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Original Article

Pain management standards: suggestions for Iran (2005)

Maryam Eghbali, Mansoor Sokhandani**, Asghar Khalifezadeh****

Abstract

Background: Pain is a universal problem and the most common reason for refering to clinics and hospitals. Everyone responsible for health care will face pain which is the most usual and probably the major sign of sickness. Pain management standardization is a common and unique language causes union in works and corrects circulation of information and prevents waste of time. This was a study of pain management standards to suggest the appropriate standards for Iran.

Methods: This was a Triangulation study carried out in 2005. The study samples, in the first stage, included 14 and in the second stage, 40 nursing faculty members who were instructors of nursing department with master and PhD degrees. In the first stage, pain management standards were extracted by searching in the Internet, valid nursing textbooks and through consulting with the instructors. In the second stage, these standards were sent for 14 nursing faculty members of universities in the form of a questionnaire with open ended questions to collect their opinions. Then according to the collected data from the second stage of the study, a new questionnaire was made, which was sent for 40 nursing faculty members of universities to collect their opinions. In the forth stage, their answers were analyzed.

Results: The findings of this study included two distinct areas and 88 suggested standards. The first area, assessments of pain, included 35 standards and the second area, nursing implementation of pain, included 53 standards. At the end of this study, a set of standards with 90% consensus including 14 items in the area of assessment and implementation of pain have been suggested to decrease the number of standards in order to increase the probability of the executive power of them.

Conclusion: This study suggested 88 standards for pain management in Iran, which are hoped to improve the quality of pain management and increase the quality of clinical services and the patient's satisfaction.

Key words: Standard, pain management, pain

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There should be a simple, standard, dynamic and scientific method for improvement of the quality of services in every organization and all of the employees should be trained about it. Not only a standard method helps to learn based on practice, but also it is a common language which facilitates cooperation and harmony between individuals and teams and pave the way for creativity and innovations.[1] Evaluation of services is important for health care centers including hospitals and clinics which are established to improve safety and health in the society. Therefore, standards as a major tool of evaluation in hospitals should be considered seriously. Several countries around the world have already started standardization of various clinical areas such as pain management, physiotherapy, vascular access for dialysis, and etc. These standards are used to evaluate the quality of services in hospitals and health centers.

Standardization as a valid mean of evaluation is an outstanding process which tends to assure the minimum of acceptable standards for a service. Standards of pain management can improve the quality of clinical services in hospitals which are responsible for providing health services to patients and improving health of the

* MSc, Department of Fundamental Nursing, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.
** MSc, , Department of Medical Surgical Nursing, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.
*** MSc, , Department of Medical Surgical I Nursing, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.
Correspondence to: Maryam Eghbali MSc.
E-mail: eghbali@nm.mui.ac.ir

society. Pain management standardization has several advantages. It helps appropriate treatment of pain result in faster clinical recovery, shorter admission days and better quality of life. It is already known in modern societies that treatment is the patients' right and pain management is a part of treatment process.[2] Standardization of pain management will change the behavior, attitude, and knowledge of the health personnel. Knowles believed that implementation of pain standards corrects the wrong assumptions about pain killers and increases the knowledge of measurement tools to implement systems which increase the level of comfort and safety for patients.[3]

Furdon et al found in their studies that standardization of pain management guidelines results in shorter removal time of ventilators, faster clinical recovery, better balance of the body liquids, decreasing the narcotics side effects, improving pain management reports, and economizing nursing budget and time.[4] Currently, there are several institutes in developed countries which are active in standardization of pain management including American Pain Society, American Society of Anesthesiologists, Agency of Health Care Policy and Research (AHCPR) and Joint Commission in Accreditation of Health Care Organization (JCAHO), which is a non-profit institute while some others are governmental.

In Iran, it seems that the existing hospitals lack an approved institutionalized evaluating system to evaluate their pain management services and legitimate their objectives and performance. Therefore, it is necessary to provide standards which are appropriate for our country. Regarding this necessity and the fact that so far there has been no activity for collecting and suggesting the standards of pain management and providing the appropriate standards for Iran, this study aimed to: 1. Collect the existing international standards in the areas of pain assessment and nursing implementations of pain, and 2. Suggest the standards of pain management appropriate for Iranian society in the two above mentioned areas.

