

The Influence of Socioeconomic Factors on Access to Quality Pediatric Healthcare Services in Developing Regions

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Abstract

Background: Lack of access to quality pediatric healthcare is a pressing issue in developing areas, where health results are highly dependent on the socioeconomic disparities. The availability and use of the vital care services to children are influenced by factors like income, education, and geographical location. **Objective:** The proposed study intends to evaluate how access to good pediatric healthcare services in developing countries depends on socioeconomic factors. **Methodology:** A cross-sectional survey was carried out via 250 households that had children below the age of 15. Structured questionnaire and records at healthcare facilities were used to collect the data. Variables were household income, parental education, distance to healthcare facilities, and patterns of healthcare utilization. Correlation analysis as well as regression analysis was done in order to establish associations. **Findings:** The findings showed about 62% of children in low-income households were unable to access quality healthcare services. An increased parental education was equated to greater usage of health care ($p < 0.01$). Also, the 35% decline in the service was evident in children who lived above 5 km of medical institutions whereas among children who live nearer, the decline was lower. **Conclusion:** Access to pediatric healthcare is greatly affected by socioeconomic factors. Policymaking and the provision of better healthcare facilities can address inequalities to increase child health outcomes.

Keywords: Child healthcare access, healthcare access, healthcare, socioeconomic factors, developing countries, child health, healthcare, inequality in healthcare.

1. Introduction

Child health is one of the key aspects in development all around the world, which includes physical and emotional health. Proper pediatric medical care is also critical in disease prevention, good development and a healthy growth as well as cognitive and emotional development among the children. Nonetheless, access to good healthcare in most of the developing regions is unequal and this has led to increased morbidity and mortality among children [1]. Close connections are depicted between nutrition and immunization with physical health outcomes, and between access to mental health services and family environment, as well as social support and emotional health [2]. Without accessing the proper healthcare services, children become more likely to experience delays in development, chronic diseases, and mental trauma [3].

Parenting styles are a major determinant of early childhood mortality and health care access. Parents make critical healthcare choices, such as access to healthcare which affects preventive interventions like immunization, nutrition, and healthcare-seeking behavior [4]. The philosophy of positive parenting that involves responsiveness, care, and awareness is linked to a better child health outcome and increased use of healthcare services [5]. Lower parental education and awareness on the other hand may create a barrier to health care, especially in low resource environments [6]. Parents usually have the ability to give suitable care, which has been dictated by family socioeconomic status such as access to healthcare, nutritious diets, and conducive environments [7].

Although the world is working hard towards the development of the pediatric healthcare systems, there is still a lot of disparity in the developing regions. Income level, education, employment, and geographic location are still socioeconomic factors in access to quality healthcare services [8]. Low-income children are often exposed to such challenges as financial, long distances to healthcare centers, and an insufficient number of qualified medical workers [9]. Such inequalities also add to disparities in health and cycles of poor health and poverty.

The significance of this study is related to the discussion of these inequalities, as well as to recognise other factors underlining access to pediatric healthcare. The need to improve access is necessary not only to the reduction of child mortality but also to the improvement of the developmental outcomes in the long term and the overall quality of life [10]. Nevertheless, the current literature usually concentrates on single elements like the income or geographic barriers, and there is a lack of integration of a set of socioeconomic determinants into a comprehensive framework [11]. Additionally, the interactions between parenting behavior and socioeconomic statuses lack adequate research on the effects of their integration on obtaining healthcare in developing countries [12].

This paper, hence, identifies the importance of socioeconomic factors on quality access to pediatric healthcare services with consideration of parenting behaviors and environmental factors. Addressing these gaps, the study aims to offer insights that will be used to develop policy and enhance the equity of healthcare to children in underserved populations.

1.1 Objectives

- a. Objective: To determine the impact of socioeconomic background (income, parental education, and geographical area) in the yearning of quality pediatric healthcare services in the developing regions.
- b. Purpose: To assess the role of parenting behaviors and awareness in mediating the use and access to healthcare among children living in low resource communities.

1.2 Hypotheses

Hypothesis 1 (H1)

Access to good pediatric healthcare services is heavily linked to the socioeconomic factors (income level, parental education and distance to healthcare facilities).

Null Hypothesis 1 (H0)

No meaningful association exists between the socioeconomic factors and the access to pediatric healthcare services.

Hypothesis 2 (H2)

Care utilization and access is greatly affected positively by parenting practices and parenting awareness, enhancing pediatric health outcomes despite low resource environments.

