O R I G I N A L   P A P E R

Comparison of Nurses' and Patients' Assessments of Postoperative Pain

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Abstract

Background: Congruence between the patient' self-reported pain and nurse pain evaluation is an important tool to uncover bias moderators in pain assessment.
Aim: This study was carried out to investigate the congruence between patient self-reported pain and nurses' evaluation in postoperative period.
Methodology: Thirty six nurses (36) and one hundred forty-five (145) patients who these nurses are responsible for taking care in general surgery, gynecology and cardiovascular surgery clinics of Giresun Ada Hospital were enrolled in this descriptive and comparative study. The sample consisted of patients who were within the first 48 hours postoperatively and received general anesthesia. EQ-5D pain questionnaire and numerical rating scale were used to assess pain in the postoperative period during data collection.
Results: The correlation of nurses' and patients' EQ-5D questionnaire was found to be statistically significant (p=0.03), although there was no congruence between nurses' and patients' NRS (p=0.18). It was determined that the mean score of patients' NRS was higher than the mean score of nurses'.
Conclusion: According to these findings, the congruence between the patients' self-reported pain and nurse evaluation was statistically significant in postoperative pain assessment with EQ-5D questionnaire. These results are sufficiently robust to warrant further prospective and multicentre studies to verify the generalization of these findings.

Key words: nurse, patient self-reported pain, pain assessment, pain evaluation congruence

Introduction

Pain is an unpleasant sensation that can disturb a patient's comfort, thought, sleep, emotion, normal daily activity and quality of life. Pain is whatever the experiencing person says it is, existing wherever he or she says it does (Eti-Aslan, 2002; Gélinas et al., 2009). Because pain is dynamic and personal experience, and is difficult to completely describe and measure objectively, nurses must be careful not to let the personal biases interfere with treatment (Sloman et al., 2005). For this reason the assessment is the most important and the first step in pain management. Pain management may be compromised by inappropriate pain estimation. The latter may depend upon inaccurate evaluation, biased assessment or both (Harrison, 1991; Czarnecki et al., 2011).

Pain experience is dynamic and nurses have responsibility to understand it. Nurses are responsible for pain management and pain relieving as ethical (Hunter, 2000). They have primary roles in improving patient's comfort and relieving pain nurses should know optimal pain assessment and management as nurses associated with a longer time with patients compared to other health professionals (Eti-Aslan, 2006; Potter & Perry, 2006; Yücel, 2000)

Congruence between patients' self-reported pain and nurses' pain evaluation is an important tool to uncover bias moderators in pain assessment. This issue was studied at various pain conditions or settings (Marquié et al., 2007; Igier, Mullet, &

Sorum, 2007). In these studies most health professionals were involved and lack of congruence was shown to increase with the patient's self-reported pain severity, although in a study by Düzel et al., (2013) pain assessments of nurses and patients were found to be correlated with each other. In addition, several variables have been shown to influence the estimation of pain, distress and disability in pain patients. Among these variables were the severity of reported pain, physician–patient interaction features, attributed control over pain onset, compensation status, weight of available clinical information and training level. In studies, pain perception was also shown to be variably influenced by the patient gender, age and ethnicity (Tait & Chibnall, 2002; Robinson & Wise, 2003). Thus, features of the target (patient), of the assessor (nurses) and of the situation in which their interaction occurs may influence pain assessment (Chibnall et al., 1997).

Nurses have a unique role in pain assessment and management, as they follow patients round-the-clock and have primary responsibility for monitoring pain and treatment effects; they collect and interpret pain data, make decisions about treatment dosing and timing, and convey monitored information to the multidisciplinary team (Melotti et al., 2009).

Material and Methods

Design and Setting

This study was carried out to investigate the congruence between inpatient self-reported pain and nurses' evaluation in postoperative period. The study was conducted as a descriptive and comparative to find out whether nurses assess pain in a similar way to patients. Thirty six nurses (36) and one hundred forty-five (145) patients who these nurses are responsible for taking care in general surgery, gynecology and cardiovascular surgery clinics of Giresun Ada Hospital were enrolled in this study. The sample consisted of patients who were aged 18-65 years, had received general anesthesia and who were in their 48-hours postoperative periods. Thirty six nurses working in those clinics, taking care of those patients and agree to participate in the study were the population of the study. The research data was collected between September 25, 2011 and December 20, 2011.