Methods

This study was a triangulation one using two methodologies for data collection and analysis.[5] Triangulation study increases the credibility of research and tries to overcome the internal partiality which can cause by three factors of single methodology, single observer and single theory.[6] This study used a combination of data, researchers and methodologies and collected data in three stages using both qualitative and quantitative methodologies. Therefore, it was a multiple triangulation study. The results of the second stage were used as a guideline for the third stage. In the second stage, the Delphi technique was used to design the questionnaire and in the third stage a descriptive survey method was used to do a survey of pain management standards throughout the country. Descriptive survey is a method to collect right data about the characteristics of subjects, groups, institutions and specific cases, or the frequency of a phenomenon occurrence specially when there is little data about that phenomenon.[7] In this method, data are collected by interviews and questionnaire.[6]

In the second stage of the study, the study population included the faculty members of Nursing and Midwifery Schools of Isfahan, Shiraz, and Yasouj Universities. In the third stage, the study population included the faculty member of nursing schools in Isfahan, Mashhad, Iran, Tehran, Shahid Beheshti, Shiraz, and Yasouj Universities. The criteria for participation in the study were as following; being a faculty member of nursing school in public universities, having at least a master degree and five years of teaching background in university level or presenting of at least two papers in educational conferences about the pain management, having at least five years experience in clinical work or education in addition to teaching background, willing to participate in the study, teaching experience on pain management.

The Delphi technique was used as a tool of short term prediction[7] and a method to measure and evaluate the opinions of a group of experts to make decisions, find the priorities and predict[8] without bringing them together in person.

The sample in Delphi technique should be from 10 to 50, therefore in this study, 14 faculty members of nursing schools in universities of Isfahan, Shiraz and Yasouj were selected. Considering the data obtained from the universities around the country, in the third stage, 40 faculty members who had the criteria for participating in the study were selected from the nursing schools of the universities of Isfahan, Shiraz, Tehran, Iran, Shahid Beheshti, Mashhad, and Yasouj. Because the number of faculty members who had the criteria for participating in the study was limited, simple sampling based on the objectives was used.

In this study, data in the first stage was collected from searching the Internet (power, time and keywords of search should be mentioned), valid nursing books, and the advising professor's comments. In the second and third stages, the data was collected using a questionnaire with open questions for the second stage. The data collected in the second stage was used to prepare a questionnaire including suggested standards to collect data in the third stage. Data collected in the first stage were the standards of pain management in different countries using 23 Internet resources and 15 valid nursing books.

In the second stage, these standards were formulated in an open question questionnaire (using Delphi technique) which was answered by 14 experts in the nursing schools of universities. Next, the answers were reviewed by the researchers and in the cases that answers needed more clarification, they were returned to the participants. Once all the answers were recollected reviewed and the consensus of 70% of participants[7] was reached, we moved to the next stage.

The results of the second stage of the study were used to develop a new questionnaire which was mailed or handled to nurses with master or PhD degrees who had the criteria to participate in the study, working all around the country, to collect their opinion. Also, the guidelines about the questionnaire were provided for all participants. The returned questionnaires were reviewed and checked again with participants until consensus of 70% was reached. To make a common understanding of the situation and make it possible for the participants to discuss their answers, either face to face meeting or phone contacts were provided. During a long process and continuous follow-up to gather all the answers, the consensus standards for the pain management in Iran were provided.

The data collecting tools was validated based on face validity which was approved by the experts. In this process, after being approved by the advising professors, the questionnaire number one was sent to 14 nurses with master or PhD degrees in the nursing schools of universities and it was edited and approved again. To check the reliability, we used test-retest method; Cronbach's alpha was 0.93 and 0.96 for assessment of pain standards and nursing implementation of pain standards, respectively.

The quantitative data were analyzed using the descriptive statistical methodologies. Using SPSS software, the data collected through the questionnaires were analyzed and the relative frequency of each standard was calculated in three levels of very desirable, somehow desirable, and undesirable.

