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Effect of Teaching Protocol Regarding Trochanteric Hip Fracture on Nurse's Performance

Asmaa Edrees Fatahallh[1], Shalabia Elsayed Abozead[2] & Asmaa Sayed Abd Almageed[3]
[1.] Nursing Specialist at Luxor International Medical Complex, Egypt.
[2.] Professor of Medical-Surgical Nursing, Faculty of Nursing, Assiut University, Egypt.
[3.] Assistant Professor of Medical Surgical of Medical, Surgical Nursing, Assiut University, Egypt.

Abstract
Aim: The aim of this study is to evaluate the effect of teaching protocol regarding trochanteric hip fracture on nurse's performance. **Subjects and Methods: Research design:** A quasi-experimental design. **Setting:** This study was conducted in the governmental hospital of Qu's central hospital in Qena. **Sample:** All nurses (40 nurses) who care of patients with trochanteric hip fracture. **Tools:** Nurses' assessment sheet divided into three parts: demographic data of nurses, nurses' knowledge assessment, and nurses' practice assessment. **Result:** there was improvement in the mean knowledge and performance scores were found after the implementing of teaching protocol, in knowledge (22.45±5.61 pre and 35.20±4.72419 post), in performance (36.5000±4.59654 pre and 66.80 ±3.02 post)
Conclusions: The teaching protocol significantly improves nurses' knowledge and practice regarding care of patient trochanteric hip fractures. **Recommendations:** Nurses should be encouraged to attend specific meetings as workshop and seminars held for care of patients with trochanteric hip fracture.

Keywords: Nurse's Performance, Teaching protocol & Trochanteric Hip Fracture

Introduction
Until now, orthopedic surgeons used to focus on surgical treatment of hip fractures, with interest in post-operative. Proper rehabilitation after surgery has been shown to shorten hospital stays, improved physical function, and help patients maintain independence delay life, outcomes which reduce the burden of medical and care giver expenses **(Kjaervik et al., 2021)**.
A trochanteric hip fracture is a type of fracture that occurs in the upper part of the femur, specifically in the trochanteric region which includes the greater and lesser trochanters. These fractures are commonly seen in older adults, especially those with osteoporosis or weakened bones. Trochanteric hip fractures can occur due to a fall or direct trauma to the hip, and they can cause significant pain, immobility, and complications if not treated properly **(Greenspan et al., 2020)**.
The causes of trochanteric hip fractures often involve a combination of weakened bones and a traumatic event. Osteoporosis is the most common underlying condition that leads to weakened bones and increased risk of fractures. Other risk factors include advanced age, female gender, low body weight, and a history of previous fractures **(Kani et al., 2019)**.
Manifestations of a trochanteric hip fracture typically include severe pain in the hip or groin area, inability to bear weight on the affected leg, and an external rotation or shortening of the affected leg. Patients may also experience swelling and bruising around the hip **(Alanazi et al., 2019)**.
Diagnosis of a trochanteric hip fracture is typically made through a combination of patient history, physical examination, and imaging studies such as X-rays or MRI. The imaging will show the location and severity of the fracture, which is essential for determining the appropriate treatment plan **(Oc et al., 2020)**.
Management of a trochanteric hip fracture usually involves surgical intervention to stabilize the fracture and promote healing. Surgical options may include internal fixation with screws and plates, intramedullary nailing, or a hip replacement, depending on the specific case and patient factors. In addition to surgery, pain management, physical therapy, and measures to prevent complications such as blood clots and infections are important components of the treatment plan **(Martinho & Stoffel, 2021)**.
Nursing care for patients with a trochanteric hip fracture involves pain management, monitoring for complications, assisting with mobility and activities of daily living, and providing education on the importance of adhering to the prescribed treatment plan. Nurses also play a crucial role in coordinating care among the healthcare team and supporting the patient and their family throughout the recovery process. Nursing interventions may include administering medications, providing wound care, and assisting with range of motion exercises to prevent stiffness and promote healing **(Reyes et al., 2020)**.

The importance of a teaching protocol for trochanteric hip fractures cannot be overstated. It equips healthcare professionals, particularly nurses, with the vital knowledge and skills needed to deliver high-quality care to patients with these fractures care **(Halonen et al., 2022)**.

