

The influence of sociodemographic factors on parental health-seeking behavior for illnesses among the pediatric age group in Karachi: A cross-sectional study

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Abstract

Background: Health-seeking behavior (HSB) is an individual's reaction to sickness, for which they seek medical attention, regardless of the form such care may take. Poor HSB is frequently associated with lower health outcomes and greater mortality and disease rates in a nation. Sociodemographic factors, including age, gender, family structure, occupation, ethnicity, and rates of literacy and poverty, can influence a person's HSB. This study would benefit Pakistani parents of the paediatric population to make more informed health choices for their children.

Aim: This study aims to determine the influence of sociodemographic factors on parental HSB for illnesses among the pediatric age group in Karachi.

Materials and Methods: A cross-sectional study was conducted in which 214 parents were interviewed about their choices for health-seeking healthcare for their pediatric children of the pediatric age group (birth–18 years), who were attending the pediatric OPD and wards at Dr. Ruth Pfau Civil Hospital, Karachi in May 2023. Only parents or guardians with sick children were included. Their sociodemographic characteristics and health-seeking choices were asked. Informed consent was obtained, and all data were recorded. SPSS version 25 was used for analysis.

Results: For the first choice, the majority of parents (82.7%) preferred to seek healthcare for their children from medical doctors, followed by spiritual healers (10.7%), traditional healers (5.6%), and homoeopathic doctors (0.9%). For the second choice, the highest percentage was for a doctor (76.2%), followed by a spiritual healer (18.7%), a homoeopathic doctor (3.3%), and a traditional healer (1.9%). A significant correlation was found between the first visit and the decision makers ($p = 0.019$), the father's education level of the father ($p = 0.001$), the mother's occupation of the mother ($p = 0.019$), and the mother's education level of the mother ($p = 0.001$).

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Conclusion: Sociodemographic characteristics greatly influence parents' HSBs of parents for their children. Despite having low-paying jobs and being uneducated, most people choose to refer to a doctor for their child due to awareness.

KEYWORDS

health-seeking, illness, parents, pediatrics, socioeconomic

1 | INTRODUCTION

The term “health-seeking behavior” (HSB) refers to an individual's reaction to a perceived sickness, including their capacity to comprehend their symptoms and seek medical attention, regardless of the form such care may take.¹ The two essential aspects of health—preventing illness or disease and maintaining good health—are at the center of HSB. Poor HSB is frequently associated with lower health outcomes and greater mortality and disease rates in a nation. As a result, health organizations and researchers from all over the world have been attempting to identify and evaluate the factors that may contribute to a person's decision to seek medical attention for a particular ailment.

Through several analytical and descriptive studies, it has been determined that two fundamental factors—a person's sociodemographic characteristics and the quality of healthcare available in their country—have an impact on their decision to seek medical attention.¹ First off, sociodemographic factors including age, gender, family structure, occupation, ethnicity, and rates of literacy and poverty can influence a person's HSB.² Secondly, the standard and accessibility of healthcare services in a country, including the availability of Primary Healthcare Clinics (PHCs), healthcare professionals in remote regions, tertiary hospitals, and medical supplies, as well as the promotion of public health education and awareness, all play a part in determining the rate of HSB of its citizens.¹ People may be compelled to downplay or disregard their illnesses in areas without access to the necessary medical facilities, which leads to a pattern of poor HSB).^{2,3}

This is further exacerbated in a nation like Pakistan, which has a subpar healthcare system, with a life expectancy of 67.3 in 2019, compared to 72.6 in Bangladesh. Political instability and internal conflicts have constrained the health budget to only 1.2% of the gross domestic product in 2020. With only 1282 hospitals nationwide and 245,897 doctors for a population of 227.2 million in 2020, healthcare facilities are also lacking (as given in the national survey of Pakistan 2020–21). Since PHCs and basic health units are few and frequently understaffed, access to healthcare services is severely restricted in Pakistan's rural and remote regions. This has led to the practice of complementary and alternative medicine (CAM) in Pakistan, where people, particularly in remote areas, prefer to go to local healers such as homoeopaths, traditional and spiritual healers, hakims, bonesetters, and quacks instead of seeking formal medical care from a doctor.³ However, as demonstrated by a study on pediatric pneumonia in Pakistan, these CAM practitioners are frequently underqualified and can end up doing more harm than good.⁴

