Assessment of nurse's knowledge, attitudes, and practice regarding physical restraints among critical ill patients

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Abstract

Nurses in critical ill setting as ICU mostly use physical restraints to maintain the patients' devices and therapy, such as endotracheal tubes, central lines, and arterial lines. Around 80% of critical ill patients admitted into different types of ICUs may need to apply physical restraints due to alterations in their level of consciousness during a stay in ICU. Nurses' knowledge, attitude and practice about physical restraints play an important role in nursing care provided to restrained patients and prevent its complications. The assessment of nurses' knowledge, attitude and practice related to the applied restraint influence on nursing care and recognizing its weakness and strength.

Aim of the study: To assess nurse's knowledge, attitudes, and practice regarding physical restraints among critically ill patients.

Methodology: A descriptive design was used.

Subjects & Setting: The target population of this study consisted of 60 nurses who working at Alshaab Teaching Hospital during the study period.

Tools: Structured Interviewing Questionnaire: consists of four parts:

Part-1: Socio-demographic designed questionnaire was used to collect the demographic data related to nurses in the study;

Part-2: Structured designed questionnaire was used to collect the nurses' knowledge;

Part-3: Structured designed questionnaire was used to collect the nurses' attitude and

Part-4: Structured designed questionnaire was used to collect the nurses' practice related to physical restraints.

The results: Most of studied sample were female, had bachelor degree in nursing, more than 5 years of experiences, aged between 21-30 years old, and not attended a previous educational program about physical restraints. The majority of the nurses had a fair level of knowledge, improper attitude and about 91.7% of nurses had a satisfactory level of practice toward application of physical restraints among critical ill patients. As relationship between sociodemograhpic characters & nurses` knowledge, attitude & practice, there was no significant correlation between nurses' age and knowledge, attitude & practice, there was a statistical significant correlation between nurses' gender and knowledge and practice only. There was statistical significant correlation between nurse's qualification and practice only, finally there was a statistical significant correlation between nurses' experience years and attitude and practice score.

Conclusion: The present study concluded that, there was a fair level of nurses' knowledge, improper attitude and satisfactory practice to physical restraints among critically ill patients.

Recommendation: conduct in-service training programs for nurses working in all critical care settings about physical restraints and the hospital should develop evidence-based written guidelines or policies on physical restraint to be accessible for all nurses and physicians in order to follow.

Keywords: Critical ill patients, Physical restraints, Nurses' knowledge, Attitude and Practice, Level of consciousness alteration

1. Introduction

Critically ill patients are the classifications of patients require continuous nursing monitoring and specialized care due to their life threatening conditions or injuries [1] Furthermore, they have the possibility of developing the alteration in their level of consciousness as confusion. So they can remove the connected life support and monitoring devices; as endotracheal tubes; nasogastric tube, arterial line, central lines and harming themselves [2].

Around 80% of critical ill patients admitted into different types of ICUs may need to apply of physical restraints due to alterations in their level of consciousness during stay in ICU [3]. Additional, use of physical restraint among medical ICU patients was higher too (12.6 to 50.1%) if compared with surgical ICUs patients was (14.5 to 34%) [4].

Physical restraint is defined as "any device, material or equipment closed or attached to a patient's body to limit the patient's movement freely, physical activity or usual access to his or her body [5]. The prevalence of physical restraints application among confused patient is 62% and 65% to

prevent risk of falling [6].

The application of physical restraint for critically ill patients is a complex decision and is depends on patient characters, the practitioner, and the environment. There are many types of restraints can be applied as wrist restraints, mitts, elbow immobilizers, belts, vests, leg restraints and bed side rails [7].

The main indication of physical and chemical restraint is maintaining the patient safety during the alteration in her/his consciousness level; but the use of chemical restraint is related to the risk of sedation. Accordingly the patient's status in critical care setting, the practice of physical restraint use as a way to prevent the confused patients' interference during providing nursing care [8].

Physical restraint is contraindicated in patient with edema, cyanosis, pressure ulcers, aspiration and breathing problems, contractures, fractures and paralysis, also its application need for informed consent from patients or family as ethical concerns relate to patients' right to respect patients' autonomy and dignity [5]. Also, they have an effect on patient and family reactions, including detention, reduced patient's self-esteem, increased worry and aloneness. Additional physical restraints have an effect on nurse's feelings, such guilt and disappointment when they apply it to their patients [9].