A teaching protocol typically includes evidence-based guidelines on preoperative and postoperative care, pain management, physical therapy, and measures to prevent complications. This ensures a standardized approach to treatment, which can lead to better patient outcomes, reduced length of hospital stay, and lower readmission rates. Furthermore, a teaching protocol empowers nurses to educate patients and family members about the recovery process, which can enhance adherence to rehabilitation programs and follow-up care **(Halonen et al., 2022)**.

The effect of a teaching protocol on nurses' performance is significant. By providing nurses with structured guidelines and evidence-based practices, a teaching protocol can improve their competency and confidence in managing trochanteric hip fractures. It enhances critical thinking and decision-making skills, leading to more effective patient assessments and timely interventions. This can result in improved patient satisfaction, a reduction in error rates, and better overall health outcomes. Moreover, teaching protocols can contribute to continuous professional development and help maintain high standards of nursing care **(Martinho & Stoffel, 2021)**.

Fundamental nursing care maintaining mobility, energy and participation in self-care during patient's hospital stay can maintain their independence, reduce the likelihood of falls and fall related injuries and minimize loss of confidence due to the fear of falling. In many patients with hip fractures, gait and balance functions recover in the first 6–9 months after surgery. During this period, most patients are discharged from the hospital and live at home (with out-patient follow-up) or in nursing facilities.in the subacute period after surgery include, early mobilization, change position, nutrition, exercise and physical **(Loos, 2021)**.

Significance of the study:

Based on the researcher's clinical background, it has been noted that nurses have insufficient knowledge and practice regarding care of patient with trochanteric hip fractures.). In year 2022 number of cases admitted to Qu's central hospital in Qena were 180 patients (according to Qu's central hospital in Qena record In year 2022), so this study aimed to improve knowledge and practice by application of teaching protocol regarding trochanteric hip fracture.

Aim of the study

The aim of this study is to evaluate the effect of teaching protocol regarding trochanteric hip fracture on nurse's performance.

Research hypothesis

Nurse's knowledge and practice will be improved after application of teaching protocol for patient with trochanteric hip fracture.

Subjects and Methods:

Research design:

In this research, a quasi-experimental research design was used.

Study variables:

Study variables: The independent variable in this study was the teaching protocol. While the dependent variables were nurse's knowledge and practice for patient with trochanteric hip fracture.

Setting

This study was conducted in the governmental hospital of Qu's central hospital in Qena.

Subjects

A convenience sample of all nurses (40 nurses), their age ranged between 18-60 year, male and female, caring for patients with trochanteric hip fracture and who were agreeing to participate in the study.

Tools of the study: One tool was utilized in this study

Nurses' assessment sheet: It was developed by researcher and consisted of three parts:

Part 1: Demographic data of the studied nurses: -

It was assessed before the teaching protocol were put into practice. Included

(Code, age, sex, educational level, years of experience, attendance training course about care for patients with trochanteric hip fracture).

Part (2): Nurses' knowledge assessment

This included questions about (definition, causes, signs and symptoms, nutrition, medication, exercise and mobility) of patients with trochanteric hip fracture.

Scoring system for Knowledge: Total score (50 mark):

Less than 70% Unsatisfactory.

More than or equall 70% satisfactory.

Part (3): Nurses' practice checklist (pre/post)

It included the following items: (Hand washing steps, how to deal with pain, steps of medication administration, how to protect patients against fall).

Scoring system for total Performance (70 mark):

Less than 70% Inadequate.

More than or equall 70% Adequate.

Nursing teaching protocol:

The researcher developed nursing teaching protocol according to literature review, available resources to improved level of knowledge and practice for nurses'. It included two parts:

Part (1): Information about (definition, causes, signs and symptoms, nutrition, medication, exercise and mobility of patients with trochanteric hip fracture).

Part (2): Procedure steps for caring of patients with trochanteric hip fracture (Steps of hand washing, how to deal with pain, steps of medication administration, how to protect patients against fall).

Procedure:

Preparatory phase:

Nursing teaching protocol was prepared in simple Arabic language, with photo illustrations based on local and international related literature.

