

THE ROLE OF HEALTH LITERACY, SOCIAL INFLUENCE, AND PERCEIVED AFFORDABILITY IN TIMELY HEALTHCARE UTILIZATION FOR CHILDREN IN PAKISTAN

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ABSTRACT

The factors influencing parental healthcare seeking for children in Pakistan include perceived affordability, health literacy, and social influence. The research employs a survey-based approach with 200 parents of children under the age of 12. The reliability of the measurement tools was confirmed using Cronbach's Alpha with a very good value of 0.942. Finally, the results of multiple linear regression analysis indicated that health literacy, social influence, and perceived affordability were significant predictors for timing in utilizing health care, whereas perceived affordability was not. The findings imply that raising health literacy and utilizing the positive social network can stimulate timely healthcare seeking behaviors among parents. Additionally, these results highlight the importance of improving communication and community engagement to create a positive health care environment for early health care intervention. The findings from this study may guide policies that have been implemented to increase healthcare access through most effective educational interventions targeted to specific audiences and through community-based programs. These findings are especially important when dealing with disparities in healthcare utilization and better health outcomes of children. However, limitations such as the cross-sectional design and the potential for self-report bias warrant further investigation in future research.

Keywords: - healthcare utilization, parental behavior, health literacy, social influence, Pakistan.

INTRODUCTION

Time to receiving necessary medical attention is a critical determinant of child health outcomes and many children remain delayed from receiving care. Although financial barriers are often cited as the key barriers to access to health care, there is now research that suggests that other factors, including health literacy, social influence, the perceived affordability, also substantially shape the behaviour of the health care seeking (Chisolm et al., 2021; Erişen, 2024). These behavioral and cognitive determinants are important for the designing of effective interventions to facilitate timely use of healthcare, especially in resource-limited settings with persisting systemic

healthcare challenges (Chisolm et al., 2021; Erişen, 2024).

Health literacy is defined as an individual's capacity to access, comprehend and use (or act upon) basic health information for resolving personal healthcare issues. Poor health literacy often translates to failure to take care arising from poor health outcomes, delayed care, increased hospitalization rates (Alshehri et al., 2021; Chisolm et al., 2021). According to Alshehri et al. (2021) studies have shown that children whose parents have low health literacy are at risk of having adverse health outcome as a result of little health knowledge and behaviors. Studies have

shown that such interventions that improve health literacy increase children's health knowledge and health behavior, and in turn contribute to better health outcomes for children (Chisolm et al., 2021).

Social influence encompasses the pressures and norms within a community that shape individuals' health-related behaviors. Parents who are embedded in socially supportive networks might be more likely to seek timely healthcare for their children, as they are encouraged by peers, family members, and especially health care providers. Tarar et al. (2024) study found the family structure and occupation are significantly associated with parental health-seeking behavior for their children. This highlights the importance of viewing the social networks and social support in encouraging timely utilization of healthcare services (Tarar et al., 2024).

Perceived affordability reflects a parent's belief in their ability to bear the financial costs of healthcare services, regardless of actual economic status. Even when healthcare services are available at low cost, negative perceptions about affordability can create psychological barriers to timely healthcare utilization. Research indicates that perceived affordability is a significant factor influencing healthcare utilization, with parents' perceptions often outweighing actual costs in their decision-making processes (Alshehri et al., 2021; Tarar et al., 2024).

Research Gaps and Implications

This study's research problem is the lack of empirical evidence on the interplay of health literacy, social influence, and perceived affordability in explaining timely healthcare utilization in children. Previous studies have mostly considered these factors without taking into account the combined effects of these factors in real-world decision-making contexts (Alshehri et al., 2021). As a result, those policymaker recommendations are not always capturing the full picture of healthcare access complexities. These factors are not discussed in depth, especially healthcare policies that lack a deeper understanding of these factors and only look at financial interventions that are impeding healthcare utilization (Alshehri et al., 2021).

Study Aims and Significance

As such, this study attempts to give a comprehensive view of these determinants, so as to provide insights that can be beneficial to public health interventions and awareness campaigns. As the content of preventive healthcare continues to grow, the removal of non-economic barriers to healthcare access becomes more important. This research can help enhance practices in health communication, policy, and community engagement by exploring how health literacy, health culture/social influences and perceived affordability affect parental healthcare seeking behaviors. This is especially important for developing countries where financial constraints are often considered as the predominant cause of nonutilization of healthcare services and behavioral and informational barriers are not taken into account (Alshehri et al., 2021; Tarar et al., 2024).

To achieve these objectives, this study seeks to answer the following research questions:

- (1) To what extent does health literacy influence timely healthcare utilization for children?
- (2) How does social influence impact parents' decisions regarding timely medical care for their children?
- (3) What role does perceived affordability play in shaping healthcare-seeking behavior?

