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An Analytical Study of Urban Mothers' Knowledge and Using Traditional Health Behaviour for Caring Children with Common Illnesses

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Abstract

Background: Mothers have a body of knowledge that directly affects children's health, this knowledge is often shaped by factors such as education, standard of living, and economic status. **Objective:** To evaluate mother Knowledge, And to find relationship between knowledge and sociodemographic data. **Method:** A cross sectional study was done covering mothers living in an urban community of kerbala from 2nd December 2024 to 1st April 2025. A total of three primary health center were included in that area. Convenience sampling was used to select the participants. A pre- tested questionnaire was used for data collection from 213 mothers. Data were analyzed using descriptive statistics such as mean (SD) and percentages. Chi square test and t test were used for analysis. P value of <0.05 will be considered as statistically significant. **Result:** The level of knowledge of mothers related to child care with common health problems, it shows that there are significant as the percentage of those with a good level of knowledge reached (65.7%). And shows that there are significant statistical differences between the knowledge of mothers in the urban group and each of their following demographic characteristics: Age (p=0.007), educational level (p=0.005. **Conclusion:** The study indicates a substantial proportion of mothers have good knowledge regarding child healthcare and present relationship between mother knowledge and demographic data.

Keyword: Knowledge, Traditional behavior's, Urban mothers, Common health problem

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Introduction

Since mothers are frequently the primary care givers for children particularly under five years of age, it is energetic to increase their knowledge related to the caring of illnesses in their children, since even slight illnesses increase the risk of childhood mortality. The most common minor illnesses which Mothers can manage at home are diarrhoea, respiratory tract infection (RTI) and fever[1]. Furthermore, regardless of the convenience of numerous services in urban areas, people often face a range of health problems due to various interconnected factors, including over urbanization, Population density, lifestyle factors, environmental factors, lack of awareness, and behavioral factors[2]. Cultural affect children's and families' formations of health, other than children's social development, attitudes towards health snags they experience, conception of illness, response to illness and therap[3]. As said by the World Health Organization (WHO), traditional medicine involves of knowledge that includes floras, animal medicines, spiritual therapies, minerals, physical techniques, and exercises[4]. These are all considered health-seeking behaviors, which can be defined as any action taken by individuals who perceive that they or their children are experiencing health issues for the purpose of finding a suitable treatment[5]. A study in Iraq use to treat fever steroid or combine antipyretics which Antibiotics are often wrongly used, subjecting children to side effects and an increased danger of antibiotic fighting[6]. Mothers in Yemen's cities likewise use herbal mixtures and steam to treat children's asthma regardless of the availability of health services[7]. In Ethiopia, healthcare seeking behavior is poor and only a small proportion of children receive appropriate treatment evidence showed that only 30% of under-five children with symptom of ARI, 35% of with fever and 44% of with diarrhea were taken health facilities for advice or treatment[^]. Previous studies have indicated that family caregivers especially mothers often lack sufficient knowledge about the causes and symptoms of pneumonia. As a result, many tend to misinterpret pneumonia as a simple cold and resort to using traditional remedies to address individual symptoms like cough or fever, which may contribute to delays in seeking proper medical treatment[9]. And the Previous studies conducted in India, Nepal, Saudi Arabia, and Malaysia revealed thatwhile most mothers were aware of Oral Rehydration Solution (ORS), There remained substantial gaps in their knowledge and attitudes regarding diarrhoeaand its managemen[10]. Public health education plays a vital role in raising caregivers' awareness of health issues, ultimately providing them with the necessary knowledge, attitudes, and practices for effective disease management[11]. So, improving

families' care seeking behaviour could contribute significantly to reducing child mortality in developing countries[12].

Objective of the study

1. to evaluate Knowledge of urban mothers towards using traditional behavior's for caring children with common health problems.
2. to find out the relationship between mothers Knowledge with their sociodemographic variables such as age , education ,marital status ,occupation ,family size ,income ,No. of children.

