

Fathers' Knowledge and Role in Child Health: A Cross-Sectional Study in Urban Settings of Rawalpindi

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Abstract

Objective: Child health is a crucial aspect of global public health, with millions of children under five dying each year from preventable diseases and malnutrition. Fathers play a pivotal role in children's health by providing emotional support, assisting with healthcare decisions, and promoting a healthy environment. This study assesses the role of men in child health care, focusing on their knowledge and practices.

Methods: This cross-sectional study was conducted in the Allied Hospitals of Rawalpindi Medical University from March to August 2024. A sample size of 366 married men with children under five was interviewed using a structured questionnaire via purposive sampling. Married men living in the study area with at least one child below 5 years were included. Descriptive and inferential statistics were carried out on SPSS 27.

Results: Findings revealed significant male involvement and knowledge in child health. Most men exhibited good knowledge (77.0%) and high involvement (78.7%) in child health. Key barriers included lack of funds (69.4%), lack of time (57.9%), location of the hospital (15.3%), and the attitude of health workers (16.1%). The study underscores the importance of male participation in improving child health outcomes.

Conclusion: Male involvement in child health is essential for improving outcomes. Addressing barriers to their participation can enhance the effectiveness of child health interventions.

Keywords: Child health, knowledge, practices, cross-sectional study

Introduction

Child health is an imperative facet of global public health, warranting urgent attention due to its staggering impact on mortality and morbidity among children under five years of age. Globally, an estimated 5.2 million children under the age of five died in 2020 alone, predominantly from preventable conditions and malnutrition.¹ On a continental scale, Sub-Saharan Africa and Southern Asia are disproportionately burdened, accounting for the majority of these deaths. Sub-Saharan Africa witnessed 2.8 million child deaths in 2020, reflecting the severe health disparities and infrastructural challenges prevalent in the region.² Southern Asia, encompassing densely populated countries such as India and Pakistan, reported 1.5 million deaths in the same year, highlighting endemic issues related to healthcare accessibility, socioeconomic constraints, and cultural factors.³ In Pakistan, the child health indicators are particularly dire. The country grapples with a high prevalence of malnutrition, preventable diseases, and inadequate healthcare services. According to the Pakistan Demographic and Health Survey (2017-18), these factors contribute substantially to the country's elevated child morbidity and mortality rates.⁴ Male involvement in child healthcare has emerged as critical in enhancing health outcomes.⁵ The significance of this involvement was recognised globally, starting with the 1994 International Conference on Population and Development,⁶ followed by the World Health Organisation's 2021 recommendations that emphasised the crucial role of fathers in child health.⁷ Empirical evidence

Contributions:

I.S, M.R - Conception of study
- Experimentation/Study Conduction
S.B, U.A, A.K, M.S -
Analysis/Interpretation/Discussion
I.S, U.A, A.K - Manuscript Writing
S.B, M.R, M.S - Critical Review

All authors approved the final version to be published & agreed to be accountable for all aspects of the work.

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consistently demonstrates that male participation in child healthcare promotes healthier behaviours, increases healthcare service utilisation, enhances immunisation rates, and overall improves family health dynamics.^{8,9}

Nevertheless, patriarchal societal structures, entrenched cultural norms, and socio-economic factors often impede men's active engagement in child healthcare. In many regions, including Sub-Saharan Africa and South Asia, traditional gender roles and expectations limit male involvement in child health activities, adversely affecting children's access to quality healthcare.¹⁰ For instance, a study conducted in Southwest Nigeria revealed that while a substantial proportion of men possessed good knowledge of child healthcare, actual involvement was hindered by gender norms, time constraints, and lower educational attainment.¹¹

This study aims to elucidate the role of males in child healthcare within a patriarchal context, focusing on their knowledge and participation in child health activities. By identifying the barriers and facilitators of male involvement, this research seeks to bridge existing knowledge gaps and promote gender equity in healthcare through gender-responsive strategies and policy formulation. Understanding the role of men in child health is pivotal for devising more effective interventions and achieving improved health outcomes for children in patriarchal societies.

Materials And Methods

This research employed a hospital-based analytical cross-sectional study design, conducted at the outpatient and inpatient departments of Allied Hospitals of Rawalpindi Medical University. The study was carried out over six months, from March to August 2024.