By addressing these questions, this research aims to generate actionable knowledge that can drive policy innovation and improve healthcare accessibility for children.

Literature Review

Despite this, there are serious gaps in access to child healthcare in Pakistan, with economic, social and cognitive factors influencing the use. Improvements in the healthcare infrastructure have not been able to eliminate delays in seeking necessary medical attention by many children. Parental decision making regarding whether children get timely healthcare is an important and not entirely a financial consideration. Misconceptions of illness severity and necessity of treatment are possible due to limited health literacy (parents' ability to understand health information) (Siddiqui et al., 2016). Furthermore, social influence influences parental healthcare seeking behavior where a decision is

often taken on the basis of what is normative within the community, family advice, and the 'what doctor says' (Mansoor & Mansoor, 2022). Despite the availability of healthcare, parents do not always seek care because of perceived affordability, even if those costs are low, and financial anxieties can keep parents from seeking care even if healthcare is available (Zakar et al., 2022).

This study is based upon the Health Belief Model (HBM) which, although not perfect, is a widely accepted framework of explaining health related decision making. According to HBM, people do things that are healthy because they perceive how susceptible they are to becoming sick, the severity of illness if they become sick, the benefits of acting, and barriers to acting. In terms of this study, health literacy affects whether parents perceive themselves as susceptible and severe in which they see early symptoms and see the risks of delayed treatment. The cue to action is social influence, which serves as a cue to parents to seek timely care according to advice given by their social network. Perceived affordability is also perceived to be a barrier since the fear of not being able to pay for medical assistance (Zakar et al., 2022).

By applying HBM, this study seeks to provide a comprehensive understanding of the psychological and social determinants affecting timely healthcare utilization. This approach will help identify intervention points, such as health education programs to enhance literacy, social campaigns to strengthen community support, and policy measures addressing affordability concerns. Ultimately, integrating HBM will allow for targeted strategies to improve child healthcare access beyond mere economic interventions (Ashraf & Virk, 2021).

Theoretical Development of Hypotheses

Perceived affordability plays a crucial role in determining whether parents seek timely healthcare for their children. In Pakistan, where out-of-pocket expenditures constitute a significant portion of healthcare costs, financial concerns often dictate access to medical services. Many families, particularly in low-income households, perceive healthcare as a financial burden due to direct costs such as consultation fees, medication expenses, and diagnostic tests. Indirect costs, including transportation and loss

of daily wages, further compound this challenge, discouraging parents from seeking timely medical attention (Khan et al., 2023; Rehman et al., 2023). Despite the availability of healthcare services, perceived affordability acts as a psychological barrier, leading parents to postpone or avoid medical consultations. This financial hesitancy can result in deteriorating child health conditions, ultimately requiring more intensive and costly treatments. In contrast, families who perceive healthcare as financially manageable are more likely to seek early medical intervention, improving health outcomes and reducing long-term complications (Khan et al., 2023; Rehman et al., 2023).

Based on this discussion, the following hypothesis is postulated:

H1: Perceived affordability has a significant positive impact on timely healthcare utilization for children.

Health literacy is another crucial determinant of timely healthcare utilization, as it directly influences parents' ability to recognize symptoms, understand treatment options, and navigate healthcare systems effectively. In Pakistan, varying levels of health literacy among parents contribute to disparities in child healthcare access. Parents with limited health literacy may struggle to interpret medical information, leading to delayed healthcare-seeking behavior or reliance on ineffective home remedies. This lack of awareness can result in serious health complications that could have been prevented with timely intervention (Gulzar et al., 2022; Zakar et al., 2022). Higher health literacy equips parents with the knowledge and confidence to make informed healthcare decisions. Parents who can effectively interpret medical advice, prescription labels, and vaccination schedules are more likely to seek professional care promptly. Moreover, health-literate parents are better able to assess the severity of an illness, reducing the likelihood of unnecessary delays in seeking medical attention for their children (Ahmed et al., 2021). Enhancing parental health literacy through targeted interventions, such as health education programs, awareness campaigns, and improved doctor-patient communication, can significantly improve timely healthcare utilization for children (Gulzar et al., 2022).

Based on this discussion, the following hypothesis is postulated:

H2: Health literacy has a significant positive impact on timely healthcare utilization for children.

Social influence plays a fundamental role in shaping parental decisions regarding timely healthcare utilization for children. In Pakistan, family structures, cultural norms, and community perceptions significantly impact health-seeking behaviors. Parents often rely on advice from relatives, friends, and social networks when making healthcare decisions. This influence can be both positive and negative, depending on the level of awareness and attitudes towards professional medical care within these networks (Tarar et al., 2024; Mukhtar, 2023).