Methodology

Study design and participants

A descriptive cross-sectional study was conducted to assess urban mothers' knowledge in managing common health problems in Holy Karbala City. Spanning the period from 2nd December 2024 to 1st April 2025. A convenience sampling method was employed to select participating mothers in the interview method. The sample size was calculated for a finite population, resulting in a total of 213 participants. Data collection took place at three randomly selected health centers in urban Karbala: Abasia-Gharbia , Bab-Baghdad , And Al-Eskan. All primary healthcare centers (PHCCs) within the Central Sector were written on identical pieces of paper, which were folded, mixed thoroughly in a container, and drawn at random to ensure an unbiased selection process. To determine an accurate sample size representative of the study population, The researcher reviewed records of mothers visits to the Integrated Management of Childhood Illness (IMCI) units over the previous three months at each selected health center. The total number of visits during that period was averaged by dividing by three to estimate the monthly visitation rate. Subsequently, 10% of the average number of visits per health center was taken to determine the number of mothers to be included from each center.

Data collection instruments

The researcher uses an instrument consist three parts :

1. Demographic information data for mother(place of residence, age, marital status, educational level, profession, monthly income, number of children, time taken to reach the nearest health center on foot).
2. Demographic information data for children (age, health problems).
3. knowledge questionnaire : It consists of 21 items, seven of which include diarrhea, taken

from the Indian study (Mallick et al.,2019). And they are (1, 2, 3, 4, 5, 6, 7), seven of which include ARI, taken from the Vietnamese study (Manh et al., 2023). And they are (8, 9, 10, **11, 12, 13, 14). And seven of which include fever, Taken from the Korean study (Jeong, 2010**) **and they are (15, 16, 17, 18, 19, 20, 21).**

Ethical considerations

Initially, an official request was submitted to the concerned authority in order to start this study, and then the ethics committee at the Faculty of Nursing was presented with the objectives, title and questionnaire and agreed to conduct the study, and Karbala University in turn submitted an official request to the Karbala Health Department to facilitate the task of data collection, In addition to that, the Karbala Health Department (Training and Development Department) assigned the researcher to fill out the ministerial form containing information related to the study, after that he sent a consent form to the Faculty of Nursing and the Training and Development Department. Development assigned the researcher to fill out the ministerial form that contains information related to the study, after that he sent a consent form to the College of Nursing and the Training and Development Department in center sector, which in turn sent consent to the health centers in these sector, which helped this researcher to collect data and interview mothers. Before data collection, verbal consent was taken from mothers, their identities were kept anonymous, and they were guaranteed the confidentiality of their data and that it will be used for the research only. The data was collected through an interview method.

Statistical Analysis

Collected data were interned into MS Excel database and later transferred to the SPSS software (SPSS V-19) and missed and error questionnaire were rectified. The descriptive statistics was carried out to know the basic characteristic of the respondents, which is presented as frequency, percentage, mean and Standard deviation and Score level of knowledge of the respondents.

The results

In this study, According to **Table (1)** showing that ages of (40%) of them in aged (>30years), and the majority of them are married(98.1%). Also it explain that educational level of mostly is primary in (31%). The majority of unemployed (80.8%). The table also shows that average monthly income of the highest percentage o is (300000- 600000 ID) (41.8%) . And the highest percentage of mothers

have number of children (3-5) was (42.7%). **Table (2)** it explains that the highest percentage of children (36.6%) are toddler, and have fever (37.5%). **Table (3)** It shows that the highest percentage of them (96.7%) answered "full" to the phrase "Dust and smoke make a child more prone to respiratory infections" and also shows that majority of them (96.2%) answered "full" to the phrase "A child with cough and fever should continue breastfeeding and receive extra food during recovery"Also, the table shows that most of them (78.9%) answered "true" to the phrase "Wake up the child to give an antipyretic if their temperature is above 38.3°C". And (73.2%) of them answered "true" to the phrase" For children aged two years or older, the mother should pull the external ear back before measuring tympanic temperature". **Table (4)** It shows that there are significant as the percentage of those with a good level of knowledge reached (65.7%). **Table (5)** It shows that there are significant statistical differences between the knowledge of mothers in the urban group and each of their following demographic characteristics: age (p=0.007), educational level (p=0.005). In favor of mothers with a higher mean.While there are any Statistical differences in mothers' level of knowledge about caring for children with common health problems according to other demographic data.