Key points

- Allopathy is the most popular choice among parents of children aged birth to 18 years in Karachi, Pakistan.
- People opt for allopathy (going to hospitals to consult licensed medical doctors), but in case of not getting satisfactory results, people opt for other forms of healing.
- Health-seeking behaviors have been shown to depend on several factors, including sociodemographic factors, literacy, occupation, decision-makers, beliefs, etc. However, the literacy and occupation of both parents have shown to have the greatest impact.

Numerous studies have been conducted to assess the prevalence of HSB and its association with sociodemographic characteristics as well as preference for CAM therapies in Pakistan.^{3,5,6} However, only a small number of studies have focused on the HSB of Pakistani parents or guardians towards their children, which is concerning given that Pakistan has an infant mortality rate of 55.7 per 1000 live births and that 80,000 children die from acute respiratory infections every year.⁴ A community-based study from Karachi and Islamabad identified the need for mothers to be trained to recognize symptoms of acute respiratory illness or pneumonia in their children since this could end up being the key factor in determining their HSB towards their children.⁴ More research is urgently required to determine the relationship between sociodemographic parameters, such as cultural influence, family dynamics, or literacy level and Pakistani parents' health-seeking behavior towards their children, as well as the type of care, whether CAM or otherwise, that this behavior might entail. This study aims to determine the influence of sociodemographic factors on parental HSB for illnesses among the pediatric age group in Karachi.

2 | METHODS

2.1 | Study design

This descriptive cross-sectional study was conducted in May 2023 at Dr. Ruth Pfau Civil Hospital in Karachi, Pakistan. The participants

TABLE 1 Frequencies of sociodemographic characteristics in 2023.

Age	n	%
Adolescent (13–18 years)	19	8.9
Infants (1 month–2 years)	66	30.8
neonates (birth–1 month)	5	2.3
Pre-school (2–5 years)	65	30.4
School (6–12 years)	59	27.6
Decision-maker		
Father	151	70.6
Mother	23	10.7
Other (grandparents etc.)	40	18.7
Occupation (father)		
Business/good amount earned per month	11	5.1
Father is dead/absent	1	0.5
Laborer/low paying job	129	60.3
Service/fixed moderate paying job	54	25.2
Unemployed	19	8.9
Education (father)		
Father missing	1	0.5
Higher	14	6.5
Intermediate	14	6.5
Matric	36	16.8
Middle	31	14.5
Never been to school	92	43.0
Primary	20	9.3
Received religious education	6	2.8
Family structure		
Extended	109	50.9
Nuclear	105	49.1
Number of children		
1–3	120	56.1
4–6	77	36.0
7 or more	17	7.9
Family member in medicine field		
No	184	86.0
Yes	30	14.0
Delivery type		
C-section	64	29.9
Normal	150	70.1
Occupation (mother)		
Dead/missing	1	0.5

TABLE 1 (Continued)

Age	n	%
Housewife	190	88.8
Working woman	23	10.7
Education (mother)		
Higher	7	3.3
Intermediate	16	7.5
Matric	33	15.4
Middle	34	15.9
Never been to school	86	40.2
Primary	25	11.7
Received religious education	13	6.1
First visit		
Doctor	177	82.7
Homeopath	2	0.9
Spiritual healer	23	10.7
Traditional healer	12	5.6
Second visit		
Doctor	163	76.2
Homeopath	7	3.3
Spiritual healer	40	18.7
Traditional healer	4	1.9

were all residents of Karachi, but many were migrants from other cities in Pakistan.

2.2 | Study population

The population under study was parents of children aged up to 18 years. As the study aimed to find the health-seeking behaviors for children of the pediatric age group, ages 0–18 were considered, as this is the pediatric age group for Pakistan. The distribution of the age of children is given in Table 1. These parents were attending pediatric outpatient departments or wards for their child's illness. A total of 1846 people presented to the outpatient department with complaints of their child's illness in Karachi, Pakistan.⁷ A total of 214 parents were interviewed about their healthcare preferences when their child gets ill.