Complications of physical restraint application among critical ill patients may develop pressure sore, limb edema, restricted circulation, and skin laceration at restraint site [10]. These complications can be prevented by the closely monitoring and change of care plan by nurses; the nursing care plan should be containing regular changes of patient position, skin care and a sufficient range of motion [5]. The assessment of the patient's response hourly, removing the restraints every two hours, frequent change of patient's position, in addition to assessing the patient for any physical and/or psychological effects of restraining [1].

Many factors can be affected on application physical restraints as; nurses' number, their qualification, experience, and knowledge regarding of use physical restraint. Nurses' knowledge, attitude and practice about physical restraints play an important role in nursing care provided to restrained patients and prevent its complications. The assessment of nurses' knowledge, attitude and practice related to the applied restraint effect on nursing care and recognizing its weakness and strength [11]. So the study aim is to assess nurse's knowledge, attitudes, and practice regarding physical restraints among critical ill patients.

1.1 Significance of the study

The food and drug administration (FDA) reported that at least 100 deaths happen yearly in the USA from the inappropriate practice of physical restraints [5]. Physical restraints applied among hospitalized patients in intensive care unit patients by 33% - 68% in rather than other ward patients less than 30% [12].

In Sudan, physical restraint is the most conservative practice among ICU patients. Although there are no enough researches about the assessment of nurses' knowledge; practice and attitude regarding physical restraint application for critically ill patients. This assessment is very important to identify the need of the team nursing to education and training, which is essential in preparing the qualified nurses and develop a good

practice for physical restraint patients.

1.2 The aim of the study

To assess nurse's knowledge, attitudes, and practice regarding physical restraints among critical ill patients.

1.3 Research question

Q1: What are the nurses' knowledge, attitudes, and practice about physical restraints?

Q2-Is presence of the relationship among nurse's knowledge, attitudes, and practice and their socio-demographic characteristics?

2. Methods

Design: A descriptive hospital based design was used for this study

Setting: The study was conducted in ICU, Intermediate A, and Intermediate B, at Alshaab Teaching Hospital - Khartoum.

Subjects: The target population of this study consisted of 60 nurses who working at Alshaab Teaching Hospital during the study period.

Inclusion Criteria: Nurses willing to participate

Exclusion Criteria: Nurses on vacation

A tool for the study: The data for this study were collected using the following tool

Structured Interviewing Questionnaire: consists of four parts:-

▪ **Part-1:** Socio-demographic designed questionnaire was used to collect the demographic data related to nurses in the study; which included the following characteristics: nurses' sex, age, qualification, a number of years' experience, previous education on physical restraint, and type of ICU.

▪ **Part-2:** Structured designed questionnaire was used to collect the nurses' knowledge related to physical restraints consists of 15 multiple choice questions; each question has 2 choices (agree or disagree) only one is correct.

▪ **Part-3:** Structured designed questionnaire was used to collect the nurses' attitude related to physical restraints consists of 11 multiple choice questions; each question has 3 choices (agree, disagree, and non-decided) only one is correct.

▪ **Part-4:** Structured designed questionnaire was used to collect the nurses' practice related to physical restraints consists of 13 multiple choice questions; each question has 3 choices (always, sometimes, never) only one is correct.

Part of 2, 3& 4 from tools adopted from [13] and modified by researchers.

Validity of the tools

The tools were tested for their content by three experts in the field of Medical-Surgical Nursing and Pediatric Nursing to ascertain relevance and completeness.

Scoring system for the following parts

1-Part 2 nurses` knowledge regarding physical restraints among critical care patients

▪ We have 15 items (all items are positive statements)

- Different responses scored as follows: 1 = Agree & 0 = Disagree
- The maximum score is 15 (1*15) (Respondents remained positive (i.e. Agreed) to the positive statements & minimum score is 0 (0*15) (Respondents in this category remained negative (i.e. Disagreed) to the positive statements.
- Poor level of knowledge: 0-7 it represents (less than 50%)
- A fair level of knowledge: 8-11 it represents (from 50 to 75%)
- Good level of knowledge: 12-15 it represents (more than 75%)

