



**A ASSESSMENT OF PHYSICAL RESTRAINT STATUS PATIENTS IN INTENSIVE
CARE UNIT OF IUMS AND TUMS HOSPITALS**

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ABSTRACT

Background and target: proper use of physical restraints in order to maintain comfort, convenience and desired safety of patients in intensive care units are essential components for their treatment. The aim of this study is to determine the status of patient physical restraint, hospitalized in special care unit in selected hospitals of Tehran and Iran medical science universities.

Implementation method: this research is a descriptive study. Survey environment are intensive care units in selected hospitals of Tehran and Iran medical science universities. research population consisted of nurses working in hospital's special care units and out of them, 350 employed nurses in special care units of the said hospitals, who were in access were selected and sampling was made. Research tools were consisted of 3 sections: a questionnaire on demographic variables, observation check list, use reasons and performance of nurses regarding the use of physical restraint as self-report. Data was evaluated through 20 SPSS software by using descriptive statistics, T test and KRUSKAL-WALLIS. and significant level was considered as $P=0/05$.

Research results showed that all research samples were expressing that, all mentioned matters related to the use of physical restraints in questionnaire were very important. but 92% of the nurses, announced that: fall prevention from bed or chair is the most important reason for using the physical restraints. almost, 100 % of under studied nurses, used the physical restraints. and also maintaining the use of physical restraints in all stages of using physical restraints which includes the standard maintenance, before using the limiters, while using them and during the use

from physical restraints in hospitalized patients in special care unit was not satisfactory. and perhaps, one of the main reasons is lack of attention to the importance of systematic use from physical restraints and lack of receiving proper training and systematic regarding the use of limiters in our country.

Study research showed that, standard maintenance rate to use the physical restraints among nurses was not satisfactory and perhaps it is due to lack of adequate training in this field and decentralization of hospitals for maintaining these principles. so, it raises the necessity of training and supervision by the authorities in this regard.

Keywords: Physical restraints, nursing standards, physical restraintation standards, physical, patient, intensive care units, nurses

INTRODUCTION

Those patients who are admitted in intensive care units are tolerating lot of stress during their hospitalization. Severity of illness, use of medical devices, pain and anxiety are all considered as patients stress factors in this unit, which may be effective in intensification of their condition. Therefore upon the above requirements, the need to preserve comfort, convenience, and desirable safety of patient are the essential components for their treatment.

Therefore the care and treatment team members are trying to create a secure situation by using various methods and devices. One of these actions is the use of chemical and physical restraints in large amount in intensive care units to facilitate monitoring tolerance and aggressive treatment and preventing the threat complications for the life of the patient.

Physical restraint is defined as any manual method or connected physical or mechanical tool, and connected to the body of the patient which will cause the inability to pick it up easily, free movement and access to a part of body. Prevalence rate of using this tool in different communities and sectors in world level is different. As in intensive care units in United States of America in 1980, equal to 7/4 percent of patients and in the year 1990, in Britain in intensive care unit, surgery, elderly, 8/6 percent was used and in the same year in America, in same units, respectively 14/5 percent, 27/7 percent and 34 percent was used. Use ratio from limiters on the basis of unit type, 27/8 percent ward ICU, 61/67 percent surgical ICU, emergency departments 25 percent and in the morning shift, the highest rate of use is reported. the continuous presence of nurse, beside the

patient's bed is one of the important factors to reduce the use of limiters. but special structure design of intensive care unit to create privacy and patient's comfort, maybe is main factor to create ability limit in monitoring the patient by intensive care group and on other hand, the presence of patients with consciousness level disturbance due to events occurrence such as removing the tracheal tube, tracheotomy, removing the bandages, removing vascular path catheters, brings the need to make more use of these devices.

in recent years, using physical restraints in critical conditions and special care in United states of America and other countries is under intense scrutiny. There are lot of oppositions about frequent use of physical restraints to control restless patients and prevention of risk by patient. although using them in compliance with the standards was acceptable method, but appearance of physical problems, mental, moral and legal such as inactivity, emotional hurts, serious injuries and even death, moral worries and concerns related to the independent and dignity of the patient in parallel to it was suggested which created some restrictions on its use. But in certain circumstances in unit such as unwanted noise, artificial lights, social isolation are the reasons for increase in

using the physical restraints. Nurses of intensive care units believe that the most important reason to use the physical restraints is the safety secure of the patients. taking decision about using the restraints, needs to consider the area and clinical conditions of the patient and also nursing staff's attitude and their believe about use efficiency from the limiters. Different surveys shown that views of nurses about physical restraint of sick people will effect on using the restraints. and also taking decision about using the restraints is affected by some factors such as number of nursing staff, competence, experience and their knowledge in using the limiters. in addition to the mentioned cases, some characteristics of patients such as age, gender, severity of disease, situation before admitting in the hospital, mental status, mental diseases and rate of using the pain reducers, will effect in using the physical restraints.

some standards for proper use of physical restraint by the Australia standard health care association was announced to health centers and in that it has been insisted to maintain the proper principles while using these tools: continuous examine of patient during limitation, informing the family members about the use of these tools, recording and

reporting the condition of patient during the limitation and ETC.

