Research Article

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Nurses' Knowledge, Attitude and Practices on Fall Prevention in King Abdul Aziz Hospital, Kingdom of Saudi Arabia

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ABSTRACT

Introduction: *Fall is the major public health problem, and it is the second leading cause of death due to unintentionally injury. About 424,000 fall happen every year and 250,000 fall are from the hospital. It is estimated that 30% of falls in hospitals are result in severe injury. Increased awareness and availability of fall prevention (FP) services might help to reduce the adverse effects of falls. The aim of this study was to evaluate the Knowledge, Attitude and Practices (KAP) on FP among nurses at King Abdulaziz Hospital – Ministry of National Guard – Al Hasa (KAH; MNG-HA).*

Methods: *Quantitative - Descriptive research design was adopted. The random sampling method was used to select the 220 registered nurses from adult care ward of KAH. Data was collected using a validated questionnaire (section1 sociodemographic, section 2 – knowledge on fall prevention, section 3- attitude on fall prevention, section 4 – practices on fall prevention). Informed concerns were taken from sample and Ethical clearance was obtained from concern authority.*

Results: *Out of 220 sample, 197 (89.5%) were responded and more than half of them were Philippine (59%) national. Among them, 96% were females, 55% had <5 year experience, 2.5% had worked >10 years. The average FP-related Knowledge level among participants was 16.26 ± 1.2 (Range: 0 to 20). A minority were aware of relationship between falls and feet-numbness and depression (13.2% and 28.9%, respectively). The average score of the participants' attitude toward FP was 2.14 ± 0.75 (5 points in-total). In 12 out of 20 (12/20) items, the average score was <2. The Practices score, on the other hand, averaged 4.26 out of 5 (± 0.93). The items with highest and lowest average values were "falls with no obvious harm are always reported" (4.94 ± 0.27) and "participation in making FP policies" (3.02 ± 1.75), respectively. The statistically significant association was found between knowledge of nurses and nationality, work experience; association between attitude and age, undergraduate training; association between practice and age, educational background. Good knowledge did not correlate to positive attitude.*

Conclusion: *Falls are a genuine safety concern. The study showed overall good knowledge and practices of fall prevention at KAH, however there is a concern that the significance and potential impact of falls on patients' outcomes are underestimated. Further, continuous training should be offered to highlight various falls risk factors and improve attitudes towards falls.*

Introduction

The event of fall in hospitals is one of the major public health concern and second leading cause of accidental deaths worldwide (World Health Organization 2016). Apart from risk of fall due to certain medical conditions in patient, the risk of fall in hospital patient increases due to ageing, effect of medication, inappropriate

environment and loss of balance in patient [1]. The main concern is that 4% of fall related injuries leads to severe consequences in patients such as excessive bleeding, subdural hematomas and death. The analysis of 'Sentinel Event Database revealed that failure of staff in appropriate assessment, adherence to protocol and safety practical, communication and lack of physical environment around patients are the major reason contributing to fall (Joint Commission International 2014).

As falls are associated with increased health care cost due to increased hospital stay, hospitals need to prioritize effective fall prevention (FP) program in hospitals. Evidences in research has showed that managing certain risk factor of fall through standardized assessment tool and implementing tailor-made intervention according to individual risk are effective in mitigating falls [3]. For instance, monitoring certain safety hazards within hospital environment minimize incidents of falls and fall related injuries. Another significant findings of research was that majority of fall related cases occurred due to the lack of skills of nurses in fall management. The main shortcoming among nurses was lack of knowledge, attitude and practice (KAP) to conduct fall risk assessment during admission [3]. Therefore, the evidence affirms that falls in hospital are caused not by patient-related factors, but also due to nursing and environmental factors in hospitals too.

As there is lack of evidence regarding the nurse's KAP in fall prevention in hospitals of Saudi Arabia, this study sought to study nurse's KAP towards fall prevention in King Abdul-Aziz Hospital in Al Hassa. The main objective of the study was to assess KAP of nurses towards fall preventions and identify correlation between knowledge and nursing practice towards falls and association between socio demographic variables and nurse's KAP. This study is significant as it will help critically analyze the knowledge of nurses towards FP and identify shortcomings present within the health care system that prevents establishment of quality fall prevention program.

