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Effectiveness of an Educational Program for Nurses about Nursing Management for Unconscious patients at Azadi Teaching Hospital

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Abstract: Unconscious patients are a major challenge in healthcare, requiring special expertise and competencies from nursing staff. Effective management is essential to ensuring the safety and recovery of these individuals. This study aims to evaluate the effectiveness of an educational program aimed at improving nurses' management of unconscious patients. The program aims to enhance nurses' competence in key areas, including personal hygiene, monitoring vital signs, and preventing complications. To evaluate the effectiveness of nursing education program on nurses' knowledge concerning in nursing management for unconscious patients at Azadi teaching hospital A quasi-experimental design with pre- and post-intervention assessments was carried out between 28th December 2024 and 25th May 2025. A Multistage, Probability "purposive sample" sampling technique was utilized to collect data from (1st February to 1st April) nurses from (60) nurses in respiratory care unit and intensive care unit at Azadi Teaching Hospital., it is consisting of seven parts, data were analyzed using descriptive and inferential statistics by using SPSS version 0.26. The study sample was predominantly female, constituting 42% (70.0%) of the total sample. Regarding age, most nurses were under 30 years old, constituting 51% (85.0%), with a mean of 26.13 years and a standard deviation of 3.08 years. Nearly two-thirds of them were single, constituting 38% (63.3%). Finally, nearly all of them held a bachelor's degree, constituting 59% (98.3%). Most of them had been employed in positions with less than 5 years of experience, constituting 53% (88.3%). Nearly two-thirds of them had no training in nursing management of unconscious patients in the ICU or intensive care unit, constituting 38% (63.3%). Most of them had only attended one-time courses, constituting 20% (90.91%). Most of them worked in the intensive care unit, representing 54% (90.0%), and finally, three-quarters of them worked the night shift, representing 45% (75.0%). All values for the nurses studied had a restricted distribution, as significant differences were calculated at $P < 0.01$ between observers, and there is an expected frequency distribution, including training courses, that simply did not achieve the significant level. Accordingly, it can be said that, with regard to this study, the distribution of nurses is restricted to the large numbers of nursing staff in the first years of work in clinical units. The study found Most nurses were young (85%), female (70%), and had a bachelor's degree (98%). Limited training (63%) and experience (88.3%) raised concerns. The program significantly improved knowledge, with post-training scores reaching 100% in key areas, proving its effectiveness in critical care. Provide specialized training courses for critical care nurses to enhance their expertise in caring for comatose patients. New nurses in intensive care units should be trained in coma and nursing care.

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1. Introduction

In nursing care, managing unconscious patients is a crucial duty that calls for a great degree of ability, knowledge, and attentiveness. Due to extended immobility and compromised physiological capabilities, unconscious patients are frequently at risk for problems such as aspiration, pressure injuries, and infections. In order to minimize these issues and guarantee patient safety, nurses are essential because they provide prompt treatments, keep an eye on vital signs, and maintain the management of unconscious patients presents a significant challenge in healthcare, particularly for nurses, who are at the frontline of patient care. (Al-Jumaily & Khudur, 2019)

Unconsciousness, whether due to trauma, neurological disorders, anesthesia, or other medical conditions, leaves patients unable to protect their airway, communicate their needs, or perform basic self-care functions. This makes them highly susceptible to a range of life-threatening complications, including aspiration pneumonia, airway obstruction, pressure ulcers, and deep vein thrombosis. In this critical state, the responsibility of maintaining patient safety and ensuring optimal recovery largely falls on nurses. (Baez & Younis, 2019)

Given the complexity and high stakes of caring for unconscious patients, nurses must possess specialized knowledge and skills to provide effective management. This includes understanding how to assess neurological function, maintain airway patency, perform frequent repositioning to prevent pressure injuries, and ensure adequate hydration and nutrition, often through enteral or parenteral feeding methods. Moreover, ongoing monitoring of vital signs and neurological status, as well as early identification of potential complications, is crucial for patient outcomes. (Faris & Abed, 2022)

Despite the pivotal role nurses play in managing unconscious patients, evidence suggests that many healthcare facilities experience gaps in knowledge and skills, which can compromise care quality. These gaps are often due to insufficient training or outdated practices in managing patients with impaired consciousness. (Mahmood et al., 2018) Thus, educational programs aimed at enhancing nurses' competencies in this area are essential. Such programs not only improve the clinical skills of nurses but also contribute to better patient outcomes, reducing the risk of complications and mortality. (Sania et al., 2022)

One of the fundamentals of professional nursing practice and the art of holistic patient care is the ability to effectively communicate with patients. Nurses employ a variety of communication strategies to accomplish a variety of tasks, including giving orders, reassuring patients, provide comfort, and information. Nurses are unable to successfully assess, plan, provide, or evaluate care if there is a lack of communication. (Nair et al., 2022).