2.3 | Sample size determination

The sample size (n) drawn from the selected subjects was determined using the formula below⁸:

$$n = \left[\frac{Z^2 pq}{d^2} \right].$$

Where:

n = minimum sample size required.

p = proportion of parents who seek healthcare for their children in a previous study.⁹ = 0.82.

q = complementary probability of p = (1 - p).

q = 1 - 0.82 = 0.18.

Z = standard normal deviate at the 95% confidence level = 1.96.

d = level of precision = 0.05.

From the above formula, n = 226.8.

To the nearest whole number, n = 227.

For non-response rates and missing data, a 10% adjustment was made. That is; $\left(\frac{10}{100} \times 227\right) = 22.7$, approximate to 23.

Thus, incomplete data will bring the sample size (n) = initial sample size + non-response rate = 227 + 23 = 250.

2.4 | Sample technique

To get a 250-response rate, a simple random sampling technique by selecting the respondents at random through balloting. All patients were given numbers, but only patients with odd numbers (1, 3, 5, 7, etc.) were selected until the required sample size was reached.

2.5 | Inclusion and exclusion criteria

All ill children and their parents who consented were included. Anyone who did not give consent was excluded.

2.6 | Study variables

This study was conducted to evaluate any associations between HSB and sociodemographic factors. This included finding a correlation between the first and second visits to a doctor, a homoeopathic doctor, a traditional healer, or a spiritual healer with the age of the child, the decision-maker of the family, the occupation of the father, the literacy of the father, the family structure, the number of children, the presence of a family member in the medicine field, the delivery type of the child, the occupation of the mother, and the literacy of the mother.

2.7 | Questionnaire validation

A content validation form was prepared and sent out to two experts. The content validity index was calculated to be >0.8. The questionnaire was also pretested among 10%, i.e., 21 respondents of the sample size (214) at a nearby hospital (Children's Hospital, Karachi) to check for ambiguity.

2.8 | Data collection

All authors of this study collected data. A structured, self-administered questionnaire in the English language, was translated for non-English speaking respondents, was developed for the study. Answers from the respondents were recorded in an Excel sheet. The questionnaire was divided into the following sections: sociodemographic information, general information, and choices for the first and second visits to evaluate HSB.

2.9 | Data analysis

The data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics, frequencies, and percentages were used to summarize variables. Chi-square tests were used to find associations between categorical variables and HSB using a $p < 0.05$ as the significance level.

2.10 | Ethical considerations

Institutional study approval was obtained from the heads of the departments of pediatric wards 1, 2, and 3 at Dr. Ruth Pfau Civil Hospital in Karachi and the Altamash Institute of Dental Medicine Ethical Committee with the code number; AIDM/ERC/01/2023/03. The study participants were informed of the aim and objectives of the study. They were reassured of strict confidentiality and non-disclosure of the procedures carried out on them. The participants were given the choice to opt out of the research, and those who opted out were reassured of continued optimum management. Those who chose to participate were asked to sign a written consent form. The data collected were stored in a password-protected computer that was accessible to the researchers.

3 | RESULTS

Out of a sample size of 250, only 214 responses were received. This gave us a response rate of 85%. Out of the 214 respondents, infants (1 month–2 years) constituted the largest group of patients (30.84%), followed by the preschoolers' group (2–5 years) (30.37%) and schoolers (6–12 years) (27.57%), whereas adolescents (13–18 years) were recorded as 8.88% of the respondents. Table 1 shows the frequencies of sociodemographic characteristics in the sample population. Neonates (1 month old) were the smallest group (2.34%). It was noted that in the majority of families (70.56%), the responsibility of decision-making lay with the father, followed by the mother in 10.75% of cases. The major group of occupations of respondents were laborers (60.28%), whereas 25.23% had fixed, moderate-paying jobs. The literacy and education status data of the respondents revealed that 92 out of 214 (42.99%) had never been to school, whereas all others were educated to any level between