Nurses have important role in making decision regarding the use of limiters. Therefore, use of limiters should be reduced in hospitals. There are legal and moral worries in relation of using proper techniques to apply limiters in intensive care units. every where a decision is taken on the use of restraint, nurses have conflict, between their professional duties for better patient care and patient`s right,

So they can have better select. Always there is a challenge among nurses and other members of the health team, regarding the method which they are going to use. Whether this method is effective? And first line treatments, regarding the patients with disorder in consciousness level, who are in danger of fall from bed or other dangers, because they are not using the limiters. Researcher, based on his own work experience, in intensive care units, frequently was the witness in using these tools along with its adverse effects on patients. Thus, researcher decided to do a survey in this field to determine the situation of the physical restraint and reasons for using them, on the basis of their importance on the prospect of the nurses in ICU.

This survey is a descriptive-analyze study. Research area is intensive care units of selected hospitals in Tehran medical science university. Research population, consisted of all employed nurses in intensive care units of the hospital. In this study, researcher, after getting an introduced letter from Tehran midwifery and nursing college and license to do the research from university ethics committee, will introduce himself to research units. Sampling will be done purposefully. in order to do the sampling and collecting the needed data in this research, researcher intends to pay a visit to intensive care units related to Tehran medical science college, to hand over the participation consent form for the research to the nurses. And after getting consent from nurses, hands over them the research tools. tools are consisted of three parts: first section: demographic variables, second section: the reasons for using physical restraints by nurses by using the adjustment tools and extracted from questionnaire of perceptions of restraint use questionnaire (PRUQ) tool, which contains 17 questions (2010 version) with LIKERT scale rating of quintuple (based on importance degree from lack of importance to most important), attitude of nurses on the importance and priority will be evaluated. Each item includes personal reasons compare to physical

blocker. Scoring is from 17 to 85, so that highest score represents the most important and lowest score represents the least important to physical restraint. Third section: physical restraint checklist, will verify the performance of nurses in relationship with physical restraint.

1-1-stating the problem and implementation necessity:

Patients admitted in intensive care unit, tolerate great stress, during their hospitalization. Severity of the disease, the use of medical devices, pain and anxiety, all are considered to be the stressors of patients in this unit, which may be effective in exacerbating their condition. According to the above requirements, the need to preserve comfort, convenience and desired safety of the sick fellow are essential components of their treatment, Coyer (HOFA 2007). Therefore, treatment and care team members have been in an effort to create a secure environment, using various methods and devices. one of these operations, using physical and chemical restraints in large amount in intensive care units to facilitate monitoring tolerance and offensive treatment and prevention from life threatening complications for the patient (AKANSEL, 2007).

Physical and chemical restraints are consisted of using some factors to control unwanted behaviors such as restlessness, removing endotracheal tube by the patient, removable of attack devices or fall from bed or chair (Perkins and ET SL, 2012).

continuous presence of nurse, next to the patient`s bed is one of the most important factors to decrease the use of restraints (BARY and ET SL, 2004).

But special structure design of intensive care unit by targeting to create privacy and comfort for the patient, maybe is one of the most important factor to limit the ability for monitoring the patient by the intensive care group (MARTIN and MATHISEN, 2005) and on other hand, the presence of patients with consciousness level disturbance due to events occurrence such as removing the tracheal tube, tracheotomy, removing the bandages, removing vascular path catheters, brings the need to make more use of these devices (BARY and ET AL, 2004). According to the observed studies, despite the presence of limiting device, removing the endotracheal tube by the patient has been happened between 41 to 91 percent. This figure indicates the issue that even with the presence of limiting device; the patients have ability to remove the endotracheal tube (MARTIN and MATHISEN, 2005). In recent

years, using physical restraints in critical conditions and special care in United States of America and other countries is under intense scrutiny (ZWIJSEN and ET AL, 2012). There are lot of oppositions about frequent use of physical restraints to control restless patients and prevention of risk by patient (TUREK & ALKHALED & ZAHRAN 2011). although using them in compliance with the standards was acceptable method, but appearance of physical problems, mental, moral and legal such as inactivity, emotional hurts, serious injuries and even death, moral worries and concerns related to the independent and dignity of the patient in parallel to it was suggested which created some restrictions on its use. But in certain circumstances in unit such as unwanted noise, artificial lights, social isolation are the reasons for increase in using the physical restraints (ZWIJSEN and ET AL, 2012). Management of restless patients, delirium and the need for restraint in ICU, may be under influence of patient-nurse ratio, and this ratio is different in Europe, America, Australia and England. As in England and Australia, this ratio in ICU is 1:1,

