems. In this domain, "yes" answers are awarded a score of one, and "no" or "don't know" answers are scored zero. The second subscale (the "future domain") comprises four questions, which assesses the attitude toward people with mental health problems in the future. In this domain, scores are provided using a five-point Likert scale ranging from 1 ("strongly agree") to 5 ("strongly disagree"). The total score for each participant is calculated by adding the response values; "don't know" is coded 3, indicating neutrality.

In the present study, Cronbach's alpha values for each domain were 0.77, 0.73, 0.82, 0.81, and 0.78 for A, B, C, D, and E, respectively.

Statistical Analysis

Baseline significance tests comparing the groups of participants were conducted, with independent *t*-tests performed for age, years of work as teachers, and RIBS past domain, and chi-square tests for sex, experiences of attending a seminar about mental health, and experiences of involvement with people with mental illness.

Mixed-effects models, i.e., linear mixed models (LMM) and logistic regression mixed models (LRMM), were used for analyses of continuous and dichotomous outcome variables. Mixed models are appropriate for the analysis of longitudinal data and nested data. They are also robust against missing data in outcome variables, provided that the variables are missing at random [(28), p. 440–59]. In the present study, all participants who completed the questionnaire at pre-test were included in the analyses.

LMM were used for continuous variables (the total score for the domain A, C, D, and E). Equations for the LMM were as follows:

Level 1:

$$Y_{ti} = \beta_{0i} + \beta_{1i}\left(post - test\right) + r_{ti}\# \tag{1}$$

Level 2:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}\left(group\right) + \mu_{0i}\# \tag{2}$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11}\left(group\right)\# \tag{3}$$

The dependent variable (Y_{ti}) was the total score of the domains A, C, D, and E (the future domain). The measurement occasions (time) were nested within teachers. Thus, the effects of time and group were estimated at Level 1 and Level 2, respectively. The subscripts t and i refer to time and individual, respectively. At Level 1 [equation (1)], the intercept and the effects of post-test were represented by β (unstandardized regression coefficients). The residuals are represented by r_{ti}. At Level 2 [equation (2) – (3)], the model included the effects of group [γ_{01} for the intercept (2)]. The interaction between post-test and group was represented by γ_{11}. The interaction shows the effects of the video program in the education group compared to the control group. The significance of the coefficient of interaction determined the effect of the intervention. Residuals for the Level 2 equations are indicated by μ_{0i}. Effect sizes (d) were calculated from the mean difference between pre-test and post-test divided by pooled standard deviation (SD_{pooled}) from the intervention and control groups at pre-test [(29), p. 43–53].

LRMMs were used for the outcomes of domain B where the answers to the questions were dichotomous: correct (= 1) or not (= 0). For the LRMMs, the equation at Level 1 was as follows, where p_{ti} is the probability of the dependent variable = 1.

$$\log\left(\frac{p_{ti}}{1-p_{ti}}\right) = \beta_{0i} + \beta_{1i}\left(post - test\right) + r_{ti}\# \tag{4}$$

Level 2 equations were the same as those in the LMM. The LMM and LRMM equatins were generated by S.Y., who was blinded to the allocation of the intervention, while actual analyses were conducted by J.U. The level of significance was set at alpha = 0.05 in all analyses. In addition, a Monte-Carlo-based *post-hoc* power analysis was conducted. Statistical analyses were conducted using R version 3.5.1 with the lmerTest package, lme4 package, and simr package.

Ethical Aspects and Trial Registration

The project protocol was approved by the human ethics committee of Nara Medical University. This trial was registered in the University Hospital Medical Information Network clinical

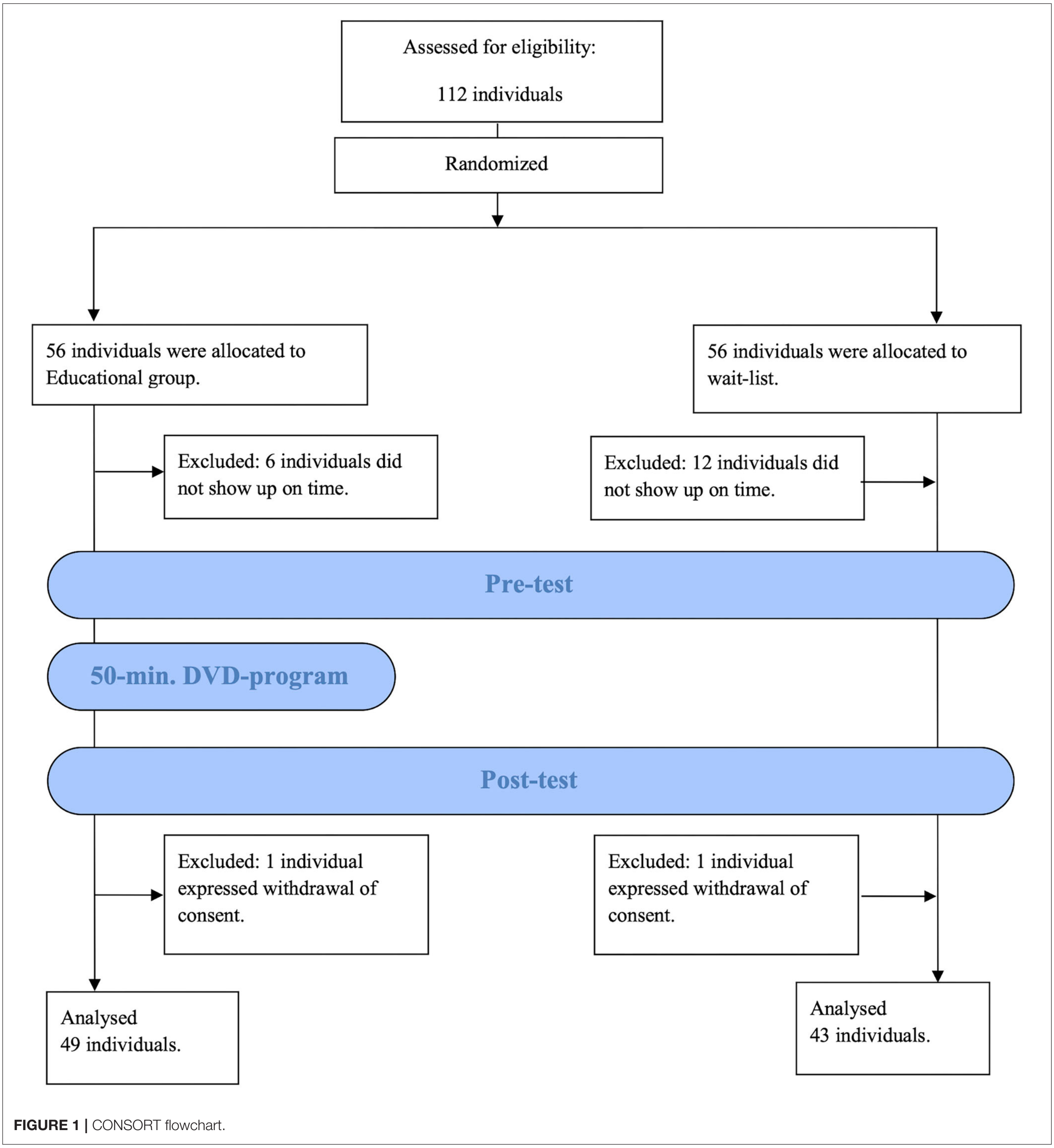

FIGURE 1 | CONSORT flowchart.

trials registry (UMIN-CTR; ID = UMIN 000032311; date of registration: April 19, 2018).