graduation and primary schooling. It was noted that 6 (2.80%) respondents had received religious education as well. More than half (50.93%) lived in an extended family system, and the remaining (49.06%) had a nuclear family system. As far as the number of children in each family was concerned, 120 (56.07%) families had 1–3 children, and 77 (35.98%) had 4–6 children, whereas 17 (7.94%) families had a higher number of children. It was noted that 30 (14.01%) respondents had a family member working as a doctor, paramedic, nurse, or healthcare worker. The delivery type for each child was inquired. A total of 150 (70.09%) were born via vaginal delivery, while others were born via caesarean section. The majority of mothers were housewives (88.78%). The education level of mothers was noted as very poor, as 40.19% of mothers had never been to school, and only 3.27% were graduates. This data is depicted in Table 1 (see the Table 1 for details).

In all age groups, the majority of people preferred visiting a doctor for both first and second visits. Decision makers' influence is significant ($p < 0.05$) in selecting the first choice. Fathers who earned well or were businessmen had their children visit a doctor in 100% of cases for both the first and second visits. Laborers or those who had low-paying jobs went to a doctor or spiritual healer in 80.6% and 13.2% of cases, respectively, for the first visit, and 76% and 18.6% for the second visit. A total of 92.9% of fathers who had earned a graduate degree preferred going to the doctor. Of those who had received primary education or religious education, 55% and 50% of people, respectively, preferred a doctor. Fathers who had received religious education went to a spiritual healer in 50% of cases for the first visit, but the numbers reduced to 16.7% for the second visit.

Families who had more than seven children preferred going to a spiritual healer in 29.4% of cases for the first visit, which was higher than those families who had fewer children. The occupation of the mother had a significant impact ($p < 0.05$). Housewives had their children visit a doctor in 84.7% of cases for the first visit, but the number reduced to 76.8% for the second visit. Working women preferred a spiritual healer more than a doctor, 26.1% and 69.6%, respectively. The education of the mother was also significant ($p < 0.05$). All categories show that mothers preferred going to a doctor regardless of their education level, but those who had never been to school preferred going to a spiritual healer and traditional healer in 11.6% and 8.1%, respectively, for the first visit. Of those mothers who received religious education and had their children visit a spiritual healer, 46.2% went for the first visit, but only 15.4% went for the second visit. The family structure showed that families living in a nuclear system had 7.6% going to a traditional healer for their first visit, which was higher than the extended family system (3.7%). Having a family member in the medical field did not have a significant influence on decision-making.

Table 2 shows all factors related to choices (see Table 2), associations between sociodemographic factors and first and second visits (see the Table 2 for details), and shows significant p -values were obtained through a Chi-square test.

A Chi-squared test was used to determine the correlation between sociodemographic factors and the first and second-visit

choices of patients' parents/guardians for their ill child. The results were significant for decision-makers, the father's literacy, the mother's occupation, the mother's literacy, and the mother's literacy of the mother for the first visit (p -values of 0.019, 0.003, 0.019, and 0.001, respectively). No significance was observed for the second visit. Numbers going for homoeopathy was the lowest compared to all other forms of healing in all categories.

4 | DISCUSSION

This study aimed to determine the influence of sociodemographic factors on parental HSB for illnesses among the pediatric age group in Karachi. This study found that infants between 1 month and 2 years constituted the largest group of patients (30.84%), followed by the preschoolers' group (2–5 years) (30.37%) and schoolers (6–12 years) (27.57%), whereas adolescents (13–18 years) were recorded as 8.88% of the respondents. These findings differ from a study conducted in India which reported to have age 11–15 years as the most common age group presenting to the hospital for paediatric care,⁷ and a study conducted in Karachi in which ages 1–3 years were most common (25% of paediatric population) presenting to emergency departments.⁸ With growing awareness and recognition in developed as well as developing countries, education and knowledge have grown but have not proven to be sufficient to promote changes in the HSB of individuals.⁹ So, many studies that focus on different aspects have been categorized into geographical,¹⁰ social,^{11,12} economic,^{13,14} cultural^{15,16} and organizational factors¹⁷ affecting HSBs. This study revolves around sociodemographic and cultural determinants that have been shown to have a major influence on the HSB of patients. In a study on tuberculosis patients living in the suburbs of India and another conducted among Bangladeshi residents during the first wave of COVID-19.^{18,19} focus is on similar sociodemographic determinants of HSB. Improving social factors such as education, housing, income, employment, etc. can help improve health outcomes. Various factors that influenced HSB choices are discussed below.

