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Gay affirmative practices among healthcare professionals in Poland and Spain: results of Health Exclusion Research in Europe (HERE) study

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Introduction: Healthcare professionals play a critical role in providing affirmative care to gay and lesbian patients. However, their attitudes and practices can vary significantly depending on cultural and educational contexts. This study aimed to evaluate differences in affirmative practices among healthcare professionals in Poland and Spain, focusing on their approach to these patient groups, utilizing the Gay Affirmative Practice (GAP) Scale, as well as identifying key factors influencing these practices.

Methods: A cross-sectional study was conducted among healthcare professionals in Poland and Spain using the GAP Scale, which assesses beliefs and behaviors toward gay and lesbian patients. Data collection included 495 participants, with 205 from Spain and 290 from Poland. Descriptive statistics, Mann–Whitney tests, and multivariate regression analyses were used to identify factors associated with affirmative practices.

Results: Spanish participants scored significantly higher on both the beliefs and behaviors scales compared to Polish participants ($p < 0.001$ and $p = 0.009$, respectively). Gender of healthcare providers was a significant factor in both groups, with women demonstrating more affirmative beliefs than men. In the Polish group, being male was associated with a decrease in the belief scale score by an average of 6.572 points (regression coefficient = -6.572 , $p < 0.001$), while attending LGBT-related training 1–2 times was associated with an increase of 5.356 points on the belief scale (regression coefficient = 5.356 , $p = 0.039$). No significant independent predictors were identified for behaviors in the Polish group, as all p -values exceeded 0.05.

Conclusion: Spanish healthcare professionals showed more affirmative practices toward gay and lesbian patients than their Polish counterparts. Sex and

gay and lesbian related training influenced beliefs, with male sex linked to lower affirmative practice in Poland. These findings highlight the need for systematic integration of gay and lesbian specific training into healthcare education programs to foster cultural competence and reduce disparities in patient care.

KEYWORDS

healthcare professionals, LGBTQ+ health, affirmative practice, cultural competency, attitude of health personnel

1 Introduction

The concept of “health inequalities” refers to the impact of factors such as wealth, education, occupation, race or ethnicity, sexual orientation, and other socio-cultural determinants on population health. These inequalities in healthcare contribute to poorer health outcomes in vulnerable social and cultural groups (1). Biases among health professionals can influence the quality of care; implicit prejudices related to race, age, gender identity, and sexual orientation generate inequalities in care and negatively affect health outcomes in vulnerable groups (2). Access to healthcare for gay and lesbian individuals can be hindered by various factors, including biases and discrimination from medical personnel. Research from different healthcare systems, particularly in the United States, has shown that race and ethnicity significantly contribute to healthcare disparities, often exacerbating barriers to affirming medical care (3). While this issue is widely studied in the U.S., there is a lack of research exploring how racial and ethnic factors influence LGBT healthcare experiences in Poland and Spain patients (4). A recent study by the European Union Agency for Fundamental Rights found that 16% of all LGBTI individuals, including transgender people, faced discrimination in healthcare settings, while among transgender respondents, this figure increased to 34% (5).

In recent years, the health of LGBT individuals has gained attention due to specific health concerns and significant mental health disparities compared to heterosexual and cisgender individuals (6–9). Gay and lesbian individuals face elevated rates of mental health issues, such as anxiety, depression, substance abuse, and suicidal risk. Additionally, they encounter significant barriers in accessing culturally competent healthcare, which may contribute to health disparities (10). They also experience higher rates of sexually transmitted infections (STIs), substance abuse, and mental health issues, contributing to a greater disease burden (11, 12).

Despite the need for inclusive healthcare, LGBT individuals encounter significant barriers to access, including discrimination, stigma, and a lack of specific competencies among healthcare professionals (8, 9, 13, 14). Meyer's study found that LGBT individuals experience high levels of psychosocial stress due to societal discrimination and stigma, which negatively impacts mental health, increasing the incidence of anxiety, depression, and other disorders (15). Exposure to stigma is linked to adverse mental health outcomes, which constitute key sources of both morbidity and mortality in this population (10). Such inequalities in healthcare, often stemming from negative or discriminatory experiences with professionals and care providers, prompt many in the LGBT+ community to delay healthcare needs, which negatively impacts health. Research by Katz-Wise suggests that fear of discrimination makes LGBT+ individuals less likely to seek medical care (16, 17).