Results

The final standards of pain management appropriated for the Iranian society were drawn up as a unit with more than 70% consensus including 88 standards in two areas of pain assessment (35 standards) and nursing implementation of pain management (53 standards). The tables 1 and 2 provide the detailed explanations of areas and standards of pain management with more than 70% consensus suggested for Iranian society.

Thoroughgoing implementation of these standards in Iran is obscure because of the lack of human resources, budget and facilities. Therefore, consulting with the advising professors and considering the participants' opinion regarding the high number of standards and the low probability of their implementation, another set of standards was prepared with consensus of 90% (table 3), which are highly applicable in our country.

Table 1: Standards for pain assessment

1	Assessment and management of pain is the legal right of the patients.
2	The patient's pain should be acknowledged and respected.
3	Pain management should be considered as a major part of health care for patients.
4	For all the patients, the existence, nature, severity and the area of pain should be assessed.
5	The results of pain assessment should be recorded for follow up checking and assessments.
6	Once pain is diagnosed, a full and comprehensive assessment should be performed.
7	To determine the quality of pain, the patient's expression should be considered.
8	The individual differences should be considered in pain assessment.
9	The patient's satisfaction of pain relief should be recorded.
10	The onset and duration of pain should be considered in assessment.
11	The pattern of pain (frequent ...) should be asked in assessment.
12	In each nursing shift, the patient's pain should be routinely asked and recorded as the fifth vital sign.
13	Using specially designed forms and valid measurements should be part of pain assessment standards.
14	For determination or assessment of the sufficiency and proper pain management, the necessary information should be collected.
15	The effects of pain on sleep, mood, appetite, activity, personal caring, job, and social and family role should be investigated in pain assessment.
16	In the case of patients who cannot communicate indirect signs of pain (verbal and behavioral reactions) should be observed.
17	In assessment, the level of pain during rest and activity should be determined.
18	Currently using medicine should be recorded in pain assessment
19	Severe unexpected pain especially if it is sudden and along with changes in vital signs such as lowering blood pressure, tachycardia or fever should be immediately assessed.
20	Severe pain after surgery, based on the type of surgery, should be assessed in regular basis. Also the pain severity with every new report of pain or the existence of an unexpected pain, as well as the peak effect of pain killer should be determined.
21	The existence of pain should be asked from the patients, family and nurse.
22	If there is no relief from pain, it should be recorded in the patient's file, reported and tracked.
23	The medical and nursing personnel should be available for assessment and relieving the clinical patient's pain.
24	A proper relationship with the patients and their family is necessary for pain management.
25	As a part of treatment and care, patients and their family should be taught about the importance of pain management.
26	Nurses should play a key role in pain management.
27	The qualification of nursing personnel for assessment and management of pain should be confidential.
28	Nurses are responsible for collecting and recording assessment data and making collective decisions for pain management with the patient and other members of the health care team.
29	Pain management education should be included in nursing university curricula.
30	Clinical team should receive sufficient and continuous education about the principles of pain assessment and management.
31	The curriculum should be designed in a way to facilitate changes in nurses' knowledge, skills, attitudes, and beliefs in order to support new programs.
32	Education of personnel should include communication skills, using pain assessment techniques, application of suitable methods to alleviate pain, and using proper tools.
33	The following parameters should be determined in the primary assessment and re-assessment of pain: severity, quality and area of current pain, the most severity of pain while resting and moving, in last 24 hours, the causes for severity and relief.
34	If the pain cannot be relieved, the doctor should be informed to do the necessary changes in treatment program.
35	The pain killers' side-effects and poisoning should be assessed.