Table 1: The participants' demographic variables (N=213)

Variable		Urban Mothers N=213	
		N	%
Mothers age	<25 years	65	30
	25-30 years	65	30
	>30years	83	40
Mothers' marital status	Married	209	98.1
	Divorced	1	0.5
	Widowed	3	1.4
Mother educational level	Illiteracy	10	4.7
	Reads and writes	10	4.7
	Primary	66	31
	Intermediate	46	21.6
	. Secondary	25	11.7
	Institute	10	4.7

	University	39	18.3
	Master's/PhD |	7	3.3
Mothers occupation	Employed	41	19.2
	Unemployed	172	80.8
Average monthly income	< 300000 ID	60	28.2
	300000-600000 ID	89	41.8
	601000-900000 ID	29	13.6
	>900000 ID	35	16.4
Number of children	< 3	75	35.2
	3-5	91	42.7
	>5	47	22.1
How long does it usually take to reach the nearest health facility on foot?	<30 minutes	200	93.9
	30-60 minutes	11	5.2
	>60 minutes	2	0.9

Table 2: distribution of children accordinswg to their demographic data

Variable		Urban child	
		N	%
Childs age	Infant	55	25.8
	Toddler	78	36.6
	Preschool	30	14.1
	School-age	39	18.3
	Adolescent	11	5.2
Child's health issue	Fever	80	37.5
	Diarrhoea	54	25.4
	RTI	79	37.1

Table 3 : distribution of mothers' answers to the knowledge related to common health problems in their children

N	Statements	True		Full	
		N	%	N	%
1	Diarrhea is caused by poor hygiene	66	31	147	69
2	Breastfeeding or other feeding should not be stopped during diarrhea.	21	9.9	192	90.1

3	proper Oral rehydration therapy and preparation are useful for treating diarrhea	80	37.6	133	62.4
4	The rotavirus vaccine prevents all cases of diarrhoea	78	36.6	135	63.4
5	Zinc is beneficial in treating diarrhoea	132	62	81	38
6	Antibiotics and anti-diarrheal medications can stop diarrhoea early	41	19.2	172	80
7	Knowing how to recognize dehydration due to diarrhoea is important.	50	23.5	163	76.5
8	Acute respiratory infections can be serious if not treated properly	12	5.6	201	94.4
9	Dust and smoke make a child more prone to respiratory infections	7	3.3	206	96.7
10	Common symptoms of respiratory infections include fever, cough, runny nose, and difficulty breathing	16	7.5	197	92.5
11	Chest retraction in a child with fever and cough indicates severe pneumonia.	37	17.4	196	82.6
12	Stridor in a quiet child is a danger sign	61	28.6	152	71.4
13	A child with cough and fever should continue breastfeeding and receive extra food during recovery.	8	3.8	205	96.2
14	Vaccination helps children be less susceptible to acute respiratory infections.	14	6.6	199	93.4
15	Fever below °٤٠C may not be harmful to children	105	49.3	108	50.7
16	For children aged two years or older, the mother should pull the external ear back before measuring tympanic temperature	156	73.2	57	26.8
17	A lukewarm sponge bath can be used for a child with fever ٣٠ minutes after administering an antipyretic.	82	38.5	131	61.5
18	Wake up the child to give an antipyretic if their temperature is above °٣٨.٣C.	168	78.9	45	21.1
19	If an infant has a fever for more than three days, they should be taken to the hospital.	10	4.7	203	95.3

20	To reduce a child's fever, they should be placed in a cold-water bath.	56	26.3	157	73.7
21	To lower a child's fever, they should not be given anything to drink	36	16.9	177	83.1

Table 4 : total score

Knowledge level	Urban Group	
	N	%
Poor	**1**	**0.5**
Moderate	**72**	**36.8**
Good	**140**	**65.7**

Table 5: Statistical differences in mothers' level of knowledge about caring for children with common health problems according to their demographic data

demographic data		N	urban group		T/F	P. Value
			Mean M	Standard deviation SD		
Mothers age	<25 years	65	35.56	2.157	F 5.011	0.007**
	25-30 years	65	36.27	2.110		
	>30years	83	36.62	1.859		
Mothers marital status	Married	209	36.15	2.073	F 0.840	0.473*
	Divorced	1	38.00	0.000		
	Widowed	3	37.33	2.309		
Mother educational level	Illiterate	10	36.20	2.658	F 5.214	0.005**
	Reads and writes	10	35.00	3.018		
	Primary	66	36.31	1.922		
	Intermediate	46	36.04	2.200		
	. Secondary	25	36.04	1.925		
	Institute	10	36.40	1.955		
	University	39	36.21	1.745		

