Original Article

Knowledge of Rural Iraqi Mothers and its Related Factors on the Care of Children with Common Health Problems

Shoukran Ali and Khamess Bander Obaid

ABSTRACT

Objective: To assess knowledge of rural Iraqi mothers and their related factors on the care of children with common health problems.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Primary Healthcare Centres (PHCCs) in Karbala Iraq from 1st December 2024 to 30th April 2025.

Methods: This cross-sectional study was conducted with 217 mothers referred to the Integrated Management of Childhood Illness (IMCI) unit in the. The samples were selected using a convenience sampling method. Data were collected using a researcher-made questionnaire.

Results: The mean maternal knowledge score was 16.1 ± 2.6. While 89.9% correctly maintained feeding during diarrhoea, 81.1% held misconceptions about antibiotic use. Education level, number of children, and income were significantly associated with knowledge, accounting for 18% of the variance.

Conclusion: The maternal education, economic status, and parenting experience are crucial determinants of mothers' knowledge on the care of children with common health problems

Key Word: Knowledge; Rural mothers; Common health problem

Citation of article: Ali S, Obaid KB. Knowledge of Rural Iraqi Mothers and its Related Factors on the Care of Children with Common Health Problems. Med Forum 2025;36(10):76-80. doi:10.60110/medforum.361015.

INTRODUCTION

Children's health is a key public health issue in developing and post-conflict countries like Iraq.[1] In rural areas with limited healthcare services, maternal knowledge and practices significantly affect child health outcomes.[2,3] Many common childhood illnesses, such as diarrhoea and fever, can be managed at home if mothers possess adequate knowledge and skills.[1] However, rural mothers in Iraq often lack this knowledge due to high illiteracy rates, limited access to health information, and traditional practices.[4-7]

Although Iraq has seen improvements in healthcare infrastructure, rural regions still face major service gaps caused by prolonged conflict and instability.[8-11] The absence of targeted community-based education, shortages of trained health staff, and limited access to media further widen the knowledge gap.[12,13] Therefore, culturally sensitive health education and urgent interventions and make program to improve mother knowledge is essential to reduce mortality.[14,15] This study aims to assess rural Iraqi mothers' knowledge of common childhood health problems.

Department of Paediatric Nursing, College of Nursing, University of Kerbala, Iraq.

Correspondence: Shoukran Ali, Academic Nurse, Paediatric Nursing Department, College of Nursing, University of Kerbala, Iraq.
Contact No: 07728697029
Email: shoukran.a@s.uokerbala.edu.iq

Received: May, 2025
Reviewed: June-July, 2025
Accepted: August, 2025

METHODS

The cross-sectional study was conducted to assess the knowledge of rural mothers about the care of children with common health problems in Karbala, Iraq, from 1st December 2024 to 30th April 2025. Participants were mothers who referred to the Integrated Management of Childhood Illness (IMCI) unit in the primary healthcare centres (PHCCs) in Karbala, Iraq. Three out of six PHCCs in Karbala city, AL-Wand, AL-Hur, and Al-Khayrat PHCCs, were randomly selected for this study. The sample size based on a power analysis to detect a medium effect size at a 95% confidence level and 5% error was determined to be 217 people and data were coded and entered into the SPSS-19.

RESULTS

Most of the participating mothers were over 30 years of age (41%), married (96.7%), and had primary education (47.9%). Illiteracy was observed in 11.5% of the mothers. Employment among the mothers was low, with 94.9% unemployed. The majority of the mothers (94.5%) could walk to the nearest health facility in less than 30 minutes. The results showed that most of children were primarily toddlers (43.3). Common health

problems included fever (47.5%), respiratory tract infections (41%), and diarrhoea (11.5%) [Table 1].

The mean score of mothers' knowledge was 16.1±2.6. Mothers showed varied understanding of child health care. 89.9% knew that feeding should not be stopped during diarrhoea. 81.1% incorrectly believed antibiotics and anti-diarrheal stop diarrhoea early. 75.6% recognized poor hygiene as a cause of diarrhea.68.7% believed rotavirus vaccine prevents all diarrhoea cases. Mothers' knowledge about respiratory infections showed that 96.3% associated dust and smoke with respiratory issues. Most mothers had very good knowledge about managing children's respiratory problems. More over Fever management knowledge was good, with taking an infant to the hospital if the fever lasts more than 3 days (Table 2).

Univariate analysis showed that the mother's educational level (P<0.0001), monthly income (P=0.003) and number of children (r=0.2, P=0.008) had a statistically significant difference in the knowledge of rural mothers in Iraq on the care of children with common health problems (Table 3).