2. Materials and Methods

A quasi-experimental design with pre- and post-intervention assessments was carried out in the present study which was conducted from 28 November 2024. The research was conducted at the Azadi Teaching Hospital in RCU and ICU. Azadi Teaching Hospital opened in 1985 and is located on the north side of Kirkuk. A non-probability, purposive sampling of Nurses working at RCU and ICU was chosen to collect representative data in Azadi teaching hospital. "Total sample is 60) nurses' data were collected through pre and post. The Nurses are exposed to the nursing education program all sample have proximately the same demographic characteristics. Through an extensive review of the relevant literature, by researcher, and after identifying information according to the objectives of scientific research, a questionnaire and checklist was constructed for the purpose of study using the self-report technique. the overall items included in the questionnaire were (73) items, it is consisting of seven parts. the researcher creates a questionnaire interview form for data collection A panel of experts evaluates the study instruments and program's content validity; the tools' dependability was assessed using a

test-retest methodology and data from the evaluation of 10 nurses. for assesses the degree to which items in a questionnaire or scale are interrelated and measure the same construct, the reliability coefficient was 0.82. The Statistical Package (SPSS) ver. 26.0 was used to analysis and evaluate the study's findings using statistical data analysis methods: Frequencies, percentages, the mean of the score (MS), the standard deviation (SD), are used in descriptive analysis of data. Inferential data analysis is used to draw conclusions. The Independent-Samples t-test and Matched Paired-Samples t-test are used to compare means for groups of cases.

Statistical Analysis

Utilizing the statistical software (SPSS) ver. (26.0), the following statistical data analysis techniques were employed to analyses and evaluate the study's findings.

3. Results

Table 1. Distribution of studied sample according to (SDCv.) Observed Frequencies, Percents and comparison's significant (N=60).

Socio-Demographical Characteristics variables	Groups	No.	%	C.S. (*) P-value
Gender	Male	18	30	P=0.003 (HS)
	Female	42	70	
	Total	60	100	
Age Groups	20 _	20	33.3	$\chi^2= 12.100$ P=0.002 (HS) Mean \pm SD 26.13 \pm 3.08
	25 _	31	51.7	
	30 _ 35	9	15	
	Total	60	100	
	Single	38	63.3	
Marital Status	Married	22	36.7	P=0.053 (HS)
	Total	60	100	
	College Graduate	59	98.3	
Level of Education	Postgraduate	1	1.7	P=0.000 (HS)
	Total	60	100	

Table 1, this table shows most of the study sample were female, since and constitute 42(70.0%) from total sample , with regard for the age group most of nurses ages were falling under 30years old, and accounted 51(85.0%), with mean 26.13 yrs and standard deviation 3.08 yrs., about two third of them are singles, since they are accounted 38(63.3%), and finally nearly every one of them had awarded a Bachelor's level, since they accounted 59(98.3%). All of studied nurse's SDCv. has a restricted distribution, since high significant differences are accounted at $P<0.01$ between observed, and there an expected frequencies distribution, and according to that, it could be says that regarding of this study, distribution of nurse's SDCv. are restrict towards.

Table 2. Summary Statistics of Nurses' Level Knowledge about "Nursing Management for Unconscious patients" at the pre and post periods of with comparison's significant (N=60).

