Nurses Practice to Physical Restraint Practices in ICU Units at Three Teaching Hospitals in Baghdad

ممارسات الممرضين للمقيدات الجسمية في وحدات العناية المركزة لثلاث مستشفيات في بغداد

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الخلاصة:

خلفية البحث : إن استخدام تقيد المريض الجسمي هو طريقة مثلى في وحدات العناية المركزة. ومعظم الدراسات تبين ان السبب الرئيسي لتقيد المرضى هو للحد من العبث باالادوات الطبية حيث ان الممرضات يفضلون هذه الطريقة للتعامل مع مرضى العناية المركزة.

الهدف: اجري البحث لتقييم استخدام التقييد الجسمي للمريض من قبل ممرضات وحدات العناية المركزة وملاحظة الادراك والممارسات المستمرة لهللمرضى بين ممرضات وحدات العناية المركزة

المنهجية : أجريت دراسة وصفية في وحدات العناية المركزة في ثلاث مستشفيات تعليمية في بغداد(مستشفى الجملة العصبية ،مستشفى العلوم العصبية ،مستشفى الجراحات التخصصية) للفترة منبداية شهر يناير الى نهاية شهر ايار لعام 2014 وكان عدد الممرضين الذين وافقواعلى الاشتراك بالاجابة على استمارة الاستبيان المعدة من قبل الباحثين63) (وقد احتوت هذه الاستمارة على ثلاثة اجزاء من الاسئلة ، الجزء الاول يشمل اسئلة تتعلق بالمتغيرات الديمغرافية للممرضين، اما الجزء الثاني فيشمل اسئلة تتعلق باستخدام طريقة التقيد من قبل الممرضين، والجزء الثالث يشمل عبارات تحدد وجهات نظر الممرضين عن هذه الطريقة والاجابة تكون ب (أوافق/ لا أوافق). تم تحليل النتائج باستخدام النسبة المئوية

النتائج : أشارت نتائج الدراسة أن طريقة تقيد المرضى كان لها انتشار واسع في وحدات العناية المركزة.و ان الشاش هو المادة الاكثر استخداماً لتقيد المرضى ولكنها ليست المادة الملائمة لتقييد المريض. كما اشارت الدراسة ان اسباب استخدم طريقة تقيد المرضى هي لمنعهم من العبث بالادوات الطبيةالمتصلة بالمريض لغرض تثبيتها وعدم اعاقة عملها بالنسبة للمريض ولتوفير بيئة عمل امنة لهم .

الاستنتاج :استنتجت الدراسة ان استخدام الممرضات لطريقة تقيد المرضى و المادة المستخدمة لها غير ملائمة للعناية بالمريض، وان مدى ادراك وفهم الممرضات يلعب دوراً كبيراً في اختيار طريقة التقيد .

التوصيات :اوصت الدراسة على اهمية تطوير طريقة التقيد للحصول على عناية تمريضية افضل . كما وبينت الدراسةبضرورة تثقيف الممرضات لتوفير الوعي الكافي عن هذه الممارسة الشائعة المستعملة في وحدات العناية المركزة في تلك المستشفيات.

Abstract

Background:using physical restraints is a highly preferred practice in intensive care units. Most of the studies show that the main reasons for restraining patients is to prevent dislodgment of medical equipments and nurses have positive attitudes about restraining practices.

Objectives: this research was conducted for the purpose of evaluating the use of physical restraints, and observing ongoing practices and perceptions about physical restraints among intensive care unit nurses.

Methods: A descriptive –cross sectional study done with 3 intensive care unit nurses from the Ist of Jan to end of May 2014. Nurses who agree to participate in the study were (63) filled out the questionnaire prepared by the researcher. The questionnaire consisted of three parts. The first part included questions related to nurses demographic variables; the second part included questions related to restraint practices of nurses; the third part included phrases to determine nurses perceptions for restraint use where nurses gave agree/ disagree answers .

Results: the study indicated that the Prevalence of physical restraint use is high in all ICUs. Gauze is the mostly used but not a proper material for restraining patients in all intensive care units.

Reasons for using restraints as described by nurses are to prevent equipment dislodgement and providing safe working environment for themselves.

Conclusions: In this study, physical restraining practices of intensive care nurses and materials used for this practice are not appropriate for patient care. Perceptions and knowledge of nurses play an important role on the selection of the restraining method.

Recommendation: The study recommended that in order to get a better nursing care it is very important to develop a restraint policy and educate nurses to provide awareness about this highly used practice in intensive care units in these hospitals

Keywords: Intensive care unit, nursing care, physical restraining practices.

