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Original research article

AWARENESS AND ATTITUDES OF ICU NURSES REGARDING POST-EXTUBATION DYSPHAGIA IN TRACHEAL INTUBATED PATIENTS

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Abstract: *Post-extubation dysphagia is a common yet under-recognized condition in intubated patients, which can lead to severe complications. The awareness and attitudes of Intensive Care Unit (ICU) nurses towards post-extubation dysphagia play a critical role in early detection and management of the condition, improving patient outcomes.* ***Objective:*** *To assess the awareness and attitudes of ICU nurses regarding post-extubation dysphagia in intubated patients.* ***Methodology:*** *This cross-sectional study was conducted at the Intensive Care Unit of Sheikh Zayed Hospital, Rahim Yar Khan, from June 2023 to June 2024. One hundred nurses working full-time in general and specialized ICUs were included. Data were collected using a 28-item questionnaire divided into two sections. The first section collected demographic information, while the second assessed knowledge and attitudes toward post-extubation swallowing disorders using 20 specific questions. Statistical analysis, including multivariate analysis, was performed to identify factors associated with knowledge and attitude scores.* ***Results:*** *The average total standard score was 60.87 ± 14.31. The mean knowledge score was 7.54 ± 2.99, with a standard score of 75.40 ± 29.9. The average attitude score was 8.10 ± 2.01, with a standard score of 81.0 ± 20.1. Multivariate analysis revealed that age group 31-35, job title, and job satisfaction were significantly associated with higher knowledge scores. In contrast, attitude scores were significantly associated with sex, job title, age group, and department.* ***Conclusion:*** *The knowledge and attitudes of ICU nurses regarding post-extubation dysphagia in intubated patients are unsatisfactory. Professional training and educational programs are needed to improve critically ill patients' awareness and management of this condition.*

Keywords: Attitude, Dysphagia, Intubation, Knowledge.

Introduction

Critical patients in ICU are often tracheally intubated to establish an airway for respiratory support and resuscitation. These patients often develop oral and laryngopharynx lesions, affecting the swallowing mechanism and leading to post-extubation dysphagia.(1) 41% of chronically ill adult patients develop PEDs.(2) The incidence of PED varies with every disease, ranging from 12.5% to 94%, which leads to several adverse outcomes. (3) It increases the risk of malnutrition, aspiration, delayed oral intake, aspiration pneumonia, lengthened hospital and ICU stay, and death. It affects the quality of life and prognosis due to a long recovery time of months or even years.

Effective screening procedures and methods to manage PEDs are being studied worldwide by healthcare professionals including physicians, nurses, and speech therapists. (4) Global surveys show that less than half of hospitals use PED screening as a routine procedure or assess patients for swallowing disorders. (5) In developed countries like the USA, less than 50% of hospitals screen or assess their patients for PEDs.(6) Therefore, the literature on the assessment of PEDs is scarce and lacks relevant research.

Nurses play an essential role in managing ICU patients; hence, their knowledge and attitudes significantly improve the prognosis and incidence of PEDs. Studies have shown that nurses contribute to reducing the risk of adverse effects and swallowing disorders. (7) In Pakistan and other developing countries, nurses are not well-equipped to deal with emergencies like PEDs due to the quality of education and practice. Hence, this study was conducted to assess the awareness and attitudes regarding post-extubation dysphagia in ICU Nurses.

Methodology

A cross-sectional study was conducted in the Intensive Care Unit of Sheikh Zayed Hospital, Rahin Yar Khan from June 2023 to June 2024. A total of 100 nurses working in general and specialized ICUs working full time on a valid nursing license were included in the study by convenience sampling. Interns and nurses on rotation were excluded. All participants provided their informed consent to become a part of the study. The ethical committee of the hospital approved the study.