Table 2: Standards for the nursing implementation of pain management

1	In addition to medicine, supplemental forms of treatment should be applied.
2	Consultation with doctors is necessary for pain management.
3	If necessary, other nurses should be consulted for pain management.
4	A team of pain management (doctor, nurse, anesthesiologist, pharmacist, physiotherapist, and even the patient) should be formed to perform a high quality pain relief in hospitals.
5	Medical contacts should be kept to facilitate mutual trust.
6	The results of pain relief treatments should be recorded.
7	The causes of pain should be diagnosed as much as possible.
8	Patients should reach an acceptable level of relief with the minimum side-effect and sickness caused by pain management.
9	If possible, the patient should be included in the process of decision making for pain management.
10	The patients' wrong assumptions about using pain killers (such as addiction, attachments, tolerance) should be assessed.
11	Wrong beliefs and superstitions in pain management should be corrected.
12	In pain killer prescriptions, safe methodologies should be used.
13	Interventions should be carried out based on the assessment of patient's current situation and modifications should be made.
14	Precautions should be taken to prevent side-effects of the pain killers.
15	Before painful procedures such as surgery, pain killers should be prescribed to prevent onset of pain.
16	A preventive approach should be used for pain relief.
17	The reaction to the pain should be precisely assessed after giving the first pain killer or once the kind of medicine is changed.
18	Nurses should be familiar with the side effects of medicine and be ready to treat them.
19	The goal of pain management should be pain relief to the extent that allow activities and relaxation, prevent side effects and improve health and recovery.
20	Interventions should have timing, be safe and effective.
21	Medicine treatment should include narcotics and non narcotics, but not limited to them.
22	Base on situations, a medium to severe pain should be relieved with venous medicine.
23	Pain management also includes treatment of side effects such as constipation, vomit, etc.
24	For severe pains (7-10), the patient should receive proper pain killer in the first 20 minutes of admission.
25	In cases of severe pain, in the first 30 minutes after receiving medicine, the patients' relief should be reassessed.
26	In cases of medium pain, in the first 60 minutes after receiving medicine, he patients' relief should be reassessed.
27	Used pain killer medicine and their effects should be recorded in the patients file.
28	Team members especially doctor should be consulted about necessary changes in pain killer medicine.
29	It should be assured that changing narcotics and the way of using them are correctly done.
30	Pain should be treated in a way that the side effects become minimized.
31	Pain relief should have a simple plan and the attacking method should be minimized.
32	In prescription of pain killers following should be considered: type of pain, possibility of medicine poisoning, patients' general condition, associated medical conditions, reaction to previous and current medicine, affordability of medicine for the patient and family, caring environment.
33	If the pain is persisting, taking consideration of standards, the patients should be turned over (pain management specialist in specific pain, multi-purposes team to investigate the emotional, social, psychological, spiritual, and associated medical factors).
34	Supplemental forms of treatments such as warming, cooling, massaging, etc. should be executed.
35	The patients should be taught about prescribed supplemental forms of treatments or be supported to do them (such as breathing for relaxation, music therapy and guided imaginations.
36	The suitable environment should be provided for the patients (such as lowering the lights and sounds, and putting limitation on visitors).
37	Before using any supplemental forms of treatment to relieve pain, the prohibitions of the methods should be considered.

38	Assessment for learning requirements should include patients' ability to communicate, understanding pain, level of literacy and education, previous experiences of pain management, learning obstacles (visual, audio, cognitive), cultural and religious beliefs regarding pain and its treatments, level of current physical comfort, motivation and willing to learn.
39	Provided instructions should be recorded and the patients and family's understanding of them should be evaluated.
40	The patients and family should be taught how to report the severity of pain and its relief, how to use the tools and facilities for pain relief as well as the necessary information about medicine and their side-effects.
41	The patients and family should be told about the reason for using attacking medicine such as epidural catheter.
42	The cases of calling a nurse such as increase of pain or sleeplessness should be taught.
43	The patient and his/her family should be provided by information about pain and effective treatments in an understandable way.
44	Clinical centers offering pain treatments for outpatients should be introduced to the patients for emergency.
45	Pain management plan should be included in discharge schedule.
46	It should be assured that the patient understand the importance of immediate report of pain persistence or change, new sources for various pains, and pain killers' side effects.
47	In order to correct the wrong beliefs which can be obstacles for proper use of pain killer medicine, the difference between addiction, tolerance, and physical attachments should be taught.
48	Simple guidelines to record the effects of pain killers at home should be taught to the patients and family.
49	To assure all the objectives of pain relief, all treatments should be evaluated.
50	After any treatments the severity of pain should be reassessed.
51	After any treatments the side effects should be reassessed.
52	Pain management plan should be periodically reviewed and modified if necessary.
53	Reassessment is necessary with each new report of pain, if the severity of pain is increasing and the previous methods have not been effective.