But in America, usually is 2:1 and 3:1. in various articles, it has been mentioned that, existence of these restraints can become

potential surveillance successor and nurse care, in case of, lack of adequate care force (COYER & HOFES, 2007). At present, use of restraints, became interested by researchers, organizations and governments. And questions about the reasons and impacts of physical restraints and its future results on patients are increasing. There is a question, why we use the restraints? While using them, may increase the risk of death and serious injury? (SULLIVAN & BARRON & CASEY, 2005)

Nurses of intensive care units believe that the most important reason to use the physical restraints is the safety secure of the patients (SAARNIO & ISOLA, 2009). taking decision about using the restraints, needs to consider the area and clinical conditions of the patient and also nursing staff's attitude and their believe about use efficiency from the restraints (ODUWOL, 2009). Different surveys shown that views of nurses about physical restraint of sick people will effect on using the restraints. And also taking decision about using the restraints is affected by some factors such as number of nursing staff, competence, experience and their knowledge in using the limiters. in addition to the mentioned cases, some characteristics of patients such as age, gender, severity of disease, situation before admitting in the

hospital, mental status, mental diseases and rate of using the pain reducers, will effect in using the physical restraints (HARRINGTON, 2010). Numerous studies have been conducted on the reasons for the use of restraints by nurses, but the most common reason is considered to be the patient`s protect. achieved statistics from the research showed that, the reasons to use this tool, 71% is protection of the patient against fall from bed, 34% is the preservation of treatment such as bandages, catheters and ETC.

23% is management on more than limit activities of the patient due to agitation, 11% violent behavior management of the patient, 11% maintaining the patient`s balance in sitting position, 11% prevention from harming to himself (JULIE BENBENBISHTY & RUTH 2010).

some standards for proper use of physical restraint by the Australia standard health care association (ACHS) was announced to health centers and in that it has been insisted to maintain the proper principles while using these tools: continuous examine of patient during limitation, informing the family members about the use of these tools, recording and reporting the condition of patient during the limitation and ETC (ASADI and ET AL 2007).

Nurses have important role in making decision regarding the use of limiters. Finally we should not forget that we have to give respect to independence of individuals and their dignity. Everyone has right to be free and no one can make obstacle in front of others, unless with legal reasons. Therefore, use of restraints should be reduced in hospitals. (SAARNIO & ISOLA, 2009). there are legal and moral worries in relation of using proper techniques to apply limiters in intensive care units. Every where a decision is taken on the use of restraint, nurses have conflict, between their professional duties for better patient care and patient`s right,

So they can have better select. Always there is a challenge among nurses and other members of the health team, regarding the method which they are going to use. Whether this method is effective? And first line treatments, regarding the patients with disorder in consciousness level, who are in danger of fall from bed or other dangers, because they are not using the limiters (HAMERS and ET AL, 2009). Researcher, based on his own work experience, in intensive care units, frequently was the witness in using these tools along with its adverse effects on patients. thus, researcher decided to do a survey in this field to

determine the situation of the physical restraint and reasons for using them, on the basis of their importance on the prospect of the nurses in ICU.

Main objectives:

Determination of limiting the physical condition of patients, hospitalized in intensive care unit of hospitals of Tehran medical science university:

1-3-1-secondary objectives:

1-To determine the reasons of using physical restraints in admitted patients of intensive care unit

2-to determine the performance of physical restraints by nurses in intensive care units

3-to determine the observance rate of standards before using physical restraints in patients, hospitalized in intensive care unit

4-to determine the observance rate of standards while using the physical restraints in patients, hospitalized in intensive care unit

5-to determine the observance rate of standards at the time of using the physical restraints in patients, hospitalized in intensive care unit

6-to determine the observance rate of standards in all stages of using the physical restraints in patients, hospitalized in intensive care unit.

Operational objectives of the project:

we are expecting that, result of this research by getting information from situation of physical restraints in intensive care units, can recognize the strengths and weakness points of this protective tool among the nurses and in case of weak points existence , could offer the necessity of teaching and supervision to the related authorities.