A multivariate analysis with linear regression showed that education level, number of children, and monthly income were statistically significant. The results showed that the knowledge level of illiterate mothers was 2.5 points lower than that of literate ones on the care of children with common health problems (B=-2.56, p<0.0001). Mothers with a diploma or higher had 1.28 points more knowledge than other groups (B=1.28, p=0.03). The number of children (B=0.26, p=0.006) and monthly income (B=-1.41, p=0.003) were statistically significantly associated with increasing mothers' knowledge on the care of children with common health problems. All of these factors determined 18 percent of the knowledge of rural mothers in Iraq (Table 4).

Table No. 1: Sociodemographic characteristics of rural mothers (N=217)

Mothers' Profile		Rural Mothers	
		No.	%
Age	<25 years	57	26.3
	25-30 years	71	32.7
	>30years	89	41.0
Marital status	Married	210	96.7
	Lonely (Divorced, Widowed)	7	3.2
Educational level	Illiteracy	25	11.5
	Primary	122	56.2
	High school	52	24.0
	Diploma and high	19	8.8
Mothers occupation	Employed	11	5.1
	Unemployed	206	94.9
Monthly income	< 300000 ID	99	45.6
	300000-600000 ID	51	23.5
	601000-900000 ID	35	16.1
	>900000 ID	32	14.7
Number of children	< 3	70	32.3
	3-5	112	51.6
	>5	35	16.1
Time to reach the centre on foot	<30 minutes	205	94.5
	More than 30 minutes	12	5.6

Table No. 2: Mothers' Knowledge on the care of children with common health problems

Statements	True		False	
	No.	%	No.	%
Diarrhoea is caused by poor hygiene	164	75.6	53	24.4
Breastfeeding or other feeding should not be stopped during diarrhoea	95	89.9	22	10.1
During diarrhoea, it is necessary to give the child a lot of fluids	141	65	76	35
Vaccines can prevent diarrhoea in children	149	68.7	68	31.3
Zinc is beneficial for children during diarrhoea	105	48.4	112	51.6
Antibiotics and anti-diarrheal medications can stop diarrhoea early	176	81.1	41	18.9
It is important to know how to recognize dehydration due to diarrhoea	162	74.7	55	25.3
Acute respiratory infections can be dangerous if left untreated	196	90.3	21	9.7
Dust and smoke make children more susceptible to respiratory infections	209	96.3	8	3.7

Common symptoms of respiratory infections include fever, cough, runny nose, & difficulty breathing	198	91.2	19	8.8
Chest retraction in a child with fever and cough indicates severe pneumonia	171	78.8	46	21.2
Stridor in a quiet child is a danger sign	149	68.7	68	31.3
Breastfeeding a child with cough and fever should be continued and compensated with more food during recovery	214	98.6	3	1.4
Vaccination helps children be less susceptible to acute respiratory infections	201	92.6	16	7.4
A fever below 40°C is not necessarily harmful to children	126	58.1	91	41.9
To check the temperature of children two years and older, the ear is gently pulled up and back	61	28.1	156	71.93
A lukewarm sponge bath is used 30 minutes after administering fever-reducing medication	113	52.1	104	47.9
When the fever is above 38.3°C and the child is uncomfortable, the child should be woken up to give fever-reducing medicine	177	81.6	40	18.4
If the infant's fever lasts more than 3 days, he should be taken to the hospital	211	97.2	6	2.8
To reduce fever, the child should be placed in a cold bath	59	27.2	158	71.8
To reduce a child's fever, the mother should not give the child a lot of fluids	19	8.8	198	91.2

Table No. 3: Comparison of mean scores of knowledge based on socioeconomic variables

Demographic data			**Mean ± SD**	**P- Value**
Mothers age	<25 years	15.75±2.5	F=2.72	P=0.06
	25-30 years	15.59±2.7		
	>30 years	16.5±2.61		
Mothers marital status	Married	15.41±2.6	T=0.72	P=0.47
	Lonely(Divorced and widowed)	14.71±3.9		
Mother educational level	Illiteracy	13.37±3.6	F=7.96	P<0.0001*
	Primary	15.77±2.3		
	High school	15.57±2.4		
	Diploma and high	15.94±1.32		
Mothers occupation	Employed	16.36±2.7	T=1.33	P=0.21
	Unemployed	15.33±2.6		
Monthly income	< 300000 ID	14.49±2.6	F=4.72	P=0.003*
	300000-600000 ID	15.55±2.8		
	601000-900000 ID	16.67±2.38		
	>900000 ID	15.75±2.6		
Time to reach the centre on foot	<30 minutes	15.39±2.6	T=0.52	P=0.59
	30-60 minutes	15±2.27		
Number of children		r=0.2		P=0.003**