A major barrier to inclusive care is the lack of adequate training on sexual and gender diversity for healthcare professionals. Training institutions often omit specific LGBT-related content, perpetuating biases and exclusionary practices. This lack of training affects care quality and fosters an environment of stigma, impacting both professionals and patients, with negative repercussions on patient care experiences and trust in providers (18, 19). Healthcare professionals emphasize the importance of awareness, collaboration, and specific training on LGBT+ health issues (14). However, a general lack of knowledge and certain insecurities about treating this group remain, sometimes exacerbated by the pathologization of minority gender identities and sexual orientations. This suggests that proper training would allow healthcare professionals to approach LGBT+ patient care with greater safety and empathy. This would help address health disparities in this group and promote more inclusive and effective care.

The cultural and social context has been shown to play a key role in shaping health professionals' attitudes and practices when they are working with the patients that they serve. In countries such as Poland and Spain, regulatory frameworks, social climate, and public perception of LGBT+ individuals vary, influencing affirmative practices among professionals. While Spain has made significant progress in implementing laws protecting LGBT+ rights, Poland faces challenges in accepting and normalizing these rights, potentially affecting healthcare professionals' readiness to adopt affirmative practices (20, 21).

The aim of this study was to evaluate the differences in affirmative practices toward gay and lesbian patients among healthcare professionals in Poland and Spain using the Gay Affirmative Practice Scale, and to identify which key factors were shown to have the greatest force of influencing these practices.

2 Methodology

2.1 Study design and participants

This cross-sectional study was conducted between February 2023 and August 2024 among healthcare professionals in Poland and Spain. Participants included a range of healthcare professionals and students in fields such as nursing, medicine, and the allied health professions. Eligibility criteria required participants to be at least 18 years old, proficient in Polish or Spanish, and active in a medical profession or education program.

2.2 Data collection and tools

Data were collected via an online platform Webankieta (22), using an anonymous, self-administered questionnaire, which was distributed through targeted campaigns on social media platforms, including

Facebook and Instagram. Participants were informed about the study's purpose, objectives, and procedures, and provided informed consent before participating. The survey was designed to ensure the integrity of responses by utilizing IP filtering to prevent multiple submissions from the same user. It is worth emphasizing that this process was fully automated, and researchers had no direct access to individual IP addresses.

The questionnaire comprised two sections. The first section gathered demographic information, including age, gender, place of residence, marital status, profession, and participation in LGBT-related training within the last 5 years. In the interest of analytical clarity, only heterosexual respondents were included in further analyses. Additionally, certain demographic responses were consolidated: individuals who were divorced or widowed were grouped together, and only legally recognized marriages were considered.

The second section utilized the Gay Affirmative Practice (GAP) Scale, a psychometric tool originally developed by Catherine Crisp to evaluate healthcare providers' beliefs and behaviors in their work with lesbian and gaypatients (23). For this study, the Polish (GAP-PL) (24) and Spanish (GAP-ES) (25) versions of the GAP Scale, previously adapted by Karniej et al., were used, both developed as part of the Health Exclusion Research in Europe (HERE) project (26).

The Polish version (GAP-PL) demonstrated high internal consistency, with Cronbach's alpha values ranging from 0.936 to 0.949 across subscale domains, and a McDonald's omega coefficient of 0.963, indicating excellent reliability (24). The Spanish version (GAP-ES) also showed strong internal consistency, with Cronbach's alpha values of 0.915 for the beliefs subscale and 0.902 for the behaviors subscale, and a McDonald's omega coefficient of 0.942 (25). Each item on the GAP Scale is scored from 15 to 75, with higher scores reflecting more affirmative practices. The robust reliability of these versions supports their use in cross-cultural comparisons between Polish and Spanish healthcare professionals.

2.3 Statistical analysis

The mean, standard deviation, median, quartiles, and range were calculated for quantitative variables. For categorical variables, absolute and relative frequencies (N and %) were presented. To compare categorical variables between groups, the chi-squared test was applied (with Yates correction for 2x2 tables), or Fisher's exact test was used when expected values were low. For quantitative variable comparisons between two groups, the Mann-Whitney U test was employed, while comparisons across three or more groups were performed using the Kruskal-Wallis test, followed by Dunn's post-hoc test if needed. Spearman's correlation coefficient was used to examine relationships between two quantitative variables. Multiple linear regression was utilized to analyze the influence of various predictors on quantitative outcomes, with regression parameters and 95% confidence intervals reported. A significance level of 0.05 was set for all analyses. Statistical analyses were carried out using R software, version 4.4.1 (27).

3 Results

3.1 Characteristics of the study population

The study population comprised healthcare professionals from Spain and Poland, with notable demographic differences between the

two groups. The proportion of male respondents was higher in the Polish group, whereas the Spanish group was older on average, with a significantly higher mean age ($p < 0.001$). Polish participants were more likely to reside in larger cities ($p < 0.001$). In terms of marital status, Polish respondents were more frequently single, while Spanish participants reported higher rates of formal partnerships and marriages ($p < 0.001$). Professionally, a higher percentage of nurses/midwives were found in the Spanish group, whereas the Polish group had a greater proportion of physicians, students, and other healthcare professionals ($p < 0.001$). Additionally, participation in LGBT-related trainings was more frequent among Spanish respondents ($p < 0.001$). Full data regarding the characteristics of the study group are presented in [Table 1](#).