Words definition:

Physical restraint (theory definition):

Physical restraint is defined as any manual method or connected physical or mechanical tool, and connected to the body of the patient which will cause the inability to pick it up easily, free movement and access to a part of body (HINE, 2007).

Reasons for using physical restraints (practical definition): in this research, the reasons for using physical restraints by nurses by using the adjustment tools and extracted from questionnaire of perceptions of restraint use questionnaire (PRUQ) tool, which contains 10 questions (2010 version) with LIKERT scale rating of quintuple (based on importance degree from lack of importance to most important), attitude of nurses on the importance and priority will be evaluated. Each item includes personal reasons compare to physical blocker. Scoring will be on the basis of percentage rating, so that highest score represents the most

important and lowest score represents the least important to physical restraint. Condition of physical restraint (practical definition): in this research the condition of physical restraint by physical restraint checklist, will evaluate the performance of nurses in in physical restraint by observation. This survey is a cross sectional study. Research area is intensive care units of selected hospitals in Tehran medical science university. Research population, consisted of all employed nurses in intensive care units of the hospital. In this study, researcher, after getting an introduced letter from Tehran midwifery and nursing college and license to do the research from university ethics committee, will introduce himself to research units. Sampling will be done purposefully. in order to do the sampling and collecting the needed data in this research, researcher intends to pay a visit to intensive care units related to Tehran medical science college, to hand over the participation consent form for the research to the nurses. And after getting consent from nurses, hands over them the research tools. tools are consisted of three parts: first section: demographic variables, second section: the reasons for using physical restraints by nurses by using the adjustment tools and extracted from questionnaire of perceptions of restraint use questionnaire

(PRUQ) tool, which contains 10 questions (2010 version) with LIKERT scale rating of quintuple (based on importance degree from lack of importance to most important), attitude of nurses on the importance and priority will be evaluated. Each item includes personal reasons compare to physical blocker. Scoring is on percentage basis, so that highest score represents the most important and lowest score represents the least important to physical restraint. Third section: physical restraint checklist, will verify the performance of nurses in relationship with physical restraint, which consists of two parts, self-answering and observe study of nurse`s performance on the basis of standard maintenance of physical control.

Tool data for collecting the information and how to do so: data will be collected by forms.

1-demographic variables:

A: age

B: gender

C: sector type

D: working shift type

E: experience in intensive care unit

2-Reasons for using the physical restraints:

By using the adjustment tools and extracted from questionnaire of perceptions of restraint use questionnaire (PRUQ) tool, which

contains 10 questions (2010 version) with LIKERT scale rating of quintuple (based on importance degree from lack of importance to most important), attitude of nurses on the importance and priority will be evaluated. Each item includes personal reasons compare to physical blocker. Scoring is on percentage basis, so that highest score represents the most important and lowest score represents the least important to physical restraint.

The performance of nurses in relation to the physical restraint:

By using the physical restraint checklist, will be evaluated.

Calculation method of sample volume and its numbers:

With loss prediction of some samples $n=400$ persons in every group will be studied.

By assuming that, nurses in 50% of their preferences regarding physical control of patients, are mentioning the safety of the patient by choosing $\alpha=5$ $e/=0.75$ (estimation accuracy)

.. Number of samples 384 persons and with sample loss assumption, we are researching on 400 from nurses of ICUs in Tehran medical science university hospitals.

Samples selection method is as quota, in the beginning, we determine the number of nurses in all hospitals which are under Tehran medical science university and then

in relation to the number of the nurses of each hospital, we select sample and will do research on them. Method of validity determination and scientific credit of data collecting tools to determine the questionnaire validity after library entry, texts study and reference books and using electronic resources, these tools were developed. And handed over to respected masters of scientific committee in Tehran midwifery and nursing college. And after the masters verification and checking the tools and final changes, upon their recommendations, were applied. And regarding the standard maintenance of physical restraints, they were carried out according to the thesis of Mrs. MORADI MAJD, who used these tools previously. And also according to the consultation with statistics professor, initial research was started with 20 nurses who were working in intensive care unit of HAZRAT ALI ASGHAR hospital, who were having responsibility to take care of physical restraint patients after getting permission from college. To assess the tools reliability by method of making half, SPEER MAN coefficient ($r=0.9$) was achieved, which was acceptable for tool's reliability.

