

A STUDY OF NURSES' UNDERSTANDING OF PEDIATRIC MENINGITIS CARE AT MAYSAN CHILDREN'S AND MATERNITY HOSPITAL IN IRAQ

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ABSTRACT

The objective: This study aims to evaluate nurses' knowledge regarding the management of children diagnosed with meningitis by assessing their understanding. It will also look into the relationship between nurses' knowledge and a number of variables, such as age, gender, years of experience, training, and educational attainment. **Methodology:** A descriptive-analytical study was conducted at the Maysan Children's and Maternity Hospital in Iraq from December 25, 2021, to May 10, 2022. Data were gathered utilizing a researcher-designed questionnaire and interview methodologies. **Results:** The study revealed that 84.6% of the samples were aged between 20 and 29 years, constituting two-thirds of the total. The predominant demographic was female, comprising 79.5%. Concerning educational attainment, 53.8% of the participants have a nursing diploma. The majority of respondents worked in pediatric departments, and over half had 1-10 years of experience (87.2%). All participants underwent training sessions, with over fifty percent attending 1-5 sessions (100.0%). The study revealed that a significant proportion of participants (60.7%) have a high degree of knowledge regarding meningitis. **Conclusion:** Despite participants exhibiting substantial knowledge regarding meningitis, there is a necessity for ongoing education, especially through international training programs, to further augment abilities and expertise in the management of pediatric meningitis cases.

INTRODUCTION

Meningitis is an infection of the meninges, which are the protective membranes surrounding the brain and spinal cord. This is a grave illness that endangers the lives of numerous children and can result in irreversible brain damage, neurological complications, or mortality (1). Prompt medical intervention is essential, given the disease's elevated incidence and fatality rates despite adequate therapy. Comprehending the indicators and manifestations of meningitis, along with its management and prevention, is crucial for healthcare practitioners (2). Research indicates that a considerable proportion of children succumb to bacterial meningitis, with fatality rates nearing 30% even with therapy, but viral meningitis is less lethal and sometimes recovers spontaneously without intervention. Untreated fungal meningitis can be lethal, albeit it is less prevalent in children, whereas parasitic infections are generally treated with targeted drugs such as antimalarials and specialized antibiotics (3).

Since the 1990s, there has been a notable increase in the incidence of meningococcal meningitis, a serious infection that often leads to fatal outcomes, particularly in adolescents and young adults. Factors such as residing in congested environments, lack of sleep, and the sharing of personal objects like Glasses for drinking and balms for lips facilitate the transmission Regarding the disease, the American Academy of Pediatrics advocates for Vaccination against meningitis is recommended for all children at ages 11 to 12, with a booster dose administered at age 15, or upon Transitioning into high school if previously unvaccinated; For all incoming college students residing in dormitories; Additionally, vaccination is recommended for children at increased risk, such as those with chronic health conditions, immune deficiencies, or those traveling to areas with a high incidence of the disease (4).

The management of pediatric patients with meningitis requires appropriate configuration of isolation rooms, vigilant observation to prevent agitation, and the provision of padded barriers to reduce the risk of seizures. Nursing care encompasses the monitoring of disease progression, family support, medication management, and pain alleviation (5).

The incidence and fatality rates of meningitis in underdeveloped nations are alarmingly high, with incidence rates between 0.8 and 6.1 per 1,000 live births, and mortality rates between 40% and 58% (6). Meningitis-related brain lesions adversely affect the vulnerable developing brain, resulting in poorer results for early children (14). Out of the 370 patients with bacterial meningitis, children younger than 15 years old were disproportionately affected in the winter. 40 (1.7%) of the 2314 patients who were suspected of having meningitis died after being diagnosed; Missan had the highest suspicion rate, at 2.9% (7). The purpose of this study is to investigate the nursing staff's proficiency in treating meningitis in children at the Misan Maternity and Child Hospital in Iraq. Approach:

From December 25, 2021, to May 10, 2022, a descriptive analytical study was conducted at Maysan Children's and Maternity Hospital in Iraq to evaluate nurses' understanding of how to treat children with meningitis. All 117 nurses who worked on the pediatric unit during the study period were included in this analysis. The researchers created a questionnaire comprising two axes: Six questions about the nurses' age, gender, years of experience, education, and training are included in the first axis, while twenty questions assessing the nurses' nursing practices and knowledge of caring for children with meningitis are included in the second axis. The first axis included factors such as age, sex, level of education, place of employment, years of experience, and pediatric intensive care unit training. The second axis evaluated knowledge on meningitis, including how to diagnose, treat, and care for children who have it. Three categories were applied to the responses: (1) unknown, (2) uncertain, and (3) known.