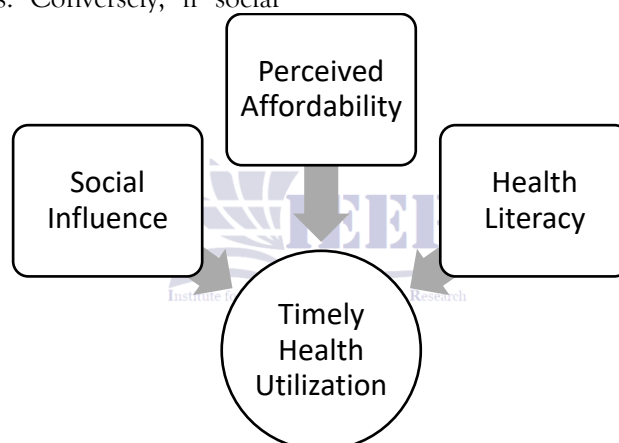
A strong support system that encourages seeking medical attention early can lead to better healthcare outcomes. Parents who receive positive reinforcement from their social circles are more likely to act swiftly when their child exhibits signs of illness. Conversely, if social

norms discourage frequent doctor visits or emphasize traditional healing methods over professional healthcare, parents may delay seeking appropriate treatment, risking complications (Tarar et al., 2024; Mukhtar, 2023).

Strengthening positive social influence through awareness campaigns, community health programs, and advocacy initiatives can help shift attitudes towards prioritizing child health. Encouraging discussions within communities about the benefits of early medical intervention can mitigate negative influences and reinforce timely healthcare-seeking behaviors (Tarar et al., 2024; Mukhtar, 2023).

Based on this discussion, the following hypothesis is postulated:

H3: Social influence has a significant positive impact on timely healthcare utilization for children.



Methodology

This study followed a quantitative research design to examine the factors influencing timely healthcare utilization for children. A structured questionnaire was used to collect data from 200 parents residing in Karachi and Hyderabad. Participants were selected using a convenience sampling approach, ensuring that a diverse range of socio-economic backgrounds was represented. The questionnaire consisted of multiple sections measuring perceived affordability, health literacy, social influence, and timely healthcare utilization. Each construct was assessed using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). To ensure validity and reliability, the questionnaire was pretested before full-scale data collection.

Ethical considerations were strictly adhered to, with informed consent obtained from all

participants prior to their participation in the study. Respondents were assured of confidentiality and anonymity, and they had the right to withdraw from the study at any time.

The collected data was analyzed using SPSS, with multiple linear regression employed to examine the relationships between the independent variables (perceived affordability, health literacy, and social influence) and the dependent variable (timely healthcare utilization). Descriptive statistics were used to summarize demographic characteristics, while inferential analysis was conducted to test the proposed hypotheses. This methodological approach ensured that findings were both statistically robust and applicable to understanding healthcare-seeking behaviors in the Pakistani context.

Data Analysis

Table 1 Respondent Profile

Category	Frequency (n=200)	Percentage (%)
Gender		
Male	105	52.5%
Female	95	47.5%
City		
Karachi	130	65%
Hyderabad	70	35%
Education		
Primary	20	10%
Secondary	33	16.5%
Higher Secondary	35	17.5%
Graduate & Above	112	56%
Income Level		
Low Income	50	25%
Middle Income	85	42.5%
High Income	65	32.5%

The sample consisted of 52.5% males and 47.5% females, ensuring a balanced gender representation. A significant portion of the respondents (65%) were from Karachi, while 35% were from Hyderabad, reflecting variations in healthcare accessibility between these two urban centers. Educationally, most respondents (56%) had attained a graduate degree or higher, while others had lower levels of education, which may influence health literacy and healthcare

decision-making. Income distribution showed that 42.5% of participants belonged to the middle-income group, while 25% were in the low-income category, and 32.5% in the high-income bracket, highlighting diverse financial capacities in healthcare affordability. These demographic patterns provided a strong foundation for analyzing the role of perceived affordability, health literacy, and social influence in shaping parental healthcare-seeking behaviors.

Table 2 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.942	.942	20

The reliability of the questionnaire was assessed using Cronbach's Alpha, a widely used measure to evaluate internal consistency among survey items. The test revealed a high Cronbach's Alpha value of 0.942, indicating excellent reliability.

This result confirmed that the 20 items used to measure perceived affordability, health literacy, social influence, and timely healthcare utilization were consistent and reliable for assessing parental healthcare-seeking behaviors.