Content validity and Reliability: A panel of five experts reviewed the tools and booklet for clarity, relevance, thoroughness, understandability, application, and ease of administration. Expert professors in the fields of medical-surgical nursing and orthopedic reviewed the tools content, and corrections were completed as necessary.

Pilot study: To assess the viability and applicability of the tool, a pilot study with 10% (4 nurses) was done. The tool was then adjusted in light of the findings of the pilot research. The actual study included these nurses.

Ethical considerations:

Approval to conduct the study was granted by the Assiut University Faculty of Nursing with ethical number (ID:1120240596) at (26/3/2023) and from the director of governmental hospital of Qu's central hospital in Qena. Their approval gave for researcher to conduct the study. The researcher formally introduced herself to the nurses before the initial interview. Oral consent was acquired for volunteer participation. By coding the data, anonymity and secrecy were guaranteed. Nurses have the option to withdraw from their studies at any point without providing a reason.

Phase II: Implementation phase

- Nurses' were interviewed by the researcher to initiate line of communication, purpose and nature of the study was explained.
- Demographic data were collected from nurses using (part 1).
- Nurses' knowledge about care of patients with trochanteric hip fracture was assessed using (part II).
- . Nurses' checklist about how to care of patients with trochanteric hip fracture was assessed using checklist (part III).
- The teaching protocol (booklet) was applied, the education session was provided by the researcher in nurses' room in the morning and afternoon shift.
- Two sessions were applied, each session took 15-30 minutes, after each session there was 5-10 minutes for discussion and feedback.

First session included "knowledge about trochanteric hip fracture" which included (definition, causes, signs and symptoms, nutrition, medication, exercise and mobility of patients with trochanteric hip fracture).

Second session included "procedure steps for caring of patients with trochanteric hip fracture" which included (Steps of hand washing, how to deal with pain, steps of medication administration, how to protect patients against fall).

- Data were gathered from July 2023 to November 2023

Phase III: Evaluation phase

During this phase the researcher evaluated the effect of applying the teaching protocol on knowledge and practice.

Immediately & after two weeks' reassessment was done using the same tool (part II & part III)

Statistical design:

The SPSS version 23 statistical software application was used to evaluate, code, analyze, and tabulate data. Frequencies and percentages were used as descriptive data. To analyze the association between two or more qualitative variables, the Chi square ($\chi 2$) test was utilized. Qualitative data were reported as numbers and percentages (n, %). The mean and standard deviation (SD) of quantitative data were used. For comparing two normally distributed quantitative variables, one-way a nova test was utilized value $\leq$ 0.05 was established as the significant level.

Results

Table (1): Distribution of demographic data for nurses (n=40).

Variables	N	%
Age		
From 20 to30 yrs.	22	55.0
From 31 to 40 yrs.	17	42.5
From 41to50 yrs.	1	2.5
Sex		
Male	7	17.5
Female	33	82.5
Year of experience		
Less than one year	4	10.0
1year 1-3yrs.	13	32.5
4-7 yrs.	15	37.5
more than 7yrs	8	20.0
Level of education		
Diploma	7	17.5
Bachelor	12	30.0
Master degree	1	2.5
Technical health institute	20	50.0
Attended training program		
No	39	97.5
Yes	1	2.5

Table (2): Comparison between nurse's Knowledge pre, immediate, and post applying teaching protocol (n=40)

Total knowledge	N	Mean	Std. Deviation	p/value
Pre-test	40	22.4500	5.61568	0.01
Immediate	40	38.0500	1.23931	
Post-test	40	35.2000	4.72419	
Total	120	31.9000	8.03396	

*Significant difference *p≤0.05 **= highly significance *p≤0.01 Ns= Non significant difference P>0.05*

Table (3): Comparison between pre-test, immediate, and post-test regarding mean of all performance checklist (n=40)