3.2 Results of GAP comparison between Poland and Spain

The GAP questionnaire evaluated respondents' beliefs and behaviors towards gay and lesbian patients, with scores ranging from 15 to 75 on each scale. Higher scores indicate a more affirmative approach, and analysis was limited solely to heterosexual participants. The Spanish group scored significantly higher on the beliefs scale compared to the Polish group ($p < 0.001$), indicating more affirmative attitudes towards gay and lesbian patients. Similarly, the Spanish group scored higher on the behaviors scale than the Polish group ($p = 0.009$), reflecting more affirmative behavioral responses. Full data regarding the GAP scale scores are presented in [Table 2](#).

3.3 GAP scale scores in the Spanish group

In the Spanish heterosexual group, gender differences were observed on the belief scale, with women scoring significantly higher than men ($p = 0.037$). However, no statistically significant differences were found across other demographic variables, including place of residence, marital status, profession, and frequency of LGBT-related training in the past 5 years (all p -values > 0.05).

For marital status, widowed and divorced individuals were analyzed as a combined category, and distinctions between marriage to a man or woman were not considered, as the analysis was conducted separately for heterosexual and homosexual individuals. Additionally, participants who attended LGBT-related trainings more than five times were grouped with those who attended three to five times.

Regarding age, no significant correlations were identified with either the beliefs or behaviors domains. Specifically, Spearman's correlation coefficient for age and beliefs was $r = -0.019$, $p = 0.826$, and for age and behaviors, $r = 0.01$, $p = 0.908$. Full data for these analyses are presented in [Table 3](#).

3.4 GAP scale scores in the Polish group

In the Polish heterosexual group, belief scale scores were significantly higher among women than men ($p = 0.009$). No statistically significant relationships were found across other demographic variables, including age, place of residence, marital status, profession, or frequency of LGBT-related training in the past 5 years (all p -values > 0.05). For age, Spearman's correlation coefficient

TABLE 1 Characteristics of the study population.

Parameter		Spain (N = 205)	Poland (N = 290)	Total (N = 495)	p
Gender	Female	132 (64.39%)	156 (53.79%)	288 (58.18%)	$p = 0.024^*$
	Male	73 (35.61%)	134 (46.21%)	207 (41.82%)	
Age [years]	Mean (SD)	38.96 (9.58)	31.4 (8.89)	34.53 (9.9)	$p < 0.001^*$
	Median (quartiles)	39 (32–47)	30 (25–36)	33 (27–41)	
	Range	18–63	18–63	18–63	
	n	205	290	495	
Place of residence	Village	28 (13.66%)	36 (12.41%)	64 (12.93%)	$p = 0.002^*$
	City of up to 20,000 inhabitants	5 (2.44%)	17 (5.865%)	22 (4.44%)	
	City of between 20,000 and 100,000 inhabitants	37	41 (14.14%)	78 (15.76%)	
	City of between 100,000 and 500,000 inhabitants	51 (24.88%)	40 (13.79%)	91 (18.38%)	
	City of more than 500,000	84 (40.98%)	156 (53.79%)	240 (48.48%)	
Sexual orientation	Heterosexual	137 (66.83%)	185 (63.79%)	322 (65.05%)	$p = 0.547$
	Homosexual	68 (33.17%)	105 (36.21%)	173 (34.95%)	
Marital status	Single	37 (18.05%)	87 (30.00%)	124 (25.05%)	$p < 0.001^*$
	In marriage	83 (40.49%)	61 (21.03%)	144 (29.09%)	
	In a (formal) partnership	71 (34.63%)	5 (1.72%)	76 (15.35%)	
	In a non-formalised relationship	2 (0.98%)	130 (44.83%)	132 (26.67%)	
	Divorce/Separation	10 (4.88%)	7 (2.41%)	17 (3.43%)	
	Widower / Widow	2 (0.98%)	0 (0.00%)	2 (0.40%)	
Profession	Nurse/midwife	149 (72.68%)	67 (23.10%)	216 (43.64%)	$p < 0.001^*$
	Physician	21 (10.24%)	82 (28.28%)	103 (20.81%)	
	Other health profession	27 (13.17%)	85 (29.31%)	112 (22.63%)	
	Student	8 (3.90%)	56 (19.31%)	64 (12.93%)	
LGBT-related trainings (conferences, webinars) in last 5 years	Never	126 (61.46%)	235 (81.03%)	361 (72.93%)	$p < 0.001^*$
	1–2 times	60 (29.27%)	43 (14.83%)	103 (20.81%)	
	3–5 times	13 (6.34%)	7 (2.41%)	20 (4.04%)	
	More than 5 times	6 (2.93%)	5 (1.72%)	11 (2.22%)	

p—Qualitative variables: chi-squared or Fisher's exact test. Quantitative variables: Mann–Whitney test.