	Master's/PhD |	7	36.28	2.690		
Mothers occupation	Employed	41	36.23	2.023	T 2.312	0.152
	Unemployed	172	36.28	2.154		
Average monthly income	< 300000 ID	60	35.78	2.379	F 1.149	0.330
	300000-600000 ID	89	36.35	1.937		
	601000-900000 ID	29	36.44	1.660		
	>900000 ID	35	36.28	2.108		
Number of children	< 3	75	36.02	2.283	F 0.417	0.660
	3-5	91	36.31	1.896		
	>5	47	32.23	2.055		
How long does it usually take to reach the nearest health facility on foot?	<30 minutes	200	36.22	2.059	F 0.697	0.499
	30-60 minutes	11	36.09	2.113		
	>60 minutes	2	34.50	3.535		

Discussion

Information on health seeking behaviour is essential to provide need-based health care delivery to any population. In the current study that was conducted on mothers living in urban areas of kerbala in Iraq, this study show demoghrapic data in table 1 the majority of them are married(98.1%) It was consistent with a study conducted in Vietnam in 2023 Where was the percentage of married women(94.2%)[13]. Also, the majority of unemployed (80.8%) it was consistent with a study conducted in Ethiopia was the percentage(49.1%) [14]. In this study, the most prevalent age group was over 30 years (40%), and individuals with primary education constituted the largest proportion (31%). These findings are consistent with a study conducted in Yemen, which also reported that the majority of mothers were over the age of 30 and that primary education was the most common educational level, accounting for 53.7% [15]. In terms of family size, the number of family members of 3-5 was the highest (42.7%). This was supported by a study conducted in Ethiopia in 2025, where the number of family members was less than five (73.9%) [16]. Regarding income level, the majority of families in this study fell within the medium income range of 300,000–600,000, representing

(41.8%) of participants. In contrast, A similar study conducted in Iraq reported that (46%) of families had an income ranging from 50,000 to 1,000,000, which presents a contradictory finding[17]. Additionally, Access to the health center on foot within less than 30 minutes was reported by (93.9%) of participants, representing the highest proportion. A comparable pattern was observed in a study from Ethiopia, where walking was also the most common mode of access to healthcare facilities, accounting for (32.0%) of respondents[18]. Also, the finding of the study showed that the most common disease is fever(37.5%), this result was contradicted by an Ethiopian study where the highest percentage was diarrhea(41.3%), most likely due to the geographical location[19]. The knowledge score was significant with a good level of knowledge reached (65.7%), a study in India the majority of mothers had good knowledge(53%). Thus, corroborates this study[20]. Conversely, a Saudi study showed that the knowledge of mothers was average (69.60%)[21]. In the current study shows that there are significant statistical differences between the knowledge of mothers and each of their following demographic characteristics: age (p=0.330), educational level (p=0.005), number of children(P=0.660). In Egyptian study shows that the mothers' knowledge is significantly correlated with income mothers(p=<0.001), lesser number of children(P=<0.001). Moreover, the knowledge is significantly correlated with higher educated mothers(P=<0.001). So, this study support [22]. A study conducted in Iraq also confirmed the existence of a relationship between mother's knowledge and work (p=<0.001), which in turn supports the current study[23]. In India It was found the age statistically associated with maternal knowledge (p=0.02)[24]. Similary in Saudia In terms of marital status, married and widowed participants had the highest median knowledge score (4.0) compared to their divorced peers (3.0, p = 0.044), this means that there is a relationship between marital status and demographic characteristics. So this study agree with the current study where there was a relationship(p=473) [25].

Conclusion

While the study indicates a substantial proportion of urban mothers possess good knowledge regarding child healthcare and present relationship between mother knowledge and demographic data, there remains a significant segment with inadequate understanding. Addressing these gaps through targeted, culturally appropriate educational initiatives is essential to enhance child health outcomes in urban communities.

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Competing interests

The authors declare that they have no competing interests.

Abbreviations

Respiratory tract infection: RTI

Oral rehydration solution: ORS

World health organization : WHO

Statistical package of social sciences: SPSS

Integrated management of childhood illness: IMCI

Primary health care centers: PHCCs

Authors' contributions

All authors equally substantially contributed to the work design, acquisition, analysis, and interpretation of the data; Drafting or revising it critically for important intellectual content. All authors read and approved the final manuscript authors take responsibility for the integrity of the data and the accuracy of the data analysis

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Role of the funding source

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Availability of data and materials

The data used in this study are available from the corresponding author on request.

Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki. This study was approved by the Ethics Committee of the College of Nursing, University of Kerbala, on October 27, 2024, with approval number Uok.con.24.046. A legal document requesting permission from the University of Karbala's College of Nursing to gather data, addressed to the Holy Kerbala Province's Directorate General of Education. All participants signed an informed consent form.