Data was collected by a 28-item questionnaire divided into two sections. The first section included nurses' demographic information including age, sex, marital status, qualification, experience, job title, night shifts, and job satisfaction. The second section included 20 questions about swallowing disorders post-extubation in intubated patients to assess knowledge and attitudes. The validity and reliability of the questionnaire were tested with a Cronbach's alpha of 0.9 and a retest reliability of 0.989. The head nurses were assigned to distribute questionnaires to nurses when convenient.

All data was analyzed using SPSS version 25. Qualitative data was calculated by independent t-test or one-way ANOVA and presented by mean ±SD. Quantitative data was presented by percentage and frequency. Pearson's

correlation assessed the relationship between study variables, i.e., knowledge and attitudes. The multi-regression linear analysis assessed risk factors affecting study variables. A p-value of less than 0.05 was considered significant.

Results

A total of 100 responses from participants were included for analysis. 38 (38%) of the population was from the 26-30 age group with 80% females. More than half of the respondents (61%) had a bachelor's degree. 55 (55%) nurses were working in the general ICU and 30 (30%) had 6–10 years of experience. 60 (60%) were satisfied with their job and 10 (10%) were not satisfied. The demographics of the participants are shown in Table I.

The average total standard score was 60.87 ± 14.31. The average knowledge score was 7.54 ± 2.99, with a standard score of 75.40 ± 29.9. The average attitude score was 8.10 ± 2.01 with a standard score of 81.0 ± 20.1 (Table II). 35% of participants had good, 30% had medium and 25% had poor knowledge scores. Similarly, 30% had a good attitude, 55% had a medium and 15% had a poor attitude towards PEDs. Participants had the slightest knowledge about the incidence of PEDs, with only 40% giving the correct answer, while 80% had good knowledge about its clinical manifestations. 56% were aware of the bedside assessment method and 57% knew about surgical treatment. Poor attitude (18%) was noted about the interest of nurses in learning about PEDs.

Univariate analysis revealed that knowledge and attitude scores varied significantly between participants for age, sex, qualification, experience, and job satisfaction ($p<0.05$). The number of night shifts was significantly associated with knowledge scores ($p=0.050$). The job title was significantly associated with total score ($p=0.010$) and attitude scores ($p=0.051$). Attitude scores were also significantly associated with marital status ($p=0.042$) and department ($p<0.001$).

Multivariate analysis revealed that age group 31-35, job title, and job satisfaction were significantly associated with knowledge scores (Table III). Attitude scores were significantly associated with sex, job title, age group, and department (Table IV).

Table I: Demographic Information of Participants

Variables	N (%)
Age	
20-25	22 (22%)
26-30	38 (38%)
31-35	20 (20%)
36-40	10 (10%)
Older than 40	10 (10%)
Sex	
Male	20 (20%)
Female	80 (80%)
Marital status	
Married	71 (71%)
Unmarried	29 (29%)
Qualification	
Diploma	31 (31%)
Bachelors' degree	61 (61%)
Masters' degree	8 (8%)
Department	
General ICU	55(55%)
Specialized ICU	45 (45%)
ICU experience (years)	
1-5	55 (55%)
6-10	30 (30%)
11-15	10 (10%)
More than 15	5 (5%)
Job title	
Junior	60 (60%)
Senior	40 (40%)
Job satisfaction	
Good/ very good	60 (60%)
Fair	30 (30%)
Bad/ very bad	10 (10%)
Night shifts per month	
0	12 (12%)
1-4	24 (24%)
5-8	40 (40%)
More than 8	24 (24%)

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Table II: Knowledge and Attitude Scores

	Range	Score	Standard score
Knowledge	0-10	7.54 ± 2.99	75.40 ± 29.9
Attitude	2-10	8.10 ± 2.01	81.0 ± 20.1