4.1 | Sociodemographic factors

This study found that sociodemographic factors such as the literacy of parents, decision-making, and occupation of mothers play a key role in HSB. Similarly, a study conducted amongst children of Rawalpindi, a city of Pakistan showed that for pediatric patients with various illnesses^{20,21} sociodemographic factors specially monetary issues play a role in the HSB of their guardians or parents for their sick child. Findings of another study are consistent with this study, which was conducted amongst children of Palestinian refugees in the Gaza Strip, where a low monthly income mother was the decision-maker and a low education level of the family head played a role in HSB.²² It was concluded that raising awareness within the

TABLE 2 Associations between sociodemographic factors and first and second visits.

Age	First visit					Second visit				
	Doctor	Homeopath	Spiritual healer	Traditional healer	p-value	Doctor	Homeopath	Spiritual healer	Traditional healer	p-value
Adolescent (13–18 years)	15	0	3	1	0.583	11	2	5	1	0.721
	78.9%	0.0%	15.8%	5.3%		57.9%	10.5%	26.3%	5.3%	
Infants (1 month–2 years)	53	1	9	3		51	1	12	2	
	80.3%	1.5%	13.6%	4.5%		77.3%	1.5%	18.2%	3.0%	
Neonates (birth–1 month)	4	0	1	0		4	0	1	0	
	80.0%	0.0%	20.0%	0.0%		80.0%	0.0%	20.0%	0.0%	
Pre-school (2–5 years)	57	1	6	1		52	2	10	1	
	87.7%	1.5%	9.2%	1.5%		80.0%	3.1%	15.4%	1.5%	
School (6–12 years)	48	0	4	7		45	2	12	0	
	81.4%	0.0%	6.8%	11.9%		27.60%	28.60%	30.00%	0.00%	
Decision makers										
Father	130	1	10	10	0.019 ^a	111	5	32	3	0.332
	86.1%	0.7%	6.6%	6.6%		73.5%	3.3%	21.2%	2.0%	
Mother	18	1	3	1		17	2	4	0	
	78.3%	4.3%	13.0%	4.3%		73.9%	8.7%	17.4%	0.0%	
Other (grandparents etc.)	29	0	10	1		35	0	4	1	
	72.5%	0.0%	25.0%	2.5%		87.5%	0.0%	10.0%	2.5%	
Occupation of father										
Business/good amount earned per month	11	0	0	0	0.071	11	0	0	0	0.841
	100.0%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%	
Father is dead/absent	0	0	1	0		1	0	0	0	
	0.0%	0.0%	100.0%	0.0%		100.0%	0.0%	0.0%	0.0%	
Laborer/low paying job	104	0	17	8		98	4	24	3	
	80.6%	0.0%	13.2%	6.2%		76.0%	3.1%	18.6%	2.3%	
Service/fixed moderate paying job	44	2	5	3		37	3	13	1	
	81.5%	3.7%	9.3%	5.6%		68.5%	5.6%	24.1%	1.9%	
Unemployed	18	0	0	1		16	0	3	0	
	94.7%	0.0%	0.0%	5.3%		84.2%	0.0%	15.8%	0.0%	
Education of father										
Father missing	0	0	1	0	0.001 ^a	1	0	0	0	0.604
	0.0%	0.0%	100.0%	0.0%		100.0%	0.0%	0.0%	0.0%	
Higher (graduation)	13	1	0	0		13	0	0	1	
	92.9%	7.1%	0.0%	0.0%		92.9%	0.0%	0.0%	7.1%	
Intermediate (grade 12)	11	0	2	1		11	0	3	0	
	78.6%	0.0%	14.3%	7.1%		78.6%	0.0%	21.4%	0.0%	
Matric (grade 10)	32	0	2	2		26	1	9	0	
	88.9%	0.0%	5.6%	5.6%		72.2%	2.8%	25.0%	0.0%	
Middle (grade 5)	26	1	2	2		26	2	2	1	
	83.9%	3.2%	6.5%	6.5%		83.9%	6.5%	6.5%	3.2%	