Consent for publication

By submitting this document, The authors declare their consent for the final accepted version of the manuscript to be considered for publication.

Refrences

1. Abu-Baker, N.N., Gharaibeh, H.F., Al-Zoubi, H.M., Savage, C. and Gharaibeh, M.K., 2013. Mothers' knowledge and practices of managing minor illnesses of children under five years. Journal of Research in Nursing, 18(7), pp.651-666. https://doi.org/10.1177/1744987112451576
2. Yesmin, M.F., Chowdhury, M.R.K., Bornee, F.A., Kader, M., Mondal, M.N.I., Hossain, M. and Rashid, M., 2023. Urban–rural difference in factors associated with childhood functional difficulty in Bangladesh: a cross-sectional study. Frontiers in Public Health, 11, p.1270853. https://doi.org/10.3389/fpubh.2023.1270853.
3. Yildiz, S., Toruner, E.K. and Altay, N., 2018. Effects of different cultures on child health. Journal of Nursing Research and Practice, 2(2), pp.6-10.).
4. Ngere, S.H., Akelo, V., Ondeng'e, K., Ridzon, R., Otieno, P., Nyanjom, M. et al., 2022. Traditional medicine beliefs and practices among caregivers of children under five years—the child health and mortality prevention surveillance (CHAMPS), Western Kenya: a qualitative study. PLoS ONE, 17(11), p.e0276735. https://doi.org/10.1371/journal.
5. Tiwari, G., Thakur, A.K., Pokhrel, S., Tiwari, G. and Pahari, D.P., 2022. Health care seeking behavior for common childhood illnesses in Birendranagar Municipality, Surkhet, Nepal: 2018. PLOS ONE, 17(3), p.e0264676. https://doi.org/10.1371/journal.pone.0264676 .
6. Altahhan, R.A.M. and Aljubbawi, S.F.A., 2022. Knowledge of Mothers Regarding Management of Fever in their Children Under Five Years of Age in Al-Hilla City. Medical Journal of Babylon, 19(4), pp. 581-588. DOI: 10.4103/MJBL.MJBL_140_22.
7. Abdulla, O.N., Badulla, W.F., Alshakka, M., Al-Abd, N. and Ibrahim, M.I., 2021. Mothers knowledge, attitude and practice regarding diarrhea and its management in Aden-Yemen: a cross-sectional study in poor resource setting. Journal of Pharmaceutical Research International, 33(45B), pp.365-378 .DOI: ١٠,٩٧٣٤/JPRI/٢٠٢١/v٣٣i٤٥B٣٢٨١٧
8. Asrat, H., Gezahagn, T., Kaba, Z., Wondimu, R. and Abera, T., 2021. Healthcare seeking behavior of mothers or care givers for common childhood illness of under five years children and

associated factors in Kimbibit District, Ethiopia, 2020. Science Journal of Public Health, 9(4), p.121. DOI: 10.11648/j.sjph.20210904.12 .

9. Purwati, N.H., Rustina, Y. and Supriyatno, B. (2021) 'Knowledge and healthcare-seeking behavior of family caregivers of children with pneumonia: A qualitative study in an urban community in Indonesia', Belitung Nursing Journal, 7(2), pp. 107–112. https://doi.org/10.33546/bnj.1268.
10. Ebtavanny, T.G., Sabila, S., Hariadini, A.L., Arundina, A. and Pramestutie, H.R. (2024) 'The relationship between parent's knowledge and attitudes regarding childhood diarrhoea treatment', Pharmacy Education, 24(9), pp. 40–48. https://doi.org/10.46542/pe.2024.249.4048.
11. Liheluka, E.A., Bali, T., Lyimo, E., Dekker, D. and Gibore, N.S. (2024) 'Caretaker's knowledge, attitudes, and practices regarding the causes, treatments, and risks of diarrhea among under-five children in North-Eastern Tanzania: A cross-sectional study', Global Pediatric Health, 11, pp. 1–10. https://doi.org/10.1177/2333794X241288524 .
12. Mahejabin, F., Parveen, S. and Ibrahim, M. (2014) 'Mother's/caregiver's health-seeking behaviour during childhood illness in an urban slum of Dhaka city', Pulse, 7(1), pp. 5–15. https://doi.org/10.3329/pulse.v7i1.23232 .
13. Manh, T. H., Ai, M. L. T., Tuan, A. N., & Le Viet, T. (2023). Knowledge, attitudes and practices of mothers during care of children with acute respiratory infections under 5 years old. International Journal of Africa Nursing Sciences, 19, 100613. https://doi.org/١٠,١٠١٦/j.ijans.٢٠٢٣,١٠٠٦١٣ .
14. Dagnew, A.B., Tewabe, T. and Murugan, R. (2018) 'Level of modern health care seeking behaviors among mothers having under five children in Dangila town, North West Ethiopia, 2016: a cross-sectional study', Italian Journal of Pediatrics, 44, pp. 1–6. https://doi.org/10.1186/s13052-018-0503-z .
15. Al-Noban, M.S. and Elnimeiri, M.K., 2022. Mothers' knowledge, attitude and practices regarding acute respiratory infection in children under five years: Urban and rural areas - Al Mukalla city - 2022. Electronic Journal of University of Aden for Basic and Applied Sciences, 3(2), pp.93–100 .https://doi.org/١٠,٤٧٣٧٢/ejua-ba. ٢٠٢٢,٢,١٥٧ .
16. Kelbessa, B., Girma, T. and Shiberu, T., 2025. Assessment of health care seeking behaviour for common childhood illnesses and associated factors among mothers having under-five children