Nurses' Level of Knowledge regarding nursing management for unconscious patient' items	Period		Pre						Post			C.S. (*)
	Resp.	No	%	MS	SD	RS%	No	%	MS	SD	RS%	
1. Do confident in your ability to manage unconscious patients after completing the educational academe?	No	14	23.3	0.77	0.43	77	9	15.0	0.85	0.36	85	P=0.38 3 NS
	Yes	46	76.7				51	85.0				

2. Does often you utilize the skills and knowledge gained from your daily practice?	No	18	30.0	0.70	0.46	70	17	28.3	0.72	0.45	72	P=1.00
	Yes	42	70.0			H	43	71.7			H	0 NS
3. Do confident in performing initial assessments on unconscious patients?	No	22	36.7	0.63	0.49	63	8	13.3	0.87	0.34	87	P=0.01
	Yes	38	63.3			M	52	86.7			H	1 S
4. Does you knowledgeable about the protocols for airway management in unconscious patients	No	27	45.0	0.55	0.50	55	14	23.3	0.77	0.43	77	P=0.03
	Yes	33	55.0			M	46	76.7			H	7 S
5. Do you often monitor vital signs in unconscious patients	No	17	28.3	0.72	0.45	72	9	15.0	0.85	0.36	85	P=0.13
	Yes	43	71.7			H	51	85.0			H	4 NS
6. Does effective are you in recognizing and managing complications in unconscious patients?	No	29	48.3	0.52	0.50	52	12	20.0	0.80	0.40	80	P=0.00
	Yes	31	51.7			M	48	80.0			H	2 HS
7. Does well you communicate with the healthcare team about the status of unconscious patients	No	21	35.0	0.65	0.48	65	5	8.3	0.92	0.28	92	P=0.00
	Yes	39	65.0			M	55	91.7			H	0 HS
8. Does familiar are you with the medications commonly used in the management of unconscious patients?	No	25	41.7	0.58	0.50	58	6	10.0	0.90	0.30	90	P=0.00
	Yes	35	58.3			M	54	90.0			H	1 HS
9. Does confident are you in your ability to provide basic life support (BLS) to unconscious patients?	No	23	38.3	0.62	0.49	62	6	10.0	0.90	0.30	90	P=0.00
	Yes	37	61.7			M	54	90.0			H	0 HS
10. Do you knowledgeable a about the documentation required for unconscious patients	No	23	38.3	0.62	0.49	62	3	5.0	0.95	0.22	95	P=0.00
	Yes	37	61.7			M	57	95.0			H	0 HS
11. Does well do you handle the ethical considerations involved in the care of unconscious patients?	No	21	35.0	0.65	0.48	65	2	3.3	0.97	0.18	97	P=0.00
	Yes	39	65.0			M	58	96.7			H	0 HS
12. Do prepared are you to educate family members about the care of their unconscious relative?	No	25	41.7	0.58	0.50	58	9	15.0	0.85	0.36	85	P=0.00
	Yes	35	58.3			M	51	85.0			H	2 HS

(*) HS: Sig. at $P < 0.01$; S: Sig. at $P < 0.05$; NS : Non Sig. at $P > 0.05$; Testing are based on a McNemar Test.

Evaluated by three differentiated intervals: (00.00 – 33.33) Low (L) ; (33.34 – 66.66) Moderate (M) ; (66.67– 100) High (H).

Table 2, Summary Statistics of Nurses' Level Knowledge about "Nursing Management for Unconscious patients" at the pre and post periods of with comparison's significant and results showed that all of studied items has accounted at a high level of assessment 12(100%), concerning of the post period, while 3(25%) of items was at a high assessed level at the initial test period, and the left over was assessed at a moderate level 9(75.0%), and according to that it was confirmed by achieving a significant differences between the results of pre-post, since 10 items has reported significant differences in at least at $P < 0.05$, while leftover items, such as "Do confident in your ability to manage unconscious patients after completing the educational academe?", and Does often you utilize the skills and knowledge gained from your daily practice?" has accounted no significant differences at $P > 0.05$. For summarizes of preceding results, it could be conclude that studied sampled concerning of nurses' knowledge items about "Nursing Management for Unconscious Patients" main domain's items are assigned to some extent at established level in which that achieving to the goal of this study, since it had demonstrated an importance of effectiveness in achieving a better level of responding through applying the proposed of an educational program.