Operational limitations of plan and their reducing method:

Some part of data collection is by the method of self-reporting was a part of limitations in this survey. because it is possible, questionnaire complete process, comes under influence of some factors like: too busy works of nurses in intensive care units, tired from work, being under affection by colleagues comments and which will be out of researcher`s control.

some of the questions needed to think and concentrate over it and with attention to this matter that, there should not be time interval, while answering to the questions, but because of working environment conditions in intensive care unit (condition of patient becomes bad or accepting new patient), this limitation will not be under the control.

presence effect of researcher on staff performance and false desired result of researcher to decrease this limit and without knowledge of nurses about this check list, when he was present in the unit, so nurses complete the questionnaire, was observing the work of nurses and also, in hospitals which the researcher was the coach and with the help of students and at the same time with observing the work of students was watching the work of nurses too.

Criteria for entry to the research:

-graduated with nursing degree or higher

-having at least one year experience in intensive care unit

-willingness to participate in the research

Research method: includes research type, research population, sampling method, specifications of research units, exclusion and inclusion criteria, research environment, method and tools of data collection, method to determine the scientific validity and scientific reliability through data collection, data collection method and data analyze method.

Research type:

This survey is cross-section study and will estimate the situation of using the physical restraints in hospitals of Tehran medical science university.

Environmental of research:

Research environment are intensive care units of selected hospitals of Tehran medical science university and hospitals were purposely selected, randomly.

Research population:

Research population includes all employed nurses in intensive care units of hospital and admitted patients in these units.

Research sample:

The research sample consisted of all nurses in intensive care units of selected hospitals of Tehran medical science university and those

patients who are under care of the said nurses.

Data collection tools and way of collecting:

1-demographic characteristics of nurses, which includes information on age, gender, education level, marital status, working experience and experience level in intensive unit, intensive unit type and working shift type.

2-reasons questionnaire for using physical restraints by nurses and was completed in the form of self-report questionnaire, and nurses expressed their own reasons on the basis of importance in using physical restraints in caring the patient on the basis of very important to important, which included 10 important reasons of nurses in using the physical restraints, which was collected from LIKERT tool.

3-verifying the performance of nurses in physical restraints, in the form of self-reporting and check list, maintaining the standards of physical restraints in intensive care units and in using the check list of data collection method was considered as hidden observation. and these standards are related to before physical control, during physical control and at the time of using the physical control. in the stage of before physical control, eight questions (in connection to selecting the physical control, preparing the

tools, control of doctor`s order and..). during physical control, five questions (in relation to physical control method and patient`s tie up and...), at the time of using physical control, five questions (regarding taking care of patient after he was tied up, pulse control, temperature, registering the control duration and ...), was based on physical standards at every stage in compliance with, is not maintained, no use, will be remarked.

Method of validity determination and scientific reliability of data collection tools:

To determine the questionnaire validity, after library entry, text study and reference books and using electronic resources, these tools were developed. and handed over to 10 respected professors of scientific committee in Tehran midwifery and nursing college, and after verification by masters and checking the tools, final changes were applied on the basis of their ideas and regarding standard maintenance of physical restraints, they were carried out according to the thesis of Mrs. MORADI MAJD, who used these tools previously. And also according to the consultation with statistics professor, initial research was started with 20 nurses who were working in intensive care unit of HAZRAT ALI ASGHAR hospital, who were having responsibility to take care of physical restraint patients after getting permission

from college. To assess the tools reliability by method of making half, SPEER MAN coefficient ($r=0/9$) was achieved, which was acceptable for tool's reliability.

Implementation method:

This survey is a cross sectional study. Research area are intensive care units of selected hospitals in Tehran medical science university. Research population, consisted of all employed nurses in intensive care units of the hospital. In this study, researcher, after getting an introduced letter from Tehran midwifery and nursing college and license to do the research from university ethics committee, will introduce himself to research units. Sampling will be done purposefully. in order to do the sampling and collecting the needed data in this research, researcher intends to pay a visit to intensive care units related to Tehran medical science college, to hand over the participation consent form for the research to the nurses. And after getting consent from nurses, hands over them the research tools. tools are consisted of three parts: first section: demographic variables, second section: the reasons for using physical restraints by nurses by using the adjustment tools and extracted from questionnaire of perceptions of restraint use questionnaire (PRUQ) tool, which contains 10 questions (2010 version) with LIKERT scale rating of

quintuple (based on importance degree from lack of importance to most important), attitude of nurses on the importance and priority will be evaluated. Each item includes personal reasons compare to physical blocker. Scoring is on percentage basis, so that highest score represents the most important and lowest score represents the least important to physical restraint. Third section: physical restraint checklist, will verify the performance of nurses in relationship with physical restraint, which consists of two parts, self-answering and observe study about performance of nurses on the basis of physical control's standard maintenance.