Table 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.738 ^a	.545	.538	.488

a. Predictors: (Constant), Social_Influence, Perceived_Affordability, Health_Literacy

The model summary indicated that the predictors—perceived affordability, health literacy, and social influence—accounted for 54.5% of the variance in timely healthcare utilization ($R^2 = 0.545$). This suggests that these

factors reasonably influenced parents' decisions to seek timely medical care for their children. The adjusted R^2 value (0.538) confirmed the model's stability, implying that even with adjustments for additional predictors, the explanatory power

remained strong. These findings underscored the importance of affordability, literacy, and social

dynamics in shaping healthcare utilization patterns.

Table 4 ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.822	3	18.607	78.231	.000 ^a
	Residual	46.619	196	.238		
	Total	102.441	199			

a. Predictors: (Constant), Social_Influence, Perceived_Affordability, Health_Literacy

b. Dependent Variable: Timely_Health_Utilization

The ANOVA table demonstrated that the regression model was statistically significant ($F = 78.231$, $p < 0.001$), indicating that the independent variables—perceived affordability, health literacy, and social influence—collectively

influenced timely healthcare utilization. The significant F-test confirmed that the predictors meaningfully explained variations in the dependent variable, validating the model's effectiveness.

Table 5 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.867	.185		4.698	.000		
	Perceived_Affordability	.095	.084	.096	1.131	.259	.320	3.125
	Health_Literacy	.385	.097	.396	3.952	.000	.232	4.319
	Social_Influence	.280	.076	.297	3.689	.000	.357	2.800

a. Dependent Variable: Timely_Health_Utilization

Timely healthcare utilization for children was analyzed by the coefficient analysis and it has been shown that perceived affordability, health literacy and social influence impact on timely healthcare utilization for children. These relationships were assessed by multiple linear regression. Results showed that health literacy ($B = 0.385$, $p < 0.001$) and social influence ($B = 0.280$, $p < 0.001$) had significant positive effects on timely healthcare use which supported their importance in parents' healthcare decisions. Although, perceived affordability ($B = 0.095$, $p = 0.259$) was not statistically significant, it shows that just perceived affordability did not powerfully predict timely healthcare utilization. It was confirmed that multicollinearity did not exist because the variance inflation factor (VIF) values were within acceptable limits. These findings suggest that improving health literacy and exploiting social networks for targeted use can

promote timely healthcare access. Affordability is still a concern, but other psychological and informational variables are more important determining factors for parental healthcare seeking behaviors.

This study emphasizes the influential role of health literacy and social influence on parental decisions on timely use of healthcare for children in Pakistan. These results are consistent with previous literature that provides evidence of the effect of these factors on health seeking behavior. According to Ahmed et al. (2021), research on the positive correlation between health literacy and timely utilization of healthcare services also supports the evidence that the higher health literacy levels are associated with better health outcomes and higher proactive health seeking behaviors. As in Tarar et al. (2024), sociodemographic factors such as literacy also

play a significant role in parents' health seeking behavior for their children.

The findings of the study also correspond with the work of Tarar et al. (2024) on social influence where family structure and community perceptions were found to be important determinants of health seeking behaviors. The research suggests that social support of strong and social norms of negative influence a person to get medications at any time and social support of negative and no social support of strong influence a person not to get medicating at any time.

However, the study did not find a statistically significant impact of perceived affordability on healthcare utilization, which contrasts with previous studies that emphasize the financial barriers to accessing healthcare in Pakistan. This discrepancy may be attributed to the study's specific context or sample characteristics, suggesting the need for further research to explore the complex interplay of economic factors in healthcare decision-making.

Conclusion

The study emphasizes health literacy and social influence in determining parental behaviour for seeking healthcare for the children in Pakistan. Our findings demonstrate that timely healthcare utilization is associated with higher levels of health literacy, positive social influence (influences), but not perceived affordability, and do not add to existing research and documentation around perceived affordability. This shows that there are gaps in education and that social networks can help with the access of healthcare.

However, from a managerial perspective, healthcare organizations and policymakers should emphasize on the improvement of health literacy in under served communities through the use of targeted education programs. Secondly, community based interventions can utilize the social influence to promote timely medical care. Better health outcomes will be created by raising awareness of the benefits of early health care intervention and addressing socio cultural factors that delay care. Further, financial barriers would be reduced to ensure timely access to healthcare for all through subsidized healthcare services.

Future research would examine how affordability affects both healthcare utilization and

affordability itself, given that the study did not find affordability to be a strong predictor of future healthcare utilization. More insights could be gained from a broader sample which included other socio-economic groups. Along with longitudinal studies the long-term effects of health literacy and social influence to use of healthcare could be further understood. Limitations of this study include that it is cross sectional, and dependent on self reports, which may content some bias.

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