* Statistically significant ($p < 0.05$).

TABLE 2 Results of GAP comparison between Poland and Spain.

GAP	Country	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Spain	137	67.93	7.32	70	47	75	64	75	$p < 0.001^*$
	Poland	185	64.54	9.3	66	15	75	60	72	
Behaviors	Spain	137	55.38	12.03	57	15	75	47	65	$p = 0.009^*$
	Poland	185	50.66	14.93	73	15	75	44	61	

p—Mann–Whitney test; SD, standard deviation; Q1, lower quartile; Q3, upper quartile.

* Statistically significant ($p < 0.05$).

was $r = -0.018$, $p = 0.809$ for beliefs and $r = -0.02$, $p = 0.788$ for behaviors. Full data for these analyses are presented in Table 4.

3.5 Multivariate analysis

In the Spanish group, the multivariate linear regression model indicated that none of the analyzed characteristics were significant independent predictors of scores on either the beliefs or behaviors

scales, as all p -values were greater than 0.05. Table 5. Multivariate Analysis of Independent Predictors for GAP Scale Scores in the Spanish Group.

In the Polish heterosexual group, the multivariate linear regression model showed that being male decreases the belief scale score by an average of 6.572 points, as the regression coefficient is -6.572 ($p < 0.001$). Additionally, attending LGBT-related training 1–2 times increases the belief scale score by an average of 5.356 points, as the regression coefficient is 5.356 ($p = 0.039$). No

TABLE 3 Analysis of GAP scale scores by characteristics in the Spanish group.

GAP*	Gender	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Female	122	68.34	7.2	71	47	75	65	75	0.037
	Male	15	64.53	7.69	66	49	75	61	69	
Behaviors	Female	122	55.77	12.34	57	15	75	48	65	0.137
	Male	15	52.2	8.73	49	39	66	44.5	60	

GAP**	Place of residence	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Village	24	68.12	68.12	71.5	47	75	64	74.25	0.225
	City of up to 20,000 inhabitants	3	63.67	63.67	65	58	68	61.5	66.5	
	City of between 20,000 and 100,000 inhabitants	27	69.59	69.59	72	56	75	61.5	75	
	City of between 100,000 and 500,000 inhabitants	34	68.68	68.68	71	51	75	66	75	
	City of more than 500,000 inhabitants	49	66.65	66.65	68	49	75	63	73	
Behaviors	Village	24	55.83	55.83	56	36	75	48.5	66	0.99
	City of up to 20,000 inhabitants	3	56.67	56.67	58	49	63	53.5	60.5	
	City of between 20,000 and 100,000 inhabitants	27	55.41	55.41	55	15	75	50	65	
	City of between 100,000 and 500,000 inhabitants	34	54.62	54.62	58.5	20	73	44.25	62.75	
	City of more than 500,000 inhabitants	49	55.59	55.59	59	15	73	47	65	

GAP**	Marital status	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Single	19	66.42	7.31	68	49	75	65	71.5	0.743
	In marriage	69	68.22	7.2	70	47	75	65	74	
	In a (formal) partnership	39	68.08	7.52	71	52	75	62.5	75	
	In a non-formalised relationship	2	69	8.49	69	63	75	66	72	
	Divorced/ Separated/ Widowed	8	68	8.73	69.5	49	75	66.25	75	
Behaviors	Single	19	54.74	11.76	58	34	72	47	65	0.718
	In marriage	69	54.33	13.5	54	15	75	46	64	
	In a (formal) partnership	39	56.26	10.05	57	36	75	48.5	64.5	
	In a non-formalised relationship	2	59.5	0.71	59.5	59	60	59.25	59.75	
	Divorced/ Separated/ Widowed	8	60.62	9.12	63.5	43	71	57.25	66.25	

(Continued)

TABLE 3 (Continued)

GAP**	Profession	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Nurse/midwife	110	68.21	7.15	70.5	47	75	65	74	0.434
	Physician	4	58.5	11.62	55	49	75	51.25	62.25	
	Other health profession	18	68.11	6.88	69	55	75	65	74.75	
	Student	5	68.6	5.94	66	63	75	64	75	
Behaviors	Nurse/midwife	110	55.1	11.79	56	15	75	47	64	0.413
	Physician	4	50.25	7.09	49	43	60	47.5	51.75	
	Other health profession	18	57.33	15.17	62.5	15	72	48.75	68.25	
	Student	5	58.6	7.23	59	49	69	56	60	