Table 3: Suggested standards of pain management in Iran with consensus of 90% in the areas of pain assessment and nursing implementation of pain management

1	Assessment and management of pain is the legal right of the patients.
2	The patient’s pain should be acknowledged and respected.
3	Pain management should be considered as a major part of health care for patients.
4	Nonverbal signals should be noticed in pain assessment.
5	Currently using medicine should be recorded in pain assessment.
6	Nurses should play a key role in pain management.
7	Nursing personnel qualification in assessment and management of pain should be assured.
8	Pain management education should be included in nursing university curricula.
9	Clinical team should receive sufficient and continuous education about the principles of pain assessment and management.
10	Unrelieved pain should be reported to the doctor.
11	The results of pain relief treatments should be recorded.
12	Prescriptions should be based on assured methodologies.
13	Interventions should be carried out based on the assessment of patient’s current situation and modifications should be made.
14	Used medicine and their affects should be recorded in the patient’s files.

Discussions

The results of this study including 88 standards in two areas of pain assessment and management, can be used to improve the pain management in Iranian hospitals and increase the quality of their pain management services. Explaining and discussing all the suggested standards are beyond the scope of this article. However, the standards with over 90% consensus were discussed here.

Assessment and management of pain is the legal right of the patients: this standard that is related to JCAHO, American Pain Management, Los Angeles Medical Center, and Wisconsin University was accepted in the third stage of the research with 92.5% consensus. Phipps also has stated from the Canadian Pain Society that it is the right of the patients to be relieved from pain in the best possible way and form.[9]

The patient's pain should be acknowledged and respected: This standard is from the Los Angeles Medical Center, Wisconsin and Luis University and was accepted in the third stage of the study with 90% of consensus. Taylor also thought that nurses should believe that the patient's pain is real and tried to control it. In other words, the health care workers should trust the patient's description of pain, because pain is an objective signal which can be described just by the patient.[10]

Pain management should be considered as a major part of health care for patients: This standard is mentioned by Bram Riegel and was accepted in the third stage of the study by 90% consensus. In this respect, in most particular medical situations, pain management is considered as one of the aspects.[11]

Nonverbal signals should be noticed in pain assessment: This standard is also from Los Angeles Medical Center and The Canadian Society of Health Service Standardization, and was mentioned to be important in the third stage of the study with 90% consensus. Phipps et al believed that in the case of patients who cannot report their pain the nonverbal assessment methodologies should be used.[9]

Currently using drugs should be recorded in pain assessment: This standard is from the Royal College of Anesthesiologist and British Society of Pain and was accepted in the third stage of the study with 95% consensus. In this regard, Root et al reported that during the primary interview the name, dosage, and frequency of the used drugs, as well as the patients' understanding of the reason for routine use of drugs should be investigated and if necessary, more information should be taken from the family.[12] Based on the statements by the participants in this study, this standard is precisely followed in Iranian hospitals and all the used drugs are recorded in the patients' files.

Nurses should play a key role in pain management: This standard is from the Anesthesiologists College and Pain Medicine Schools of Australia and New Zealand and was accepted in the third stage of the research with 92.5% consensus. It seems that the reason for its high consensus is related to the long hours that nurses spend with the patients and can be in direct contact with patients 24 hours a day. Therefore, a nurse is the best person who can assess report and follow up the patients' pain.

Nursing personnel qualification in assessment and management of pain should be assured: This standard comes from the Wisconsin University and gained 90% of consensus in the third stage of the study. The researcher believes that the high consensus for this standard is probably related to the high significance of the reports by nurses who have the most contact with the patients. Therefore, the nursing personnels should have sufficient knowledge for pain assessment and management.