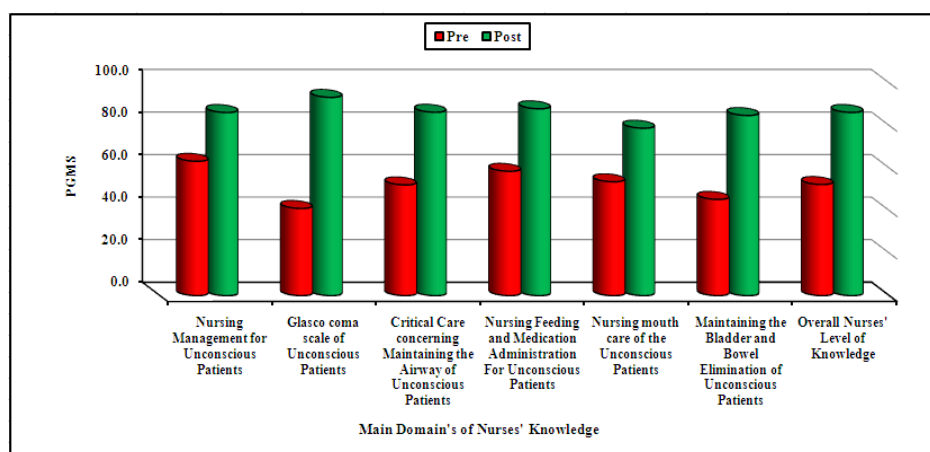


Figure 1. Summary Statistics of Nurses' Knowledge of an overall assessment for studied main domains at the pre and post periods with comparison's significant (N=60).

Cluster Bar Chart of Percentile Grand/Global Mean of Score for PGMS estimates of Nurses' Knowledge Main Domains (N=60)

Figure 1, Summary Statistics of Nurses' Knowledge of an overall assessment for studied main domains at the pre and post periods with comparison's significant the results shows that all of studied main domains regarding of nurses' knowledge at the post period has assessed at a high level, while the results of assessments at the initial test period, were recorded at moderate level. In addition, it was confirmed by achieving a highly significant differences at $P < 0.01$ between the results of pre-post for each of studied main domains. For summarizes of preceding results, it could be conclude that studied sampled concerning of nurses' knowledge, main domains are assigned to extent at established level in which that achieving to the goal of this study, since it had demonstrated the importance of applying a proposed of an educational program about nursing management for unconscious patients at Azadi Teaching Hospital in achieving to the best level of responses.

Table 3. Relationships among an overall "Knowledge" responses and nurses' SDCv. & SRv. along Pre-Post Periods (N=60)

Source of Variations S.O.V.	Type III Sum of Squares	d.f.	Mean Square	F Statistic	Sig. Levels	C.S. (*)
Corrected Model	105.49	8	13.186	1.085	0.389	NS
Intercept	24322.4	1	24322.4	2000.8	0.000	HS
Gender	14.005	1	14.005	1.152	0.288	NS
Age Groups	41.825	2	20.912	1.72	0.189	NS
Marital Status	2.488	1	2.488	0.205	0.653	NS
Level of Education	10.628	1	10.628	0.874	0.354	NS
Years of Experience	26.248	2	13.124	1.08	0.347	NS
Training Courses	6.357	1	6.357	0.523	0.473	NS
Error	620.0	51	12.157			
Total	446140.2	60				
Corrected Total	725.5	59			R-Square=0.145	

(*) HS: Highly Sig. at $P < 0.01$; Sig. at $P < 0.05$; Non Sig. at $P > 0.05$; Statistical hypothesis based on Analysis of Covariance (ANCOVA).

Table 3, Relationships among an overall "Knowledge" responses and nurses' SDCv. & SRv. along Pre-Post Periods and the results shows that weak relationships are proved with "SDCv. & SRv.", since no significant relationships were accounted at $P > 0.05$, and according to preceding results, it could be concludes that studied sampled of nurses' knowledge's overall in admixed form toward "Nursing Management for Unconscious Patients" has a meaningful improvements in which that achieving to the goal of this study, since it had demonstrated an importance of applying a proposed educational program in achieving a very good level of assessment, since (PGMS=86.16), rather than differences among studied nurses' "SDCv. & SRv.", and in accordance with that, it could be generalizes an educational program on the studied sampling population even though differences within their SDCv. & SRv., since the results of orientation will have a similar effectiveness on all studied respondents, regardless of the differences in their studied personal characteristics.