Variables		Mean	Std. Deviation	p. value
Patients falling and falling protection	Pre-test	9.5250	2.23018	0.001
	Immediate	17.9000	.37893	
	Post-test	17.7750	.76753	
	Total	15.0667	4.16616	
Medication	Pre-test	10.0500	1.76795	0.001
	Immediate	18.8000	.51640	
	Post-test	18.3250	1.63907	
	Total	15.7250	4.27414	
Pain	Pre-test	10.4750	1.41399	0.001
	Immediate	18.8500	.57957	
	Post-test	18.7250	.64001	
	Total	16.0167	4.04800	
Hand washing	Pre-test	3.7250	1.15442	0.001
	Immediate	7.9250	.26675	
	Post-test	7.0250	.42290	
	Total	6.2250	1.95092	
Total Performance	Pre-test	36.5000	4.59654	0.001
	Immediate	68.4500	1.25983	
	Post-test	66.8000	3.02299	
	Total	57.2500	15.09925	

*One way anova *=Significant difference *p≤0.05 **= highly significance *p≤0.01*
Ns= Non significant difference P>0.05

Table (4): Comparison between total nurse's performance pre, immediate, and post applying teaching protocol (n=40)

Total Performance		Pre and post			Total
		Pre-test	Immediate	Post-test	
Inadequate	N	40	0	5	0.001
	%	100.0%	0.0%	12.5%	
Adequate	N	0	40	35	
	%	0.0%	100.0%	87.5%	

Table 5:
Relation between demographic data and knowledge n=40

Variables		Satisfactory		Unsatisfactory		P1	P2	P3
		N	%	N	%			
Age								
From 20 to30 yrs.	Pre –test	0	0.0	22	55.0			
	Immediate	10	25.0	12	30.0			
	Posttest	21	52.5	1	2.5			
From 31 to 40 yrs.	Pre –test	0	0.0	17	42.5			
	Immediate	13	32.5	4	10.0	------	.104	.956
	Posttest	16	40.0	1	2.5			
From 41to50 yrs.	Pre –test	0	0.0	1	2.5			
	Immediate	1	2.5	0	0.0			
	Posttest	1	2.5	0	0.0			
Year of experience								
Less than one year	Pre –test	0	0.0	4	10.0			
	Immediate	4	10.0	0	0.0			
	Posttest	4	10.0	0	0.0			
1year 1-3yrs.	Pre –test	0	0.0	13	32.5			
	Immediate	9	22.5	4	10.0			
	Posttest	12	30.0	1	2.5	------	.040	.821
4-7yrs more	Pre –test	0	0.0	15	37.5			
	Immediate	5	12.5	10	25.0			
	Posttest	14	35.0	1	2.5			
more than7yrs	Pre –test	0	0.0	8	20.0			
	Immediate	6	15.0	2	5.0			
	Posttest	8	20.0	0	0.0			
Level of education								
Diploma	Pre –test	0	0.0	7	17.5			
	Immediate	4	10.0	3	7.5			
	Posttest	7	17.5	0	0.0			
Bachelor	Pre –test	0	0.0	12	30.0			
	Immediate	5	12.5	7	17.5			
	Posttest	11	27.5	1	2.5			
Master degree	Pre –test	0	0.0	1	2.5	------	.361	.873
	Immediate	1	2.5	0	0.0			
	Posttest	1	2.5	0	0.0			
Technical health institute	Pre –test	0	0.0	20	50.0			
	Immediate	14	35.0	6	15.0			
	Posttest	19	47.5	1	2.5			

Chi-Square Tests **=Significant difference *p≤0.05* ***= highly significance *p≤0.01*
Ns= Non Significant *Difference P>0.05*
P1= Pre –test, *P2= Immediate* *p3= Posttest*

Table (6): Relation between demographic data and practice (n=40)