Specific Objectives of the study

- To determine level of knowledge of nurses regarding Fall Prevention.
- To assess the attitude of nurses toward Fall Prevention.
- To assess the practice of nurses on Fall Prevention.
- To find out the correlation between knowledge and practice of nurses regarding Fall Prevention.
- To find out the correlation between attitude and practice of nurses regarding Fall Prevention.
- To find out the association between socio-demographic variables and KAP of nurses on Fall Prevention.

Theoretical framework

In this study, conceptual framework related to FP which consisting of the following assumed strategies (Figure 1).

- All evidence based strategies will be complemented with experience of patient in local setting to understand the functional suitability of the evidence.
- As risk of fall differs on the basis of clinical condition and department in which a patient stays, the experience of nurse will be evaluated on the basis of precipitating and predisposing risk factors for falls.
- Effective communication with patients and patient safety culture will be important values to promote patient safety culture within hospital and prevent falls in patients.

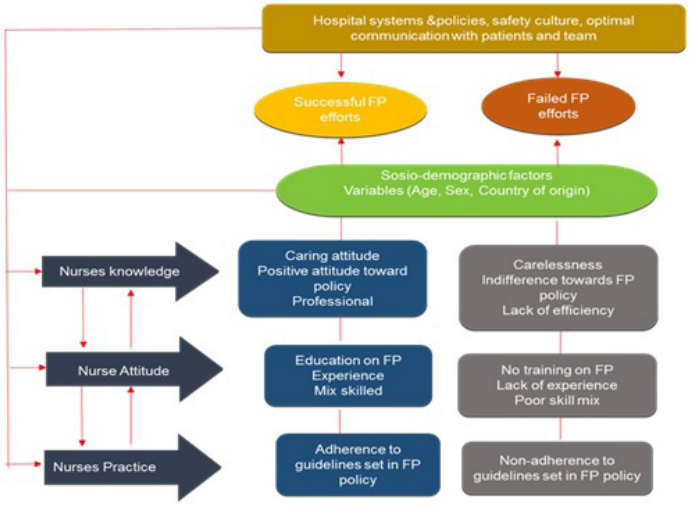

Figure 1: Conceptual framework for the study.

Materials and Methods

Research design and paradigm

The theoretical framework used in the study is based on positivism. The cross sectional survey design was used to measure KAP of nurses towards FP.

Setting and population of the study

King Abdul Aziz Hospital (KAH) was selected as the setting for the study, which is a major hospital in Saudi Arabia with 400 beds. The target population was all registered nurses with the "Saudi Commission for Health Specialties". Accessible population was registered nurses who are employed in KAH.

Sampling

Random sampling technique (lottery method) was used to select the 220 sample from the registered nurse population at KAH. The inclusion criteria for nurses were they must be employed in KAH for more than one year and worked in adult care wards. Out of the 220 nurses, 197 (89.5%) were responded.

Variables in the study

Three major variables were evaluated in this study: knowledge, attitude and practice of nurses in relation to fall prevention among hospitalized patients. Other variables included are participants' sociodemographic characteristics such as age, gender, nationality, previous training on FP, the qualifications and experience.

Instrument and Data collection method

Data was collected by using self-administered structured questionnaire and the tool consisting of 4 sections and featuring 60 items.

Section 1: Sociodemographic Information: Age, Gender, Country of origin, Qualification, Training of FP and Experience of respondents.

Section 2: Nurses knowledge towards fall prevention: A total of 20 items covering a broad area of knowledge, ranging from recognizing risk factors for falls to identifying proven.
Preventative interventions and awareness of FP policies adopted by the hospitals were used.

Section 3: Nurses attitudes towards fall prevention: This section deals with the interrogation of the respondent's attitude towards FP Strategies (20 items).

Section 4: Nurses practices towards fall prevention: This section deals with all the practices related to FP. It consists of 14 items.

Written permission for conducting the survey was obtained from KAH management and participant. The study package given to participants included information sheet about aim and purpose of research, consent forms and invitation to complete questionnaire. Ethical clearances were obtained. Confidentiality and anonymity was maintained.