RESULTS

We visited and held workshops in a total of four schools. For two schools, we held each educational session in the form of meeting together; for the other two schools, we created a timetable for each so that the teachers' free time could be used and conducted each educational session accordingly. **Figure 1** shows the flow of participants at each stage of the trial. We explained the research in advance, obtained consent from a total of 112 schoolteachers, and allocated them to two groups at a ratio of 1:1. Eighteen individuals did not attend as a result of changes to the timetables.

TABLE 4 | Demographic characteristics at baseline.

		Educational group (*n* = 49) Mean (SD)	**Control group (*n* = 43) Mean (SD)**	***t* or χ^2**	***p***
Age		41.6 (13.5)	40.8 (12.5)	$t(90) = 0.29$	0.77
Gender	Male	28	26	$\chi^2 = 0.10$	0.83
	Female	21	17	df = 1	
Years of work as teacher		16.5 (12.2)	15.9 (12.4)	$t(90) = 0.21$	0.84
Have you ever attended a seminar about mental health?	Yes	23	23	$\chi^2 = 0.39$	0.68
	No	26	20	df = 1	
Have you been involved with people with a mental illness?	Yes	30	29	$\chi^2 = 0.61$	0.51
	No	19	13	df = 1	
RIBS-J past domain a),b)		1.1 (1.1)	1.0 (1.1)	$t(75) = 0.47$	0.64

a) RIBS-J: Japanese version of the Reported and Intended Behavior Scale; b) n (educational group) =39, n (control group) =37.

TABLE 5 | *Post-hoc* power analysis using a Monte-Carlo simulation approach.

		***n* = 20**	***n* = 40**	***n* = 60**	***n* = 80**	***n* = 100**
Domain A		0.99	1.00	1.00	1.00	1.00
Domain B	Q1	0.12	0.25	0.74	0.90	0.97
	Q2	0.07	0.07	0.21	0.37	0.52
	Q3	0.06	0.44	0.75	0.90	0.95
Domain C		0.13	0.18	0.24	0.31	0.35
Domain D		0.77	0.98	1.00	1.00	1.00
Domain E		0.00	0.00	0.00	0.00	0.00

Of those who attended, two individuals declined to participate in the research.

Table 4 presents the teachers' demographic information. The sample comprised 92 participants (49 in the educational group and 43 in the control group). The details of the type of school to which each teacher belonged were as follows: 24, elementary schools; 7, secondary schools; 4, special support schools; 30, middle schools; and 27, high schools. Regarding the demographic characteristics (sex, age, and years of work as a teacher), experience of attending seminars regarding mental health, experience of involvement with people with a mental illness, and mental health-related stigma (measured using the past domain of the RIBS-J), the educational group did not differ from the control group. Sixteen individuals with missing data for the RIBS-J were excluded from the analysis of RIBS-J values.

The results are presented in **Table 6**. The Monte-Carlo simulation suggested statistical power of $\geq$0.90 for the current sample sizes ($\sim$90), except for domain C, case 2 of domain B, and domain E (**Table 5**).

Domain A. General Knowledge About Mental Health/Illnesses

A significant interaction effect between group and time was observed. In terms of knowledge gained after the intervention, the educational group was shown to have improved to a greater degree than the control group (mean difference = 5.65, 95% CI: 4.54–6.75). The effect size was large ($d = 1.60$) [(30); **Table 6**].

Domain B. Ability to Recognize Specific Mental Disorders (Depression, Panic Disorder, and Schizophrenia)

The proportion of participants giving correct answers to each question increased (OR = 111.95, 95% CI: 8.62–3514.08 for Q1; 11.11, 95% CI: 1.28–147.31 for Q2; 47.88, 95% CI: 5.30–813.04 for Q3) compared to pre-test in the educational group, significantly more than that in the control group (**Table 6**).

Domain C. Depression Stigma Scale

No differences were detected regarding improvements in the DSS scores (mean difference = 0.77, 95% CI: −0.21–1.75). The effect size was small ($d = 0.30$; **Table 6**).

Domain D. Intention to Help Students With Depressive Symptoms

Regarding intention to help students, the educational group showed greater improvement in the total score compared to the control group (mean difference = 6.67, 95% CI: 4.58–8.75), compared to pre-test in the educational group, significantly more than the control group. The effect size was large ($d = 0.97$; **Table 6**).

Domain E. RIBS-J Future Domain

In terms of decreases in stigma (assessed using the future domain of the RIBS-J), there was no significant difference observed between the educational group and the control group (mean difference = 0.69, 95% CI: −0.26–1.63). The effect size was small ($d = 0.10$; **Table 6**).

DISCUSSION

In this two-arm, parallel-group, non-blinded RCT, we tested the effectiveness of a short video-based MHL program that was designed to educate schoolteachers regarding students' mental health and associated stigma. The group who received this

TABLE 6 | Change in each dependent variable (Domain A, B, C, D, E).

			Domain A	Domain C	Domain D	Domain E	Domain B	Q1	Q2	Q3
Pre	Edu		9.7 (3.42)	12.2 (0.36)	46.8 (7.27)	12.7 (3.16)		51.0	77.6	30.6
	Con	Mean (SD)	10.4 (3.67)	12.8 (0.38)	45.4 (6.47)	13.7 (3.02)	Proportion	44.9	75.5	22.4
Post	Edu		15.6 (2.60)	13.2 (0.36)	53.8 (6.23)	13.5 (3.11)	(%)	89.8	93.9	75.5
	Con		10.6 (3.80)	13.0 (0.38)	45.7 (6.95)	13.2 (3.13)		46.9	73.5	24.5
Fixed Effects:			Regression coefficients (95% confidence intervals)					Odds ratio (95% confidence intervals)		
Intercept		γ_{00}	10.40***	12.77***	45.4***	13.16***	Exp (γ_{00})	1.11	20.85**	0.09**
			(9.39, 11.40)	(12.02, 13.51)	(43.36, 47.38)	(12.15, 14.17)		(0.18, 6.79)	(4.82, 228.24)	(0.01, 0.40)
Group		γ_{01}	−0.68	−0.56	1.44	−0.50	exp (γ_{01})	1.09	0.38	1.92
			(−2.06, 0.70)	(−1.58, 0.46)	(−1.31, 4.19)	(−1.91, 0.91)		(0.10, 13.11)	(0.05, 2.06)	(0.26, 18.10)
Post-test		γ_{10}	0.21	0.21	0.37	0.11	Exp (γ_{10})	1.36	0.75	1.31
			(−0.60, 1.02)	(−0.50, 0.92)	(−1.15, 1.90)	(−0.57, 0.78)		(0.29, 7.05)	(0.15, 3.37)	(0.30, 6.17)
Group × Post-test		γ_{11}	5.65***	0.77	6.67***	0.69	Exp (γ_{11})	111.95**	11.11*	47.88**
interaction			(4.54, 6.75)	(−0.21, 1.75)	(4.58, 8.75)	(−0.26, 1.63)		(8.62, 3514.08)	(1.28, 147.31)	(5.30, 813.04)
Cohen's d			1.60	0.30	0.97	0.10		–	–	–
Random effects:			Residuals							
Time (Level 1)		var(r_{ti})	3.64	2.86	12.97	2.20		–	–	–
Teacher (Level 2)		var(μ_{0i})	7.79	3.40	32.52	7.68		15.71	4.49	9.57

Edu, education group; Con, control group; SD, standard deviation.
$^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

educational program was compared with the control group. The teachers who received this program showed greater knowledge gains than the control group. Referring to a systematic review of MHL programs for schoolteachers (24), many studies have reported positive effects on knowledge, and this research corroborates the findings of such studies.