GAP**	LGBT-related trainings in last 5 years	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Never	85	67.15	7.54	68	47	75	63	74	0.192
	1–2 times	44	69.02	6.96	71.5	52	75	65.75	75	
	More than 2 times	8	70.12	6.42	72	56	75	68	75	
Behaviors	Never	85	53.98	13.09	55	15	75	45	64	0.304
	1–2 times	44	57.43	9.91	59	36	73	49	65	
	More than 2 times	8	59	9.24	60.5	47	69	49.75	67.5	

*p—Mann–Whitney test; **p—Kruskal–Wallis test; SD, standard deviation; Q1, lower quartile; Q3, upper quartile.

significant independent predictors were identified for the behavior scale (all p -values > 0.05). Full data for these analyses are presented in Table 6.

4 Discussion

This study evaluated the differences in affirmative practices toward gay and lesbian patients among healthcare professionals in Poland and Spain using the GAP, highlighting the factors that most influence these practices, and their implications for addressing health inequalities in these two healthcare systems (28, 29). The findings reveal significant differences between the two countries, consistent with prior research showing how cultural and legislative environments shape healthcare professionals' willingness to adopt inclusive practices (21). Demographic analysis indicated notable disparities. Spanish professionals were older on average, with a higher proportion of women, suggesting a potential link between professional experience and sensitivity to sexual diversity (8, 9). In contrast, the predominance of male and single professionals in Poland may reflect sociocultural factors that limit openness toward inclusive practices (30–32). Similar issues have been observed globally, where discrimination in LGBT care is linked to inadequate training among professionals and educators (33).

The results of the residency analysis also indicated that, while in Spain health professionals are more evenly distributed in urban and rural areas, in Poland there is a greater concentration in large cities. This difference may have important implications for the accessibility of health services in rural settings in both countries (34–36), as studies

have shown that rural areas often present greater barriers to inclusive healthcare. This issue disproportionately affects lesbian and gay individuals (30, 31), who may experience stigma in their environment, leading to a lower willingness to seek healthcare services in their communities.

Along the same lines, the study revealed significant differences in LGBT-related training among professionals in both countries. A total of 61.46% of Spanish participants and 81.03% of Polish participants reported never having participated in such training. Among those who did, most attended events only once or twice in the past 5 years. These findings emphasize the persistent link between insufficient sexual diversity training and the stigmas affecting the healthcare of gay and lesbian individuals. According to the European Union Agency for Fundamental Rights, 34% of transgender individuals report discrimination in healthcare settings, while 46% of LGBT individuals avoid disclosing their identity to providers out of fear of discrimination (37). A lack of training on sexual and gender diversity issues remains a recurring barrier to developing competencies necessary for inclusive care (24–26, 28). Furthermore, insufficient training undermines the perceived quality of care and erodes trust between LGBT patients and healthcare providers, contributing to gaps in inclusive health services (38).

The frequency of training emerged as a positive predictor of affirmative attitudes in Poland, demonstrating that LGBT-specific competency training fosters inclusivity and reduces the risk of pathologizing sexual orientation, particularly in environments with lower social acceptance of sexual minorities (30, 32, 39). Limited access to such training appears to hinder healthcare professionals' ability to provide respectful and affirming care (15, 39–42), especially

TABLE 4 Analysis of GAP scale scores by characteristics in the Polish group.

GAP*	Gender	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Female	149	65.58	8.27	66	16	75	61	63	0.009
	Male	36	60.19	11.9	62.5	15	75	53.75	68	
Behaviors	Female	149	51.46	14.81	54	15	75	45	61	0.098
	Male	36	47.33	15.17	49	15	73	39	59	

GAP**	Place of residence	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Village	32	63.91	11.62	65.5	15	75	59.5	74	0.89
	City of up to 20,000 inhabitants	14	64.5	9.22	67	40	75	59.5	70.5	
	City of between 20,000 and 100,000 inhabitants	34	64.03	7.52	62	49	75	58.25	69.75	
	City of between 100,000 and 500,000 inhabitants	18	65.94	7.83	67	47	75	61	72.75	
	City of more than 500,000 inhabitants	87	64.68	9.45	66	16	75	60.5	71.5	
Behaviors	Village	32	51.78	15.7	54.5	15	72	48	61.25	0.729
	City of up to 20,000 inhabitants	14	51.71	15.57	54.5	18	75	43.75	61.25	
	City of between 20,000 and 100,000 inhabitants	34	48.38	14.23	47	15	73	41	59	
	City of between 100,000 and 500,000 inhabitants	18	49.17	19.43	49.5	15	75	40.25	64	
	City of more than 500,000 inhabitants	87	51.28	13.99	53	15	73	44.5	61	