INTRODUCTION

Physical restraints are defined as any device, material attached to or near patients' body that could not becontrolled by patient (1).Although physical restraints are often seen as a simple solution to the problem of the treatmentinterference,in critically ill patients one of the common themes is that physical restraints impending an individual's freedom (2). Several studies is a common practice used in various clinicalsettings and they are mostly used in clinical settings to control disruptive behavior, wandering, maintain treatment plans and prevent patients to fall from hospital beds (3), but by far the most common reason in intensive care was to prevent the removal invasive tubes and devices(4).

However patients who are in ICU, not necessarily are agitated patients. Observational study reports that residents exhibited the same amount or more, agitated behaviors even when patients were restrained (5).

Evans et al. (2002) found that between 7- 17 % of the hospital patients are subjected to physical restraints (6). Patients have strong emotional reactions to being restrained; they also feel angry and upset (7).

The literature reports a wealth of evidence on the detrimental physical and psychological effects of physicalrestraints. These include hypertension, tachycardia, and increased agitation, impairedcirculation, aspirationnerve and skin injury, constipation 8, decline in functional and cognitive state and increase agitation (1,8) and other complications associated, with immobility. It is alsoreported that restraintshave negative effectson patients and their families, patients feeling embarrassed in remembering the experience of being restrained (9).

Evidence show that use ofphysical restraints can also lead to skin trauma, pressure sores, constipation depression, anger, decline in functional and cognitive state and increased agitation(1,10).

This research was conducted to evaluate the use of physical restraints, ongoingpractices and perceptions about physical restraints among intensive care unit nurses**.**

METHODOLOGY

Design and Sample:

A descriptive study was conducted at three teaching hospitals in Baghdad, Neurosurgical hospital, specialized surgical hospital, Neurosciences hospital. Data were collected from 1st of January2014 to end of May 2014. Although (80) nurses were eligible for this study only (63) critical care nurses who work in these hospital with 9 intensive care units agree to participate in this research.

Method and Procedure

The questionnaire was developed by the researchers after reviewing the literatures and the researcher's experiences in this field regarding this subject.
It consisted of three parts. The first part included questions related to nursesdemographic variables; the second part included questions related to restraint practices of nurses;the third part included phrases to determine nurse's perceptions for restraint use where nurses gave agree/disagree answers.

Data Analysis

Results of this study were analyzed by frequency and percentages as a statistical analysis. By using SPSS (Statistical Program for Social Sciences) 12.0

RESULTS:

Table (1) demographic characteristic for ICU nurses

Characteristics of sample	Frequency	%
Age in years		
21-30	30	30%
31-40	8	8%
41-50	25	25%
	Mean 28.27	
Gender		
Male	8	12.6%
Female	55	87.3%
Educational level		
College	13	13%
Institute	43	43%
High school nursing	7	7%
Years of experience		
6-10 years	40	6.3%
11-15 years	23	30%
More than 16 years	0	0
	Mean 2.45	

Table (1) shows ages of nurse's range between 21-41 years with a mean of 28.27 years. Seventy eight point three percent (87.3 %) of nurses were female, while only 12.6 % of them were male.Some of the nurses (7 %) have high school degree 43 % of nurses have institutional degree and 13% of the nurses have bachelor's degrees in nursing. Half of the nurses included in this study had an ICU experience between 6-10 years with a mean of 2.45 years, while 30% of them had between (11-15) years.

Table (2) Nurses practices in Using Physical restraints in ICU

Practices in ICU Items	No	%
The use of physical restraints in ICU		
Yes	57	90.5%
No	6	9.5%
Type of restrain material used for physical restraining		
Roll of gauze	58	92%
Special restraints	4	6.4%
No answer	1	1.6%
Type of physical restraints used in ICU		
Four point restraints	32	50.8%
Wrist restraints	26	41.3%
Leg ankles	-	-
No answer	5	7.9%
The part of the day which the restraints being used the most		
08am-16pm	9	13.7%
16pm-08am	31	49.9%
Other(depends on patients condition)	18	28.5%
No answer	5	7.9%
Patients groups subjected to physical restrains		
Agitated patients	61	96.8%
Unconscious patients	11	17.5%
Patients who received sedation	3	4.8%
Patient with respirators	19	30.2%
Patients with delirium	26	41.3%
Others	2	3.2%
Receiving order from physicians for application of the restraints		
Yes	6	9.5%
No	53	84.1%
No answer	4	6.3%

Table (2) reveals that restraining is a highly preferred practice in ICU's since 90.5 % of the nurse's report using restraints. Only a few of the ICU nurses(6.4 %) reported using special restraint materials while the rest of the ICU nurse's (89.2%) report that they use gauze as a restraining material. Half of the nurses report that they use four point restraints, 41.35 % of the nurse's report that they usually restrain the wrists of the patients.