Meanwhile, although this program was not effective for decreasing stigma toward mental illness as measured using the DSS (items 1–3) and the future domain of the RIBS-J, the educational group showed increased intention to assist students with depression. The improvement of knowledge and decreasing of stigmatizing attitudes are not always achieved at the same time [(24), p. 7–13]. Previous findings [(31), p. 170–76] have shown that educating communities about mental health has a relationship with the provision of appropriate help in the future. Therefore, education about MHL might lead teachers to recognize students with mental health problems and provide appropriate help to students. Schools are expected to be effective platforms for both mental health promotion and the implementation of measures to address students' emotional, behavioral, and psychiatric problems.

A key topic of discussion regarding MHL education is how it should be administered and what educational content it should include [(12), p. 154–58]. There is currently no fixed teaching method for MHL. It remains unclear which methods of educating schoolteachers can be expected to most comprehensively improve MHL. According to a previous review [(32), p. 120–33] regarding interventions for reducing stigma, various types of interventions such as contact interventions, lectures, and videos, have been tested in previous research, but it is still not possible to conclude which method is the best. The method implemented in this study ensures uniformity of intervention regardless of the skill of the practitioner and is useful because teachers could take a short video-based MHL program in a short time whenever and wherever they prefer.

Similarly, no conclusions have been reached regarding the optimal teaching content. Continuous acquisition of the latest knowledge concerning screening for and assessing mental illness might involve enormous time and cost. In addition, since the circumstances of mental illnesses vary depending on the country, culture, and era in question, it may be necessary to design a range of programs to suit each environment [(12), p. 154–58].

In Japan, the revised curriculum guidelines require teachers to provide guidance regarding depression, anxiety, schizophrenia, and eating disorders, and it is significant that the teaching materials used in this study included all of these topics. Therefore, it is necessary to continue providing interventions for teachers and to constantly renew the content used to educate schoolteachers.

STRENGTHS AND LIMITATIONS

This study has strengths. RCT was selected as the study design, and uniform intervention by DVD was performed. Good results were obtained regarding knowledge provision and behavior prediction. However, several limitations of this study need to be considered. First, the teachers were evaluated immediately before and after the education; however, no long-term follow-up was implemented. Thus, the persistence of the effect of the education could not be determined. Second, this study cannot report whether the program induced a change in teachers' behaviors regarding providing support for their students. Third, as with any self-reported measure, there is the possibility for self-reporting bias. Fourth, the Monte-Carlo simulation revealed some items with insufficient statistical power, raising concern that the sample size was small. This indicates the necessity for increased sample size and future verification of the current results. Finally, we did not examine any associated adverse events, such as whether the lessons affected identification of students with problems and the implementation of treatment interventions for such students.

CONCLUSION

This study suggests that a short video-based MHL education can improve schoolteachers' MHL and can increase intention to assist students. This approach affords a wide range of applications and further expansion of the scope in the future. Further research and robust evidence regarding MHL programs' effectiveness in relation to improving mental-health outcomes will be needed to ensure that the best possible education is provided to future generations.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by The human ethics committee of Nara Medical University. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

TK designed the study. JU, YM, TM, and KO wrote the protocol and delivered the intervention. TS developed the MHL education DVD. TS, SM, and SY developed the questionnaire. JU undertook the statistical analysis. All authors contributed to and have approved the final manuscript.

FUNDING

This research was supported by AMED [Grant No. JP18dk0307069h0002] and JSPS KAKENHI [Grant No. JP20K13978].

ACKNOWLEDGMENTS

We wish to thank Dr. Y. Nishioka and Prof. T. Imamura from the Department of Public Health, Health Management and Policy, Nara Medical University School of Medicine for advice on data analysis.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

frontiers in Psychiatry

ORIGINAL RESEARCH
published: 12 May 2021
doi: 10.3389/fpsyt.2021.582730

Recognition of Depression and Help-Seeking Preference Among University Students in Singapore: An Evaluation of the Impact of Advancing Research to Eliminate Mental Illness Stigma an Education and Contact Intervention

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Background: The SMHS 2016 revealed that young adults in Singapore had the highest 12-month prevalence of mental disorders, with depression being the most prevalent condition. Additionally, the study found that those with higher education were less likely to seek treatment. The recognition of mental illness and knowledge of where to seek help has been found to influence one's ability to seek timely psychological help. This study thus aims to evaluate the effects of ARTEMIS, an education and contact intervention on university students' recognition of depression and help-seeking preference.

Methods: A total of 390 university students were recruited over a period of 6-months (October 2018 to April 2019). Students had to attend a one-off intervention which comprised a lecture on depression and personal contact with a person with lived experience of mental illness. Recognition of depression and help-seeking preference were assessed using a vignette approach, at pre- and post-intervention as well as at 3-month follow-up.

Results: The intervention was effective at improving student's recognition of depression and this effect was sustained at 3-months follow-up. The intervention was also effective in shifting student's help-seeking preference, although the effects were not sustained at 3-month follow-up. Having a close friend or family with mental illness was associated with better recognition, and being able to correctly recognize depression was linked to a preference to seek psychiatric over non-psychiatric help.

Conclusion: This study elucidated the efficacy of a knowledge-contact-based intervention in improving university students' recognition of depression and help-seeking preference. However, while the benefits on recognition of depression is more enduring, it is more transient for help-seeking beliefs, and booster sessions may be needed to

Edited by:
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Specialty section:
This article was submitted to Public Mental Health, a section of the journal Frontiers in Psychiatry

Received: *13 July 2020*
Accepted: *09 April 2021*
Published: *12 May 2021*

Citation:
Tan GTH, Shahwan S, Abdin E, Lau JH, Goh CMJ, Ong WJ, Samari E, Kwok KW, Chong SA and Subramaniam M (2021) Recognition of Depression and Help-Seeking Preference Among University Students in Singapore: An Evaluation of the Impact of Advancing Research to Eliminate Mental Illness Stigma an Education and Contact Intervention. Front. Psychiatry 12:582730. doi: 10.3389/fpsyt.2021.582730

improve the long-term effectiveness of the intervention on help-seeking preference. Lastly, to investigate the generalizability of this study's findings, future studies could replicate the current one across other non-self-selected samples, such as by integrating the intervention as part of student's orientation.