GAP**	Marital status	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Single	62	65.15	9.91	67	15	75	61	72.75	0.488
	In marriage	59	64.68	8.26	65	40	75	60	71	
	In a (formal) partnership	1	75	–	75	75	75	75	75	
	In a non-formalised relationship	56	63.43	9.97	64.5	16	75	59	70	
	Divorced/ Separated/ Widowed	7	65.29	7.13	63	54	75	62	70.5	
Behaviors	Single	62	51.71	14.57	53.5	15	75	43	61.75	0.965
	In marriage	59	50.32	14.81	53	15	74	44	59	
	In a (formal) partnership	1	48	---	48	48	48	48	48	
	In a non-formalised relationship	56	49.48	16.15	54	15	75	43.25	61	
	Divorced/ Separated/ Widowed	7	54	11.2	52	36	68	49	62	

(Continued)

TABLE 4 (Continued)

GAP**	Profession	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Nurse/midwife	40	63.98	7.9	65.5	40	75	58.75	70	0.857
	Physician	36	64.33	11.45	65.5	16	75	60.75	73	
	Other health profession	65	65.11	7.35	64	52	75	60	72	
	Student	44	64.36	11.22	67	15	75	59.75	73	
Behaviors	Nurse/midwife	40	51.7	15.24	52	15	75	44.75	63	0.609
	Physician	36	52.53	12.79	55.5	15	72	43	61	
	Other health profession	65	48.45	15.55	51	15	75	44	59	
	Student	44	51.45	15.44	54	17	73	43.75	62.5	

GAP**	LGBT-related trainings in last 5 years	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Beliefs	Never	168	64.17	9.45	65	15	75	59	71.25	0.149
	1–2 times	15	68	7.07	68	48	75	66	73.5	
	More than 2 times	2	69	8.49	69	63	75	66	72	
Behaviors	Never	168	50.4		53	15	75	43	61	0.548
	1–2 times	15	52.07	14.1	53	15	73	45.5	61	
	More than 2 times	2	61.5	12.02	61.5	53	70	57.25	65.75	

*p—Mann–Whitney test; **p—Kruskal–Wallis test; SD, standard deviation; Q1, lower quartile; Q3, upper quartile.

TABLE 5 Multivariate analysis of independent predictors for GAP scale scores in the Spanish group.

Trait	Level	Beliefs	Behaviors
Gender	Female	ref.	ref.
	Male	−2.799 (−7.055 to 1.457), $p = 0.2$	−3.617 (−10.799 to 3.564), $p = 0.326$
Age [years]		−0.028 (−0.196 to 0.14), $p = 0.746$	−0.025 (−0.308 to 0.258), $p = 0.862$
Place of residence	Village	ref.	ref.
	City of up to 20,000 inhabitants	−1.768 (−11.457 to 7.922), $p = 0.721$	2.3 (−14.049 to 18.649), $p = 0.783$
	City of between 20,000 and 100,000 inhabitants	1.379 (−2.743 to 5.501), $p = 0.513$	−0.448 (−7.403 to 6.507), $p = 0.9$
	City of between 100,000 and 500,000 inhabitants	0.518 (−3.435 to 4.472), $p = 0.798$	−1.615 (−8.286 to 5.055), $p = 0.636$
	City of more than 500,000 inhabitants	−0.967 (−4.661 to 2.727), $p = 0.609$	−0.223 (−6.455 to 6.01), $p = 0.944$
Marital status	Single	ref.	ref.
	In marriage	2.468 (−1.773 to 6.708), $p = 0.256$	1.174 (−5.98 to 8.329), $p = 0.748$
	In a (formal) partnership	1.314 (−2.893 to 5.522), $p = 0.542$	1.49 (−5.609 to 8.589), $p = 0.682$
	In a non-formalised relationship	2.472 (−8.675 to 13.62), $p = 0.665$	5.145 (−13.664 to 23.954), $p = 0.593$
	Divorced/Separated/Widowed	3.73 (−2.86 to 10.319), $p = 0.269$	9.027 (−2.091 to 20.145), $p = 0.114$
Profession	Nurse/midwife	ref.	ref.
	Physician	−8.267 (−16.62 to 0.085), $p = 0.055$	−5.733 (−19.826 to 8.36), $p = 0.427$
	Other health profession	0.259 (−3.663 to 4.181), $p = 0.897$	1.938 (−4.679 to 8.555), $p = 0.567$
	Student	1.533 (−5.83 to 8.897), $p = 0.684$	3.086 (−9.338 to 15.51), $p = 0.627$
LGBT-related trainings (conferences, webinars) in last 5 years	Never	ref.	ref.
	1–2 times	2.491 (−0.307 to 5.288), $p = 0.084$	3.613 (−1.107 to 8.334), $p = 0.136$
	More than 2 times	2.701 (−2.84 to 8.242), $p = 0.341$	5.469 (−3.879 to 14.818), $p = 0.254$

TABLE 6 Multivariate analysis of independent predictors for GAP scale scores in the Polish group.