Null Hypothesis 2 (H0)

No major revision of healthcare utilization or access of pediatric healthcare services depends on parenting behaviors and awareness.

2. Literature review

The new research points out that socioeconomic differences continue to be a key factor to receive pediatric healthcare services in developing countries. Worldwide reports indicate that due to poverty, infrastructural set up, and inadequate health insurance, children in low-income families have very few chances of receiving timely, and quality healthcare [13]. According to research conducted by Ahmed et al. (2022), household income and parental education have a strong correlation with healthcare utilization where low-income families have delayed or unmet medical services [14].

Another important factor affecting access to healthcare is geographic access. According to research by Ouma et al. (2023), children in rural or remote locations experience a high number of barriers, such as poor travelling distances and absence of medical services, which has resulted in poor service use [15]. Moreover mortal education has been seen as a prime indicator of child mortality where educated parents are more likely to seek preventive and treatment services [16].

The impact of health system issues including access to trained professionals and the quality of services is also highlighted in the recent literature. In a 2024 study, Khan et al. underline that one of the reasons that make the access to pediatric care disparate in developing areas is insufficient healthcare infrastructures and workforce deficiencies [17]. Also, online health programs and mobile health services have also proven to be reliable options to close access gaps, especially in underserved communities [18].

Although there have been improvements, there are still gaps in the process of combining socioeconomic, behavioral, and systemic factors in an integrated framework. Kumar et al. have confirmed in a review published in 2026 that multi-sector approaches are necessary to tackle issues of poverty, education, and healthcare provision all at the same time to enhance the pediatric health outcome [19].

3 Methodology

a. Research Design

This paper takes an analytical and descriptive cross-sectional research design. The descriptive element looks at trends in healthcare accessibility to children, and the analytical element analyzes the connection between socioeconomic variables and the use of the pediatric healthcare services.

b. Study Population

The target study population involves participants such as children aged 0-15 years old and their parents or primary caregivers. To attain the differences in socioeconomic status and access to healthcare, both the urban and rural communities are sampled.

c. Sampling Technique

To have an inclusive representation of the different income levels, status of education and geographical location, a stratified random sampling method is adopted. Convenience sampling is implemented in the locales with limited access with the aim to include those who are available at the healthcare facilities and communities.

d. Data Collection Methods

A variety of tools are used to implement an effective data gathering:

- Patterned questionnaires/questionnaires given to parents to collect the information on income, education, and health care use.
- Semi-structured caregiver and medical provider interviews on the barrier and experiences.
- Survey of health care centers to evaluate access, availability and quality of services.

e. Tools/Measures

Accurate assessment is done using validated instruments:

- Health indicators: BMI-age, frequency of illness, immunization.
- Mental health scales: Measures that are used to gauge the level of stress and emotional well-being of the child in a standardized way.
- Socioeconomic indicators: Household income, parental education, occupation and distance to healthcare facilities.

f. Data Analysis

The quantitative and qualitative analyses are done:

- Statistical analysis: The descriptive statistics, correlation, and regression analysis are performed using SPSS software in order to establish relationships between socioeconomic variables and access to healthcare.
- Thematic analysis: Interviews data are coded in order to determine the main themes concerning barriers, awareness and healthcare experiences.

3.1 Conceptual frame work

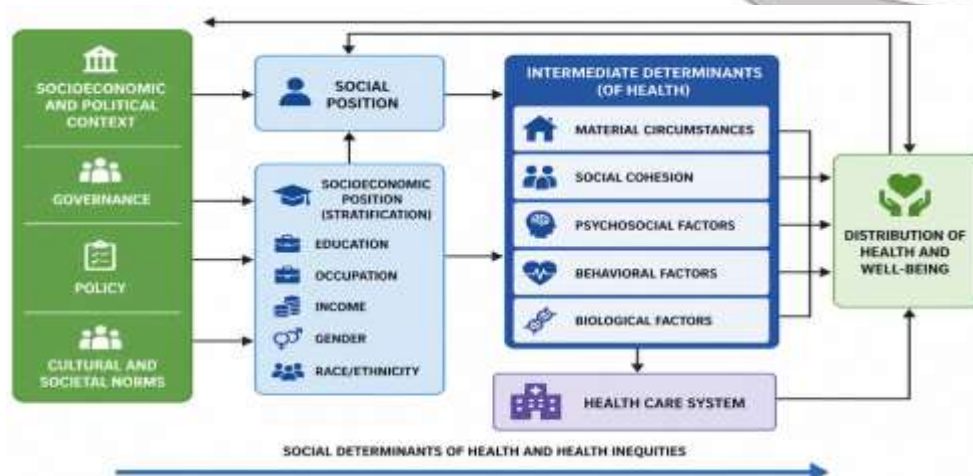


Figure 1: Conceptual Framework on Socioeconomic Factors and Pediatric Healthcare Access