Keywords: mental illness, depression recognition, university students, help-seeking preference, anti-stigma intervention, knowledge-contact-based intervention

INTRODUCTION

Mental health literacy (MHL) is defined by Jorm as "the knowledge and beliefs about mental illness which aids their recognition, management or prevention" (1). Research indicated that individuals with higher MHL are more likely to seek help than those with lower MHL (1–4). An important aspect of MHL is the recognition of mental illness, and corollary to a poor MHL is the failure to recognize and detect signs and symptoms of mental illness which has been found to lead to delayed help-seeking (5).

The knowledge of where to seek appropriate help from is another important component of MHL that influences one's ability to seek timely help from psychiatric professionals. Arguably, recognition of mental illness not only influences one's preference to seek help from mental health professionals (6), but also whether an individual would end up seeking treatment from inappropriate sources for their mental health issues, or delay seeking help from professional mental healthcare providers. In some Ugandan communities for instance, individuals tend to seek help from traditional healers for mental health issues, with conventional hospitals seen only as a last resort, as most of them have the tendency to believe that "they are bewitched" (7) rather than recognizing the symptoms as a sign of mental illness. In Malaysia, a study found that consulting *bomohs* (Malay Shaman or traditional medicine practitioner) was significantly higher in families that believed in supernatural causes of mental illness, with deep-rooted cultural beliefs cited as a major barrier to psychiatric treatment (8). A study among British South Asians had similar findings, where the majority of participants who believed in both supernatural and biological causes for psychosis followed the treatment prescribed by a faith healer and also took prescribed medications (9).

The reluctance to seek help or recommend help-seeking from psychiatric professionals is not uncommon in Singapore. The 2016 Singapore Mental Health Study (SMHS 2016) reported a significant 12-month treatment gap (78%) among individuals with mental disorders (10). Data from the SMHS2016 also elucidated some of the reasons cited by respondents who did not seek help which included "thinking the problem would get better by itself," "being uncertain about where to go or who to see," and "wanting to handle the problem on their own" (10). On a related note, a nationwide MHL study in Singapore found a preference among the lay public to recommend informal sources of help such as friends and family (11) for people with mental illness. However, friends and families may not always be able to recognize signs of mental illness or recommend help-seeking from mental health professionals, and this may possibly lead to a longer treatment delay. Together, such findings imply that poor MHL could contribute to the treatment gap among individuals with mental illness.

A review of the age of onset of mental illness found that most mental illnesses typically emerge during adolescence or early adulthood. However, the afflicted individual usually does not seek treatment until years later (12). This delay in help-seeking for young people can have a deleterious impact on their adult life, as it causes impediments to their emotional well-being and social development (13). Consequently, this might result in substance abuse, lower quality of adult life and even premature death of the individual (14). Consistent with the review by de Girolamo et al. (12), young adulthood has also been identified by Vaingankar et al. (15) to be the likely period for the development of mental illnesses in Singapore, where the median age of onset for common mental disorders is 22, and the majority did not seek treatment within the first year of onset (15). In addition, those with higher education were also less likely to seek treatment for their mental health issues, as evinced by the findings from the SMHS 2016 (10). University students in Singapore are therefore, an important population when considering the reduction of the mental illness treatment gap, and a potentially viable strategy to do so would be to increase the MHL among this particular subpopulation. On top of improving the young person's help-seeking capabilities, such an approach is also likely to enhance their ability to recognize distress among peers and extend appropriate help.

According to Kutcher et al., "MHL interventions need to be contextually developed and developmentally appropriate." Thus, MHL interventions needs to be framed in appropriate lifespan domains and delivered in the context (i.e., educational settings) relevant to the target audience (i.e., students) (16). Therefore, this study aims to assess whether an education and contact-based anti-stigma intervention—which was evinced to be effective at decreasing stigma and improving community attitudes toward depression (17, 18)—would be effective in improving university students' recognition of depression [the most pervasive mental health condition amongst young adults in Singapore (19)] and their help-seeking preference, given that correct recognition and treatment beliefs are important in increasing appropriate help-seeking (6). Further, this study also examines whether the improvements gained from the intervention in terms of recognition and treatment beliefs would be sustained at 3-months post-intervention.

METHODS

Participants and Procedures

Using a convenience sampling strategy, a total of 390 students from a university in Singapore were recruited for the study from October 2018 to April 2019. Data was collected as part of the Advancing Research Toward Eliminating Mental Illness Stigma (ARTEMIS) study, a repeated measures study which evaluated the effectiveness of an anti-stigma intervention.

The intervention began with a lecture, delivered by a female mental health professional who has a Masters in Clinical Psychology, that imparted knowledge on depression such as the prevalence, causes and available treatment options. The lecture also comprised a video by the WHO titled "I had a black dog, his name was depression." The video was narrated by a male voice and can be accessed on youtube, via the hyperlink https://www.youtube.com/watch?v=XiCrniLQGYc. The lecture was followed by a sharing session by a person with lived experience of mental illness on her journey to recovery. The person with lived experience of mental illness was a female in her 20s with a diploma in communications, and was an ambassador of the IMH's Community Health Assessment Team (CHAT). The person with lived experience was chosen because of her relatively young age, which was close to that of the target audience, and because of her experience as a CHAT ambassador which made her an eloquent presenter of such topics. Concluding the intervention was a question-and-answer (QnA) session led by a consultant psychiatrist and a mental health research expert. On average, the intervention spanned 50 min.

Participants of this study had to complete 3 sets of identical questionnaires; prior to commencement of the intervention (baseline), immediately after the intervention (time-point 2), and 3-months from date of intervention (time-point 3). More details of the ARTEMIS study design can be found in previously published articles (18, 20).

Participants were between 18 and 35 years of age and studying at the university at the point of recruitment, as well as literate in English. Written informed consent was obtained from all participants, and parental consent was obtained from those below 21 years of age. This study was approved by the relevant institutional ethics committee, the Domain Specific Review Board of National Healthcare Group in Singapore.

Instruments

Sociodemographic Questionnaire

Sociodemographic information such as age, gender, ethnicity, and year of study were collected from participants using a self-administered questionnaire. In the same questionnaire, participants were also asked to indicate their prior experience in the mental health field if any, and whether they know any close friends or family members with mental illness.

Recognition and Help-Seeking Beliefs

Participants' recognition of depression and help-seeking beliefs were both assessed using a vignette approach similar to that of earlier studies (21, 22). However, for this study, participants were given only the vignette which describes a man with symptoms of depression (see **Appendix A**). The vignette was accompanied by two open-ended questions "What do you think Adam is suffering from?" and "Who do you think Adam should seek help from?" which assessed recognition of depression and help-seeking preference respectively."

Coding

Two coders of the study team (MS and GT) independently coded the open text responses for both questions, and the coding for responses were then juxtaposed to ensure consistency. In the event of disagreement over ambiguous response, the two coders would discuss before coming to a consensus on the coding.

For the coding on recognition, the coders took reference from an earlier study that employed a vignette approach among a sample of local medical students (23). Responses were first coded as either "correct" or "incorrect" recognition. If responses contained at least one of any variants of the term "depressive" or "depression" in their answers, they were coded as "correct," and other responses were coded as "incorrect." For the "incorrect" responses, they were further classified into different categories. Responses that pertained to symptoms of depression such as insomnia were classified under "Disorder-specific Symptoms." For responses that mentioned other mental illnesses such as anxiety, PTSD, adjustment disorder or if they simply mentioned mental illness, they were classified under "Mislabeled." "Not an Illness" comprised of responses that alluded to Adam not having a mental illness, such as "passing away of a loved one," "disappointment," "work pressure" or "overstressed," "social withdrawal," "family issues," and "not enough confidence in self." Lastly, unsure responses were classified as "Unsure."