Outcome /Results

Sociodemographic characteristic

Out of 197 nurses, 189 were females (95.9 %) and 8 were males (4.1%). Majority of nurses were in the age group of 31-40 years (40.6%) followed by ≤ 30 years (33%), 41-50 years (17.8 %) and more than 51 years (8.6%). Among the sample, 109 of them (55.3%) has worked for 2-5 years at the hospital and followed by 6-10 years 81 (41.1%), 11-15 years (5) and more than 15 years (2). More than half of the nurses were from Philippine and other expatriate nurses came from Malaysia, and other countries. 13.2% registered nurse were Saudi in origin. Bachelor's degree was the highest diploma in among 166 nurses. 59.9% of them had received undergraduate training on fall prevention.

The knowledge of the Nurses regarding FP

Characteristics (knowledge items)		'f' (%)
Recurrence high among anyone who has already experienced a fall	Yes	148 (75.1%)
	No	49 (24.9%)
There are Fall Prevention (FP) policies in this hospital	Yes	195 (99.0%)
	No	02 (01.0%)
Is there a fall prevention committee / team in this hospital	Yes	190 (96.4%)
	No	07 (03.6%)
Are you aware that preventing fall is one of the patient safety goals of JCIA	Yes	197 (100%)
	No	0
Do you know what happens when a patient falls?	Yes	197 (100%)
	No	0
I always report the fall incident	Yes	194 (98.5%)
	No	03 (01.5%)
Modified Morse Fall Risk assessment tool is useful to assist you in identifying patients at risk for falls	Yes	190 (96.4%)
	No	07 (03.6%)
Falls can affect the quality of life for patients	Yes	193 (98.0%)
	No	04 (02.0%)
Falls can increase unnecessary acute care hospitalizations	Yes	193 (98.0%)
	No	04 (02.0%)
Completion fall risk assessment useful to identify patients at risk of falling	Yes	194 (98.5%)
	No	03 (01.5%)
Nurses must collaborate with interdisciplinary team to be successful with FP	Yes	197 (100%)
	No	0
Fall prevention is an important aspect of my job	Yes	197 (100%)
	No	0
Falls increase an elderly persons' risk of death	Yes	191 (97.0%)
	No	06 (03.0%)
Falls in the elderly lead to hip fractures	Yes	193 (98.0%)
	No	04 (02.0%)
Sliding is not falling	Yes	54 (27.4%)
	No	143 (72.6%)
The more medicine you take, the higher your fall risk	Yes	176 (89.3%)
	No	21 (10.7%)
Depression is not related to falls	Yes	57 (28.9%)
	No	140 (71.1%)
The more diseases you have, the higher your fall risk	Yes	185 (93.9%)
	No	12 (06.1%)
Someone with a visual impairment has a higher risk for falls	Yes	188 (95.4%)
	No	09 (04.6%)
Being numb in the limbs is not related to falls	Yes	26 (13.2%)
	No	171 (86.6 %)

Table 1: Item wise analysis of Nurse's Knowledge on Fall Prevention. (n=197)

The findings of the study revealed that, 148 (75.12%) of the nurses reported that fall recurrence is high among anyone who has already experienced a fall, 195 (98.9%) said there are FP policies in this hospital, and 190 (96.4%) reported that there is a FP committee/ team in the hospital. All the nurses were aware that preventing fall is one of the patient safety goals of JCIA and all of them know what happens when a patient falls. The majority, 190 (96.4%) agree that Modified Morse Fall Risk assessment tool is useful to assist nurses in identifying patients at risk for falls. Only 57 (28.9%) thinks, depression is not related to falls. The majority of the nurses has good knowledge 187 (94.9%), followed by moderate knowledge 08 (4.1%) and Poor knowledge 02 (1.0%). The total score has a mean of 17.03 and ±1.702 standard deviation (Figure 2).

