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Editorial: Utilization of healthcare services for children in low and middle-income countries: Its determinants and child health outcomes

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Editorial on the Research Topic

Utilization of healthcare services for children in low and middle-income countries: Its determinants and child health outcomes

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Over the past two decades, the children's health systems worldwide have started paying increasing attention to the healthcare infrastructure, especially in low- and middle-income countries, by debating and focusing more on disease prevention rather than curative care approaches. Even though a declining global trend in child morbidity and mortality has been observed, a recent under-5 mortality rate estimate of 64.6 per 1,000 live births from all 137 low- and middle-income countries (excluding China) is still far from sustainable development goals (SDGs) (1). Proper utilization of services in functional healthcare systems that can prevent such events depends on various critical issues, including quality and accessibility of the current healthcare system, timely intervention, geography, cost, insurance, policy, and other social determinants. The unavailability of complete healthcare infrastructure and underutilization of available functional healthcare systems is the foremost cause of poor child health quality and premature death in low and middle-income countries. Further, healthcare expenditure is another potential barrier to health services utilization in low- and middle-income countries.

Contribution to the field

As highlighted under the call for papers for the special topic titled "Utilization of Healthcare Services for Children in Low and Middle-Income Countries: Its

Determinants and Child Health Outcomes” under the Child and Health section, the editorial team welcomed contributions that could encompass numerous study themes including status and trend of child healthcare utilization; social determinants of underutilization; variation in the geographical locations, healthcare infrastructure and accessibility, and their associations with the child health outcomes; critical challenges as well as public and private partnership model for the accessibility of child healthcare services; healthcare cost and insurance; institutional policies; and global health partnerships towards the progress of complete and central healthcare infrastructure to increase child healthcare services utilization. Such an attempt could be essential to identify the barriers to healthcare accessibility in low and middle-income countries, examine its’ consequences on child health outcomes, and illuminate the potential solutions. Articles submitted on these issues are critical for health promotion, disease prevention, and developing central healthcare infrastructure. Most of this special topic’s contributors are pediatricians or public health researchers. This area considers a comprehensive approach to inclusiveness of acceptance.

The purpose of this research topic was to collect the current evidence on the healthcare services utilization for children in low and middle-income countries. It is worth mentioning and emphasizing the numerous emerged studies under this special edition that significantly contributed to the scientific field and future policy implementation. Some interesting findings were explored in the context of this research topic.

Child mortality remains higher in the developing world compared to the developed world. [Pham et al. \(2\)](#), using the integrated Health and Demographic Surveillance System (iHDSS), estimated child mortality at the sub-national level in Papua New Guinea. The authors concluded that contextual factors such as women’s fertility, childhood communicable diseases, and immunization services could have a critical role in explaining the variations in child mortality. Apart from communicable diseases, genetic diseases also lead to disability and death. [Bu et al. \(3\)](#) estimated the overall, demographic, and region-specific burden of down syndrome between 2010 and 2019 among children using 2019 global burden of disease (GBD) data. This study found a higher and heterogeneous burden of down syndrome in selected regions of Asia, Europe, Latin America, and Africa, which certainly indicates the higher burden in the regions with poor health infrastructure.

Two studies focused on identifying the social determinant of healthcare utilization using data from nationally representative health surveys in India and China ([4](#), [5](#)). Specifically, using the fourth round of National Family Health Survey data, [Madhumita and Soumitra \(4\)](#) highlighted the disparities in maternal and child healthcare (MCH) among disadvantaged and advanced social groups in three states of India. They found that the families belonging to the schedule caste/tribe were less likely to receive the antenatal checkup

(ANC) and complete immunization for their children. Limited accessibility and poor infrastructure came out as other barriers to the under-utilization of these healthcare services. However, [Jing et al.](#) focused on assessing the effect of parental social integration on the physical examination service utilization for young migrant children in China using the 2014 National Internal Migrant Dynamic Monitoring Survey ([5](#)). Using four different dimensions of social integration, the authors found that parental social integration was associated with migrant children’s physical examination utilization. Concerning structural integration, the authors found that the migrant parents who participated in the society and those who live with registered residents were more likely to use the migrant children’s physical examination service. This study provided evidence on the other facets of social integration, such as sense of self-identity, and other parameters such as parents’ movement area and duration in the inflow area, children’s age, and their link with the utilization of the physical services. More specifically, concerning economic integration, the insured parents were positively associated with the migrant children’s physical examination service use.

Discharged against medical advice (DAMA) is common in low-resource countries and causes poor health outcomes among hospitalized patients. An interesting study on the economic burden of hospital costs and the role of medical insurance on families with type 1 diabetes mellitus children in China was carried out by [Wang et al. \(6\)](#). The authors concluded that hospitalization-related costs are a substantial economic burden among the uninsured and low-income insured families. Poverty and lack of affordable healthcare may push parents to get their children DAMA. With a focus on the impact of spiritual/faith-based interventions (FBIs) on DAMA in Nigeria, [Alao et al. \(7\)](#) documented an open-level randomized controlled trial protocol to determine the effectiveness of FBIs on the rate of DAMA in neonates. DAMA is common in low- and middle-income countries and one of the prime reasons for neonatal mortality and other adverse outcomes such as medical complications and readmission. Findings from this study could help establish routine care in Nigeria. Attempting similar investigations in other low-performing countries could be essential to understand lowering the rate of DAMA. Additionally, free healthcare accessibility and health-related educational intervention among the parent may help reduce the incidence of DAMA in low- and middle-income countries.

Lack of health service utilization and self-medication by parents is a significant threat to child health. The high burden of self-medication among children is well-known in developing countries. Using a national survey, [Yuan J et al.](#) explored the burden and associated factors of self-medication in the pediatric population in China ([8](#)). Authors observed a drastically huge burden (24.2%) of self-medication in children under 12 years. They identified that lower parental educational

attainment is a significant risk factor for self-medication. Target interventions and educational programs among the parent are essential to lower self-medication and improve drug safety.

Low- and middle-income countries also have a high proportion of malnourished children. Considering 106 villages from Tumkur District of Karnataka state in India, Kashyap et al. found a significant decline in the prevalence of severe wasting and stunting with an overall improvement in the nutritional status among the children of 6 months to 6 years of age who consumed the spirulina chikki/granules supplementation for longer duration (9). Implementing such nutritional intervention in the targeted geographical areas with a higher prevalence of malnourishment in low- and middle-income countries is a commendable step to harmonize wellbeing.

Along with proper nutrition and healthcare utilization, it is crucial to have a reference range of parameters for a specific population. A suitable birthweight reference could be helpful for many purposes, such as establishing new treatment models, vaccine intervention, and other public health policy implementations. Wu et al. addressed the new birthweight reference to assess the newborns by gestational age in China by conducting a population-based study (10).

According to the recent report by World Health Organization (WHO), about 100 million people are pushed into extreme poverty every year mainly due to out-of-pocket health-related expenditure (11). “To make health for all a reality” is a prime agenda for SDGs of the WHO, and the healthcare system needs improvement in low- and middle-income countries to reach the universal health coverage target of 3.8 defined by the WHO. A single blueprint cannot be used to straighten out the inadequacies and underutilization of a perfect healthcare system. Strengthening the healthcare systems in low-resource countries is an ongoing developmental process.

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Author contributions

BT and MP worked on this special research topic and reviewed the manuscripts to draft this editorial manuscript. All authors contributed to the article and approved the submitted version.

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Conflict of interest

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