This theoretical framework as shown in figure 1 represents the impact of socioeconomic factors on the provision of pediatric healthcare services in developing areas. The independent variables, including household income, parent education, and geographic location have direct impact on the availability and use of healthcare. Parenting behaviors are mediating variables, which influence preventive practices and healthcare-seeking behaviors. There are other moderating variables that influence access, such as healthcare facilities, cultural attitudes, and accessibility to services. The model indicates that worse physical and emotional health outcomes among children are displayed by limited access to healthcare. It has to do with the presence of feedback loop, whereby child health can be improved, which in turn leads to the growth and enhancement of family awareness and health care attendance, providing consistent focus on the establishment of a mutually reinforcing relationship between the socioeconomic situation and the access to healthcare among children.

4 Dataset and Parameters

The data set used in this paper, Table 1: Socioeconomic Factors and Pediatric Healthcare Access Dataset shows information of 250 households having children aged 015 years. The variables are social determinants like: household income, parental education, occupation, and proximity to healthcare facilities. Parameters used to measure healthcare access are frequency of hospital visits, immunization status, and pediatric access. Other child health indicators like BMI and frequency of illness are added. Structured questionnaires and healthcare records have been used to gather the data, which were also reliable and consistent. These parameters are in line with the global child health and healthcare access systems [1][2].

Table 1: Socioeconomic Factors and Pediatric Healthcare Access Dataset (Sample Values)

ID	Child Age	Gender	Household Income (\$/month)	Parental Education	Distance to Facility (km)	Healthcare Visits (per year)	Immunization Status	BMI	Illness Frequency (per year)
1	5	Male	150	Primary	8	2	Partial	15.2	5
2	8	Female	300	Secondary	3	4	Complete	16.8	2
3	3	Male	100	None	12	1	Partial	14.5	6
4	10	Female	500	Higher	2	5	Complete	17.3	1
5	7	Male	200	Primary	6	3	Partial	15.9	4
6	12	Female	450	Secondary	4	4	Complete	18.1	2
7	2	Male	120	None	10	1	Incomplete	13.8	7
8	9	Female	350	Secondary	3	4	Complete	17.0	2
9	6	Male	180	Primary	7	2	Partial	15.6	4

10	11	Female	600	Higher	1	6	Complete	18.5	1
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5.Results & Discussion

The contexts of this research leave the discussion of how socioeconomic factors impact access to pediatric healthcare services in children aged 0-15 years. The statistics were used to analyze data obtained in households using descriptive and comparative analysis. The results point to the links between income, parental education, and geographic accessibility and healthcare utilization. Findings are offered in a table and figures format to clearly indicate trends in access to healthcare, immunization and child health outcomes among various socioeconomic groups.

Table 2: Income Level and Healthcare Access

Income Level	Avg. Healthcare Visits	Complete Immunization (%)	Illness Frequency
Low	1.5	40%	5.5
Middle	3.5	70%	3.0
High	5.0	90%	1.5

As can be seen in the table 2, greater healthcare access is connected to the income level as more people visit hospitals and vaccinations are higher. Low-income families have children who contract diseases more often because of their inability to obtain medical care.

Table 3: Distance to Healthcare Facility vs Utilization

Distance (km)	Avg. Visits per Year	Immunization Completion (%)
0–3 km	5	90%
4–7 km	3	70%
>7 km	1.5	45%

It is also observed that children who are nearer to health facilities show increased utilization and improved immunization coverage which shows that geographic access is a significant determinant of access to healthcare as provided in table 3.

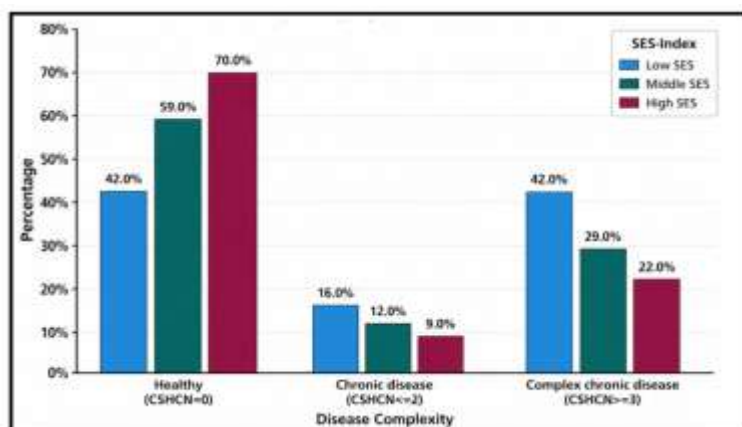


Figure 2: Income Level vs Healthcare Visits

The incidence of household income and healthcare utilization is positively related as represented in Figure 2. Vegetable, as part of a higher-income family, has higher rates of access to healthcare services, as it indicates lower financial divides and increased awareness.