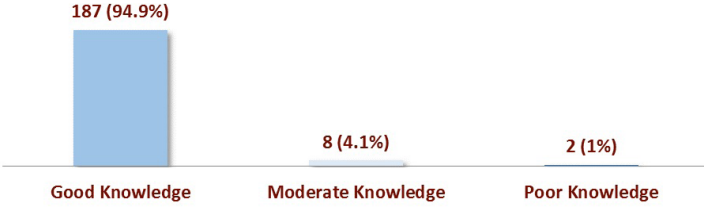

Figure 2: Percentage distribution of nurses based on their knowledge

levels on fall prevention.

The Attitude of the Nurses regarding FP

Characteristics (attitude items)	'f' (%)	
	Positive	Negative
I am concerned about patient falls	193 (98.0%)	04 (02.0%)
I think falls among patients is unavoidable	84 (42.6%)	113 (57.4%)
I think nurses are responsible for pts' falls	62 (31.5%)	135 (68.5%)
I have concern about interventions for FP	155 (78.7%)	42 (21.3%)
FP is a high priority for interventions	189 (95.9%)	08 (04.1%)
Updates in the current trend of FP is an important aspect in the FP program	189 (95.9%)	08 (04.1%)
I have to assess all patients to determine risk factors for falls during admission	194 (98.5%)	03 (1.5%)
A patient's fall risk level should be assessed when hospitalized	195 (99.0%)	02 (1.0%)
Falls preventive education is necessary	197 (100%)	0
FP interventions should be done actively.	197 (100%)	0
I will help immediately if someone asks for help when they move	194 (98.5%)	03 (1.5%)
The hospital environment is not safe for FP	33 (16.8%)	164 (83.2%)
Physical injury is not severe even if a fall happens	11 (5.6%)	186 (94.4%)
If injury occurs falling has little significance	16 (8.1%)	181 (91.9%)
Fear of falling has a negative impact	106 (53.8%)	91 (46.2%)
I feel guilty if my patient fall	162 (82.2%)	35 (17.8%)
I have confidence in my ability in FP	189 (95.9%)	08 (4.1%)
I need more training in fall prevention	106 (53.8%)	91 (46.2%)
Fall prevention should be a high priority	193 (98.0%)	04 (2.0%)
Falls occur because of patients	52 (26.4%)	145 (73.6%)

Table 2: Item wise analysis of Nurse's Attitude towards fall Prevention. (n=197).

Most of the nurses concerned about patients falls (98.0%) and nurses aware that they are responsible for patients falls (31.5%). Majority of the nurses has positive attitude 187 (94.9%) and only few of them has negative attitude 10 (5.1%). Nurses' attitude has a mean of 13.79 with ± 2.061 standard deviation. They also want to learn different modern FP techniques that they can apply on the patients (95.9%). Few of the nurses agreed to the fact that the duty nurses should know about all the previous data regarding the risk factors of the admitted patients (98.5%). Three fourth of nurses reported that they feel guilty if patient falls (82.2%) and half of them required more training in FP (53.8%). The overall attitude of nurses towards FP was positive attitude (94.9%) and only few of them has negative attitude (5.1%). Nurses' attitude has a mean of 13.79 with ± 2.061 standard deviation (Figure 3).

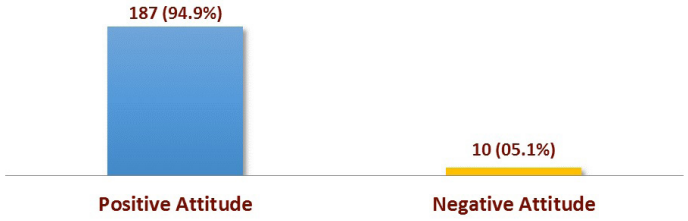

Figure 3: Percentage distribution of nurses based on their overall attitude score.