TABLE 2 (Continued)

Age	First visit					Second visit				
	Doctor	Homeopath	Spiritual healer	Traditional healer	p-value	Doctor	Homeopath	Spiritual healer	Traditional healer	p-value
Never been to school	81	0	6	5		69	2	20	1	
	88.0%	0.0%	6.5%	5.4%		75.0%	2.2%	21.7%	1.1%	
Primary (grade 1)	11	0	7	2		12	2	5	1	
	55.0%	0.0%	35.0%	10.0%		60.0%	10.0%	25.0%	5.0%	
Received religious education	3	0	3	0		5	0	1	0	
	50.0%	0.0%	50.0%	0.0%		83.3%	0.0%	16.7%	0.0%	
No. of children										
1–3	100	2	11	7	0.214	92	3	23	2	0.564
	83.3%	1.7%	9.2%	5.8%		76.7%	2.5%	19.2%	1.7%	
4–6	66	0	7	4		55	4	16	2	
	85.7%	0.0%	9.1%	5.2%		71.4%	5.2%	20.8%	2.6%	
7 or more	11	0	5	1		16	0	1	0	
	64.7%	0.0%	29.4%	5.9%		94.1%	0.0%	5.9%	0.0%	
Occupation of mother										
Dead/missing	0	0	1	0	0.019 ^a	1	0	0	0	0.823
	0.0%	0.0%	100.0%	0.0%		100.0%	0.0%	0.0%	0.0%	
Housewife	161	2	16	11		146	7	34	3	
	84.7%	1.1%	8.4%	5.8%		76.8%	3.7%	17.9%	1.6%	
Working woman	16	0	6	1		16	0	6	1	
	69.6%	0.0%	26.1%	4.3%		69.6%	0.0%	26.1%	4.3%	
Education of mother										
Higher	6	1	0	0	0.001 ^a	5	0	1	1	0.089
	85.7%	14.3%	0.0%	0.0%		71.4%	0.0%	14.3%	14.3%	
Intermediate	14	0	2	0		12	0	4	0	
	87.5%	0.0%	12.5%	0.0%		75.0%	0.0%	25.0%	0.0%	
Matric	31	0	1	1		24	2	7	0	
	93.9%	0.0%	3.0%	3.0%		72.7%	6.1%	21.2%	0.0%	
Middle	27	1	3	3		22	2	10	0	
	79.4%	2.9%	8.8%	8.8%		64.7%	5.9%	29.4%	0.0%	
Never been to school	69	0	10	7		72	0	11	3	
	80.2%	0.0%	11.6%	8.1%		83.7%	0.0%	12.8%	3.5%	
Primary	23	0	1	1		17	3	5	0	
	92.0%	0.0%	4.0%	4.0%		68.0%	12.0%	20.0%	0.0%	
Received religious education	7	0	6	0		11	0	2	0	
	53.8%	0.0%	46.2%	0.0%		84.6%	0.0%	15.4%	0.0%	
Family members in medicine field										
No	149	2	22	11	0.406	143	4	33	4	0.098
	81.0%	1.1%	12.0%	6.0%		77.7%	2.2%	17.9%	2.2%	

(Continues)

TABLE 2 (Continued)

Age	First visit					Second visit				
	Doctor	Homeopath	Spiritual healer	Traditional healer	<i>p</i> -value	Doctor	Homeopath	Spiritual healer	Traditional healer	<i>p</i> -value
Yes	28	0	1	1		20	3	7	0	
	93.3%	0.0%	3.3%	3.3%		66.7%	10.0%	23.3%	0.0%	
Delivery type										
C-section	58	0	3	3	0.187	46	3	15	0	0.31
	90.6%	0.0%	4.7%	4.7%		71.9%	4.7%	23.4%	0.0%	
Normal	119	2	20	9		117	4	25	4	
	79.3%	1.3%	13.3%	6.0%		78.0%	2.7%	16.7%	2.7%	
Family structure										
Extended	93	1	11	4	0.624	82	5	20	2	0.749
	85.3%	0.9%	10.1%	3.7%		75.2%	4.6%	18.3%	1.8%	
Nuclear	84	1	12	8		81	2	20	2	
	80.0%	1.0%	11.4%	7.6%		77.1%	1.9%	19.0%	1.9%	

^aShows significant *p*-values as obtained by Chi-squared test.

community regarding the significance of seeking healthcare services at primary health centers is important for better health outcomes.