in Ambo Town, Ethiopia. Biomedical Journal of Scientific & Technical Research, 60(4), DOI:10.26717/BJSTR.2025.60.009483.

17. Darweesh, O., Kurdi, A., Merkhan, M., Ahmed, H., Ibrahem, S., Al-Zidan, R.N., Meyer, J.C. and Godman, B., 2025. Knowledge, attitudes, and practices of Iraqi parents regarding antibiotic use in children and the implications. Antibiotics, 14(4), p.376. https://doi.org/10.3390/antibiotics14040376.
18. Kolola, T., Gezahegn, T. and Addisie, M., 2016. Health care seeking behavior for common childhood illnesses in Jeldu District, Oromia Regional State, Ethiopia. PLOS ONE, 11(10), p.e0164534. https://doi.org/10.1371/journal.pone.0164534.t003.
19. Gelaw, Y. A., Biks, G. A., & Alene, K. A. (2014). Effect of residence on mothers' health care seeking behavior for common childhood illness in Northwest Ethiopia: a community based comparative cross–sectional study. BMC research notes, 7, 1-8. https://doi.org/10.1186/1756-0500-7-705 .
20. Gaikwad, V., Deshpande, S. Z., Chavan, S. S., & Chavan, S. S. (2022). " "a study to assess the knowledge of mothers regarding health problems of children residing in selected urban areas of pune city".". Journal of Pharmaceutical Negative Results, 13. https://doi.org/10.47750/pnr.2022.13.S08.227 .
21. Bayomy, H. E., Almatrafi, H. M., Alenazi, S. F., Almatrafi, R. M. S., Alenezi, M., Alanazi, W. A., ... & Almatrafi, R. M. S. (2024). Knowledge and Behavioral Practice of Mothers About Childhood Diarrhea in Arar City, Saudi Arabia. Cureus, 16(2). DOI: 10.7759/cureus.54221.
22. Waly, E.H. and Bakry, H.M., 2022. Assessment of Egyptian mothers' knowledge and domestic management practices of fever in preschool children in Zagazig City, Sharkia Governorate. Children (Basel, Switzerland), 9(3), p.349. https://doi.org/10.3390/children9030349 .
23. Abdulrida, H.N., Hassan, R.J. and Sabri, M.M., 2018. Knowledge and health-seeking practices of mothers attending primary health-care centers in Baghdad Al-Karkh sector about danger signs in newborns. Mustansiriya Medical Journal, 17(1), pp.29–35. DOI: 10.4103/MJ.MJ_7_18.
24. Sougaijam, A., Devi, H., Thangjam, N. and Sougaijam, A., 2017. Knowledge on acute respiratory tract infection among mothers in an urban community of Imphal West District: A community-based cross-sectional study. IOSR Journal of Dental and Medical Sciences, 7(4), pp.39–44 . DOI: 10.9790/0853-1607043944.

25. Al-Ayed, I.H., 2010. Mothers' knowledge of child health matters: Are we doing enough? Journal of Family and Community Medicine, 17(1), pp.22–28. https://doi.org/10.4103/1319-1683.68785.