Trait	Level	Beliefs	Behaviors
Gender	Female	ref.	ref.
	Male	−6.572 (−10.109 to 3.035), <i>p</i>	−4.315 (−10.168 to 1.538), <i>p</i> = 0.15
Age [years]		−0.085 (−0.276 to 0.105), <i>p</i> = 0.381	−0.126 (−0.441 to 0.189), <i>p</i> = 0.434
Place of residence	Village	ref.	ref.
	City of up to 20,000 inhabitants	1.705 (−4.346 to 7.756), <i>p</i> = 0.582	1.321 (−8.693 to 11.335), <i>p</i> = 0.796
	City of between 20,000 and 100,000 inhabitants	0.721 (−3.774 to 5.216), <i>p</i> = 0.754	−3.011 (−10.449 to 4.428), <i>p</i> = 0.429
	City of between 100,000 and 500,000 inhabitants	1.588 (−3.888 to 7.065), <i>p</i> = 0.571	−2.538 (−11.601 to 6.525), <i>p</i> = 0.584
	City of more than 500,000 inhabitants	0.59 (−3.615 to 4.794), <i>p</i> = 0.784	−0.327 (−7.285 to 6.63), <i>p</i> = 0.927
Marital status	Single	ref.	ref.
	In marriage	0.413 (−3.476 to 4.303), <i>p</i> = 0.835	0.002 (−6.434 to 6.438), <i>p</i> = 0.999
	In a (formal) partnership	8.598 (−9.755 to 26.951), <i>p</i> = 0.36	−2.231 (−32.602 to 28.14), <i>p</i> = 0.886
	In a non-formalised relationship	−1.835 (−5.274 to 1.604), <i>p</i> = 0.297	−2.341 (−8.031 to 3.35), <i>p</i> = 0.421
	Divorced/Separated/Widowed	−0.302 (−8.081 to 7.477), <i>p</i> = 0.939	1.767 (−11.106 to 14.64), <i>p</i> = 0.788
Profession	Nurse/midwife	ref.	ref.
	Physician	1.661 (−2.946 to 6.268), <i>p</i> = 0.481	1.637 (−5.987 to 9.261), <i>p</i> = 0.674
	Other health profession	1.589 (−2.286 to 5.465), <i>p</i> = 0.423	−3.333 (−9.746 to 3.08), <i>p</i> = 0.31
	Student	−0.034 (−4.657 to 4.588), <i>p</i> = 0.988	−1.188 (−8.837 to 6.461), <i>p</i> = 0.761
LGBT-related trainings (conferences, webinars) in last 5 years	Never	ref.	ref.
	1–2 times	5.356 (0.306 to 10.407), <i>p</i> = 0.039 *	2.771 (−5.587 to 11.129), <i>p</i> = 0.517
	More than 2 times	2.611 (−10.402 to 15.624), <i>p</i> = 0.69	9.161 (−12.373 to 30.695), <i>p</i> = 0.406

in Polish settings where cultural sensitivity toward sexual diversity remains a significant challenge (32, 43). Comprehensive training programs could mitigate implicit biases and improve health outcomes, particularly for vulnerable groups who often encounter greater barriers to accessing affirmative healthcare (17, 44).

The GAP scale assessment revealed that Spanish healthcare professionals scored significantly higher than their Polish counterparts on both affirmative beliefs (mean: 67.93 vs. 64.54) and behaviors (mean: 55.38 vs. 50.66), with results showing statistical significance ($p < 0.001$). This disparity likely reflects the cultural and legislative differences between the two countries.

Spain's legal and social framework supports LGBT rights, fostering a more inclusive and affirmative clinical environment. In contrast, Poland's conservative policies and attitudes may hinder the ability of healthcare professionals to provide empathetic and inclusive care, posing a significant barrier to equality in the healthcare setting. For example, Poland does not legally recognize same-sex unions and has implemented restrictions on discussions of LGBT issues in schools and public institutions (4, 15, 30, 32, 39). The significant difference in the percentage of nonformalized relationships between Spain and Poland in our study (0.98% vs. 44.83%) may be explained by the fact that Spain has legalized same-sex marriage, while Poland still does not recognize same-sex unions, though legislative efforts have been initiated in recent years (4).