Instruments

In the data collection, "Patient Questionnaire", "Nurses Questionnaire" and "EQ-5D Pain Questionnaire", "Numerical Rating Scale" (NRS) were used to assess pain in the postoperative period.

Patient Questionnaire included 12 items, such as the patient's age, gender, marital status, occupation, educational status, which aimed to investigate their socio-demographic variables, as well as questions about whether they had any operations before, their operation type, the clinic where they received health care and their communication problem with the health care professional.

Nurse Questionnaire included 11 items, such as the nurse's age, marital status, education, which aimed to investigate their socio-demographic status, as well as questions about the clinic where they worked, how long they had been working in that unit and in the profession, if they had knowledge of pain and pain management, if so, where they got the information from, and their communication with patients.

EQ-5D Pain Questionnaire assesses pain under 5 topics which are 'mobilization', 'self-care ability', 'performing activities of daily living', 'pain/discomfort' and 'anxiety'. Each title has three options (1= no problem, 2= a bit problem, 3= serious problem) for the patients.

Numerical rating scale (NRS) is used to determine severity of pain. The absence of pain starts with (0) and reaches up to the level (10) with unbearable pain in numerical rating scale.

Procedure

Patients' self-reported pain assessments were applied by researcher. Nurses made patients' pain assessments outside of patient rooms and also at the same time patients made their pain assessments in the patient room. Nurses and patients made pain assessments at the same time and researcher stayed in the patient room during pain assessments.

Ethical Considerations

The study was conducted according to the ethics guidelines set out in the Declaration of Helsinki, and written consent was obtained from the director of the institution. The aim of the study explained to the nurses and patients, verbal contents of them were obtained.

Table 1. Socio-demographic Characteristics of Patients (n= 145)

Age (Mean±SD)	45.37±17.46	
Characteristics	**n**	**%**
Gender		
Female	81	55.9
Male	64	44.1
Marital status		
Married	99	68.3
Single	46	31.7
Education status		
Primary school	97	66.9
High school	29	20.0
University	19	13.1
Occupation		
Housewife	31	21.4
Self-employed	63	43.4
Public employees	20	13.8
Student	13	9.0
Retired	18	12.4
Previous operation		
Yes	46	31.7
No	99	68.3
Patient's clinic		
General surgery	88	60.7
Cardiovascular surgery	29	20.0
Gynecology	19.3	19.3
Operation type		
Minor	99	59.7
Moderate	18	19.3
Major	29	20.0
Postoperative day		
First day	95	66.5
Second day	37	25.5
Third day	13	8.9
Communication problem with health professionals		
Yes	9	6.2
No	136	93.8

Table 2. Socio-demographic Characteristics of Nurses (n= 36)

Age (Mean±SD)	24.66±7.57	
Working year in the clinic (Mean±SD)	**1.11±0.32**	
Working year in the profession (Mean±SD)	**4.58±7.52**	
Characteristics	**N**	**%**
Education status		
Nursing high school	15	41.7
Associate degree (2 years)	9	25.0
Bachelor degree (4 years)	12	33.3
Marital status		
Married	12	68.3
Single	24	31.7
Clinics		
General surgery	13	36.1
Cardiovascular surgery	9	25.0
Gynecology	14	38.9
Communication problem with patients		
Yes	3	8.33
No	33	91.67
Knowledge about pain management		
Yes	31	86.1
No	5	13.9
Source of information about pain		
Service training program	14	38.9
Working circulation	10	27.8
Bachelor education	12	33.3

Table 3. Correlation between Nurses' and Patients' Pain Scores

	Nurses' score $X \pm$ SD	Patients' score $X \pm$ SD	p value
EQ-5D Pain Questionnaire	1.75 ± 0.64	1.95 ± 0.65	0.03*
Numerical Rating Scale	3.70 ± 2.45	5.72 ± 2.40	0.18

* p<0.05

Statistical Analysis

Statistical Package for Social Sciences (SPSS) for windows version 12.0 was used for data entry and analysis. The data was evaluated by using the percentage distribution, mean and correlation analysis. The statistical significance level was set at p<.05.

Prior research, written approval from the institution and verbal contents from the nurses and patients were obtained.