Method of collecting samples:

350 nurses were selected on the basis of quotas from selected hospitals (martyr RAJAEI, FIROUZGAR, HAZRAT RASOUL AKRAM (PBUH), martyr MOTAHARI, SHAFI YAHYAIYAN, martyr HASHEMI NEJAD, DOCTOR SHARIATI and AMIR ALAM). And sampling was performed in all the 3 shifts, morning, evening and night for the duration of 5 months. Sampling was in this for: a questionnaire was given to a nurse, who was taking care of an under physical restraint patient, to fill the form. and when nurses were filling the form, because of heavy work,

at the beginning of receiving the questionnaire, were not having enough time to fill them, and this was a good opportunity to observe the work of nurses to fill the second part of the questionnaire, which is standard maintenance of physical restraints by the nurses. Then, the questionnaires were collected.

Data analyze method:

To analyze the data, 16 SPSS software was used. in order to classify and brief the findings, descriptive statistics just like great distribution of absolute relative, central indicators and dispersion were used and to achieve to research goals, illative methods and tests of FISHER, KAI DO, KROSKAL VALIS andwere used. Some part of data collection is by the method of self-reporting was a part of limitations in this survey. because it is possible, questionnaire complete process, comes under influence of some factors like: too busy works of nurses in intensive care units, tired from work, being under affection by colleagues comments and which will be out of researcher`s control.

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intensive care unit (condition of patient becomes bad or accepting new patient), this limitation will not be under the control.

presence effect of researcher on staff performance and false desired result of researcher to decrease this limit and without knowledge of nurses about this check list, when he was present in the unit, so nurses complete the questionnaire, was observing the work of nurses and also, in hospitals which the researcher was the coach and with the help of students and at the same time with observing the work of students was watching the work of nurses too.

Analyze of research findings:

In this survey, the condition of physical restraints of admitted patients in intensive care units was verified. Findings of this research are the result of verifying 350 persons from participated nurses, about their reasons of using the physical restraints and estimating their performance and studying the standard observance of physical restraints. And its result will be checked in this unit.

Great distribution of understudied units was in gender separation, 28/9% male and 70/1% female, which shows most of the participants, were women. But in age category, under research units were not homogenous. Therefore in order to control

age variable result, decided to separate the age group and study over them. And most age limit was from 31 to 35. In fact, with attention to the research findings, use rate of physical restraints are by younger nurses, who are in their first decade of clinical work, which means having 6-10 years of clinical work experience. And also, most of sample participants are married fellows. On the prospect of education, 86% of nurses have college degree and only 14% of them are having master degree. Most number of participants in the said research was in morning shift.

with attention to goal number 1, which verified the results determination of using the physical restraints in patients hospitalized in intensive care unit, all under research samples, announced that, all matters related to the use reasons from the physical restraints in the questionnaire were very important. But 92% of the nurses announced that: prevention from fall out of the bed or chair, is the most reason to use physical restraints.

89% of participant nurses in the research mentioned that: avoid pulling catheters and medical equipment are the reasons for using the physical restraints. 93% to increase safety for the patients and 38% to control the patient`s behavior, used the physical restraints.

And our research result with research of NERMAN AKANSEL in turkey (2007), was nearly same and in the same line. As in this connection, only survey of NERMAN AKANSEL was available, so we can conclude that: existence of equipment and catheters, connected to the patient in these units and importance of their preserve are in the priority care. While as routine, all beds in care units are equipped with FOLEY CATHETER. And in this unit, using this tool is one of the main systems in preventing from fall.

We can say, the reasons for using the physical restraints in intensive care units in order of importance are:

The reasons for using the physical restraints in order of importance
1. Prevention of fall from a bed or chair
2. Avoid pulling out catheters, such as Foley catheters
3. Prevent dangerous movements and making injury for the patient
4. Nurses protection against physical protection with restless patients
5. Avoid pulling the suture and damage the suture
6. Avoid removing IVLINE
7. MANAGE Restless and agitated patient management
8. Avoid pulling the feeding tube
9. Avoid confusion and distress
10. Create a relaxed environment for nurses