Table III: Multi-variate Analysis for Factors Influencing Knowledge Scores

	B	SE	β	t	P
Age					
20-25	Reference				
26-30	0.328	0.310	0.049	1.061	<0.001
31-35	0.808	0.373	0.106	2.208	<0.001
36-40	1.661	0.415	0.181	4.000	0.031
Older than 40	1.779	0.470	0.175	3.840	0.288
Sex	0.667	0.302	0.092	2.246	0.030
Job satisfaction					
Very good	Reference				
Good	-0.772	0.318	-0.119	-2.376	0.020
Fair	-1.768	0.335	-0.217	-4.422	<0.001
Bad	-1.783	0.487	-0.148	-3.600	<0.001
Very bad	-3.234	0.637	-0.210	-5.028	<0.001

Table IV: Multi-variate Analysis for Factors Influencing Attitude Scores

	B	SE	β	t	P
Age					
20-25	Reference				
26-30	0.176	0.148	0.046	1.189	0.227
31-35	0.908	0.179	0.208	4.947	<0.001
36-40	1.570	0.217	0.311	7.034	<0.001
Older than 40	2.142	0.274	0.375	8.012	<0.001
Sex	0.331	0.082	0.081	2.266	<0.030
Department	-0.059	0.018	-0.090	-2.691	0.010
Job title					
Senior	Reference				
Junior	-1.944	0.228	-0.327	-8.292	<0.001
Job satisfaction					
Very good	Reference				
Good	-0.746	0.157	-0.225	-4.724	<0.001
Fair	0.918	0.173	-0.251	-5.494	<0.001
Bad	-1.666	0.251	-0.258	-6.836	<0.001
Very bad	-2.323	0.309	-0.273	-7.382	<0.001

Discussion

This study was conducted to assess the knowledge and attitudes of ICU nurses regarding PEDs in intubated patients. The results revealed unsatisfactory awareness and attitudes that need much improvement to manage critically ill patients. The average knowledge score was 75.40 ± 29.9, and the average attitude score was 81.0 ± 21.1. These scores are lower than those reported in developed countries. (8-10) 35% of participants had good, 30% had medium, and 25% had poor knowledge scores. Participants had the slightest knowledge about the incidence of PEDs, with only 40% giving the correct answer, while 80% had good knowledge about its clinical manifestations. 56% knew about the bedside assessment method, and 57% knew about surgical treatment. These results were similar to other studies. (11, 12) Similarly, 30% had a good attitude, 55% had a medium and 15% had a poor attitude towards PEDs. Poor attitude (18%) was noted about the interest of nurses in learning about PEDs.

Age was significantly associated with good knowledge and a positive attitude due to more experience. Univariate analysis showed older nurses, i.e., 31 or older, had better scores than younger nurses, suggesting that more learning and training opportunities must be provided to educate the nurses better. However, this result was not significant in multivariate analysis as the age groups 20-25 and 26-30 had similar scores, which may be due to less experience. ICU patients are best managed by experienced staff, and there is no room for error. In other studies, age was also a significant factor influencing knowledge and attitude scores. (7, 13, 14) The job title was also an influencing factor, with juniors scoring better. They are responsible for clinical tasks like checking up on patients hourly and preventing the risk of PEDs, hence more exposure to awareness and practice. Seniors are less focused on clinical tasks and are more involved in management, hence lower scores. Job satisfaction was directly associated with total scores and knowledge and attitude scores. Literature implies that

nurses who are satisfied with their jobs are more likely to be physically and mentally healthy, leading to high work efficiency.

Conclusion

The knowledge and attitudes scores of ICU nurses regarding post-extubation dysphagia in tracheal intubation patients are unsatisfactory. Professional training and learning programs are necessary to improve these scores and better management of critically ill patients.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.
Ethics approval and consent to participate.
It is approved by the department concerned.
Consent for publication
Approved
Funding
Not applicable

Conflict of interest

The authors declared an absence of conflict of interest.

Authors Contribution

TANZEELA KOUSAR (Nursing Officer)
Final Approval of version & Data Analysis
NIYAZA TABASSUM (Nursing Officer)
Revisiting Critically & Drafting
ZAKIA SULEMAN (Nursing Officer)
Concept & Design of Study

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