*One Way ANOVA test, Pearson correlation coefficient. A p-value of less than 0.5 was considered significant

Table No. 4: Linear regression model of the factors associated with knowledge in mothers

Independent variable	**Dependent variable is knowledge**				
	B	**Std. Error**	**Beta**	**T**	**p-value***
Constant	15.361	.345		44.552	0.000
Illiterate	-2.56	0.53	-0.302	-4.76	<0.0001
Number of children	0.26	0.09	0.17	2.78	0.006
Monthly income(< 300000 ID)	-1.41	0.46	0.19	-3.03	0.003
Diploma and high	1.281	0.6	0.136	2.13	.03
Explained variance	R=0.42	R^2=0.18		Adjusted R^2=0.164	

*A p-value of less than 0.5 was considered significant

DISCUSSION

This study presents a detailed evaluation of rural mothers' sociodemographic characteristics and their knowledge regarding the management of common child health problems specifically diarrhoea, respiratory tract infections (RTIs), and fever. The findings underscore the impact of education, income, and maternal experience (number of children) on knowledge levels. The demographic profile reveals that most of the mothers were over 30 years of age, married, had

primary education, and were unemployed. Most families had low to moderate income levels, with 45.6% earning less than 300,000 Iraqi Dinars per month. These findings align with patterns observed in rural populations in developing regions, where limited access to education and employment is common among women[1]. Such profiles are critical; as maternal education level has been consistently linked to improved child health outcomes. Good knowledge and practices of caregivers are pivotal to the protection, prevention, and treatment of childhood diarrhoea, hence reducing mortality thereof.[16] Mothers with higher educational attainment are more likely to process health information, practice preventive care, and make informed treatment decisions.

Children presented mostly with fever, RTIs, and diarrhoea. These are common diseases in early childhood, particularly in under-resourced settings.[17] The fact that 94.5% of mothers lived within 30 minutes of a health facility suggests good geographic access to care, yet health outcomes still hinge on maternal knowledge and decision-making, as echoed in studies from Sub-Saharan Africa and South Asia.[18] The average knowledge score was 16.1±2.6 indicating a moderate understanding of child health. While most mothers correctly identified key facts such as the importance of continued feeding during diarrhoea (89.9%) and the role of dust/smoke in RTIs (96.3%), knowledge gaps persisted.[16] Notably, misconceptions about antibiotics and antidiarrheal for stopping diarrhoea early (81.1%) and the low awareness of zinc's benefits (48.4%) suggest areas requiring urgent educational interventions. The management of diarrhea, zinc, culturally appropriate and location-specific messages in the local language had no effect on overall zinc and ORS consumption and reduced antibiotic and antidiarrheal consumption.[19] These results are comparable to regional studies. For instance, a study by Zwisler et al[20] . In rural Jordan found similar misconceptions regarding diarrhoea management, particularly over-reliance on antibiotics and low use of oral rehydration solutions and zinc. The WHO and other international bodies have emphasized that such gaps are common in low-resource settings and need addressing through community-based health education.

The present study showed that there was a significant relationship between maternal education and knowledge on the care of children with common health problems. This is consistent with other studies[27], who noted that maternal education directly influences health literacy and child morbidity.Mothers with lower incomes (ID 601,000-900,000) had significantly less knowledge, which is consistent with other studies[28]. Economic empowerment likely improves access to health information, resources, and services.[21]

The present study showed that there is a positive and significant correlation between the number of children and knowledge on the care of children with common health problems. This suggests thatexperiential learning plays a role in enhancing mothers' health knowledge. A study in Turkey (2007) found that maternal education and number of children were two demographic factors that were significantly associated with maternal knowledge of child development. Mothers with higher education and fewer children had more knowledge of child development.[22]

CONCLUSION

This study confirms that maternal education, economic status, and parenting experience are crucial determinants of mothers' knowledge on the care of children with common health problems. Addressing these through specific community-based interventions among these groups of mothers is essential for improving child health outcomes in rural Iraq and similar contexts. Therefore, there is a need for targeted interventions focusing on health education for illiterate or low-educated and low-income mothers, as well as promoting evidence-based management practices for common childhood diseases.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Shoukran Ali, Khamess Bander Obaid
Drafting or Revising Critically:	Shoukran Ali, Khamess Bander Obaid
Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

Conflict of Interest: The study has no conflict of interest to declare by any author.