The study population consisted of married men residing in the vicinity of Allied Hospitals of Rawalpindi Medical University, specifically those who had at least one child below the age of five. This demographic was selected to investigate the unique role of fathers in child health care and to understand their knowledge and involvement in various aspects of child health. Exclusion criteria were applied to ensure the focus remained on healthy family dynamics; thus, fathers with children experiencing any medical or psychological issues were excluded from the study.

Participants were recruited using a purposive sampling method, which allowed for the targeted selection of individuals who met the inclusion criteria. This non-probability sampling technique was deemed appropriate given the specific characteristics of the population under study.

The sample size was determined using the World Health Organisation (WHO) sample size calculator, based on the prevalence of childhood malnutrition in urban populations, which was reported to be 30.8%. A confidence interval of 95% and a margin of error of 5% were utilised in the calculation, resulting in a required sample size of 366 participants.

Quantitative data were collected over the six-month study period through an interview-based questionnaire. The questionnaire was meticulously designed to encompass various aspects of sociodemographic variables, economic status, and male engagement and knowledge in child health care.

The questionnaire consisted of several sections:

1. **Sociodemographic Variables:** This section included questions regarding age, education level, occupation, income, and family structure. These variables were critical in understanding the background of participants and their potential influence on knowledge and involvement in child health.
2. **Economic Status:** Participants were asked about their household income, employment status, and perceived economic stability. Understanding the economic context of participants was essential to assess its impact on their engagement in child health care.
3. **Knowledge in Child Health Care:** Questions in this section targeted critical areas such as breastfeeding practices, recognition of danger signs in newborns, immunisation schedules, and management of common childhood illnesses. Each question was structured to assess the respondent's knowledge level, with correct answers receiving a score of 1 and incorrect responses receiving a score of 0. The total score was calculated, and the mean score was used as a cutoff point to categorise respondents into "good knowledge" and "poor knowledge" groups.
4. **Male Involvement in Maternal and Child Health (MCH):** This section included questions designed to measure the level of involvement of fathers in child health care activities. A "Yes" response indicated involvement and was scored as 1, while a "No" response indicated non-involvement and was scored as 0. Similar to the knowledge assessment, the mean score was used as a cutoff point to categorise respondents into "good involvement" and "poor involvement" groups.

The questionnaire was pre-tested on a small sample of participants before the main study to ensure the clarity, relevance, and reliability of the questions. Feedback from the pre-test was used to refine the questionnaire, ensuring that it effectively captured the necessary data.

Data entry and analysis were conducted using IBM SPSS Statistics version 27. Descriptive statistics were employed to summarise the data, providing an overview of the sociodemographic characteristics, economic status, knowledge levels, and involvement of the participants in child health care.

Bivariate analysis was performed to assess predictors of good knowledge of child health. This analysis involved examining the relationship between sociodemographic and economic variables and the knowledge scores of participants. Variables that exhibited a p-value of up to 0.2 in the bivariate analysis were subsequently included in a multivariable logistic regression model. This model was utilised to control for potential confounding factors and to identify significant predictors of good knowledge about child health. The goodness of fit test for the model was conducted to ensure that the model adequately represented the data. The final analysis focused on identifying variables that had significant associations with both good knowledge of child health and men's involvement in child health care. The results were presented in terms of odds ratios (OR) with a 95% confidence interval (CI) and p-values less than 0.05, with a significance level set at 0.05.

This study was approved by the Institutional Review Board (IRB) of Rawalpindi Medical University. Informed consent was obtained from all participants before data collection. Participants were assured of the confidentiality of their responses and their right to withdraw from the study at any point without any consequences. All data collected were anonymised to protect the identities of participants, and the findings were reported in aggregate form to maintain confidentiality.

Results

Sociodemographic Characteristics of Respondents:

The study included 366 participants, aged 30-40, 145(39.6%), with a mean age of 32.43. Most respondents, 257(70.2%), had attained post-secondary education, and the majority were employed 316, 86.3%). On average, respondents had two children, with 201(54.9%) having at least one child under 5 years. Details are shown in Table 1.