Outcomes:

In accordance with the goals of the study, the data analysis's findings are methodically displayed in the following tables:

Table 1. Nurses' Distribution by Demographic Characteristics

No.	Variables	Characteristics	F	%
1.	Age	20-29 yrs	99	84.6
		30-39 yrs	9	7.7
		40-49 yrs	4	3.4
		>50	5	4.3
		Total	117	100.0
2.	The Gender	Male	24	20.5
		Female	93	79.5

		Total	117	100.0
3.	The Level of Education	Bachelor in Nursing	0	00.0
		Diploma in Nursing	63	53.8
		Secondary School Nursing	54	46.2
		Total	117	100.0
4.	The Workplace	pediatric consultant	16	13.7
		premature department	29	24.8
		CCU	21	17.9
		Pediatric wards	31	26.5
		Emergency unit	20	17.1
		Total	117	100.0
5.	Years of work experience	1-10 yrs	102	87.2
		11-20 yrs	12	10.3
		21-30 yrs	3	2.6
		Total	117	100.0
6.	Number of Training Courses	1-5 sessions	117	100.0
		6-10 sessions	0	00.0
		11-15 sessions	0	00.0
		Total	117	100.0

No. = Number of Variables, F = Frequencies, % = Percentages, Arithmetic Mean (\bar{x}) and Standard Deviation. Development equals Standard. Deviation

The table indicates that 99 patients, representing 84.6% of the total, or two-thirds of the study group, are between the ages of 20 and 29. Additionally, the table indicates that ninety-three participants, constituting 79.5%, are female. The results reveal that 53 persons (53.8%) hold a nursing diploma. The majority of individuals are employed in pediatric wards. The study found that 102 nurses, representing 87.2% of the total, has one to ten years of experience. All participants—117 persons, or 100.0%—have completed their training courses, with the majority attending one to five sessions.

Table 2. Thorough Assessment of Nurses' Knowledge Regarding Pediatric Seizure Management

Assessment Levels	F	%
Low: (1 - 1.67)	0	0.0
Moderate: (1.68 - 2.33)	46	39.3
High: (2.34 - 3.00)	71	60.7
Total	117	100.0

The data indicates that most of the participants in the study sample (n=117) possess a high degree of knowledge of meningitis, with 71 individuals (60.7%) exhibiting this proficiency.

Table 3. The correlation between nurses' expertise and their ages

Age (year)		Nurses' Knowledge			Total
		I know	I don't Know	Uncertain	
20-29 yrs	F	54	5	40	99
	%	46.2%	4.3%	34.2%	84.6%
30-39 yrs	F	9	0	0	9
	%	7.7%	0.0%	0.0%	7.7%
40-49 yrs	F	0	0	4	4

	%	0.0%	0.0%	3.4%	3.4%
>50	F	3	0	2	5
	%	2.6%	0.0%	1.7%	4.3%
Total	F	66	5	46	117
	%	56.4%	4.3%	39.3%	100.0%
$\chi^2_{obs.} = 13.585$ $\chi^2_{crit.} = 1.943$ $df=6$ $P > 0.05$ $p\text{ value} = 0.03$					

Table No. (3) Demonstrates a statistically significant relationship between nurses' ages and their understanding of meningitis. The chi-square test indicated that the statistical significance value (P) exceeded 0.05.