2-Part 3 nurses` attitude regarding physical restraints among critical care patients
- We have 11 items (all items are positive statements)
- Different responses scored as follows: 2 = Agree, 1=Non-decided & 0 = Disagree
- The maximum score is 22 (2*11) (Respondents remained positive (i.e. Agreed) to the positive statements & minimum score is 0 (0*11) (Respondents in this category remained negative (i.e. Disagreed) to the positive statements)
- Proper Attitude: 14-22 it represents (more than 60%)
- Improper attitude: 0-13 it represents (less than 60%)

3-Part 4 nurses` practice regarding physical restraints among critical care patients
- We have 13 items (all items are positive statements)
- Different responses scored as follows: 2 = Always, 1=Sometimes & 0 = Never
- The maximum score is 26 (2*13) (Respondents remained positive (i.e. Always) to the positive statements & minimum score is 0 (0*13) (Respondents in this category remained negative (i.e. Never) to the positive statements)
- Unsatisfactory practice: 0-12 it represented (less than 50%)
- Satisfactory practice: 13-19 it represented (from 50 to 75%)
- Good practice: 20-26 it represented (more than 75%)

Procedure of data collection
A verbal agreement was obtained from the director of the hospital and to the head of each unit, and then approval for carrying out the study was obtained after explaining the aim of the study. Nurses were approached individually to explain the purpose and the nature of the study.

Duration of study: Data were collected throughout a period of the 3-months between October & December 2017.

Ethical consideration
A verbal consent was taken from nurses to participate in the study after explanation of the purpose of the study.
- Informing study subjects' that the confidentiality and privacy of any obtained information will be ensured.
- Respecting the right of the study sample to be withdrawn from the study at any time.
- A tool was developed by researchers.
- Tools of the study were implemented by the researcher using the interview questionnaire sheet to assess nurses' knowledge, attitudes, and practice regarding physical restraints among critical care patients.
- The questionnaire was distributed to the nurses and the researcher was present during data collection for any help and guidance for nurses.
- Each interview was implemented on an individual basis and lasted for about 20-30 minute for each tool according to the nurse's attention and willing to cooperate or talk with the researcher.
- Data were collected over a period of 3 months (October & December/ 2017).

Data management
Data were collected by questionnaire for the nurses by a researcher. Knowledge, attitude and practice of nurses were calculated. Manual coding was done to check any error in coding. The manual coding and tables were developed before entering the data. Double entry of data by researchers was done to prevent potential data entry error. The data were checked and cleaned by performing preliminary frequency distribution to enhance accuracy and reliability.

Statistical analysis
The data collected were tabulated & analyzed by SPSS (statistical package for the social science software) statistical package version 20 on IBM compatible computer. Two types of statistics were done: Descriptive statistics: were expressed as mean and standard deviation (X+SD) for quantitative data or number and percentage (No & %) for qualitative data.

Analytic statistics: as F= ANOVA and t= student`s t test.

P-value at 0.05 was used to determine significance regarding
- P-value > 0.05 to be statistically insignificant.
- P-value ≤ 0.05 to be statistically significant.
- P-value ≤ 0.001 to be highly statistically significant.

3. Results

Table 1: Demographic characteristics of the studied group

Socio-demographic characteristics		Study group (n=60)	
		No.	%
Age (years)	21-30 years old	34	56.7
	31-40 years old	18	30.0
	41 -50 years old	8	13.3
Gender	Male	18	30.0
	Female	42	70.0

Qualification	Diploma	8	13.3
	Bachelor	43	71.7
	Master	9	15.0
Experience years	Less than 5 years	22	36.7
	More than 5 years	38	63.3
Previous education program on physical restraint	Yes	12	20.0
	No	48	80.0
Type of CC nurses	Intermediate A(CCU 1)	17	28.3
	Intermediate B(CCU 2)	15	25.0
	ICU	28	46.7

Table (1): represents the characters of the study nurses in ICU. It showed that; more than half of the study sample aged between 21-30 years old, regarding to nurses' gender about 70 % of the nurses were female, in relation to the nurse's qualification more than two third from sample had a bachelor degree in nursing, as nurses' years of experience in ICU, most of the nurses had more than 5 experiences years for nursing profession in ICU settings, finally the majority of studied sample not attended previous educational program about physical restraints.