Table 1: Socio-demographic Characteristics of Respondents (n= 366)

Variable	Frequency	Percentage (%)
Age of respondents (years)		
20-30	140	38.3
30-40	145	39.6
40-50	66	18.0
50-56	15	4.1
Mean age = 32.43		
Years		
Years of marriage		
1-5	159	43.4
6-10	105	28.7
>10	81	22.1
No Response	21	5.7
Mean = 8.23 years		
Education		
No formal education	9	2.5
Primary Education	21	5.7
Secondary Education	79	21.6
Post-Secondary	257	70.2
Employment status		
Employed	316	86.3
Unemployed	50	13.7
Estimated monthly income (PKR)		
0-50,000	169	46.2
50,001-100,000	118	32.2
>100,001	79	21.6
Number of children below 5 years		
0	54	14.8
1	201	54.9
2	97	26.5
3	4	1.1
4	6	1.6
Median = 1		

Table 2: Male Knowledge & practice (involvement) in Newborn and Child Health

Variable	Frequency (n = 366)	Percentage (%)
Respondents' Knowledge of Newborn Health and Breastfeeding		
Breastmilk is essential for a child's growth	343	93.7
The danger signs in a newborn within the first 7 days after delivery.		
Fits	327	17.0
Fever	229	11.9
Not feeding	318	16.5
Diarrhea	286	14.8
Difficulty in breathing	363	18.8
Bleeding	40	2.1
Yellow palm and soles	363	18.8
Respondents' Knowledge of Child Health (Diarrhea, ARI, Immunizations)		
Danger signs of diarrhoea in children		
Abdominal pain	210	14.1
Blood in stool	203	13.7
Frequent vomiting	173	11.6
High fever	318	21.4
Weight loss	177	11.9
Frequent stooling	311	20.9
Extreme thirst	95	6.4
Management of diarrhoea in children		
Increased fluid consumption	366	30.8
Administration of ORS	343	28.9
Increased breastfeeding frequency	144	12.1
Frequent feeding with nutritious foods	334	28.1
Danger signs of acute respiratory infection (ARI) in children		
Runny nose	262	21.9
Fever	276	23.0
Nasal congestion	296	24.7
Cough	365	30.4
The child received all recommended immunisations.		
Yes	319	87.2
No	47	12.8
The child was taken to the immunisation before		
Yes	314	85.8
No	52	14.2
Respondents' practices (involvement) in Child Health		
Attendance of child to immunisation services		
The decision for a child to attend immunisation services was taken by:		
Man	44	12.0
Wife/partner	68	18.6
Jointly with wife/partner	173	47.3
In-laws	15	
Joint decision by man, wife, and in-laws	66	18.0
Gave consent for the child to attend immunisation services		
No	27	7.4
Yes	339	92.6
Accompanied the child to immunisation services at least once		
No	104	28.4
Yes	262	71.6
Paid for immunisation services		
Yes	366	

Male Knowledge & practice (involvement) in Newborn and Child Health:

A significant majority, 343(93.7%), recognised the essential role of breastmilk. Awareness of danger signs, such as difficulty breathing (99.2%) and yellow palms and soles (99.2%), was high, indicating strong knowledge of newborn health indicators. Respondents showed high awareness of diarrhoea danger signs, with high fever (86.9%) and frequent stooling (85.0%) being the most recognised. Knowledge of ARI danger signs was substantial, and immunisation adherence was commendable. Decisions regarding child health care were made jointly by partners (47.3%), with a substantial number of men giving consent and financial support for child health services.

Overall Level of Men's Knowledge and Practice (Involvement) in Child Health:

A significant majority of men exhibited good knowledge, 282(72.0%) and high involvement, 288(73.7%), in child health.

Table 3: Overall Level of Men's Knowledge and Practice (Involvement)

Variable	Frequency (n = 366)	Percentage (%)
Knowledge		
Good	282	72.1
Poor	84	21.5
Mean	0.77	
Involvement		
High	288	73.7
Low	78	19.9
Mean	0.79	

Barriers to Men's Involvement in Child Health:

Key barriers included lack of funds 254(69.4%), lack of time 212(57.9%), location of the hospital 56(15.3%), and the attitude of health workers 59(16.1%).