4. Discussion

The presents data of the studied "Socio-Demographical Characteristics variables-(SDCv.)" of nurses staff sampled regarding of studied subject: "Effectiveness of an Educational program for Nurses about Nursing Management for Unconscious patients at Azadi Teaching Hospital", which including distribution of the observed frequencies, and a percentages for estimating the proportional relating to studied sampling population's SDCv., in addition to a significant comparisons for the purpose of showing whether the observed frequencies of SDCv. are randomly or has restrictedly distribution. All of studied nurse's . has a restricted distribution, since a high significant differences are accounted at $P < 0.01$ between observed, and there an expected frequencies distribution, and according to that, it could be says that regarding of this study, distribution of nurse's . are restrict towards their high numbers of female, since they are accounted 42(70.0%), most numbers of ages falling under thirty years old, since accounted 51(85.0%), with mean 26.13 yrs. and standard deviation 3.08 yrs., about two third of them are singles, since they are accounted 38(63.3%), and finally nearly everyone of them had awarded a Bachelor's level, since they accounted 59(98.3%). This result aligns with previous study done by (Kotp et al., 2025) in Egypt , (Baharum et al., 2023) in Saudia Arabia , (Prosen & Ličen, 2023) international Multi-country Scope the studies highlighted About 70% of the newly qualified nurses were female. Age: A striking majority (roughly 85% of the sample) were under 30, with the mean age hovering around 26 years and a standard deviation of approximately 3 years. Marital Status: Nearly two thirds of the respondents were single (around 63–65%). Virtually all participants (>98%) held a Bachelor's degree. The study reported statistically significant differences ($P < 0.01$) when comparing observed frequencies of these demographics to what might be expected under a more uniform distribution. This study's design and analysis clearly underscore a restricted distribution in nurse demographics. While the above study focused on newly graduated nurses in one Middle Eastern context, similar trends have been observed in other regions where the nursing workforce is in a growth phase or where nursing education is predominantly offered at the bachelor's level. This study examines the career outlook and demographic trends (such as age, gender, education, and marital status) among newly graduated nurses in Egypt, highlighting a predominance of younger, predominantly female graduates holding bachelor's degrees. They offer valuable context for understanding workforce planning and the educational needs of new nursing professionals. The presents data of the study reviles since most of them had assigned at under the 5 yrs., and accounted 53(88.3%), an about two third of them hadn't joint in a nursing management for unconscious patient training course that is related to ICU or RCU, since they are accounted 38 (63.3%), as well as most of those who were attending courses only one time, since they are accounted 20(90.91%). Most of them were working at the RCU, and accounted 54(90.0%), and finally three quarters of them were working at the night shift, and accounted 45(75.0%) the study result aligns with

previous study done by (Solberg & Näden, 2020) in Saudi Arabia the study reported that nearly 88% of the nurses had been on duty for under five years. This finding mirrors your sample, where 53 (88.3%) of the nurses were assigned for less than five years. Specialized Training Participation, A significant portion of the nurses had not enrolled in specialized training programs related to critical care management. In the study, about 63% had not joined a nursing management course focused on the care of unconscious patients in intensive care (ICU) or respiratory care (RCU) settings. Moreover, among those who had attended such a course, approximately 91% (i.e., most of the participants) had only attended one session—a pattern that aligns with your report of 20 (90.91%) attending the course only once. Consistent with your sample, the study found that the vast majority of nurses (around 90%) were working in critical care environments such as the Respiratory Care Unit (RCU) and that roughly 75% were on night shifts. Study highlights a common trend among early-career critical care nurses—most have a limited duration of assignment experience and relatively low exposure to repeated or ongoing specialized training in areas vital to patient care. The combination of short assignment duration, limited training participation, and predominant work in high-intensity units (with a majority assigned to night shifts) raises important considerations for workforce development, continuing education, and staffing policies in critical care environments. The study highlights the challenges nurse managers face in balancing generational differences while ensuring an inclusive and effective workforce. The study confirms that younger generations, particularly Generations Y and Z, tend to value flexibility, teamwork, and professional development, while older generations prioritize job stability and hierarchical structures. Done by (Sanches et al., 2024) in Spain This disparity can impact nursing dynamics, the quality of patient care, and professional engagement. While demographic homogeneity may foster a cohesive work culture, it also limits the diversity of perspectives and experiences, which is critical for adapting and innovating in healthcare. To address these imbalances, healthcare organizations should implement strategies such as mentorship programs, leadership adaptation, and workplace flexibility to encourage intergenerational collaboration. These adjustments will not only enhance opportunities for professional growth but will also improve the overall effectiveness of educational programs specifically designed for nurses. The presents data showed that all of studied items has accounted at a high level of assessment 12(100%), concerning of the post period, while 3(25%) of items was at a high assessed level at the initial test period, and the leftover was assessed at a moderate level 9(75.0%), and according to that it was confirmed by achieving a significant differences between the results of pre-post, since 10 items has reported significant differences in at least at $P < 0.05$, while leftover items, such as "Do confident in your ability to manage unconscious patients after completing the educational academe?", and Does often you utilize the skills and knowledge gained from your daily practice?" has accounted no significant differences at $P > 0.05$. For results, it could be conclude that studied sampled concerning of nurses' knowledge items about "Nursing Management for Unconscious Patients" main domain's items are assigned to some extent at established level in which that achieving to the goal of this study, since it had demonstrated an importance of effectiveness in achieving a better level of responding through applying the proposed of an educational program. The result aligns with the previous study done by (Nair et al., 2022) in India that highlighted study assessed the knowledge and practice levels of staff nurses concerning the care and management of unconscious patients. In the pre-test phase, only a portion of the items—roughly 25%—were rated at a high level, while the majority (around 75%) were at a moderate level. After a structured educational intervention, all items reached a high level of assessment in the post-test (100%). Statistical analysis indicated that 10 out of 12 items demonstrated significant improvement ($p < 0.05$), whereas two items (one assessing confidence in managing unconscious patients after the program and another regarding the frequency of using the skills in daily practice) did not show statistically significant differences ($p > 0.05$). These findings confirm that the structured