Results

Descriptive Characteristics of the Patients

The distribution of patients' socio-demographic characteristics was shown in Table 1. The mean age of patients was 45.36±17.46. Of the patients in the study, 55,9% were female, 68.3% married and 66.9% graduated primary school. It was found that 59.7% of the patients had minor operation, 19.3% moderate and 20.0% major. It was also determined that 66.5% of the patients were in postoperative first day and 93.8% of the patients stated that they had no communication problems with health professionals.

Descriptive Characteristics of the Patients

In Table 2, the distribution of nurses' socio-demographic characteristics was given. The mean age of nurses in the study was 24.66±7.57; the average duration of their work in that clinic was 1.11±0.32; their average duration of work in the profession was 4.58±7.52. Of the nurses in the study, 68.3% married, 41.7% graduated nursing high school and 86.1% had knowledge about pain management. Approximately thirty-nine per cent of the nurses reported that they got information about pain management in service training program.

Comparison of Pain Assessments of Nurses and Patients

Table 3 involves the congruence between nurses' and patients' pain scores. The correlation of nurses' and patients' EQ-5D questionnaire was found to be statistically significant (p=0.03), although there was no correlation between nurses' and patients' NRS (p=0.18). It was determined that the mean score of patients' NRS was higher than the mean score of nurses'.

Discussion

Nurses have primary roles in improving patient's comfort and relieving pain nurses should know optimal pain assessment and management as nurses associated with a longer time with patients compared to other health professionals. So, they must be knowledgeable about pain assessment (Eti-Aslan, 2006; Yücel, 2000). Pain can be assessed properly if the pain is defined accurately and known the effective strategies of coping with pain (Erdine, 2000; Eti-Aslan, 2002; Eti-Aslan et al., 2009). The most important step in relieving the pain is that health professionals underestimate the pain as the patients did (Yücel, 2000). However, it was found that nurses assess pain intensity lower than the patients' evaluations in literature (McMillan et al., 2000; Sloman et al., 2005).

In the present study, the correlation of nurses' and patients' EQ-5D questionnaire was found to be statistically significant, although there was no correlation between nurses' and patients' NRS. It was also determined that the mean score of patients' NRS was higher than the mean score of nurses'. Similarly, Düzel et al. (2013) indicated the nurses and the patients evaluated the postoperative pain in the same sense. In contrast to our study findings, in a study conducted by Sloman and colleagues (2005) it was found that nurses underestimated the pain intensity more than the patients did. One study revealed that doctors and nurses underestimated pain more than patients did (Drayer, Henderson, & Reidenberg, 1999). In a study conducted in Germany, one-half of the patients stated that nurses asked no questions about their pain in the first 24 hours after surgery (Gross et al., 2002). These research findings were not parallel to the literature.

The basic element of pain control is that nurses and patients assess pain intensity in the same sense. Pain assessment in comparison, it was observed nurses underestimated the pain intensity lower than the patients did (p<.05) (Table 3). It can be concluded that the present correlation might have resulted from the factors that half of the nurses were not asked whether the patients have pain, they didn't use any pain scale in pain assessment, they did not use a combination of different assessment parameters in the study.   In

our study, it was also thought that low ratio of the nurses who graduated bachelor degree and trained about pain management and working year in the profession could be another factors affecting pain assessment negatively. Nurses who are not knowledgeable assess pain lower (Hovi & Laury, 1999; Düzel, Aytaç, & Öztunç, 2013). Bacaksız et al., (2007) confirmed that pain diagnosis capability of nurses with an experience of 6-9 years of clinic work was significantly higher than those who had <6 years experience in the profession was the determining factor in this result.

Study Limitations

As this study focused on relationships among variables, cause–effect conclusions could not be drawn. Further, these relationships might have been mediated by other moderators which were not addressed in this study (e.g. nurse's psychosocial and professional features; patient's pain site and treatment).

Conclusion and Proposals

According to these findings, the correlation of nurses' and patients' EQ-5D questionnaire was found to be statistically significant, although there was no correlation between nurses' and patients' NRS. It was determined that the mean score of patients' NRS was higher than the mean score of nurses'. It is proposed that comprehensive training programs about pain management can be organized and pain assessment forms can be developed in health care institution. It was also recommended that standard forms regarding pain assessment and nursing approach for patients with pain were developed and future studies carried out with the participation of a greater number of nurses and patients were conducted.

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