Table 2: Assessment of nurses` knowledge regarding physical restraints among critical ill patients (n=60)

Statement	Agree No (%)	Disagree No (%)	Mean ± SD
Physical restraints designed to prevent patient's injury and their application was safety.	50 (83.3)	10 (16.7)	0.83±0.37
A restraint is legal only if it is necessary from patient harm.	35 (58.3)	25 (41.7)	0.58±0.49
From patients' rights are refusing the application of a restraint.	26 (43.3)	34 (56.7)	0.43±0.50
Its application requires a doctor's order.	29 (48.3)	31 (51.7)	0.48±0.50
The disturbance in the patient's level of consciousness disturbance requires application of a restraint.	20 (33.3)	40 (66.7)	0.33±0.47
The nurse should be released a restraint every 2 hours.	35 (58.3)	25 (41.7)	0.58±0.49
Restraints should be applied not tightly, with pad between the restraint and patient's skin.	7 (11.7)	53 (88.3)	0.12±0.32
If a patient restrained while lying flat in bed, maybe incidence of choking.	40 (66.7)	20 (33.3)	0.67±0.47
There is many patients' complication due to physical restraints as skin breaks up or restlessness.	53 (88.3)	7 (11.7)	0.88±0.32
Never attached the restraint to the side rails after restrained patient.	26 (43.3)	34 (56.7)	0.43±0.50
Assessment and record for the restrained patient are important every shift.	53 (88.3)	7 (11.7)	0.88±0.32
A nurse can be charged with assault if he/she applies restraints when they are not needed.	31 (51.7)	29 (48.3)	0.52±0.50
In an emergency situation, it is legally a nurse can restrain a patient without a physician's order.	8 (13.3)	52 (86.7)	0.13±0.34
May be presence of effective alternatives to restraints.	29 (48.3)	31 (51.7)	0.48±0.50
May be the presence of a relationship between the deaths and the use of vest restraints.	29 (48.3)	31 (51.7)	0.48±0.50
Total nurses` knowledge mean score regarding Physical Restraints among Critical Ill Patients			7.85±1.86

Table (2): illustrates nurses' knowledge toward the use of physical restraints. It was found that, mean of total nurses` knowledge score was7. 85 ±1.86.
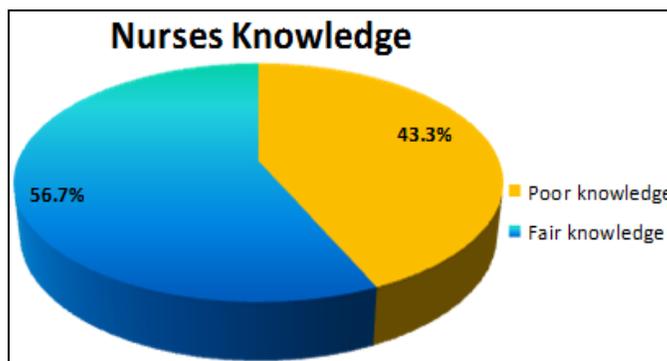

Fig 1: Categories of nurses' knowledge regarding physical restraints among critical ill patients (n=60)

Figure (1): Illustrates level of nurses' knowledge. It was demonstrated that more than half of the nurses had a fair level of knowledge toward application of physical restraints among critical ill patients.

Table 3: Assessment of nurses` attitude regarding physical restraints among critical ill patients (n=60)

Statement	Agree No (%)	Disagree No (%)	Non decided No (%)	Mean ± SD
I think that patient's family members have the right to refuse the use of restraints.	3 (5)	23 (38.3)	34 (56.7)	0.67±0.57
I think that the nurses have the right to refuse the application of patient restraints.	11 (18.3)	39 (65)	10 (16.7)	0.53±0.79
If, i am a patient, I should have the right to refuse/oppose when restraints apply to me.	52 (86.7)	4 (6.7)	4 (6.7)	1.80±0.54
I believe that placing a patient in restraints is wrong.	0 (0)	52 (86.7)	8 (13.3)	0.13±0.34
I think that the main cause of restraints application in the hospital is limited staff number.	30 (50)	26 (43.3)	4 (6.7)	1.07±0.97
I feel with uncomfortable senses when the family enters the patient's room, and they see him/ her restrained.	45 (75)	8 (13.3)	7 (11.7)	1.62±0.71
The hospital administration is legally responsible for using restraints to keep the patient safe.	59 (98.3)	0 (0)	1 (1.7)	1.98±0.12
It makes me feel terrible if the patient gets more upset after restraints are applied.	28 (46.7)	5 (8.3)	27 (45)	1.38±0.64
I think that it is more important to let the patients with agitation or disturbed consciousness levels in restraints during I provide care for them.	29 (48.3)	31 (51.7)	0 (0)	0.97±1.0
I think that a patient suffers a loss of dignity when placed in restraints.	14 (23.3)	11 (18.3)	35 (58.3)	1.05±0.64
In general, I think that I have all knowledge needed for caring for a restrained patient.	14 (23.3)	12 (20)	34 (56.7)	1.03±0.66
Total nurses` attitude mean score regarding Physical Restraints among critical ill patients				12.23±1.86