Source of Funding: None

Ethical Approval: No.9872/QM/Approval/4JKJD8 Dated 01.01.2024

REFERENCES

1. World Health Organization. World health statistics 2017: Monitoring Health for the Sustainable Development Goals SDGs 2017;10.
2. Asghar I, Javaid A, Anwar M, Mustafa G. Knowledge and practices of rural mothers about diarrhea among infants. J Sheikh Zayed Med Coll 2016;7(4):1053-6.
3. Gross GJ, Howard M. Mothers' decision-making processes regarding health care for their children. Public Health Nursing 2001;18(3):157-68.
4. Gyasi RM, Asante F, Abass K, Yeboah JY, Adu-Gyamfi S, Amoah PA. Do health beliefs explain traditional medical therapies utilisation? Evidence from Ghana. Cogent Social Sci 2016;2(1):1209995.

5. Dodicho T. Knowledge and practice of mothers/caregivers on home management of diarrhea in under five children in Mareka district, Southern Ethiopia. J Health Med Nurs 2016; 27(2422-8419):71-9.
6. Abdulrida HN, Hassan RJ, Sabri MM. Knowledge and health-seeking practices of mothers attending primary health-care centers in Baghdad Al-Karkh sector about danger signs in newborns. Mustansiriya Med J 2018;17(1):29-35.
7. Workie HM, Sharifabdilahi AS, Addis EM. Mothers' knowledge, attitude and practice towards the prevention and home-based management of diarrheal disease among under-five children in Diredawa, Eastern Ethiopia, 2016: a cross-sectional study. BMC Pediatr 2018;18:1-9.
8. Al Hilfi TK, Lafta R, Burnham G. Health services in Iraq. Lancet 2013;381(9870):939-48.
9. Siziya S, Muula AS, Rudatsikira E. Diarrhoea and acute respiratory infections prevalence and risk factors among under-five children in Iraq in 2000. Italian J Pediatr 2009;35:1-9.
10. Owusu DN, Duah HO, Dwomoh D, Alhassan Y. Prevalence and determinants of diarrhoea and acute respiratory infections among children aged under five years in West Africa: evidence from demographic and health surveys. Int Health 2024; 16(1):97-106.
11. Al-Mosawi AJ. Iraq healthcare system: An update. Lupine Online J Med Sci 2020;4(3):404-11.
12. Mahmood FM, Faris SH, Al-Hakak ZM. Mothers' knowledge toward home health care to children who have mild diarrhea. Indian J Forensic Med Toxicol 2019;13(4):990–996.
13. Jadoo SAA, Alhusseiny AH, Yaseen SM, Al-Samarrai MAM, Mahmood AS. Evaluation of health system in Iraq from people's point of view: a comparative study of two different eras. J Ideas Health 2021;4(2):380-8.
14. Musihb ZS. Causes of mortality in the Neonatal Intensive Care Unit: A retrospective study. Nurs Midwifery Stud 2024;13(3):191-4.
15. Obaid KB. Mothers' attitudes toward childhood cancer in oncology unit in pediatric teaching hospitals at Baghdad City. Indian J Public Health Res Dev 2018;9(11):1496-1500.
16. Al Noban MS, Elnimeiri MK. Knowledge, attitudes and practices of mothers on management of childhood diarrhoea among children under five years in Al Mukalla City/Yemen-2022. PJMHS 2022;16(07):827-.
17. Kim H, Jin Y. Prevalence of Child Fever, Acute Respiratory Infection, and Diarrhea and Their Risk Factors in Sierra Leone. Life 2024;14(11):1493.
18. Daca C, Sebastian MS, Arnaldo C, Schumann B. Socio-economic and demographic factors associated with reproductive and child health preventive care in Mozambique: a cross-sectional study. Int J Equity Health 2020;19:1-9.
19. Group. ASICZEfDI-Z. Zinc supplementation in acute diarrhea is acceptable, does not interfere with oral rehydration, and reduces the use of other medications: a randomized trial in five countries. J Pediatr Gastroenterol Nutr 2006;42(3):300-5.
20. Zwisler G, Simpson E, Moodley M. Treatment of diarrhea in young children: results from surveys on the perception and use of oral rehydration solutions, antibiotics, and other therapies in India and Kenya. J Global Health 2013;3(1):010403.
21. Wang H, Chen Z, Li Z, He X, Subramanian S. How economic development affects healthcare access for people with disabilities: a multilevel study in China. SSM-Population Health 2024;25:101594.
22. Ertem I, Atay G, Dogan D, Bayhan A, Bingoler B, Gok C, et al. Mothers' knowledge of young child development in a developing country. Child: Care Health Development 2007;33(6):728-37.