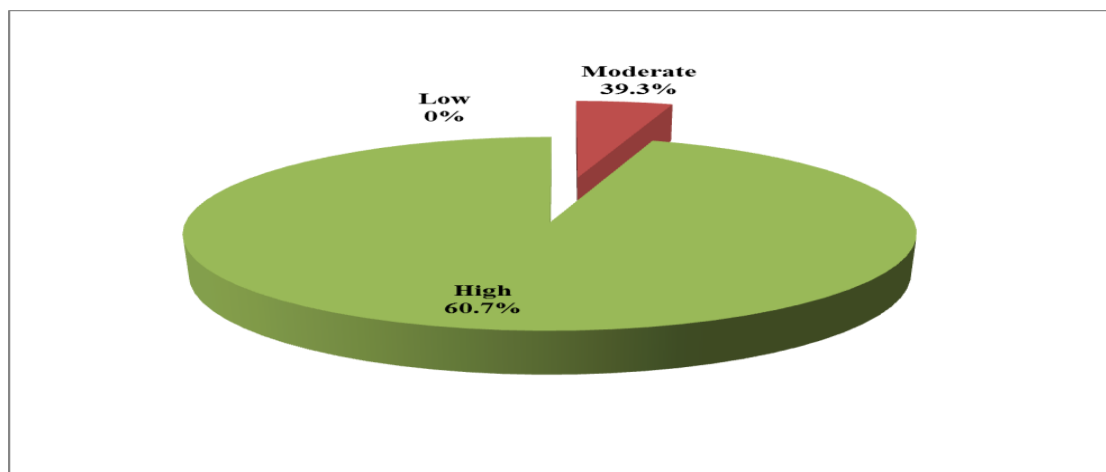


Figure 1. Pie chart illustrating the degrees of nurses' knowledge regarding meningitis.

The graph indicates that most individuals in the study sample possess a substantial level of knowledge regarding meningitis among nurses.

Discussion:

According to the findings in the current study's Table 1, two-thirds of the sample group was in the 20–29 age range. The results are consistent with a study by (7), which found that nurses between the ages of 23 and 32 made up 50% of his samples. (8) found that the majority of the sample participants were aged between 26 and 35 years. (9) demonstrated in their study that 45% of nurses were aged between 20 and 29 years. Over 56.7% of the participants were aged between 18 and 24 years (10). The study's results indicated that over half of the participants In particular, 93 (79.5%) were women. This was consistent with the findings of (8), who found that nurses made up a sizable share of their study group. The survey revealed a variation in the educational levels of the participants, with slightly more than half (53.8%) possessing a nursing diploma, while the remaining 46.2% had graduated from secondary nursing schools. The current study's findings were not entirely consistent with earlier studies that indicated the majority of nurses completed secondary nursing programs. (8). The majority of participants work in pediatric wards, according to the study's analytical findings. In addition, more than half of the nurses—102, or 87.2%—have one to ten years of experience. The study by (8) found that one-third of nurses possess one to three years of nursing experience. Over one-third of nurses have been employed in pediatric nursing departments and hospitals for an equivalent duration. The study by (9) corroborated analogous findings: 59.4% of nurses had less than 5 years of overall experience. 78.1% of those with pediatric experience have less than 5 years of tenure. The results demonstrate that a significant percentage of nurses in these two studies possess recent professional experience, particularly in pediatric nursing, as all participants in the current study completed training courses, the majority of which comprised 1-5 sessions, totaling 117 (100.0%). (8) report that 20% of the research sample and 5%

of the control group attended only one meningitis training session. All these courses were provided domestically, comprising 20% of the research sample and 5% of the control group. Similarly, (9) demonstrated that a significant majority of his sample (94.4%) obtained their training within Iraq, whilst a small minority (5.6%) trained abroad.

Evaluation of nurses' understanding of meningitis among the study sample (Table 2):

Although items 3, 6, 7, 11, 12, 16, and 17 showed a modest degree of appraisal of nurses' knowledge of meningitis throughout the study sample, the results showed that the majority of items had a high arithmetic mean. The findings aligned with those of (12). The study established that fifty percent of the participating nurses possessed insufficient knowledge regarding neonatal meningitis prior to the intervention, resulting in a notable enhancement following the training program's implementation. The results were consistent with a study by (8) about how an educational program affected nurses' understanding of meningitis in children at Baghdad teaching hospitals., which revealed a significant increase in nurses' overall knowledge post-implementation compared to pre-implementation. The findings also validated those of (10), who examined the impact of a training program on nurses' performance in the emergency department while treating children with acute meningitis. The study revealed a statistically significant enhancement in nurses' overall knowledge levels post-intervention compared to pre-intervention levels. The researcher posited that the data might suggest that most participants in prior studies did not undergo any training courses, In contrast, every participant in the current study had finished training.

Analysis of the relationship between nurses' ages and their level of knowledge:

The Chi-square test showed a statistically significant relationship between nurses' age and their understanding of meningitis ($P < 0.05$), with those between the ages of 20 and 29 scoring significantly higher. The results corroborate a study by (12), which indicated statistically significant variations in general knowledge relative to age, revealing that participants aged 20 to 30 years achieved notably higher scores. According to (13), the lack of suitable training programs in school curricula resulted in older nurses who did not take part in training courses having insufficient expertise.

CONCLUSION

In spite of the elevated understanding of meningitis among nurses inside the research sample, ongoing training programs, particularly those conducted internationally, are necessary to enhance their expertise and competencies regarding pediatric meningitis.

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