Indonesian Journal on Health Science and Medicine
Vol 2 No 1 (2025): January
ISSN 3063-8186. Published by Universitas Muhamamdiyah Sidoarjo

https://doi.org/10.21070/ijhsm.v2i1.87

Nursing Students' Knowledge Regarding the Management of Children with Poisoning: A Cross-Sectional Study

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Abstract. Background: Poisoning is a major public health concern, it is recorded as one cause of morbidity and mortality among children around the world, and its severity depends on the quantity and type of the poison substance. Objectives: Assessing Basrah nursing college students' understanding of how to care for children who have poisoning was the primary goal of the study. Methods: The study was carried out at the University of Basrah/College of Nursing between November 12, 2023, and March 18, 2024, using a descriptive cross-sectional design to accomplish its goal. Two hundred third- and fourth-year nursing students were chosen as a non-probability sample. The study's instrument, which includes sociodemographic information about nurses and a questionnaire to evaluate nursing students on child poisoning, was developed based on prior research on the topic. The SPSS software version 20 was used to analyze the data, which was gathered via a self-administered method. Results: The study shows, a majority (77.5%) of the total samples were female, (and 70%) of nursing students' poor knowledge and management about poisoning in children. Conclusions: According to the study, Basrah University nursing students lacked a fundamental understanding of poisoning cases. The researchers' suggestion is to introduce poisoning in the curriculum and increase the education of programmers about poisoning and any acute cases.

Highlights:

1. Child poisoning is a global health concern with significant morbidity and mortality.
2. Assess Basrah nursing students' knowledge of pediatric poisoning management.
3. Students lack knowledge; curriculum enhancement and educational programs are recommended.

Keywords: Assessment, Knowledge, Nursing Students, Poisoning

Introduction

When harmful substances enter the body through the mouth, blood vessels, food, or injections, it is known as poisoning [1]. In 2019, it might have happened intentionally

ISSN 3063-8186. Published by Universitas Muhamamdiyah Sidoarjo

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or accidentally, 7236 children were admitted to the hospital for chemical poisoning, in the year 2020 were 16756 children but in 2021 was11497 children. [2].

In low- and middle-income countries canning has more effect in Unintentional poisoning deaths [3].

Any substance that can cause harm or impair a person's capacity to perform their normal physiological processes, either locally or broadly, is considered poison [4].

Early on, children began to become more active and eager to investigate their environment. Consequently, poisoning exposure [5].

According to WHO, posture is one of the most frequent reasons for rising rates of morbidity and mortality worldwide [6]. The main classifications of poisoning are: Unintentional, Suicidal, and Homicidal. The definition of unintentional poisoning is a person's exposure to poisoning accidentally without intent. Drainage fluids, multipurpose detergents, and batteries are examples of corrosive poisoning. Hydrocarbon poisoning includes gasoline, kerosene, specific oils, lighter fluids, and thinners [7].

Nurses in the emergency department are the first healthcare workers to have direct contact with cases of poisoning. Understanding how to properly assess and handle these issues at the outset is essential. To handle poisoning situations and assess patients' support networks and family structures, emergency department nurses need to be equipped with specialized knowledge and abilities [8].

Understanding how to properly assess and handle these issues at the outset is essential. To handle poisoning situations and assess patients' support networks and family structures, emergency department nurses need to be equipped with specialized knowledge and abilities [9].

Lastly, poisoning is a prevalent source of illness and death worldwide.in youngsters, with millions of cases documented each year

Methods

The study was a descriptive cross-sectional study that took place between November 12, 2023, and March 18, 2024. The study was carried out at the University of Basrah at the College of Nursing.

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Sample size and sampling

The questionnaire was completed by a selective sample of 200 nursing students who agreed to take part in the study.

Measurement

A self-administered questionnaire regarding knowledge and therapeutic measures regarding poisoning in children.

There were three sections to the questionnaire: the students' sociodemographic details in the first section, such as age, class, gender, and information about poisoning; the second part contained students' knowledge which consisted of (14) questions, and the third part contained therapeutic measures which consists of (11) question regarding poisoning in children. The Likert Scale was used to score the responses (I Know, Not Sure, Don't Know). Students responded to a series of closed-ended questions within a time frame of 15 to 20 minutes.

Data collection and data analysis

Descriptive statistical tests, particularly frequency and percentage analyses, were used to examine the gathered data. Additionally, the t-test was employed, with a significance level of; p= .011, to compare the knowledge and therapeutic measures regarding poisoning in children. In the University of Basrah at the College of Nursing. The inclusion criteria for participants in a study were individuals who agreed to participate in the study, students in third- and fourth-year nursing students, and the exclusion criteria for participants in a study were individuals who are students who refused to participate in the study, students in first- and second-year nursing students.

Ethical Considerations:

The research received approval from the scientific committee of the College of Nursing at the University of Basrah. Furthermore, informed consent has been obtained from all participants. The confidentiality of the collected data has been maintained.