	Variables	Inadequate		Adequate		P
		N	%	N	%	
Age						
From 20 to30 yrs.	Pre –test	22	55	0	0.0	0.0001
	Immediate	0	0.0	22	55.0	
	Posttest	0	0.0	22	55.0	
From 31 to 40 yrs.	Pre –test	17	42.5	0	0.0	
	Immediate	0	0.0	17	42.5	
	Posttest	0	0.0	17	42.5	
From 41to50 yrs.	Pre –test	1	2.5	0	0.0	
	Immediate	0	0.0	1	2.5	
	Posttest	0	0.0	1	2.5	
Year of experience						
Less than one year	Pre –test	4	10.0	0	0.0	0.0001
	Immediate	0	0.0	4	10.0	
	Posttest	0	0.0	4	10.0	
1year 1-3yrs.	Pre –test	13	32.5	0	0.0	
	Immediate	0	0.0	13	32.5	
	Posttest	0	0.0	13	32.5	
4-7yrs more	Pre –test	15	37.5	0	0.0	
	Immediate	0	0.0	15	37.5	
	Posttest	0	0.0	15	37.5	
more than7yrs	Pre –test	8	20.0	0	0.0	
	Immediate	0	0.0	8	20.0	
	Posttest	0	0.0	8	20.0	
Level of education						
Diploma	Pre –test	7	17.5	0	0.0	0.0001
	Immediate	0	0.0	7	17.5	
	Posttest	0	0.0	7	17.5	
Bachelor	Pre –test	12	30.0	0	0.0	
	Immediate	0	0.0	12	30.0	
	Posttest	0	0.0	12	30.0	
Master degree	Pre –test	1	2.5	0	0.0	
	Immediate	0	0.0	1	2.5	
	Posttest	0	0.0	1	2.5	
Technical health institute	Pre –test	20	50.0	0	0.0	
	Immediate	0	0.0	20	50.0	
	Posttest	0	0.0	20	50.0	

Chi-Square Tests **=Significant difference *p≤0.05* ***= highly significance *p≤0.01*
Ns= Non significant difference P>0.05

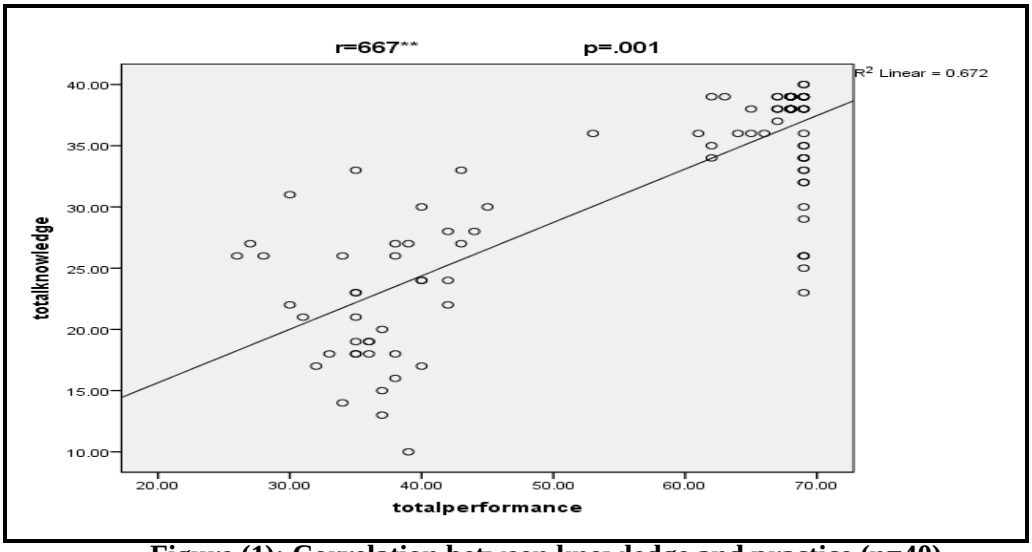

Figure (1): Correlation between knowledge and practice (n=40)

Table (1): Indicates that the more than half of the nurses their ages ranging from 20 to 30 yrs. (55%). The highest percentage of the nurses were female (82%). Half of them their level of education was technical health institute. The majority of them not attended training program.

Table (2): Represents statistical significance difference between pre-test, immediate, and post applying teaching protocol regarding nurses` knowledge.

Table (3): Demonstrates statistical significance difference in mean score pre, immediate, and post applying teaching protocol regarding nurses` performance.

Table (4): Represents statistical significance difference between pre-test, immediate, and post applying teaching protocol regarding total nurses` performance.

Table (5): Show that no statistical significance difference between age, level of education and knowledge except year of experience in Immediate follow up $p \leq 0.05$.