Predictors of Men's Knowledge and Practice (Involvement) in Child Health

The logistic regression analysis revealed that none of the predictors showed strong statistical significance ($p < 0.05$) in determining either good knowledge of child health or men's involvement in child health. However, some factors showed potential associations. For instance, having more children under five years old ($AOR = 1.362$, $p = 0.082$) was marginally associated with better knowledge of child health, while higher estimated monthly income ($AOR = 1.349$, $p = 0.086$) showed a borderline association with greater involvement in child health. Education level did not demonstrate a significant effect, though men with no formal education had a notably high, but uncertain, odds ratio for involvement ($AOR = 3.481$, $CI: 0.403-30.086$). Overall, while these factors may have some influence, the lack of statistical significance suggests that other variables might play a more substantial role in shaping child health knowledge and involvement. Details are given in Table 4

Table 4: Predictors of Men's Knowledge and practice (involvement) in Child Health

Predictor Variable	p-value	AOR	CI (95%)
Predictors of Good Knowledge of Child Health			
Monthly Income (0-50000)	0.637	1.171	(0.608, 2.253)
Monthly Income (50001-100000)	0.806	0.918	(0.464, 1.817)
Number of Children	0.124	0.875	(0.738, 1.037)
Number of Children <5 years	0.082	1.362	(0.962, 1.929)
Highest Educational Level Attained	0.975	1.006	(0.702, 1.440)
Predictors of Men's Involvement in Child Health			
Estimated Monthly Income	0.086	1.349	(0.959, 1.897)
Number of Children	0.984	1.002	(0.837, 1.199)
Number of Children <5 years	0.444	1.147	(0.807, 1.632)
Highest Educational Level Attained	0.466		
No formal education	0.257	3.481	(0.403, 30.086)
Primary Education	0.309	1.955	(0.537, 7.115)
Secondary Education	0.732	0.894	(0.472, 1.694)

Discussion

This study underscores the critical role of men in child health within patriarchal settings. Male involvement significantly impacts child health outcomes, yet cultural and socio-economic barriers persist. The elevated levels of knowledge and involvement observed in this study reflect a positive trend, although barriers such as lack of funds, time, and negative attitudes of health workers continue to impede active participation.

The significant relationship between the educational level of the spouse and male involvement highlights the influence of partner dynamics on health behaviours. These findings are consistent with previous research indicating that male engagement in child health initiatives leads to improved health outcomes and family well-being.^{13,14}

Our findings align with studies from other regions, suggesting that male involvement is crucial for the effective implementation of child health programs. For instance, research in Northern India has shown that engaging fathers in child health interventions significantly improves health outcomes.¹⁵ Similarly, studies from sub-Saharan Africa emphasise the importance of male participation in reducing child mortality and morbidity.¹⁶

This study demonstrated the unanimous involvement of men in postnatal care activities, with all respondents giving consent and accompanying their wives for postnatal visits. This level of involvement is significant given the critical nature of the postnatal period for both mother and newborn health.¹⁷ Additionally, the knowledge assessment also demonstrates that a large majority (93.7%) of respondents acknowledged the importance of breastmilk for a child's growth. Awareness of critical danger signs in newborns was also high, with 99.2% recognising difficulty in breathing and yellow palms and soles as danger signs. Such awareness of danger signs in neonates is essential for timely referral to child healthcare and better health outcomes.¹⁸

The current study also indicates a high level of awareness among respondents regarding the danger signs of diarrhoea and acute respiratory infection. In case of diarrhoea. Effective management practices, such as increased fluid consumption and administration of ORS, were also well known. Knowledge of ARI danger signs was substantial, with 99.7% recognising cough as a critical symptom. Immunisation adherence was commendable, with 87.2% ensuring their child received all recommended immunisations, which is crucial for preventing childhood diseases.¹⁹ This positive engagement reflects a broader understanding and active participation in healthcare activities, which is vital for improving health outcomes.²⁰

Despite the recognised importance of male involvement, several barriers limit their participation. Cultural norms and traditional gender roles often discourage men from actively engaging in child health activities. Financial constraints and lack of time due to work commitments further exacerbate these challenges. The negative attitudes of health workers towards male involvement also play a significant role in deterring men from participating in child healthcare.²¹

Conclusions

This study highlights the importance of male involvement in child health care in settings where males are the true head of the family. Despite elevated levels of knowledge and participation, barriers such as financial constraints and cultural norms limit full engagement. Strategies to enhance male involvement should address these barriers and promote gender-responsive policies to improve child health outcomes.

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