For the coding on the "Who do you think Adam should seek help from" question, coders took reference from an earlier nationwide mental health literacy study (11). When the response contained multiple sources of help, only the first response was coded. The responses were coded as follows, (i) "psychiatrist," (ii) "psychologist," (iii) "counselors," (iv) "seek help from IMH (Institute of Mental Health, the only tertiary psychiatric hospital in Singapore)," (v) "unspecified mental health professional," (vi) "unspecified health professional," (vii) "family physician or GP," (viii) "family and friends," (ix) "workplace" and (x) "others." For responses such as "therapist," "mental health professional," or "mental health expert" where the exact mental health professional's role was not explicitly described, they were classified under "unspecified mental health professional." For responses such as "professional," "professional help," "clinic" or a "a certified medical professional," where the exact form of professional help was not explicitly stated, they were classified under "unspecified health professional." Responses such as "God," "social worker," "enlightened being" and "anyone," which were endorsed by <3% of participants were classified as "others." These responses were then re-classified into two groups, namely, "Psychiatric Help" (i–vii) and "Non-psychiatric help" (viii–x).

Statistical Analysis

All statistical analyses were performed using IBM SPSS, version 23.0. For descriptive statistics, frequencies and percentages were presented for categorical variables while means and standard deviations were presented for continuous variables. As there was an under-representation of students of the Malay, Indian and other ethnicity, they were subsumed into a single category (non-Chinese) and compared against Chinese ethnicity in the analysis.

To investigate the effects of intervention on recognition of depression, pairwise comparison between pre-intervention and post-intervention were performed using general estimating equations (GEE). Recognition of vignette (correct vs. incorrect) was set as the dependent variable, with time-point (1 = pre-intervention, 2 = post-intervention) included in the GEE as both a fixed effect and within-subject variable to account for both overall and individual variations in recognition. GEE was also performed to compare recognition of vignette between pre-intervention and 3-months follow-up (time-point 3), and post-intervention and 3-months follow-up to assess lasting impacts of intervention.

Likewise, 3 series of GEE comparing between the aforementioned time-points were also performed for help-seeking beliefs (psychiatric vs. non-psychiatric help), with both time-point and recognition of vignettes included as fixed effect and within-subject variables.

Sociodemographic variables such as age, gender, ethnicity, past experience in mental health field, and having a close friend/family with mental illness were included in all the GEE analyses as time-invarying covariates. Significant predictors were then tested for interaction effects with time-point. To account for the attrition at time-point 3 (there were some students who dropped out), the GEE pairwise comparisons involving time-point 3 were handled with listwise deletion. Statistical significance for all analyses was set at alpha level of $p < 0.05$ using two-tailed tests.

RESULTS

Descriptive Analysis

Sample characteristics of participants are displayed in **Table 1**. There were 390 students for time-point 1 and 2. Mean age of participants was 22.3 ± 2.2 years. The majority were females (60.3%), Chinese (82.8%), and had no past experience in a mental health field (77.2%). Slightly less than half of participants had a family or close friend with mental illness (42.6%). There was some attrition at the 3-months follow-up, and total number of participants was 324, with the majority being female (60.8%), Chinese (84.0%), no past experience in mental health field (76.2%). Slightly less than half of the 324 participants knew a close friend or family with mental illness (41.4%), and their mean age was 22.2 ± 2.2 years.

TABLE 1 | Sociodemographic characteristics of the sample.

	Time-point 1 and 2 ($n = 390$)		Time-point 3 ($n = 324$)	
	n	%	*n*	%
Gender				
Female	235	60.3	197	60.8
Male	155	39.7	127	39.2
Ethnicity				
Chinese	323	82.8	272	84.0
Others	67	17.2	52	16.0
Family or friends with mental illness				
Yes	166	42.6	134	41.4
No	224	57.4	190	58.6
Past experience in mental health field				
Yes	86	22.1	75	23.1
No	301	77.2	247	76.2
	Mean	S.D.	Mean	S.D.
Age (in years)	22.38	2.26	22.25	2.24

Recognition of Depression

Table 2 shows the percentage of the participants' responses with regards to the correct recognition of diagnosis (at baseline, post-intervention, and follow-up; and the correct recognition were 90.5, 96.4, and 96.9% respectively). In relation to the incorrect responses, the most common was "Not an Illness" (4.4%) for baseline, "Mislabeled" (2.6%) for post-intervention and "Not an Illness" (1.5%) for follow-up.

Help-Seeking Beliefs

Table 3 displays the percentage of students endorsing each category of help-seeking options at baseline, post-intervention and follow-up. At baseline, slightly more than half of all students endorsed seeking "psychiatric help" (58.3%), with "counselor" (22.7%) being the most mentioned sub-category. At post-intervention, the percentage of responses endorsing "psychiatric help" increased to 77.2%, with "psychiatrist" (30.0%) being the most mentioned option of "psychiatric help." At 3-month follow-up, the percentage of "Psychiatric help" endorsement dropped to 64.5%, and "counselors" (25.0%) was the most mentioned. Across all 3 time-points, "family and friends" was the most endorsed source of "Non-psychiatric help."

GEE Analysis for Recognition of Depression

GEE analysis revealed having a close friend or family member to be a significant predictor of recognition of vignette across all 3 pairwise comparison of time-points, and that students at time-points 2 and 3 when compared to time-point 1 were more likely to correctly recognize depression from the vignette (see **Table 4**). Pairwise comparison between time-points 2 and 3 however showed no significant difference. There was no significant interaction between time-points and any of the time-invarying variables, and thus the analysis was not included in the final model.

GEE Analysis for Help-Seeking Beliefs

Table 5 shows the GEE results with Help-Beliefs as the dependent variable. Students who were able to correctly recognize the vignette, as compared to those who not, were significantly more

TABLE 2 | Student's description of Adam's problem in pre (time-point 1) and post (time-point 2) intervention as well as 3-months (time-point 3) from intervention.

Recognition	Time-point 1 (n = 390)				Time-point 2 (n = 390)				Time-point 3 (n = 324)			
	Correct		Incorrect		Correct		Incorrect		Correct		Incorrect	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
	353	90.5	37	9.5	374	96.4	14	3.6	314	96.9	10	3.1
Incorrect Classifications			*n*	%			*n*	%			*n*	%
Disorder Specific Symptoms			7	1.8			1	0.3			2	0.6
Mislabeled			10	2.6			9	2.3			2	0.6
Not an Illness			17	4.4			4	1			5	1.5
Unsure or Don't Know			3	0.8			0	0			1	0.3

likely to recommend psychiatric help over non-psychiatric help (O.R = 2.146, $\alpha = 0.001$) in the pairwise comparison between time-point 1 and 2, and time-point 1 and 3 Students at time-point 2 when compared to time-point 1 were significantly more likely to endorse seeking help from psychiatric help options (O.R = 2.320, $\alpha < 0.001$). While there was no significant difference between time-point 3 and 1, students at time-point 3 were significantly less likely to endorse psychiatric help options than at time-point 2. There was no significant interaction between time-points and recognition or any of the time-invarying variables, and thus the analysis was not included in the final model.