Table (6): Show that highly statistical significance difference between demographic and practice.

Figure (1): Describes positive correlation between knowledge and Practice.

Discussion

Intertrochanteric hip fractures are becoming increasingly common, especially with the aging population. Surgical intervention has been the primary method of treatment, focusing on restoring stability and alignment. However, recent emphasis has shifted towards postoperative rehabilitation to improve outcomes **(Kyung et al., 2020).**

This transition period requires careful management, often involving discharge to home or a nursing facility with continued rehabilitation **(Amarilla et al., 2020)**. A multidisciplinary approach involving orthopedic surgeons, nurses, and rehabilitation professionals is essential for optimizing outcomes in patients with intertrochanteric hip fractures. Educational programs aimed at improving nursing knowledge and practice can contribute to better patient care and overall healthcare delivery.

Regarding age distribution, the study observed that the majority of participants were within the younger demographic range, followed by those in the next age bracket, with fewer falling into the older age group. Concerning gender composition, the sample predominantly consisted of female participants, with a smaller percentage identifying as male.

In regards to years of experience, the study found a wide range among nurses, spanning from relatively new entrants to those with extensive experience in the field. Regarding education level, participants held a variety of qualifications, including diplomas, Bachelor's degrees, Master's degrees, and technical health education. Lastly, participation in training programs was limited, with the majority of nurses reporting no attendance, while a small percentage reported attending such programs.

(Arrear & Mohammed, 2022) corroborate our findings, revealing that the majority of nursing staff were females, which aligns with the dominance of female nurses in the profession. This gender distribution is consistent with previous research indicating that females are the dominant gender among nurses.

Furthermore, our study's results regarding educational levels are consistent with existing literature. Studies have found that a significant proportion of nurses are nursing institute graduates, which is reflected in our findings.

This finding is consistent with **(Arrear & Mohammed 2022)** study, indicating a lack of participation in training sessions related to fracture care among nurses.

Despite the advantages of female nurses' caregiving qualities and rapport-building skills, there is a pressing need for gender diversity in decision-making positions to ensure a balanced perspective. Moreover, the researcher highlights the importance of addressing barriers to participation in training sessions among nurses, as evidenced by the significant proportion of non-attendees in the study. By leveraging the strengths of female nurses and implementing targeted strategies to promote greater participation in educational programs, healthcare organizations can improve patient care outcomes and advance nursing practice effectively.

The teaching protocol implemented in this study has demonstrated significant effectiveness in improving the knowledge of nurses regarding intertrochanteric fractures. The statistical analysis of pre-test and post-test scores indicates a substantial increase in mean knowledge scores post-intervention, with the immediate assessment showing the highest mean score. These findings highlight the immediate impact of the teaching protocol on enhancing nurses' understanding of various aspects related to intertrochanteric fractures.

The variables assessed covered a wide range of crucial topics, including fracture definition, prevalence, risk factors, symptoms, post-operative care, medication management, and fall prevention strategies. The pre-test results revealed deficiencies in knowledge across these variables, underscoring the importance of targeted educational interventions. However, the teaching protocol successfully addressed these gaps, leading to a significant improvement in nurses' knowledge levels. Overall,

these results suggest that the teaching protocol is an effective approach for enhancing nurses' knowledge and understanding of intertrochanteric fractures, ultimately contributing to improved patient care outcomes.

The researcher's view highlights the critical role of nurses in understanding and managing intertrochanteric fractures, as highlighted by the study's results. By improving nurses' knowledge through our protocol, we aim to enhance the quality of care provided to patients with such fractures. This is particularly significant considering the implications for patient safety and well-being.

The alignment of our findings with previous studies, such as those by **(Atyia et al. 2014) & (Gillespie et al. 2023)** underscores the widespread nature of knowledge gaps in healthcare settings. These studies have identified deficiencies in understanding among caregivers and patients regarding essential aspects of care, emphasizing the need for targeted educational interventions. In this context, our study's contribution lies in providing evidence of the effectiveness of our protocol in addressing such knowledge gaps, particularly concerning intertrochanteric fractures. By acknowledging the significance of nursing education and training in improving patient outcomes, our research advocates for ongoing efforts to enhance healthcare professionals' knowledge and skills to meet the evolving needs of patients and healthcare systems.