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Table One: Socio-Demographic Variables of the Sample

Socio-Demographic Variables	No.	%
Gender		
Male	45	22.5
Female	155	77.5
Stage		
3rd	108	54.0
4th	92	46.0
Age (years)		
18-21	94	47.0
22-25	85	42.5
26-29	13	6.5
≥30	8	4.0
Do you have training courses about poisoning		
Yes	17	8.5
No	183	91.5

No. Number; %= Percentage

The findings in Table (1) demonstrated that 200 nursing students participated in this study in the context of their knowledge regarding poisoning in children, we found that the majority of the participants were female, comprising 77.5% of the total, while males were 22.5%.

Regarding their stage, a significant portion, specifically 54%, were third stage, and the remaining were fourth stage (46%). Age-related findings, most nursing students (47%) aged 18-21 years. When they were asked to answer: the majority of nursing students (91.5%) didn't have information about poisoning.

Table 2. Overall nursing students' knowledge about poisoning in children

Scale	M	SD	Score	No.	%	Ass.
Poisoning in Children (14 Q)	19.32	3.265	Poor (14-23.33)	181	90.5	Poor
			Moderate (23.34-32.66)	19	9.5	
			Good (32.67-42)	0	0.0	
			Total	200	100.0	

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Therapeutic measures for poisoning (10 Q)	17.19	3.668	Poor (10-16.66)	87	43.5	Moderate
			Moderate (16.67-23.33)	105	52.5	
			Good (23.34-30)	8	4.0	
			Total	200	100.0	
Overall Knowledge (24 Q)	36.47	5.884	Poor (<40)	140	70.0	Poor
			Moderate (40-56)	59	29.5	
			Good (>56)	1	.5	
			Total	200	100.0	

Min.: Minimum; Max.: Maximum, M: Mean for total score, SD=Standard Deviation for total score

The findings in Table (2) demonstrated there were a significant majority (70%) of nursing students had poor knowledge of both poisoning in children and its therapeutic interventions, as indicated by their average composite scores (36.47 ± 5.884).

Table 3. Factors Predicting Nursing Student's Knowledge Regarding Poisoning

Variables	Unstandardized Coefficients		Standardized Coefficients	T	*Sig.*
	B	Std. Error	Beta		
Gender	-.069	.083	-.061	-.832	.407
Stage	-.008-	.069	.118	1.112	.011
Age	.020	.045	.032	.436	.663
Information	.066	.123	.039	.538	.591

Dependent Variable: Nurses Knowledge

The findings in Table (3 demonstrated there were significant predictors of their knowledge regarding the poisoning and its therapeutic measures (β = 0.118; p= .011)

Result and Discussion

Appropriate first aid is lifesaving in poisoning cases. Poisoning is a serious public health issue that accounts for a significant portion of emergency service applications. It requires a well-thought-out plan to introduce high Quilty to first aid at the appropriate

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time. Improving awareness and protection measures regarding poisoning issues can currently increase the success of management.

This study's findings show that most of the students were female. These results agree with numerous studies [10-15] that mention that most of the sample was female.

This study's findings show that most of the study sample were at 3rd stage. This result is consistent with numerous studies [16-18] which mention the majority of the study was from the 3rd stage.

According to the findings of the current study, most of the study sample age were between 18 and 25 years. This result is consistent with many studies [19-24] which mention that most of the study samples were less than 25 years old.

Also, the results of the present study show the majority of the study sample does not participate in the training courses. The findings of the present study agree with numerous studies [25-30] which mention that most of the study sample does not participate in the training courses.

This finding contrasts with Tavolacci and others in 2008 which revealed a sufficient level of knowledge, identified by a score ≥ 7 [31]. This finding is supported by Molan in 2022 a study in Iraq, which showed that student nurses at Basic knowledge about poisoning situations was lacking at Basrah University [32].

This result is agreed with Hussien in 2022, which discovered that kids' low scores demonstrated a lack of understanding about poisoning [33]. Another study conducted in Egypt by Rutto in 2011 is consistent with the findings of another study which reported a sufficient level of knowledge in contrast to our findings [34].

Furthermore, this result contradicts a study result in Kenya and Saudi Arabia studies in 2018, Results showed that a significant portion of our students (70.1%) correctly recognized that preserving appropriate airway, breathing, and circulation is the top concern while treating severe acute poisoning [35].

Sayed et al. (2015) corroborated this conclusion, in agreement with research that found 73% of nurses lacked adequate understanding of how to treat acute poisoning. However, the results of this survey were significantly higher than those of Egypt (Cairo), which revealed that 48.5% of nurses knew how to treat acute poisoning [36]. This disparity may result from variations in socioeconomic contexts, reporting biases, and cross-country limits of diagnostic techniques

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Conclusion

According to the study, Basrah University nursing students lacked a fundamental understanding of poisoning cases. The researchers suggest increased education programs about poisoning and any acute cases.

Recommendations

Increased knowledge and management about poisoning for nursing students through curriculum and summer training courses

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