About the second goal, “to determine the performance of nurses in using the physical restraints “. Almost 100% of under research nurses were using physical restraints. Regarding the second question, nurses were talking about tool type of physical restraint: 99/4% of nurses were using gas roll to limit the patient and only 6% of the nurses were using the leather wrist strap for physical restraint of the patients. Relating to this question: which part of the body are they limiting? 63% of the nurses announced that, they are limiting the hands. And 34% of the nurses declared: all the four limbs. And only 2% announced: they are limiting the knees, feet, abdomen and chest. Another question asked them: in what time of day and night, mostly they are using limiters? 76% percent stated: depends on the condition of the patient and 13% of them, were talking about 4 in the afternoon to 8 in the morning. And approximately 10% of the nurses were using physical restraints from 8 in the morning until 4 PM. another question asked them: what cases are you verifying, when patient is under physical restraint? Nurses replied: 76% of the nurses mentioned all the three cases, temperature, Pulse, and skin color. And 13% talked about skin color only. And 6% were controlling only terminal pulses. Another question asked them about: how

long you are keeping the patient under physical restraints? 94% of nurses mentioned: It depends on the situation. 2% of them said: 8 hours, 2% of nurses declared: 2 and 4 hours. Another question asked them: Whether you are registering and reporting about your observations and verification about all cases in your daily shift reports? 73% said: yes and 27% said: no. regarding this question: in what kind of patients, you are using the physical restraint? 62% delirium patients and 33% under mechanical ventilation patients, 4.1% restless patients, 6.2% low level of consciousness, are mentioned. In the research of NERMAN AKANSEL, using physical restraint is a preferred method in intensive care units (65% percent of the nurses declared that, they always use the physical restraints). most device which they are using to limit the patients is gas roll (81%). nurses announced that, the reason for not using the leather wrist strap and belt is because, these devices are not available in the unit. in the study which tool had extracted from it, also gas roll was often used. and there was not any suitable instrument in the intensive care units. in a survey which was performed by the NERMAN, 50% of the nurses, limited all the 4 organs. and only 41% have limited the wrist. nurses declared that, most time for

using the physical restraints was depended on condition of the patient. while in NERMAN's research, using the physical restraints was more in day time than night time. 76% of the nurses, who participated in the research of NERMAN, said: the time period for using the physical restraints depends on the situation. and in the issues, when physical restraintation is verified, 49% of nurses announced that, they limited all the three under research issues, pulse of the limited organ, temperature of the limited organ and skin color of the limited organ. in a research which have been done by the NERMAN AKANSEL in 2007 in Turkey, 96% of restless and alone patients, 41% of delirium patients and 30 of under mechanical ventilation patients, used the physical restraints. survey of NERMAN AKANSEL in 2007 in Turkey, which examined the use of physical restraints, is aligned with our research. both the surveys had lot of defects and in case of standards observance of physical restraints, should be discussed. such as part which studies the issues regarding the time of physical restraintation, in case of physical restraints standards, operating the active movements and opening-closing the limited organ should be done every 2 hours, in second section of the research, when nurses were under direct observation of the

researcher in case of standards observance, it was found that declaration of the under research nurses were not true. and in case of verifying the end color of patient's organs in the aspect of color change in every 30 minutes and doing inactive movements in every two hours and verifying the blue body or cold ends, were not in suitable condition. and we saw in many cases, entire organ skin of the patient was damaged.

About the third target, "determination of standards observance rate, before using the physical restraints in patients, hospitalized in intensive care unit", all samples of research (100%), were not having doctor's order as a must in their schedule in using physical restraint. and also, 97% of the nurses were not obtaining the written permission from patients and their family before using physical restraints, and another point is relationship with patient, before physical control and explanation for the patient and making the tools ready, and washing the hands before entering the patient's room and registering the reason for using the physical restraint, observance of above 6 issues are satisfactory. in fact, there is satisfactory score for none of them. observance of 2-4 cases were not satisfactory. and 55% of nurses participated in the research, were in this group. in the research, we found out that the

order of the doctor was not applicable and doctors were not issuing any order regarding the limitation. according to the research of the NERMAN AKANSEL, in 2007, order of the doctor for physical restraint of the patients is a must and necessary. and in the order, there should be date and duration for limiting the patient. and also, regarding the registration of limiting the patient, in nursing report, despite of what nurses said about registering the patient's limitation in nursing report, during the observation and studying the file of those patients whom nurses were responsible for their care, it has found out that, majority of the nurses were not reporting the limiting of the patients in the nursing report. KAREN HINE in 2007 in her research states that, physical restraint is registered in medical report and nursing sheet, very rare. This issue indicates that, physical restraint is not assumed as an important medical and nursing intervention. But registering the physical restraint will lead to more attention toward under limit patient and better observance of physical restraint standards. And also another matter which is suitable for the discussion is getting permission from the patient or his family, which is another issue of standard observance of the physical restraint. According to the survey of the BANDAM, in