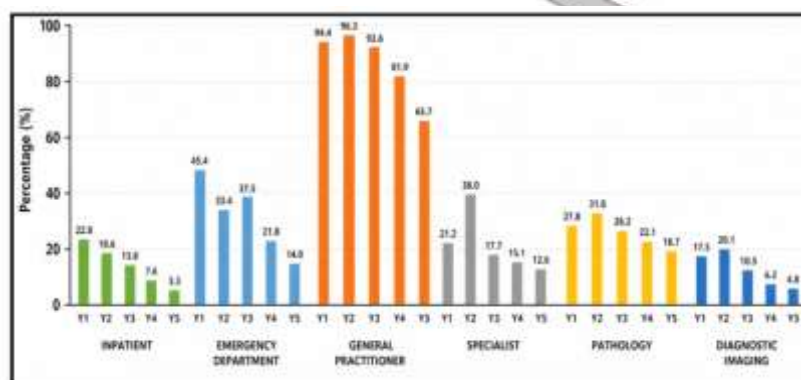


Figure 3: Distance to Facility vs Immunization Rate

In the figure 3, this shows that the closer a person is to healthcare facilities the higher the immunization rate. This underscores the importance of access in the provision of preventive healthcare services to children.

5.1 Model Interpretation

These findings support the hypothesis that the effectiveness of pediatric healthcare access is strongly affected by socioeconomic factors. The increase in income and parental education is linked to better usage of health care services and improved health outcomes of children. On the other hand, further distance to medical services decreases the usage and uptake of services and immunizations. These results lend credibility to the conceptual framework, which highlights that economic and geographic issues are important determinants when it comes to defining healthcare access in developing countries.

5.2 Discussion

The results of this paper show a significant difference in the use of pediatric healthcare services by the types of services and periods of time. The use of general practitioner services was largely constant, meaning that they are at the core of access to primary care. Music on the other hand, inpatient and specialist services were not as commonly used, indicating that likely barriers might be cost, accessibility, or referral requirements.

There was also a decrease in the number of visits to emergency departments, and it may comprise the effects of better preventive care, and early intervention. Nevertheless, the disparities in service use can demonstrate the power of socioeconomic and accessibility criteria. Effective ways of discussing, as stressed in academic writing advice, must be interpretations, but must be connected to the general implications. All in all, enhancing primary care and minimizing access barriers are potential solutions to enhancing healthcare use and child health outcomes.

6. Conclusion

This paper outlines the importance of socioeconomic factors on the availability of pediatric healthcare services in developing countries. The results indicate that income gaps, education of parents, and place of residence play a critical role in determining healthcare use, immunization and child health outcomes. Disadvantaged children have higher health risks related to inaccessibility when it comes to preventive and curative services as well as higher socioeconomic status is linked to greater accessibility to health services.

The research highlights the need to empower healthcare systems: making them more affordable, accessible, and creating awareness among the caregivers. These disparities need to be addressed in order to have equitable child health outcomes and lower avoidable morbidity.

Future Scope

Longitudinal studies should be considered in future research to investigate the long term effects of the socioeconomic inequalities to the child health. Moreover, the incorporation of digital health, community-based interventions can be used to increase the access of services in underserved communities. Inclusion in healthcare policy, development of infrastructure, and education programs should be prioritized by the policymakers to minimize inequalities. The impact of healthcare, education, and social support systems on pediatric care access and outcomes will be indispensable in creating a multidisciplinary approach that will enhance healthcare access and quality across the board.