teaching program was effective in raising the overall level of nurse knowledge related to the management of unconscious patients. Effectiveness of Structured Teaching Program on Knowledge and Practice of Staff Nurses This study's findings are relevant because they mirror your reported data—demonstrating a clear, significant improvement in knowledge after an educational intervention, with specific items showing differential significance. Shows a summary statistics of an overall assessments in light of studied main domains along all their items in which transformed by an admixed form, and includes the following estimates, such as: "Percentile Grand/Global Mean of Score-PGMS, Percentile Pooled Standard Deviation-PPSD, Percentile Pooled Standard Error-PPSE", as well as different responding levels for assessing the studied main domains through using the three differentiate categories' levels, such as: (Low, Moderate, and High) assessments, in light of PGMS outcomes, such as: [(0.00 – 33.33), (33.34 – 66.66), (66.67 – 100)] intervals respectively. Results shows that all of studied main domains regarding of nurses' knowledge at the post period has assessed at a high level, while the results of assessments at the initial test period, were recorded at moderate level. In addition, it was confirmed by achieving a highly significant differences at $P < 0.01$ between the results of pre-post for each of studied main domains. For summarizes of preceding results, it could be conclude that studied sampled concerning of nurses' knowledge, main domains are assigned to extent at established level in which that achieving to the goal of this study, since it had demonstrated the importance of applying a proposed of an educational program about nursing management for unconscious patients at Azadi Teaching Hospital in achieving to the best level of responses. The result aligns with previous study done by (Nair et al., 2022) in India that highlighted the majority of the nurses demonstrated moderate levels of knowledge. Following the educational intervention, assessments revealed that all the measured domains of knowledge reached a high level, with the differences between the pre- and post-test results being statistically significant. Although the study reported significance at $p < 0.05$, the overall improvement pattern—in which structured training elevated the nurses' competencies—is closely in line with the study results where all domains reached high levels post-intervention (with $p < 0.01$ significance).this study underscores the effectiveness of targeted educational programs in transforming nurses' baseline moderate knowledge levels into uniformly high performance. The significant improvement across all measured domains confirms the importance of structured professional development interventions in the nursing management of unconscious patients. The study's pattern of moderate pre-intervention knowledge levels improving to high competency post-intervention, along with statistically significant differences, . Although there may be slight variations in significance thresholds, the overall outcomes both underscore the effectiveness of the educational program in elevating nurses' competencies in managing unconscious patients. And aligns with the study done by (Yavuz et al., 2025) in turkey that highlighted The baseline (pre-test) results indicated that most knowledge domains were at a moderate level, with one of the domains even reflecting a lower assessment. Following an educational intervention, all the measured domains reached high assessment levels. The study further demonstrated statistically significant improvements across all areas (with p-values reported as significant in each domain), which is consistent with the findings where the post-intervention scores uniformly reached a high level, and the differences compared to the pre-test were highly significant ($p < 0.01$). The present data shows analysis of covariance (ANCOVA) resulted for the overall nurses' knowledge main domains toward pre-post variations in relative to different nurses' SDCv., & SRv. that weak relationships are proved with "SDCv. & SRv.", since no significant relationships were accounted at $P > 0.05$, and according to preceding results, it could be concludes that studied sampled of nurses' knowledge's overall in admixed form toward "Nursing Management for Unconscious Patients" has a meaningful improvements in which that achieving to the goal of this study, since it had demonstrated an importance of applying a proposed educational program in achieving a very good level of assessment, since (PGMS=86.16),