2005, even though importance of the importance physical restraint is recognized very well during recent years, but nurses, before any nursing procedure, must obtain informed consent form from the patient or his family. But in the recent survey, in none of the under research units, for doing the physical restraint on the patient, no informed consent form was obtained from the patient or his family. Probably the reason is, physical restraint is not assumed as an important nursing and medical intervention. therefore we canin relation with target number four “ determining the standards observance rate while using the physical restraints in patients admitted in intensive care unit”, table number 13 includes some items such as using gas pad, during use of physical restraints, which 99% of the nurses were observing it. And tighten the limiter sufficiently; which 98% of nurses were observing it. Observing the suitable position, which only half of the participating nurses were following it. Care of disorder in blood supply to end parts, which had mostly good condition. And 95% of the participated nurses were observing this issue.

in relation to target number 5, “determining the standards observance level, during use of physical restraints on admitted patients in intensive care units”, items which were

observed by the researcher in this period includes issues such as: registering the limit type, and limit tool, and half of the participants were not observing it. Another issue, “verifying the end organs of the patient on the concept of changing the color, temperature and pulse for every 30 minutes”, 93% of the nurses were not observing this issue. Next case is “when ends become cold or becomes blue or itching or numbness, will open the limiter”, 96% of the nurses were observing the case. Another matter: “opening the physical restraint tool for every two hours and if it is necessary, will close it again”, 60% of the nurses were not observing it. Another case:” after removing the limit reason, removes the limiter on the spot”, more than half of the nurses were not obeying it. And the last case: “registering time duration for using the physical restraint tool”, (start and finishing of the limitation), 78% of the nurses were not observing it. But according to a research entitled as using the physical restraints in intensive care unit which was performed in Korea (2003) by SONG CHOI, was insisting on need for registration paper on limit type of limited organ and using duration and length of using from the limiter. Regarding the sixth goal: “determining standard observance rate in all levels of using

the physical restraints in hospitalized patients in intensive care units” was not satisfactory. And maybe, one of the most important reasons, is lack of attention to importance rate of correct use from physical restraints and lack of receiving consistent and correct training regarding the use of limiters in our country. And as the results of the NANDEL H. SMITH and colleagues research in 2003 entitled: training effect on using the physical restraint in intensive care unit shows, increase of health care providers, awareness can promote the standards related to care quality about the patients and improve the results and outcome of physical restraint. in a survey which was performed by CLAUDIA K. LAI and her colleagues in HONG KONG, entitled: decrease of using physical restraint in rehabilitation centers, states that: implementing the program of limit decrease will lead to improvement of care act observance and change in method of continuous use of physical restraint to alternative method.

Proposal for using the findings:**Keeping the safety:**

Patients are the most important tasks of the nurses and all staff of health unit. Therefore with regard to the results of this research, we are presenting the below proposals for the sake of findings use:

Training:

We can present proposal in connection with the safety of the patient, the standard method of the using the physical restraint and care of under limit patient. Some trainings should be given to nursing students and hospital staff, especially in intensive care units, so these awareness trainings will increase in this environment. And promote the level of health and safety of the patients.

Research:

With attention to this matter that, this survey is one of the primary researches in Iran regarding the verification of using the condition of physical restraints of the patients in intensive care units, so there is a need for study regarding the physical restraint of patients in intensive care units. So the results of the survey can be used to benefit other strategic studies and proposals of this research, could be the beginning of other researches in this field.

Management:

we are recommending the training level by establishment of the expert training courses during service period in relationship with physical restraint and standard principles of limit and making compulsory the registration of type and duration and cared processes about under limit patient and preparation of education poster and pamphlets, conducting

the workshop, these all will increase the information of the nurses in this field and will make it up to date and insist on role of nurse in care and safety of the patient.

2-5-proposals for the future researches:

Paying attention to the present limits, we are presenting the below suggestions for future researches:

-we propose, organizational policies and more fundamental actions to be taken in relationship with registration of physical restraint and making compulsory the presence of registration paper of physical restraint in nursing and medical file of patients. And a research to verify the effect of physical restraint on observance level of proper principles on physical restraint.

-with respect to this issue that, elderly people are affected more than others about physical restraints such as restlessness, change in skin turgor, we are advising a research regarding negative effects of using the physical restraints in aged patients.

-as using the tools for limiting the patients were not examined for appropriateness, we recommend a research to verify the standard of different tools which are used to limit the patients admitted in intensive care units.

-we suggest a separate research to verify the awareness and views of doctors and nurses in

connection with necessity of using physical restraints.

Resource index:

-we used the thesis of Mrs. PARISA MORADI MAJD entitled: effect of intervention in using the physical restraints in 1392.

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