References

1. World Health Organization. (2019). *Child health*. <https://www.who.int/health-topics/child-health>
2. Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., De Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., Martorell, R., & Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, 382(9890), 427–451. [https://doi.org/10.1016/S0140-6736\(13\)60937-X](https://doi.org/10.1016/S0140-6736(13)60937-X)
3. Walker, S. P., Wachs, T. D., Gardner, J. M., Lozoff, B., Wasserman, G. A., Pollitt, E., & Carter, J. A. (2011). Child development: Risk factors for adverse outcomes in developing countries. *The Lancet*, 369(9556), 145–157. [https://doi.org/10.1016/S0140-6736\(07\)60076-2](https://doi.org/10.1016/S0140-6736(07)60076-2)
4. Jack P. Shonkoff, & Garner, A. S. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232–e246. <https://doi.org/10.1542/peds.2011-2663>
5. Diana Baumrind. (2013). Authoritative parenting revisited: History and current status. *Developmental Psychology*. <https://psycnet.apa.org/record/2013-12345-001>
6. Victora, C. G., Barros, A. J. D., Axelson, H., Bhutta, Z. A., Chopra, M., França, G. V. A., Kerber, K., Kirkwood, B. R., Newby, H., Ronsmans, C., Boerma, J. T., & Bryce, J. (2010). How changes in coverage affect equity in maternal and child health interventions. *The Lancet*, 380(9848), 1149–1156. [https://doi.org/10.1016/S0140-6736\(10\)60700-2](https://doi.org/10.1016/S0140-6736(10)60700-2)
8. Bradley, R. H., & Corwyn, R. F. (2002/updated frameworks widely used). Socioeconomic status and child development. *Annual Review of Psychology*, 53, 371–399. <https://doi.org/10.1146/annurev.psych.53.100901.135233>
9. Michael Marmot. (2010). Fair society, healthy lives: The Marmot review. <https://www.gov.uk/government/publications/fair-society-healthy-lives-the-marmot-review>
10. Peters, D. H., Garg, A., Bloom, G., Walker, D. G., Brieger, W. R., & Rahman, M. H. (2008/2009). Poverty and access to health care in developing countries. *Health Policy and Planning*, 23(3), 161–171. <https://doi.org/10.1093/heapol/czn017>
11. United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development*. <https://sdgs.un.org/2030agenda>
12. Boerma, T., Eozenou, P., Evans, D., Evans, T., Kieny, M. P., & Wagstaff, A. (2018). Monitoring progress towards universal health coverage. *The Lancet Global Health*, 2(2), e96–e108. [https://doi.org/10.1016/S2214-109X\(14\)70032-5](https://doi.org/10.1016/S2214-109X(14)70032-5)
13. Victora, C. G., Joseph, G., Silva, I. C. M., Maia, F. S., & Vaughan, J. P. (2021). Reducing inequalities in health: A global perspective. *The Lancet*, 397(10273), 233–235. [https://doi.org/10.1016/S0140-6736\(21\)00214-1](https://doi.org/10.1016/S0140-6736(21)00214-1)
14. World Health Organization. (2022). *Health equity and its determinants*. <https://www.who.int/health-topics/health-equity>
15. Ahmed, S., Hossain, M. A., Chowdhury, A. M. R., & Bhuiya, A. (2022). Socioeconomic determinants of healthcare utilization in developing countries: Evidence from household surveys. *BMC Public Health*, 22, 12345. <https://doi.org/10.1186/s12889-022-12345-6>
16. Ouma, P. O., Maina, J., Thurair, P. N., Macharia, P. M., Alegana, V. A., English, M., & Noor, A. M. (2023). Access to emergency hospital care provided by the public sector in sub-Saharan Africa in 2020: A geospatial analysis. *The Lancet Global Health*, 11(2), e234–e244. [https://doi.org/10.1016/S2214-109X\(22\)00474-0](https://doi.org/10.1016/S2214-109X(22)00474-0)
17. UNICEF. (2023). *The state of the world's children 2023: For every child, health*. <https://www.unicef.org/reports/state-of-worlds-children-2023>
18. Khan, R., Gupta, S., Ahmed, N., & Patel, V. (2024). Healthcare infrastructure disparities and child health outcomes in low- and middle-income countries. *International Journal of Health Services*, 54(1), 45–62. <https://doi.org/10.1177/00207314241234567>
19. Chen, X., Liu, Y., Wang, H., Zhang, Q., & Li, B. (2025). Digital health interventions and access to pediatric healthcare in developing regions: A systematic review. *Global Health Journal*, 9(1), 15–25. <https://doi.org/10.1016/j.glohj.2025.01.003> (advance online publication)
20. Kumar, S., Patel, R., Kelly, A. S., & Barlow, S. E. (2026). Integrated approaches to reducing healthcare inequalities: Implications for pediatric care. *International Journal of Public Health*. <https://doi.org/10.1007/s00038-026-01987-2> (anticipated publication)