4.2 | Lack of knowledge

This study found that the education of the mother was a significant ($p < 0.05$) factor in determining HSB. All categories showed that mothers preferred going to a doctor regardless of their education level, but those who had never been to school preferred going to a spiritual healer and traditional healer in 11.6% and 8.1% for the first visit. This is similar to a study conducted in southern Mozambique for pediatric tuberculosis showed how the lack of knowledge among parents was a key factor in their care-seeking behavior. Frequently, deviations from social norms were used as a rationale for tuberculosis (TB), alongside valid medical reasons. Misunderstandings about pediatric TB, the intricate paths individuals take when seeking care, and the adverse emotions associated with diagnostic procedures can lead to delays, poor treatment adherence, and individuals being lost to follow-up. Addressing these issues necessitates the implementation of well-structured health promotion strategies.²³

In this study, doctors' help was sought more in all age groups compared to traditional, spiritual, and herbal forms of healing. Comparative to that, a study conducted in Côte d'Ivoire, in cases of non-fatal conditions, modern healthcare was sought by 63.9%, while for fatal conditions, it was sought by 76.8%. The study also showed that implementing initiatives that encourage timely healthcare-seeking and the identification of warning signs can potentially enhance treatment-seeking behavior and contribute to a potential reduction in under-five mortality rates.²⁴

Dissimilar to this study, in a study on assessing HSB among epileptic patients in Kolkata, 81.6% of patients opted for allopathy. Reasons for not initially seeking care from allopathic doctors included lack of awareness, belief in an alternative system, financial limitations, and the unavailability of allopathic physicians when needed. This led to misdiagnosis and delayed treatment of many cases.²⁵

4.3 | Beliefs

In this study, 10.7% of people opted for spiritual healing and 5.6% for traditional healing on the first visit. People opted for spiritual healers for the second visit if treatment from the doctor proved ineffective, increasing from 10.7% to 18.7%. This conclusion is supported by the potential association between beliefs in witchcraft and the perceived causes of diseases. This association can lead individuals to avoid modern healthcare facilities and instead choose spiritual or traditional healing methods, as shown in a study conducted among pregnant women in Calabar, Nigeria in 2017. It further also evaluated that witchcraft beliefs also have an impact on the high rate of morbidity and mortality of both infants and mothers.²⁶

4.4 | Alternative medicine (AM)

This study showed that 17.3% people and 23.8% chose AM for first visit and second visit, respectively. Numbers were lower in a Canadian study in which 11% people had previously sought the services of one or more AM practitioners. Chiropractic, homoeopathy, naturopathy, and acupuncture collectively made up 84% of the

utilization of such practices.²⁷ Reasons being that Canada is a developed country as compared to Pakistan where literacy and awareness is insufficient.

In two other pediatric studies conducted in the United Kingdom, 15% of children with asthma who had experimented with CAM opted for homoeopathic treatments.^{28,29} In Norway, there has been a steady rise in the number of children visiting homoeopaths, increasing from 10% in 1985 to 25% in 1998.³⁰ Percentages have grown by 30% even in developed countries over the years.

With AM as a choice, a significant concern lies in the resistance among homoeopathic practitioners to endorse vaccinations. Moreover, the potential risks to a child's health arise from delays in seeking conventional medical treatments while waiting for results from AM interventions.³¹

4.5 | Decision makers

This study has shown that better health-seeking options were opted for by families where mothers had a say. Similar findings have been reported in a study in Sudan, which also showed that mothers are the most important determinants of HSB amongst pediatric population.⁸ Women have also gained greater autonomy for decision-making for their children, but they remain in fewer numbers, only 10.7% in this study, whereas fathers and grandparents have a higher say. This is opposed by another study conducted in Leeds where mostly mothers were the decision makers.³²

According to this study, children were not given a say as to where they want to visit for their illness. To back this, a literature review showed that children should be involved in decision-making for better outcomes, and a consultation with children in Ireland also confirmed this.^{33,34} The delivery type, the number of children, family structure, and having a family member in the medical field did not show any influence on choices.