The practice of the nurses regarding FP

Characteristics (practice items)	'f' (%)	
	Good	Poor
Follow the color coding system for high risk for fall patients?	176 (89.3%)	21 (10.7%)
Follow the FP policies strictly?	197 (100%)	0
Participate in making FP policies?	94 (47.7%)	103 (52.3%)
Experience any fall in your unit?	127 (64.5%)	70 (35.5%)
Offer/assist patient to go toilet?	179 (90.9%)	18 (09.1%)
Encourage adequate hydration and nutrition?	189 (95.9%)	08 (04.1%)
Provide educational tools regarding FP to your patient?	175 (88.8%)	22 (11.2%)
Patient fall witnessed has no obvious injuries, how often is this reported?	195 (99.0%)	02 (01.0%)
Patient reports fall, not witnessed by staff, how often is this reported?	178 (90.4%)	19 (09.6%)
You discuss ways to prevent falls	168 (85.3%)	29 (14.7%)
Do you request physiotherapy to evaluate and treat as needed	145 (73.6%)	52 (26.4%)
Encourage suitable footwear	180 (91.4%)	17 (08.6%)
Seek occupational therapy for evaluation, management of ADL/IADLs	120 (60.9%)	77 (39.1%)
Evaluate patient for social support such as glasses/hearing aids funding	165 (83.8%)	32 (16.2%)

Table 3: Item wise analysis of Nurse's Practice on Fall Prevention.

It is found that the colour coding system is helpful to reduce the risk of fall incidences among the patients (89.3%). On the other hand, the nurses also admitted that, they need to provide adequate hydration as well as nutrition (95.9%) and educating the patients about the tools regarding FP (88.8%). It is recognized that a 127 (64.5%) nurses admitted that they have experience fall in their unit. Although the nurses in this organization help to develop the FP policies of the hospital, they also admitted that certain improvements in those policies are needed. It is also found that the nurses agreed that developing and implementing a proper practice in the hospital setting is helpful to prevent patient falling incidences. The overall practice scores of the nurses on FP revealed that the majority of them have good practice (90.4%) and minimal percentage has poor practice (9.6%). The Mean values of practice scores of nurses on fall prevention were 11.08 with S.D of ± 2.263.

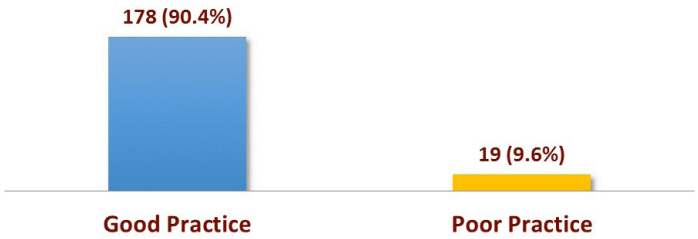

Figure 4: Percentage distribution of nurses based on their overall practice score.

Association between selected sociodemographic variables and KAP of the Nurses

The chi square values computed between knowledge of the nurses on FP and nationality (χ^2=14.462), work experience (χ^2=8.505) was found to be statistically significantly at p<0.05. It is also evident that the chi square values computed between attitude of the nurses on FP and Age group (χ^2=3.778), undergraduate training on FP (χ^2=6.982) was found to be statistically significant. The association between the Practice of nurses on FP and age group (χ^2=4.834) and educational background (χ^2=3.927) was found to be significant at p<0.05.

Discussion

The analysis of the results gave many new insights regarding the KAP of nurse in FP in KAH. Firstly, link between nurse's KAP and demographic characteristics of the nurse was found from the study. For instance, descriptive analysis showed that mostly nurses are females and very few had more than 6 years of experience. Another demographic factor that might be the reason for communication gap was that majority of nurse were from Philippine and Malaysia who were not fluent in Arabic. Another shortcoming was found in the medical curriculum because majority of nurse had bachelor degree, however about 60% did not received FP training [4-10].

In relation to the data related to knowledge of nurse in FP, almost all were aware of fall and its complications. However, one weakness was that one-fourth of nurses were not aware about the risk of recurrence in fall. All were aware about the outcome of fall and different patterns of falls were reported by nurses. Overall, nurse has adequate knowledge, however some gaps need to be addressed by means of curriculum development and in-service educations of nurses related to falls. In addition, personal responsibility of nurses in preventing falls is important and positive results were found for the nurses in this survey. They were concerned about fall incidents in patients and they felt guilty when a patient faults. It also revealed that half of nurses were in more need of training to develop skills related to falls. In relation to nursing practice related to FP, color coding was found to be a major intervention for preventing fall and they also wanted improvement in FP policies. There is a need to give more power and autonomous role to nurses to prevent falls and maximize health and safety of patients during hospital stay [10-15].