The researchers' perspective on these results underscores the significance of the teaching protocol in improving nursing intervention and practice concerning intertrochanteric fractures. They note that the observed percentages, particularly in the pretest phase, reflect a deficiency in nursing knowledge and practice, which could potentially lead to suboptimal patient care. However, the researchers highlight a positive correlation between attending the training program and increased percentages across different variables.

In contrast to the findings of our study, the research conducted by **(Johnson et al. (2020)** reported no significant reduction in fall rates despite the implementation of a 60-minute e-learning program. This program specifically targeted fall risk screening, prevention strategies, as well as post-fall assessment and management procedures. The discrepancy in results between the two studies suggests that the effectiveness of educational interventions in reducing fall rates may vary depending on factors such as program design, implementation strategies, and contextual differences across healthcare settings. Further research is needed to explore the factors influencing the efficacy of fall prevention interventions and to identify best practices for reducing fall-related incidents among vulnerable patient populations.

Additionally, the study by **(Fathy and Kabeel, 2016)**. corroborates our results by demonstrating enhanced levels of nurses' knowledge about medication administration and error management throughout various phases of program intervention. These studies collectively underscore the effectiveness of educational interventions in enhancing nurses' understanding and proficiency in medication-related practices, highlighting the importance of ongoing training initiatives to optimize patient safety and healthcare outcomes.

Our findings are consistent with the study conducted by **(Erkan, D. 2021).** Which also reported a significant increase in the frequency of hand-washing events during a single shift. This indicates that educational interventions or protocols aimed at improving hand hygiene practices among healthcare workers can indeed lead to positive behavioral changes. Hand hygiene is a critical aspect of infection control in healthcare settings, and the results of both studies highlight the importance of implementing effective strategies to promote compliance with hand-washing protocols, ultimately contributing to the prevention of healthcare-associated infections.

The findings of our study indicate that training interventions aimed at improving hand-washing practices among nurses have a significant impact on their behavior. Similar results were observed in a study by **(Huang et al. 2008)** where the total time spent on hand washing by assistant nurses increased significantly after training. This underscores the effectiveness of educational programs in promoting adherence to hand hygiene protocols among healthcare workers.

The researcher's perspective on the study findings emphasizes the effectiveness of the implemented protocol in enhancing nurses' knowledge and skills regarding the management of intertrochanteric fractures. This viewpoint is grounded in the observed improvements in nurses' performance following the intervention. The results indicate a substantial increase in knowledge and competency levels among nurses, particularly evident in the posttest assessments compared to pretest scores.

Moreover, the researcher highlights the importance of such interventions in improving patient care quality and potentially impacting healthcare outcomes positively. By training nurses with the necessary knowledge and skills, the protocol contributes to enhancing patient safety, reducing complications, and ultimately improving overall patient outcomes.

Overall, the researcher's view highlights the significance of targeted educational interventions in healthcare settings, emphasizing their role in

improving patient care, enhancing healthcare standards, and potentially contributing to broader healthcare system improvements.

The findings of our study align with those of **(Elbasiony et al.2021)** who conducted a comparison of nurses' practice levels in applying fall prevention strategies in intensive care units before, immediately after, and three months' post-implementation of guidelines. Similarly, **(Elbasiony et al.2021)** found a statistically significant improvement in the total satisfactory level of nurses' practice across all aspects of fall prevention following the implementation of guidelines. This indicates that structured guidelines and protocols can positively influence nurses' adherence to best practices in patient care.

Furthermore, our results are consistent with (**Elbasiony et al.2021)**. Findings regarding the impact of fall prevention strategies on nurses' performance. Prior to the intervention, a significant proportion of nurses did not fully implement fall prevention strategies. However, after the implementation of guidelines, there was a notable decrease in this percentage, indicating improved adherence to preventive measures. This underscores the effectiveness of structured interventions in enhancing nurses' compliance with patient safety protocols.