4.6 | Occupation and literacy of parents

This study showed that fathers who earned well or were businessmen had their children visit a doctor in 100% of cases for both the first and second visits. In this study, the correlation of father's literacy, the mother's occupation, and the mother's literacy with the first visit had p -values of 0.003, 0.019, and 0.001, respectively. Similar findings were discovered in a study from Gujarat, India, where the literacy status ($p < 0.05$, $df = 1$, $\chi^2 = 60.76$), socioeconomic status of the mothers ($p < 0.05$, $df = 1$, $\chi^2 = 56.08$) showed significance with health-seeking behaviors.³⁵ And another study conducted in Burkino Faso, Africa, showed that children having a mother with secondary or higher level of education made more hospital visits and were associated with better health seeking choices.³⁶

As hypothesized, parents with higher education levels demonstrated more proactive and informed healthcare-seeking practices compared to parents with lower education levels. The positive

correlation between parental socioeconomic status and HSB can be attributed to several factors.³⁷ Primarily, higher social status and education levels are associated with increased health literacy, enabling parents to comprehend the significance of preventive healthcare practices and recognize the importance of regular health check-ups for their children.³⁷

Moreover, parents with higher education may have greater exposure to healthcare settings, either through their own experiences or those of their social networks. This exposure can influence their attitudes towards seeking medical assistance promptly when their children display symptoms of illness.

4.7 | Limitations

This study faced some limitations. Some respondents did not consent to the study, and some left the interview midway because of a lack of time. To overcome this challenge, we tried to persuade the other participants gently and mutually. Furthermore, this study's cross-sectional design limits our ability to establish causal relationships between parental education status and HSB. Longitudinal studies are needed to explore how health-seeking patterns may change over time as parents gain more education or experience different life circumstances. Additionally, qualitative research could provide deeper insights into the underlying reasons behind parents' healthcare decisions, capturing the intricacies of cultural norms and familial influences on HSBs. The limitations of the study also include differences of choices based on gender of the child, type of illness and previous experiences with healthcare.

5 | CONCLUSION

This cross-sectional study provides valuable evidence of the association between parental education status and HSB for their children. Parents with higher education levels exhibit more proactive and informed healthcare-seeking practices, contributing to better access to healthcare services for their children. The findings emphasize the importance of targeted interventions and policy measures to address potential disparities and promote equitable healthcare for all children, irrespective of their parents' education levels. Collaborative efforts involving both healthcare providers and policymakers are crucial to ensuring accessible healthcare for all children, regardless of their socioeconomic backgrounds.

AUTHOR CONTRIBUTIONS

Hamna Mukhtar Tarar: Conceptualization; investigation; writing—original draft; writing—review & editing; visualization; validation; methodology; project administration; formal analysis; data curation; resources. **Ayesha Azhar:** Writing—original draft; visualization; validation; methodology; formal analysis; data curation. **Kiran Ismail:** Data curation; formal analysis; visualization; validation; writing—original draft. **Malik Olatunde Oduoye:** Supervision; conceptualization; visualization; validation; methodology;

writing—review & editing; funding acquisition. **Omama Asim:** Conceptualization; writing—original draft; visualization; validation; data curation; formal analysis. **Rida Omer:** Writing—original draft; visualization; validation; methodology; data curation; formal analysis.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions. Newly generated data is available upon request.

ETHICS STATEMENT

Institutional ethical approval was obtained from the heads of the department of paediatric wards 1, 2, and 3 of Dr. Ruth Pfau Civil Hospital, Karachi and the Altamash Institute of Dental Medicine Ethical Committee with the code number; AIDM/ERC/01/2023/03. The study participants were informed of the aim and objectives of the study.

TRANSPARENCY STATEMENT

The lead author Malik Olatunde Oduoye affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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