Post-hoc Analyses

Due to attrition, GEE analyses involving time-point 3 had a smaller sample size compared to the GEE analysis between time-point 1 and 2. As such, it is possible that the fluctuation in assessment may have influenced the results of GEE analyses involving time-point 3. Hence, a 2x2 chi-square analysis were performed comparing the recognition and help-seeking preferences at time-point 1 and 2 between students who dropped out and students who continued participating in the study. The analysis revealed no significant differences, indicating that the results of the GEE analysis are unlikely to be due to attrition.

As the recognition of depression was already high at time-point 1, given that having a close friend/family member with MI was also a significant predictor of correct recognition, it is possible that the finding of students being more likely to recognize depression at time-point 2 compared to time-point 1 may not be due to the effectiveness of the intervention. Hence, an additional 2x2 chi-square was run to test whether participants with close friend or family member were more likely to recognize depression. The analysis found no significant differences between recognition and having close friend/family member with MI, indicating that the significant increase in correct recognition at time-point 2 as compared to time-point 1 is more likely due to the effects of the intervention. The results for these analyses can be found in **Table 6**.

Two *post-hoc* power analyses was conducted using PS Power and Sample Size Calculator (24). The Type I error probability associated with this test of this null hypothesis is 0.05. Our data indicate that the proportion of correct recognition at baseline was 90.5% and the correlation coefficient between baseline and post-test was 0.367. If the true odds ratio is 2.816, we will be able to reject the null hypothesis that this odds ratio equals 1 with probability (power) of 83.3%. For help-seeking preference, our data indicate that the proportion of help-seeking preference at baseline was 58.3% and the correlation coefficient between baseline and post-test was 0.415. If the true odds ratio is 2.306, we will be able to reject the null hypothesis that this odds ratio equals 1 with probability (power) of 99.1%.

DISCUSSION

To our knowledge, this is the first study that evaluated the effects of an educational intervention in conjunction with contact-based intervention on recognition of depression and help-seeking beliefs among university students immediately post intervention and at 3-months after the intervention.

Correct recognition of depression at baseline in this study was high (90.5%), which is only slightly lower than that of a previous study which sampled medical students (93.0%) (23). On the other hand, the rate of recognition among our sample is slightly higher than that of nursing students (85.0%) (25), considerably higher than that of the previous nationwide MHL study which sampled the general population in Singapore (55.2%) (21), and also considerably higher than that of a study in England which sampled 3,004 young adults between 16 and 24 years (61.4%) (26). However, unlike the previous nationwide study by Chong et al. (21) which consisted of adults from various age groups and Klineberg et al.'s (26) study of young adults, gender was not a significant predictor for recognition of depression in this study. The lack of significant difference between gender in recognizing depression in our study is similar to studies by Seow et al. (25) and Picco et al. (23) which also employed student participants who mostly fall within the emerging adulthood range. Collectively, the findings from Seow et al. (25), Picco et al. (23) and our study suggest that there is a better understanding and awareness of mental health issues among the current student population, and that this phenomenon is generalizable across both genders, which possibly mediated the effects that gender may have toward recognition of depression.

TABLE 3 | Students' belief about where Adam should seek help from in pre (time-point 1) and post (time-point 2) intervention as well as 3-months (time-point 3) from intervention.

Type of help	Time-point 1 ($n = 390$)				Time-point 2 ($n = 390$)				Time-point 3 ($n = 324$)			
	Psychiatric		Non-Psychiatric		Psychiatric		Non-Psychiatric		Psychiatric		Non-Psychiatric	
	n	**%**	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
	218	58.3	156	41.7	288	77.2	85	22.8	209	64.5	115	35.5
	n	**%**			***n***	**%**			***n***	**%**		
Counselors	85	22.7			107	28.7			81	25.0		
Psychologists	45	12.0			40	10.7			32	9.9		
Psychiatrists	57	15.2			112	30.0			62	19.1		
Seek Help from IMH*	8	2.1			22	5.9			8	2.5		
Unspecified Mental Health Professionals	23	6.1			7	1.9			26	8.0		
			n	**%**			***n***	**%**			***n***	**%**
Unspecified Health Professionals			19	5.1			25	6.7			27	8.3
Family Physician or GP			25	6.7			10	2.7			10	3.1
Family and Friends			97	25.9			43	11.5			65	20.1
Workplace			5	1.3			2	0.5			5	1.5
Others			10	2.7			5	1.3			8	2.5

**IMH refers to Institute of Mental Health, the only tertiary mental health institute in Singapore.*

TABLE 4 | Impact of ARTEMIS on recognition after controlling for co-variates using Generalized Estimating Equation (incorrect recognition set as reference group).

Time-point 1 and 2 (*n* = 390)				**Time-point 2 and 3 (*n* = 324)**				**Time-point 1 and 3 (*n* = 324)**			
	OR	**95% CI**	***P*-Value**		**OR**	**95% CI**	***P*-Value**		**OR**	**95% CI**	***P*-Value**
Age	0.953	0.824 to 1.101	0.510	Age	0.837	0.638 to 1.097	0.197	Age	0.931	0.750 to 1.157	0.521
Gender				Gender				Gender			
Male	0.656	0.296 to 1.457	0.301	Male	1.866	0.462 to 7.537	0.381	Male	0.732	0.265 to 2.021	0.547
Female	Ref			Female	Ref		.	Female	Ref		.
Ethnicity				Ethnicity				Ethnicity			
Non-Chinese	0.521	0.243 to 1.117	0.094	Non-Chinese	0.705	0.210 to 2.360	0.570	Non-Chinese	0.879	0.279 to 2.766	0.825
Chinese	Ref			Chinese	Ref		.	Chinese	Ref		.
Close friend/family with mental illness				Close friend/family with mental illness				Close friend/family with mental illness			
Yes	2.161	1.010 to 4.624	**0.047***	Yes	6.412	1.303 to 31.564	**0.022***	Yes	4.026	1.422 to 11.396	**0.009****
No	Ref		.	No	Ref		.	No	Ref		.
Past experience in mental health field				Past experience in mental health field				Past experience in mental health field			
Yes	1.846	0.827 to 7.569	0.287	Yes	2.844	0.444 to 18.236	0.270	Yes	2.733	0.746 to 10.010	0.129
No	Ref		.	No	Ref		.	No	Ref		.
Time-Point				Time-Point				Time-Point			
2	2.816	1.667 to 4.755	**<0.001****	3	0.898	0.409 to 1.972	0.788	3	2.949	1.610 to 5.400	**<0.001****
1	Ref	.	.	2	Ref	.	.	1	Ref	.	.

**p-value significant at <0.05.*

***p-value significant at <0.01, Time-point 1: Pre-intervention, Time-point 2: Post-intervention, Time-point 3: 3-months follow-up.*

Values in bold denotes significance <0.05 or <0.01.

TABLE 5 | Impact of ARTEMIS on help-seeking preferences after controlling for co-variates using Generalized Estimating Equation (non-psychiatric help set as reference group).