Table (3): Shows nurses' attitudes toward the use of physical restraints. It was shown that, total nurses` attitude means score regarding use of physical restraints was 12.23±1.86.
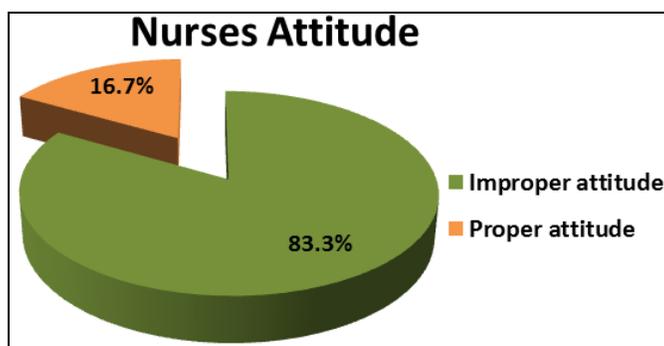

Fig 2: Categories of nurses' attitude regarding physical restraints among critical ill patients (n=60)

Figure (2): Demonstrates of nurses' attitude. It was represented that more than two third of nurses had improper attitude regarding to the application of physical restraints among critical ill patients.

Table 4: Assessment of nurses` practice regarding physical restraints among critical ill patients (n=60)

Statement	Always No (%)	Sometimes No (%)	Never No (%)	Mean ± SD
Before restraining the patient, I attempt another alternative nursing measure.	3 (5)	43 (71.7)	14 (23.3)	0.82±0.50
I take the decision for restraining a patient with a physician.	23 (38.3)	33 (55)	4 (6.7)	1.32±0.59
When I assess the patient and discover him/her not need to be restrained, I suggest to the doctor remove it.	26 (43.3)	31 (51.7)	3 (5)	1.38±0.58
I respond rapidly to the call from the restrained patient as soon as possible.	35 (58.3)	25 (41.7)	0 (0)	1.58±0.49
I check the restraints at least every 2 h to make ensure they are in the proper position.	31 (51.7)	28 (46.7)	1 (1.7)	1.50±0.53
I inspect carefully the patient's skin for abrasions or break up during I bathe him/her.	42 (70)	18 (30)	0 (0)	1.70±0.46
I explain to family members the cause of the patient is being restrained.	10 (16.7)	43 (71.7)	7 (11.7)	1.05±0.53
I explain to the patient, the restraint(s) will be removed when disappear its indications.	17 (28.3)	26 (43.3)	17 (28.3)	1.0±0.75

Most of the patients are restrained when the staff is short more than is full.	31 (51.7)	28 (46.7)	1 (1.7)	1.50±0.53
Within our ward, staff members make an effort together to find out methods to control the behavior of patients other than by using physical restraints.	10 (16.7)	24 (40)	26 (43.3)	0.73±0.73
I regularly assess if the restraint should be removed.	26 (43.3)	23 (38.3)	11 (18.3)	1.25±0.75
If physical restraints are applied, I record on the patient's file the type of restraint used, the causes for applying it, the time of application, and the needed nursing care.	38 (63.3)	22 (36.7)	0 (0)	1.63±0.48
I regularly assess and record the effect of physical restraint when applied to a patient.	37 (61.7)	23 (38.3)	0 (0)	1.62±0.49
Total nurses` practice mean score regarding Physical Restraints among critical care patients				17.08±2.09

Table (4): Represents nurses' practice toward the use of physical restraints. It was documented that, total nurses` practice mean score regarding application of physical restraints for critically ill patients was 17.08±2.09.
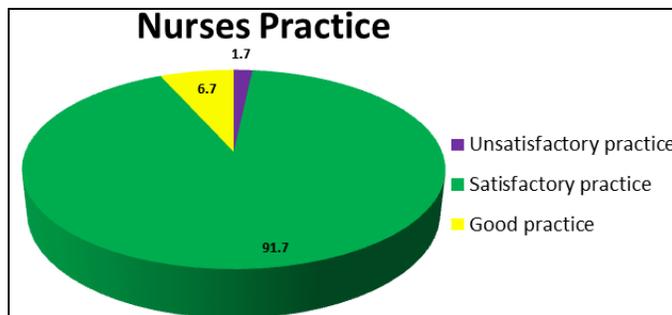