(Rasheed & Ali, .2020) correlate underscores the advantageous role of youthfulness in comprehending and effectively implementing educational interventions, thereby bolstering the effective management of intertrochanteric fractures. Moreover, from a practical standpoint, younger caregivers may exhibit greater adeptness in handling tasks such as patient repositioning and care for immobilized individuals, further augmenting the quality of patient care distribution. - Correlation between knowledge and practice: there were positive relations particularly notable within the group with intermediate levels of experience.

The researcher's perspective on the findings underscores the pivotal role of demographic factors, particularly age, in influencing healthcare professionals' knowledge and practice regarding intertrochanteric fracture management. The observed correlation between younger age and enhanced knowledge acquisition aligns with existing literature, affirming the efficacy of educational interventions in younger cohorts.

From the researcher's standpoint, this underscores the importance of tailored educational programs targeting different age groups to optimize knowledge dissemination and improve patient care outcomes. Additionally, recognizing the practical implications, the researcher emphasizes the potential benefits of youthful caregivers in executing essential care tasks, such as patient repositioning, which are vital for effective post-fracture management. This viewpoint underscores the significance of demographic considerations in shaping healthcare practices and highlights avenues for targeted interventions to enhance patient care quality.

The results of **(Arrar & Mohammed 2022)** study, focusing on nurse's intermediate levels of experience are line with the findings of our own research. Both studies likely provide insights into the knowledge and practices of nurses within this specific experience range. This alignment suggests a degree of reliability and reinforces the validity of our study's outcomes, as they correspond with findings from a similar demographic group in a separate study. On the other hand, these findings differ from those of **(Rababa et al., 2021)** whose study focused on nurses in orthopedic wards with extensive experience years of experience in the nursing field.

The discrepancy in experience levels between **(Arrar & Mohammed 2022)** study and **(Rababa et al., 2021)** findings underscore the variability that exists within different nursing contexts and populations. While our study and Al- **Chang & Chang's** investigation observed trends among nurses with intermediate levels of experience, **(Rababa et al., 2021).**

Research targeted a different cohort with a longer tenure in nursing. This incongruity highlights the importance of considering various factors, such as practice area and years of experience, when interpreting and comparing research outcomes in nursing studies.

Our findings are consistent with the study conducted by **(Elbasiony et al. (2021).** which also demonstrated a significant improvement in general practice from an unsatisfactory to a satisfactory level following the implementation of guidelines. This alignment between our study and **(Elbasiony et al. (2021).** research underscores the effectiveness of guideline implementation in enhancing nursing practice standards. It suggests that structured guidelines and protocols can play a crucial role in improving healthcare outcomes and ensuring consistent, high-quality patient care.

The positive correlation between the level of education and knowledge, particularly among nurses with technical health education, is consistent with our findings. This observation aligns with the study conducted by **Elbasiony et al. (2021).** From a research perspective, it is essential to recognize the significance of the findings regarding the correlation between demographic variables, knowledge acquisition, and nursing practice. These insights provide valuable implications for nursing education, practice, and patient care. The identification of demographic factors such as age, years of experience,

and level of education sheds light on the nuanced interplay between these variables and their impact on nurses' knowledge and practice.

Furthermore, the observation that attending training programs significantly improves knowledge levels underscores the importance of continuous education and professional development for nurses. This highlights the need for healthcare institutions to prioritize and invest in training initiatives aimed at enhancing nurses' skills and competencies in specific clinical areas such as intertrochanteric fracture management.

Additionally, the positive correlation between knowledge and practice underscores the importance of translating theoretical knowledge into clinical practice effectively. This suggests that efforts to improve nurses' knowledge through education programs can directly influence their ability to deliver high-quality patient care.

Conclusions

Application of teaching protocol for patients with trochanteric hip fracture significantly improves nurese's knowledge and practice.

Recommendations

1. Nurses should be encouraged to attend specific meetings as workshop and seminars held for trochanteric hip fracture
2. Clinical meetings should be planned periodically in order to present to all nurse's new advances in this field.
3. Periodic monitoring of nurse's knowledge and practice to evaluate the level of nurses who deal with those patients.
4. Nursing teaching protocol (booklet) need to be applied in hospitals as a teaching guide for patients with trochanteric hip fracture

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