Time-point 1 and 2 ($n = 390$)				**Time-point 2 and 3 ($n = 324$)**				**Time-point 1 and 3 ($n = 324$)**			
	OR	**95% CI**	***P*-Value**		**OR**	**95% CI**	***P*-Value**		**OR**	**95% CI**	***P*-Value**
Age	0.992	0.907 to 1.085	0.864	Age	0.985	0.896 to 1.083	0.751	Age	0.987	0.906 to 1.075	0.760
Gender				Gender				Gender			
Male	0.788	0.520 to 1.192	0.259	Male	0.923	0.589 to 1.446	0.725	Male	0.811	0.527 to 1.246	0.338
Female	Ref		.	Female	Ref		.	Female	Ref		.
Ethnicity				Ethnicity				Ethnicity			
Non-Chinese	0.639	0.629 to 1.381	0.067	Non-Chinese	0.886	0.505 to 1.554	0.673	Non-Chinese	0.917	0.547 to 1.538	0.743
Chinese	Ref		.	Chinese	Ref		.	Chinese	Ref		.
Close friend/family with mental illness				Close friend/family with mental illness				Close friend/family with mental illness			
Yes	0.932	0.629 to 1.381	0.726	Yes	0.898	0.594 to 1.356	0.608	Yes	0.965	0.645 to 1.445	0.864
No	Ref		.	No	Ref		.	No	Ref		.
Past experience in mental health field				Past experience in mental health field				Past experience in mental health field			
Yes	1.088	0.693 to 1.708	0.713	Yes	0.895	0.552 to 1.452	0.653	Yes	0.857	0.530 to 1.384	0.528
No	Ref		.	No	Ref		.	No	Ref		.
Recognition of depression				Recognition of depression				Recognition of depression			
Correct	2.178	1.328 to 3.573	**0.002****	Correct	1.258	0.476 to 3.327	0.644	Correct	3.217	1.622 to 6.379	**0.001***
Incorrect	Ref		.	Incorrect	Ref		.	Incorrect	Ref		.
Time-Point				Time-Point				Time-Point			
2	2.306	1.795 to 2.963	**<0.002****	3	0.496	0.366 to 0.670	**<0.001****	3	1.214	0.943 to 1.564	0.133
1	Ref	.	.	2	Ref	.	.	1	Ref	.	.

Time-point 1: Pre-intervention.
**p-value significant at <0.05.*
Time-point 2: Post-intervention.
***p-value significant at <0.01, Time-point 3: 3-months follow-up.*
Values in bold denotes significance <0.05 or <0.01.

TABLE 6 | *Post-hoc* sensitivity analyses of: (i) recognition of depression between participants who dropped out and those who didn't at pre-intervention (ii) recognition of depression between participants who dropped out and those who didn't at post-intervention (iii) recognition of depression between participants with close friend/family with MI and those without at post-intervention (iv) help-seeking preferences between participants between participants who dropped out and those who didn't at pre-intervention (v) help-seeking preferences between participants between participants who dropped out and those who didn't at post-intervention.

		Attrition		**Total**	***p*-value**
i) Recognition of depression					
		Participants who stayed	**Participants who dropped out at 3-months**		
Pre	Correct	297	10	324	0.104
	Incorrect	56	27	66	
Total	353	37	390		
ii) Recognition of depression					
		Participants who stayed	**Participants who dropped out at 3-months**		
Post	Correct	314	9	323	0.067
	Incorrect	60	5	65	
Total	374	14	388		
iii) Recognition of depression					
		Yes	**No**		
Post	Correct	162	212	374	0.410
	Incorrect	4	10	14	
Total	166	222	388		
iv) Help-seeking Preferences					
		Participants who stayed	**Participants who stayed**		
Pre	Psychiatric Help	35	183	218	0.578
	Non-psychiatric Help	29	127	156	
Total	64	310	374		
v) Help-seeking Preferences					
		Participants who stayed	**Participants who stayed**		
Post	Psychiatric Help	245	43	288	0.135
	Non-psychiatric Help	66	19	85	
Total	311	62	373		

Knowing a family or friend with mental illness was found to be significantly associated with correct recognition of depression in all 3 analysis of GEE, and this is consistent with the finding from another study, which reported that having previous contact with a person with mental illness (PMI) positively influenced the recognition of depression (27). This corroborates the evidence from literature which suggests that intergroup contact such as exposure to, or experience in interacting with someone with mental illness results in improved mental health literacy (28, 29). Interestingly, having past experience in the mental health field was not a significant predictor of recognition, even though these participants were also likely to have had contact with PMI. There are a few plausible explanations for this phenomenon. As this study did not take into account the duration of students' past experience in the mental health field as well as the specific kind of experience, it is possible that some students' past experience may be a one-time occurrence (i.e., mandatory school community activities) or that their past involvement in the mental health scene may have been one where there was very limited interaction with PMI. In this regard, the student's ability to recognize mental illnesses is unlikely to improve from their brief experience in the mental health field. In contrast, one would arguably have had more instances of social contact/interaction with PMI and thus better recognition toward mental illness if they have a close friend or family member with mental illness. Furthermore, having a friend or family member with mental illness may prompt an individual to find out more about mental illness, therefore increasing their MHL and potentially their ability to recognize mental illness as well.

Despite the correct recognition being high at baseline (90.5%), there were still significant improvements at post-intervention. Furthermore, participants at 3-month follow-up were still significantly more likely to correctly recognize the vignette as compared to baseline, indicating the lasting impact of the intervention on recognition at 3-months. However, given the lack of a control group, there is a need to acknowledge that there could be an alternative explanation for this finding, considering that the recognition of depression was high from the onset and across all 3 time-points. It is possible that students having undertaken the pre-test, might have been primed to giving the correct answer in the post-test and during the subsequent 3-months follow-up. Nonetheless, it is possible that the improvement in recognition of depression at post-intervention might indeed be attributed to the effects of the intervention; because student's knowledge of depression did improve after the intervention as evidenced in an earlier published paper (18), and the findings from Australia's

Beyond Blue campaign suggests that an increase in knowledge of depression can improve recognition (30). Regardless, it is recommended for future studies to include a control group, in order to further validate the effectiveness of the intervention in improving recognition of depression.

With regard to help-seeking beliefs at baseline, the proportion of those who endorsed help-seeking from family and friends (25.9%) is very similar to the study by Picco et al. (22) of medical and nursing students' help-seeking beliefs study, and considerably lower compared to that of the general population (11). In addition, compared to the nationwide study, the two studies reported higher preference of seeking help from options classified under "Psychiatric help" in this paper. This perhaps reflects better MHL among the current younger cohort in Singapore, as MHL consists also of the knowledge of available professional help and attitudes that promote recognition and appropriate help-seeking (1). The findings from another study (31) which found that younger people had better knowledge on recognition and treatment of depression also lends credence to this explanation.

Seeking help from a counselor (22.7%) was the most commonly endorsed form of "Psychiatric help' in this study at baseline, whereas seeing a psychiatrist was the most endorsed (39.5%) form in Picco et al.'s (22) study. This difference is probably due to the different type of students who were surveyed: in that the participants Picco et al.'s (22) study were medical students whereas the participants in our sample were non-medical university students from a range of disciplines. Moreover, the greater preference to seek help from a counselor among our sample may be tied to the fact that students are more aware of counselors as a help-seeking option, given that the university provides an on-campus student counseling service.