Fig 3: Categories of nurses practice regarding physical restraints among critical ill patients (n=60)

Figure (3): Displays of categories of nurses' practice. It was found that, about 91.7% of nurses had a satisfactory level of practice, 1.7% of nurses had an unsatisfactory level of practice and 6.7% of nurses had a good level of practice regarding the application of physical restraints among critical ill patients.

Table 5: Relationship among sociodemograhpic characters & nurses` knowledge, attitude & practice regarding physical restraints among critical ill patients

Socio-demographic characteristics		NO.	Knowledge score Mean ± SD	Attitude scores Mean ± SD	Practice score Mean ± SD
Age (years)	21-30 years old	34	7.55±2.35	12.29±2.0	17.23±0.78
	31-40 years old	18	8.33±0.90	12.38±1.64	17.27±3.17
	41 -50 years old	8	8.0±0.53	11.62±1.76	16.0±2.82
Test of significance			F=1.04	F=0.49	F=1.24
P value			0.35 NS	0.61 NS	0.29 NS
Gender	Male	18	9.05±2.36	12.38±0.77	18.16±0.38
	Female	42	7.33±1.33	12.16±2.17	16.61±2.34
Test of significance			t=2.89	t=0.58	t=4.14
P value			0.008 S	0.56 NS	≤0.001 HS
Qualification	Diploma	8	8.0±0.53	11.62±1.76	16.0±2.82
	Bachelor	43	7.67±2.15	12.58±1.91	16.97±0.85
	Master	9	8.55±0.52	11.11±1.05	18.55±4.21
Test of significance			F=0.85	F=3.0	F=3.65
P value			0.43 NS	0.06 NS	0.03 S
Experience years	Less than 5 years	22	8.09±2.74	13.40±1.18	17.68±0.47
	More than 5 years	38	7.71±1.11	11.55±1.85	16.73±0.52
Test of significance			t=0.62	t=4.73	t=2.21
P value			0.54 NS	≤0.001 HS	0.03 S
Previous education program on physical restraint	Yes	12	8.41±0.51	11.08±0.90	18.66±3.60
	No	48	7.70±2.05	12.52±1.93	16.68±1.29
Test of significance			t=2.13	t=2.49	t=3.14
P value			0.03 S	0.01 S	0.003 S
Type of CC nurses	Intermediate A (CCU 1)	17	7.94±1.85	12.35±1.83	17.23±1.88
	Intermediate B(CCU 2)	15	8.20±1.82	12.40±1.95	17.13±1.99
	ICU	28	7.60±1.93	12.07±1.88	16.96±2.31
Test of significance			F=0.51	F=0.19	F=0.09
P value			0.60 NS	0.82 NS	0.91 NS

Table (5): Represents relationship among sociodemograhpic characters & nurses` knowledge, attitude & practice regarding physical restraints among critical ill patients. It was reported that; regarding to nurses' age, there was no statistical significant correlation between nurses' age and knowledge, attitude & practice regarding physical restraints. While in relation to nurses' gender, there was a statistical significant correlation between nurses' gender and knowledge and practice only. Regards to nurses' qualification, there was a statistical significant correlation between nurse's qualification and practice only. As regards to nurses' years of experience in ICU, there was a statistical significant correlation between nurses' experience years and attitude and practice score.

4. Discussion
Most critically ill patients may have multiple traumas, or other diagnosis can lead to the possibility of alteration in level of consciousness as confusion and agitation, which causing the observed behavioral problem [7]. So application of physical restraint is helpful in a void patients' interference during treatment. Physical restraints may cause many adverse reactions, so the restrained patients need to equip nurses with adequate knowledge and good practice which contributing to proper attitude and enable nurses to modify their care plan toward preventing the physical restraint complications [14]. Assessment of nurse's knowledge, attitudes, and practice regarding physical restraints very important in gathering the information about the current and future nursing care to ensure the quality of care provided to patient and recognizing its weakness and strength. The aim of the current study was to assess nurse's knowledge, attitudes, and practice regarding physical restraints among critical ill patients.