Summary and Recommendations

The knowledge, nurses were found to be well area about fall related risk, use of fall assessment tools and factors contributing to fall. Positive attitude of nurses towards fall was also found as they confessed that they felt guilty during fall related cases and expressed that they were not fully trained to manage falls in hospitals. Nurses also agreed to have a proper nursing practice in place to prevent fall related incidences. This result has positive implications for nurses and health care organizations handling various groups of patients. It gives the indication that several intrinsic and extrinsic factor in organization contribute to falls. Intrinsic factors involved making improvement in nursing practice to balance fall prevention with other activities and upgrading the skills of nurse in FP practices. In relation to improvement in extrinsic factor of hospital, it is recommended to customize fall prevention practices within interdisciplinary health care team. Hospital based programs focusing on patient safety culture is also critical to promote safety of patient. It is also recommended that patients at high risk of fall should be under the care of experienced nurse who have upgraded skills in fall prevention. Training programs aimed at eliminating weakness in organization and fostering strengths may help to reduce rate of falls.

References

1. Al Jhdali H, Al Amoudi B, Abdulbagi D, Falls epidemiology at King Abdulaziz University Hospital, Jeddah-Saudi Arabia-2009. Life Science Journal. 2012; 9.
2. Laing SS, Silver IF, York S, et al. Fall prevention knowledge, attitude, and practices of community stakeholders and older adults. Journal of aging research. 2011.
3. Aadal L, Angel S, Dreyer P, et al. Nursing roles and functions in the inpatient neurorehabilitation of stroke patients a literature review. Journal of Neuroscience Nursing. 2013; 45: 158-170.
4. Basuni EM, Bayoumi MM, Improvement Critical Care Patient Safety Using Nursing Staff Development Strategies, At Saudi Arabia. Global journal of health science. 2015; 7: 335.
5. Breimaier HE, Halfens RJ, Lohrmann C, Effectiveness of multifaceted and tailored strategies to implement a fall-prevention guideline into acute care nursing practice: a before-and- after, mixed-method study using a participatory action research approach. BMC nursing. 2015; 14: 1.
6. Kirkpatrick H, Boblin S, Ireland, et al. The Nurse as Bricoleur in Falls Prevention: Learning from a Case Study of the Implementation of FP Best Practices quot, Worldviews on Evidence-Based Nursing. 2014; 11: 118-125.
7. Lee L. Reducing the number of patient falls through a quality improvement process in a community hospital Doctoral dissertation, Utica College. 2014.
8. Liu H, Shen J, Xiao LD. Effectiveness of an educational intervention on improving knowledge level of Chinese registered nurses on prevention of falls in hospitalized older people-- a randomized controlled trial quot Nurse education today. 2012; 32: 695-702.
9. Rush KL, Robey-Williams C, Patton LM, et al. Patient falls: acute care nurses' experiences. Journal of clinical nursing. 2009; 18: 357-365.
10. Shever LL, Titler MG, Mackin ML, et al. quot FP Practices in Adult Medical-Surgical Nursing Units Described by Nurse Managers quot, Western Journal of Nursing Research. 2011; 33: 385-397.
11. Stenberg M, Wann-Hansson C. Health care professionals' attitudes and compliance to clinical practice guidelines to prevent falls and fall injuries. Worldviews on Evidence-Based Nursing. 2011; 8: 87-95.
12. Titler MG, Conlon P, Reynolds MA, et al. The effect of a translating research into practice intervention to promote use of evidence-based fall prevention interventions in hospitalized adults A prospective pre–post implementation study in the

US. Applied nursing research. 2016; 31: 52-59.
13. Tzeng H, Yin C. quot Toileting-related inpatient falls in adult acute care settings quot Medsurg nursing official journal of the Academy of Medical-Surgical Nurses. 2012; 21: 372.
14. Tzeng HM, Yin CY. Frequently observed risk factors for fall-related injuries and effective preventive interventions a multihospital survey of nurses perceptions. Journal of nursing care quality. 2013; 28: 130-138.
15. http://www.who.int/mediacentre/factsheets/fs344/en/