Most of the nurses (84.1 %) do not receive orders for restraint application and 95.2 % of the ICU nurses reported that they did notreceive special education or any training about restraint practices.

Types of the mostly restrained patients in this study were as follows; agitated patients (96.8 %), patients with delirium (41.3 %), patients who are on respirators (30.2 %), unconscious patients (17.5%) and patients who receive sedation (4.8 %). The distribution of the nurse's physical restraining practices is shown in this table.

Table (3) Nurse's Perceptions for Restraint Use

Nurses Perception for Restraint Use	Agree	Disagree
1-Before using restrains alternative methods should be tried (True)	62 (98.4 %)	1 (1.6 %)
2-Information should be given to the patients before applying restraints (True)	63 (100%)	-
3-Patients who receive sedatives should be restrained physically (False)	14(22.2%)	49(77.8%)
4-Relatives should receive information about restraint use (True)	60 (95.2%)	3(4.8%)
5-Restrained patients know the reason for this practice (False)	11 (17.5%)	52 (82.5%)
6- Physical restraints prevent falling from hospital beds and this practice also reduces injures	58 (92.1 %)	5 (7.9%)
7-Physical restraints allows health practitioners to work safely (False)	55(87.3%)	8(12.7%)
8-Physical restraints causes patient's to stay in hospital for long period (True)	4 (6.4%)	59 (93.6%)
9-Physical restraints increases mortality (True)	7(11.1%)	56(88.9%)
10-Physical restraints are not suitable for patient's rights (True)	26(41.3%)	37(58.7%)
11-Physicians order must be taken to discontinue physical restraints (True)	17(73%)	46 (27%)

Table (3) present nurses reasons for restraining patients are; to prevent dislodge of the medical equipment (89.2 %), to promote patient safety (93.7 %), to control patients' behavior (38.1 %).Almost all of the nurses (92.1 %) agree on the fact that restraint practices reduce fall rates from hospital beds and it also reduces injuries and 87.3 % of the nurses agree that physically restraining patient allows health practitioners to work safely.

DISCUSSION:

Traditionally, the burden of keeping patients safe and their medical equipment intact has been left tonurses. Keeping the medical equipment in place by restraining patients is a long lasting practice. Usingrestraints to prevent injury, nurses have expressed guilt over this practice yet they felt they had no options.

Despite growing literature about restraining; this practice is common in acute or residential settings10 and prevalence of physical restraint use is high 12. In this study, the reasons for applying restraints reported by nurses were to prevent dislodgement of the medical equipment (89.2%), to keep the patient safe (93.7%), to control the patient behavior (38.1%).

Physical restraint use was found more in our research (90.5%) compared to Evans et al.'s (2002 b) study (10).

The most preferred type of the restraints were four point restraints (50.8%) followed by bilateral wristrestraints (41.35%) in our study. Wrist/hand restraints usage on elderly in acute care settings wasfound as 22.4 % in one study (3). Although our study is not done in elderly care facilities, wrist restraintsused by nurses was found to be higher than Myers et al. (2001)(3) study.

Mostly agitated patients (96.8 %), patients with delirium (41.3 %), patients who are on respirators (30.2%) unconscious patients (17.5%) and patients who receive sedation (4.8 %) were subjected to physical restraints in this study

However, one observational study reports that residents exhibited the same amount or more, agitated behaviors when they were restrained (11). Violence or threatened violence is the most frequently cited indication for restraint use according tothe American Geriatrics Society, studiesfor psychiatric patients (12,13).

Our study also showed the lack of standard material specifically produced for physical restraint in thishospital. Only a few of the ICU nurses (6.4%) reported using special physical restraint materials, the rest of the ICU nurses (92 %) reported that they use the roll of gauze directly on patients wrists or ankles. There is no previous study that specifies gauze as a major restraint material. All physical restraints must be padded to decrease thechance of harming underlying tissues (14).

Most of the nurses (87.3 %) believed that restraints allow health practitioners to work safely in ourstudy. Only 13.7 % of the nurses reported using restraints mostly on 8am-16pm shifts. Since healthcare staff number decreases at night shifts, this can be an explanation of high rate of restraint practicesduring thesehours.

Sixteen hour shifts are too long for nursing staff to focus on patients care as they should be. In one study, nurses working 8-8 ½ hour shifts obtained higher scores in physical and professional domains of practice. On the other hand less effective performance is associated with long working hours (15).