The results of the GEE for help-seeking preferences between time-point 1 and 2 and time-point 1 and 3, found that the ability to recognize depression is associated with increased likelihood of seeking psychiatric help. This is consistent with the study by Wright et al. (32), which found that among various predictor variables, correct labeling of a disorder (depression and psychosis vignettes in this case) was the variable most frequently associated with appropriate treatment and help-seeking choices (32). This further reinforces the influence that recognition has on seeking evidence-based mental health care as posited by Jorm (33). A rather inexplicable finding was that recognition was not found to be a significant predictor for help-seeking preference in the comparison between time-point 2 and time-point 3. This could be due to ceiling effect, as the correct recognition of depression at both time-point 2 (97.25) and 3 (96.9%) were very high, and thus the lack of significance could be due to low power because the sample size for incorrect recognition in this analysis was too small.

Another significant finding from this analysis was the increased likelihood to endorse psychiatric help at time-point 2 when compared to time-point 1, suggesting that the intervention positively influenced student's preference to seek psychiatric help. This could be attributed to student's increase in knowledge of available help-seeking options. In addition, the respondents had the benefit of listening to a psychiatrist during the question-and-answer section following the intervention. Alternatively, it may be that the direct contact with a person with lived experience of mental illness, which was part of the intervention, helped alleviate participants' stigma toward mental illness, and in turn reduced student's stigma toward seeking psychological help. This is supported by Hantzi et al.'s study (34) which found that when there are lesser negative beliefs about mental illness, the self-stigma for seeking psychological help is reduced, while positive help-seeking attitudes are increased (34).

However, unlike recognition, there were no significant differences for help-seeking beliefs at time-point 3 vs. time-point 1, indicating that the gains from the intervention were not sustained at time-point 3. In fact, pairwise comparison revealed a significant decrease in likelihood of endorsing psychiatric help from time-point 2 to time-point 3. It is possible that the gains from recognition were more likely to be sustained because recognition of an illness is very much based on knowing the signs and symptoms of the illness, while help-seeking preference is more complex. On top of knowing where to seek appropriate help from and the belief in its effectiveness, help-seeking preference possibly also involves multiple factors which interact with each other such as stigma, accessibility to mental health services, and whether one has the time and capacity to utilize these mental health services. In particular, there could be more stigma attached to consulting a psychiatrist, who at the same time, may be perceived to be less accessible than on-campus counseling services which the university provides at no charge.

An alternate postulation for the observed trend in help-seeking beliefs at different time points is that the intervention may have evoked positive emotions among students toward the psychiatric profession and the utilization of mental health services. A study on female university students' readiness to seek help from a professional helper—in this case a counselor—was associated with anticipation of positive emotions through help-seeking, and these emotions may be influenced by helper's characteristics (35). Likewise, in our study, anticipated positive emotions of help-seeking may have been evoked among students during the Q&A section with a senior psychiatrist from IMH, which likely contributed to the increase in endorsement of psychiatric help immediately after the intervention. Furthermore, the sharing of lived experience with mental illness by the person who had past history of it, and who is also a CHAT Ambassador with IMH, probably reinforced the importance of seeking psychological help. Notably, endorsement in seeking help from a psychiatrist and IMH had both approximately doubled from time-point 1 to time-point 2, further lending credence to our proposed postulation.

In addition, the sharing from the person with lived-experience about her journey to recovery might have, evoked some positive emotions among students, which promoted their willingness to seek psychiatric help. This postulation is perhaps supported by a recent study which found a plausible causal relationship between experiencing a story-based elevation induction and increased help-seeking intentions (36); and elevation in this study refers to a warm and uplifting emotion that is posited to enhance people's outlook on humanity, increase their confidence in recovering when treatment is sought, as well as allowing them to feel less likely to be judged. Hence, the infusion of positive feelings toward help-seeking may have resulted in the significant increase in endorsement of "Psychiatric help" at time-point 2. However, as it is highly unlikely for these positive feelings induced by the intervention to be sustained for 3-months without waning, this perhaps accounts for the observed trend in help-seeking beliefs across time-points.

LIMITATIONS

There are a couple of limitations in this study that needs to be acknowledged. Firstly, as the study used convenience sampling, the results may not be generalizable as there may be some self-selection bias. There is a possibility that students who volunteered for this study are generally more empathetic toward those with mental health issues or had personal interest in participating in the study. As such, future studies could replicate the current one across other non-self-selected samples, perhaps by integrating the ARTEMIS as part of a curriculum or during students' orientation or other student activities, in order to evaluate the generalizability of results.

Secondly, some studies have posited that young people have a tendency to over-identify depression (21, 31, 32). In which case, the high rate of recognition may be due to this over-identification of mental illness as depression, rather than students actually being well-versed in their understanding of depression. Future research could include vignettes describing other mental illnesses to examine whether this high rate of correct recognition recurs for depression.

Additionally, as this is a single-arm intervention study, the lack of a control group for comparison leaves the observed findings open to other explanations, especially for the recognition of depression. Moreover, the sample size for this study is relatively small. As such, it is recommended for future replica studies to include a control group and increase the sample size in order to further validate the effectiveness of the intervention.

Social desirability bias in the way students answered, is another possible limitation of the study even though they were assured confidentiality, especially with regards to the question on help-seeking, given the direct contact with a psychiatrist during the Q&A section of the intervention. Furthermore, as this is was the first study done in Singapore, there were no earlier studies to compare to for consistency of results. Lastly, although it is recommended for psychoeducation programs that combat mental illness stigma to involve multiple sessions, the current study had only one intervention session given the resource and time constraints. In spite of such limitations, the study presents an early attempt to examine the impact of an anti-stigma intervention on Singapore's university students' recognition of depression as well as their help-seeking preferences.

CONCLUSION

This study elucidated the impacts of an anti-stigma intervention on university students' recognition of depression as well as their help-seeking preference. Findings from this study highlighted the efficacy of this knowledge-contact-based intervention in the immediate improvement of both aspects at post-intervention. However, while the benefits on recognition of depression is more enduring, it is more transient for help-seeking beliefs. Therefore, to improve the long-term effectiveness of this intervention on help-seeking beliefs, it is recommended for this intervention to be augmented with follow-up booster sessions so as to maintain the effects of the intervention.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available and readers who wish to gain access to the data will have to write to the senior author MS to request access. Requests to access the datasets should be directed to Prof. Mythily Subramaniam, mythily@imh.com.sg.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the relevant institutional review board (National Healthcare Group, Domain Specific Review Board). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

GT was responsible for writing the manuscript, conducting the fieldwork, statistical analysis, and coding with MS. SS, CG, WO, and ES conducted the fieldwork and contributed to study's design. EA conducted power analysis and offered input to study's design. JL contributed to statistical analysis of data. SC, MS, and KK contributed to study's design and supervised the overall study. All authors provided intellectual input to the manuscript and have given their final approval of the version to be published.

FUNDING

This research was supported by Tote Board, Singapore.

ACKNOWLEDGMENTS

The authors would like to thank Ms. Nawira Baig for sharing her lived experience of mental illness with the participants as part of the intervention.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyt.2021.582730/full#supplementary-material

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