A detailed analysis of subgroups within the Spanish population revealed that while women scored higher on the belief scale compared

to men, no significant differences were observed on the behavior scale or other demographic variables, such as place of residence or marital status. This suggests that, despite some gender-based variations, affirmative practices in Spain are generally consistent across demographics, likely reflecting the country's supportive social and legal context for LGBT rights, which fosters a broadly affirmative attitude among healthcare professionals. In Poland, gender differences were more pronounced, with women showing significantly higher affirmative beliefs compared to men. This disparity may be shaped by sociocultural factors, including traditional gender roles and conservative norms, which could limit men's openness to inclusivity and diversity. In many conservative societies, masculinity is often associated with rigid gender expectations and heteronormativity, which may lead to lower acceptance of sexual minorities and reluctance to engage in affirmative practices (45, 46). Notably, LGBT-related training in Poland was positively associated with affirming beliefs, underscoring the potential of such training to address these barriers and enhance cultural competence among healthcare professional (32, 47).

It is noteworthy that a study conducted in China identified nursing educators as the group with the lowest scores in attitudes and knowledge regarding LGBT issues, compared to nursing students and practicing nurses (48). This finding is particularly concerning, as these educators are responsible for training future healthcare professionals. This highlights the urgent need for targeted training initiatives aimed at educators to enhance their cultural competence. In the United States,

Italy and Spain, the Attitudes Toward LGBT People Scales have been used to assess attitudes toward LGBT people among university students, finding that social contact can reduce prejudice. In Brazil, a cross-sectional online survey during the COVID-19 pandemic characterized the LGBT population and found high levels of violence and discrimination. In Europe, the European Social Survey has been used to compare health and wellbeing between individuals in same-sex and opposite-sex partnerships, showing significant disparities (49, 50). In summary, studies indicate that social contact may reduce prejudice. These studies indicate that discrimination and lack of competence in health care are common problems for LGBT people.

Such findings underscore the global nature of this issue, affecting diverse cultures and regions. Implementing transformative measures, such as diversity and inclusion training, has proven effective; interventions with nursing students have demonstrated significant improvements in GAP scores post-training. Similarly, self-reflection exercises have been shown to enhance affirmative attitudes (51).

5 Limitations

This study has several limitations. The cross-sectional design prevents the establishment of causal relationships between variables. The reliance on surveys for data collection may have excluded certain healthcare professionals, particularly those in rural areas with limited internet access, potentially skewing the sample. Additionally, a larger and more diverse cohort could have offered a more comprehensive understanding of affirmative attitudes across different subgroups. The study's quantitative methodology also restricted the ability to investigate the underlying motivations or barriers influencing affirmative practices. Incorporating qualitative methods in future research could provide richer insights and enhance the interpretation of these findings.

6 Conclusion

Healthcare professionals in Spain demonstrated significantly more affirmative practices toward gay and lesbian patients than their Polish counterparts, as indicated by higher scores on the Gay Affirmative Practice Scale. Sex emerged as an influential factor, with female professionals exhibiting more affirmative beliefs in both countries. In Poland, male sex correlated with lower scores on the beliefs scale, while participation in gay and lesbian-related training was associated with improved affirmative practices. Notably, no significant predictors were identified for behaviors in the Polish group.

Given the significant impact of gay and lesbian-related training on healthcare professionals' affirmative beliefs, we strongly recommend the integration of structured and mandatory gay and lesbian-focused education modules into medical and allied health curricula. Such training should include practical and experiential learning components, such as simulations, role-playing, and patient interactions, to ensure effective knowledge transfer and promote inclusivity in clinical practice. By addressing gaps in cultural competence, these interventions can help reduce healthcare disparities and foster equitable care for gay and lesbian patients.

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 humans were approved by the Bioethics Committee of Wrocław Medical University in Poland (Approval No. KB 976/2022) and the University of Valencia in Spain (Approval No. 2024-ENFPOD-3314668). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

PK: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Software, Validation, Writing – original draft, Writing – review & editing. AD: Conceptualization, Writing – original draft, Writing – review & editing. PP-H: Writing – original draft, Writing – review & editing. RJ-V: Writing – original draft, Writing – review & editing. AM-S: Writing – original draft, Writing – review & editing. VG-C: Conceptualization, Writing – original draft, Writing – review & editing. EE: Writing – original draft, Writing – review & editing. IS-A: Writing – original draft, Writing – review & editing. MC: Formal analysis, Supervision, Writing – original draft, Writing – review & editing.

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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.

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The author(s) declare that Gen AI was used in the creation of this manuscript. OpenAI's ChatGPT, was utilized for language editing and proofreading to ensure clarity, coherence, and linguistic accuracy in the final manuscript.

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