Choi and Song (2003) report no differences in the frequency of restraint use during the day, evening and night shifts.(4)

Our study reveals different results where nurses report the use of restraints mostly during 16 pm-08 am shifts. It is estimated that the low nurse: patient ratio in the hospitals, and long working hours could be main reason for increased use of physical restraints. Observational studies should be done to determine highly preferred hours forrestraint use.

Also differences in nurses caring behaviors should be identified according to shift length. Tying patients down shouldn't be seen as a security measure by health care staff working in ICU's

It is not an acceptable practice and it is also unethical to use restraints because of low staffing levels (15). Extensive research shows those restraints do not only prevent injury, but they are likely to cause injury, functional decline and even death.(16)report that, patients with orders for restraints were more likely to fall than patients without restraint orders.

Almost all of the nurses (92.1%) have perception about restraint use can prevent fall rates from hospital beds according to our study. In study of Taha, etal (2003) higher fall related injury rates were found forrestrained people in residential care settings. Two categories of physical injury are identified in the systemic review (18).

The first category is lacerations, bruises, nerve damage; second category is reduced functional ability, loss of muscle control (6). In addition to physical injuries, many restrained patients also suffer from psychological harmsassociated with restraints (9).

Skin color of the patient (49.2 %), pulse and color of the restrained extremity (46%) were mostly assessed during the physical restraining procedure in this study.

Most of nurses (76.2%) report that the length of restraining time depends on patients' condition, which means that this can last from a couple of hours to a couple of days continuously. Decision for discontinuing restraint use is usually made according to patient's condition in our study.

Only two of the nurses reported using physical restraints for two hours, four nurses reported usingthem for four hours. Restraining patients more than two hours without interruption is not a reliablenursing practice. Since meeting daily needs of restrained patients is part of the nursing care, nurses shouldn't forget that only looking for physical signs of possible damage is not a proper nursing care.

Research can be done on length of the restraint practice during the day, patients memories may be questioned about their feelings of restraining procedure. Since not all the patients are unconscious during their ICU stay feelings of restraining procedure can be best described only by patients.

There is also a belief among nurses that physically restraining patient allows health practitioners to work safely (87.3 %).

These perceptions of nurses also show that nurses do not have the proper understanding of physical restraint application. The reasons for restraint use must be addressed with special policies in the hospitals. Because wrong practices can also do a lot of harm to patients or may increase injury rates among restrained patients.Restraint devices should not be used routinely in health care settings (18).

Most of the ICU nurses (95.2%) reported that they did not receive special education or any in-service training about physical restraint practices and nurses who reported receiving in service training about physical training practices werevery few. Some of the nurses (65.1%) reported that other health care staff (e.g.nurse's aides) also applies physical restraints to hospitalized patients.

Our study is also different from Cannons study (19) when it was compared to restraint education rates of nurses. Nurses educational levels and the degree they have received did not affect their physical restraining practices overall ($p>0.05$). The reason for this could be that, courses given during education in Baghdad do not include physical restraining practices. These finding are consistent with findings of Hantikainen&Kappeli (2000) were they found no difference in the perceptions of restrain use between qualified and unqualified staff. Even though there is no guarantee that education will increase knowledge and sufficiency of practices of nurses applying the restraints without any proper knowledge and harming patients is unacceptable (20). Not having protocols for use of physical restraints in the hospital can lead to complications and serious life threatening conditions. In one study, staff showed positive and at the same time confused attitudes about restraint use but nursing staff have perceptions of that restraints are restraining freedomof the patient. (21).

Regarding physician order is required to physically restraint a patient. The order must be dated and timed, must indicate the period for which restraint is to be used also the order must be renewed by physician every 24 hours. On the other hand verbal orders must be signed by physicians within 24 hours (11,21). Because most of the nurses (95.2%) reported that they have not received any education or training for this highly used practice, educating nurses about restraining procedures can be one of the short term goals for this problem. Developing a policy for every nursing practice that has been carried out should be another solution.

CONCLUSION:

Most of the nurses prefer restraining patients for increasing security, preventing patients from falling down from hospital beds or preventing dislodgement of medical equipments.

RECOMMENDATION:

The study recommended that

1- In order to get a better nursing care it is very important to develop a restraint policy about physical restraining.
2- Educate nurses to provide awareness about this highly used practice in intensive care units in these hospitals
3- Educating nurses about restraint practices will reduce false perceptions and misuse of physical restraints in patient care.
4- A protocol which describes the ways of applying restraints must be developed.

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