Pain management education should be included in nursing university curricula: This standard is also related to the Anesthesiologists College and Pain Medicine Schools of Australia and New Zealand and was accepted in the third stage of the research with 95% of consensus. Regarding the standards number 26 and 27 in the assessment of pain nursing (the key role of nurses in pain management and their responsibility for collecting and recording assessment data and collective decision making with the patient and other members of the health care team on pain management), it is obvious that pain management education should be part of undergraduate nursing curriculum to make the nurses capable of doing their responsibility in this regard.

Clinical team should receive sufficient and continuous education about the principles of pain assessment and management: This standard is from the Wisconsin University and was accepted in the third stage of the study by 90% consensus. Taylor also reported that nurses

should keep their knowledge up to date and receive continuous education on drugs, which is the central pillar for pain management, to make better decisions and present better care.[10]

Unrelieved pain should be reported to the doctor: This is related to the Memorial Sloan-Kettering Center of Cancer, which was accepted in the third stage of the study with 92.5% consensus. Phipps and colleagues said that if the severity of pain do not decrease with pain killers, it will be necessary to reassess the patient and revise the type and dosage of the pain killer.[9]

The results of pain relief treatments should be recorded: This standard from the Anesthesiologists College and Pain Medicine Schools of Australia and New Zealand was accepted in the third stage of the study with 95% of consensus. It seems that the high consensus of this standard is because of that it facilitates reassessment of pain and informs other health care team about the previous treatment results.

Prescriptions should be based on assured methodologies: This is from Royal College of Anesthesiologists and British Society of Pain, accepted in the third stage of the study with 90% consensus. Root and colleagues stated that familiarity with medical data base, knowledge of when and how to use them, recognition of vague and unsafe prescriptions and awareness of what to do when facing with such prescriptions are the key components of safe and assured prescriptions. Root also said that in an assured prescription, after being assured of the correct prescription and calculating the necessary dosage, the right medicine in right time with right dosage should be prescribed for the right patient.[12]

Interventions should be carried out based on the assessment of patient's current situation and modifications should be made: This standard related to the Royal College of Anesthesiologists and British Society of Pain, accepted in the third stage of the study with 90% consensus.

Used drugs and their side effects should be recorded in the patient's files: This standard from Royal College of Anesthesiologists and British Society of Pain was accepted in the third stage of the study with 90% consensus. In this regard, Allen Barker also believed that all medicine including time dosage medicine and PRN should be recorded in the patient's follow sheet, file or nursing report. This information which should also include the pain severity and quality are very valuable for evaluation of the situation of patients' pain, the reaction to pain interventions, education of the patients and the need for modification of pain management plan.[13] Root also reported that nurses should immediately record the drug history of patients to prevent doubting about forgotten dosage and giving extra dosage.[12] A brief review of medications reports in hospitals showed that this standard is almost fully implemented in Iranian hospitals. First, there are special recording forms for narcotic drugs and second, all medications of the patient are reported in special sheets for medication records in the patient's file.

This research was the first carried out to standardize pain management in Iran. Therefore, implementation of these standards in spite of numerous advantages mentioned above has some limitations. Some of these limitations were mentioned by the participants in the study including: lack of nurses, lack of financial resources, lack of pain management specialists in the health care system in the country, lack of expert nurses in pain management, limited authority of nursing personnels for pain management, overload of nursing works in each working shift, lack of pain treatment centers in hospitals, lack of expert nurses in health care society to investigate the long term effects of pain, and that currently there is no organized forms for pain assessment in the hospitals, or the personnel do not know about them. In general, one of the main reasons for consensus of lower than 70% about some standards related to the lack of nursing personnels in health care system in Iran and it seems that nurses are too busy with their routine work and following the doctors' orders and are not much willing to participate in the process of decision making and assessment of the patients' problems such as pain.

In addition, the participants in the study mentioned that the above standards are not in contradiction with the society's culture and be-

liefs, but are really good and suitable. However, some of the standards are not applicable in the current situation of hospitals considering the available facilities, financial resources, human resources, and the current way of thinking. Therefore, it is suggested that after more studies, experimentally implement these standards in some hospitals and once their application is assured, perform it throughout the country. It is also suggested that to inform the patients about their rights regarding pain management, the 14 standards on table 3 should be posted on the boards in all parts of the hospitals.

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