Regarding to socio-demographic characteristics of the studied sample
The current study documented that, most of studied nurses were female, their age in between 21-30 years old, and not received any previous educational program or training about physical restraints, these results supported by Youns G and Ahmed S (2015) [15]; they stated, most of their sample was female and aged in between 20-30 years old and did not attended past training or educational program about physical restraints. In relation to the education level and experiences years among the sample, the study reported that, the majority of sample had bachelor degree in nursing and more than 5 experiences years in nursing profession within ICU settings, the results in line with Dolan & Dolan Looby (2017) [16]; they said that, most of the participated nurses in their study had more years of practice as a registered nurse in caring of critically ill patients at ICUs and they had a bachelor degree of nursing science.

In relation to the level of nurses` knowledge about application of physical restraints.
The present study reported that, mean of total nurses` knowledge score was7.85±1.86, which reflected they had a fair level of knowledge toward application of physical restraints among critically ill patients, these results agreed with Al-Khaled T, Zahran E & El Soussi A (2011) [17] & Abed El-latief (2015) [5]; they stated that, most of nurses included in the study had poor knowledge towards the use of physical restraints.

As regards to the level of nurses` attitude toward application of physical restraints.
The available study approved that, total nurses` attitude mean score regarding use of physical restraints was 12.23±1.86, it meant most of the nurses had an improper level of attitude related to the application of physical restraints among critically ill patients, these findings supported by Chien W. T. & Lee I. Y. M. (2013) [18] & Abed El-latief (2015) [5]; they said that, high percentage of the participant nurses in their studies had a negative attitude regarding the application of physical restraints among ICUs patients.

As regards to the level of nurses` practice about application of physical restraints.
The current study documented that, total nurses` practice mean score regarding application of physical restraints for critically ill patients was 17.08±2.09 and about 91.7% from the studied nurses had a satisfactory level of practice associated with the application of physical restraints among critically ill patients, these results in the same line with Abed El-latief 2015 [5]; who said that, most of the sample had a moderate level of practice regarding physical restraints.

Concerning to the relationship among socio-demograhpic characters & nurses` knowledge, attitude & practice regarding physical restraints among critical ill patients.
The findings of the exciting study revealed that, there was no statistical significance between nurses' qualification and knowledge regarding physical restraints; these results agreed with Azab S.M.S. & Abu Negm L. (2013) [19] & Abed El-latief (2015) [5] ;they reported that, there were non-significant differences in knowledge score between nurses had a diploma and bachelor degree in nursing.
Regards to nurses' qualification, the present study reported that, there was a positive correlation between nurses' qualification and practice, these findings agreed with Matthew & Eileen (2011) [20]; who stated that Bachelor degree of nursing science (BSN) superior than diploma nurses regarding to professional practices. The researcher explanation was the baccalaureate degree nurses received more training on restraining though they were undergraduates as a procedure involved in the fundamental and other course of nursing.
In relation to nurses' gender, the current study revealed that, there was a positive correlation between nurses' gender and knowledge and practice; these findings disagreed with Taha NM & Ali ZH (2013) [7]; they stated that nurses' gender had no effect on their knowledge and practice related use of physical restraints.
Concerning to nurses' years of experience, the available study documented that, there was a positive correlation between nurses' experience years and attitude and practice score, these results in line with Al-Khaled et al., (2011) [17]; Younis and Sayed (2017) [8] & Hamers et al., (2009) [21]; they said that the nurses had more experience years; they are acting the best technique with positive attitude related to physical restraints than less years of experienced nurses.

5. Conclusion

The present study concluded that, there was a fair level of nurses' knowledge, improper attitude and satisfactory practice toward physical restraints among critical ill patients. Moreover, there was no statistical correlation between nurses' age and knowledge, attitude & practice, there was statistical a positive correlation between nurses' gender and knowledge and practice only. There was statistical significance between nurses' qualification and practice only, finally there was statistical significance between nurses' experience years and attitude and practice score.

6. Recommendation

Based on the results of the current study, the researchers recommended that conduct in-service educational and training programs for nurses working in all critical care settings as ICUs about physical restraint use and its alternatives. The hospital should develop evidence-based written a protocol for guidelines or policies on physical restraint to be reachable for all nurses and physicians in order to follow.

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