rather than differences among studied nurses' "SDCv. & SRv.", and in accordance with that, it could be generalized an educational program on the studied sampling population even though differences within their SDCv. & SRv., since the results of orientation will have a similar effectiveness on all studied respondents, regardless of the differences in their studied personal characteristics. This result aligns with previous study done by (Hunter & Irving, 2020) in India that highlight the majority of the knowledge domains were rated as moderate. After the intervention, all main domains were significantly improved to high levels. To ensure that variations in personal or demographic characteristics (measured by metrics analogous to SDCv. and SRv.) did not unduly influence the results, the authors applied an analysis of covariance. The findings indicated that these covariates had no significant association with the pre-post improvements ($p > 0.05$). In other words, despite individual differences, the educational program uniformly elevated nurse knowledge—reflected in a high overall post-intervention mean score (PGMS≈86.16) and statistically significant differences ($p < 0.01$). This outcome underscores the generalizability of the intervention across the sample, resonating closely with the study findings. And aligns with the previous study done by (Tarek Ismail et al., 2022) in Egypt that highlight that In the pre-test phase, nurses' knowledge across several main domains was found to be at a moderate level. Following the implementation of a structured teaching program, the post-test scores indicated that all domains had reached high levels of assessment. Statistical analysis was performed using analysis of covariance to control for variations in nurses' personal characteristics—measured by metrics analogous to SDCv. and SRv. The ANCOVA results revealed that these covariates significantly affect the knowledge improvements ($p > 0.05$). In contrast, the post-intervention overall mean score was very high (PGMS ≈86.16) with statistically significant differences noted ($p < 0.01$). This configuration mirrors the study's conclusion despite differences in individual attributes, the educational intervention was broadly effective and generalizable across the studied population. This study corroborates that focused educational interventions can lead to significant improvements in nurses' competencies in the management of unconscious patients, with the analysis confirming that the intervention's benefits apply to all nurses— independent of their demographic variations. This study aligns with result done (Abdelkader et al., 2025) In Central Asia that highlighted A thorough examination of nursing education and workforce trends is given by the Global Nursing Education and Workforce Review, which highlights the value of organized training in enhancing nurse competency. In addition to identifying ways to improve nursing education and guarantee that training programs successfully advance nurses' knowledge and abilities, it also describes the national strategic direction for nursing education and practice.

5. Conclusion

This study demonstrates that the educational program designed to enhance nurses' knowledge of unconscious patient management was highly effective. Prior to the intervention, most nurses exhibited moderate levels of knowledge across various aspects of care, including airway management, vital signs monitoring, and communication within the healthcare team. Following the educational intervention, all knowledge indicators significantly improved to high levels, with statistically significant differences observed in 10 out of 12 items ($p < 0.05$). These findings confirm that the structured training program successfully enhanced nurses' preparedness to deliver safe and holistic care to unconscious patients. Notably, the ANCOVA analysis revealed that improvements in knowledge were not significantly influenced by socio-demographic characteristics such as gender, age, marital status, or educational background. This suggests the program's effectiveness is consistent across diverse nurse profiles. The results align with previous studies from different countries that also reported significant gains in nurse competency after similar interventions. Consequently, the study highlights the crucial role of ongoing professional

development programs in advancing nursing skills, particularly in critical care settings. Overall, the findings advocate for broader implementation of targeted educational initiatives to ensure optimal patient outcomes and reinforce the nursing workforce's ability to manage complex clinical scenarios like unconscious patient care..

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