

Exploration of Nurses' Knowledge and Perceptions Regarding the Post-Operative Pain Management

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Abstract

The current study was designed to assess the knowledge and perceptions of nurses regarding pain management in post-operative patients in different hospitals of Quetta, Pakistan. A cross-sectional study was conducted in different hospitals in Quetta among staff nurses and trainee nurses from August to October, 2016. Data was collected from nurses selected by convenient sampling technique through a questionnaire. A total of 208 patients participated in the study and their responses were analyzed by using SPSS 20. Majority of the respondents (n = 92, 44.2%) had age range between 17-26 years and most of them (n = 139, 66.8%) were staff nurses. Nearly sixty two percent of the nurses knew that patients (or their

family members) think that the complete relief from the pain is the main objective and aim of treatment. Majority of the nurses (60.95%) had knowledge that it's possible to keep the patients in a painless condition. Awareness regarding management of pain was very low among nurses in different hospitals in Baluchistan (Quetta).

Keywords

Post-operative pain management, chronic pain, nurses, knowledge

Introduction

Pain is an unpleasant sensation made as a result of detection of stimulus by pain receptors, transmitted to the brain in order to produce reflex action and to prepare an individual to protect oneself from the stimulus (W. G. Hale, 2005). Pain is

classified according to different aspects but the most commonly pain is classified as acute or chronic. Acute pain has shorter onset, duration and is more associated with anxiety or emotional disturbance while chronic pain has longer onset and time period than acute pain (Ballas, 2005). Both forms of pain are intolerable and the goal of efficacious postoperative pain management is based on well planned pre-operative patient evaluation. Recommended pre-operative assessment includes pain history, physical examination and pain control plan (Halaszynski et al., 2004). Postoperative pain is the condition of injury of tissue together with muscular spasm after surgery. Management of the pain is a medical tactic that pulls self-restraints in science and substitute healing to study the treatment and prevention of pain. In order to treat pain, it needs to be evaluated and quantified in terms of its intensity. The scale of pain quantification is patient regular self-evaluation of pain. Although, number of tools is available for pain assessment, one of them is a 10-point pain assessment scale, where 1 indicates no pain and 10 indicates worst possible pain which is considered as a gold standard to evaluate patient satisfaction following assessment of pain. A satisfaction score should be obtained together with a

pain score so as to minimize the chances of inadequately treated pain from getting unnoticed. Responsive analgesia management with good patient communication is the key to a successful pain management program (Carr, 1996).

The treatment modalities indicated for post-operative pain management include opioid analgesics rather than NSAIDS. They may also include some steroids and anti-depressants. However, narcotics may have potential side effects and may also cause addiction but the benefits of pain management and patient satisfaction is prioritized over risk of addiction. The other methods of pain management are also valued along with usage of analgesics. For the bed ridden patients changing position frequently or by using pillows might be effective (MedicineNet, 1996).

Non-opioid analgesics, narcotic analgesics, anti-convulsant drugs and tri-cyclic anti depressants help in pain management by delaying uptake of neurotransmitters. (Treatment, 2004). The healthcare professionals especially nurses who are more interactive and directly involved in patient care must possess sound knowledge of pre and post-operative pain management. Literature review has revealed that although, research on pain assessment and role of

painkillers have been conducted in postoperative surgery (Shamim et al., 2015) but overall pain management has not been studied in previous studies (Da Conce C Ao et al., 2006). On the other hand, patient satisfaction was also considered (Jawaid et al., 2009) but the knowledge of nurses in developing countries including Pakistan is still unexplored. Therefore, the present study intended to evaluate the knowledge of nurses regarding postoperative pain management in hospitals of Quetta, Pakistan.

2. Methodology

2.1 Study Design, Setting and Sampling

A questionnaire based, cross sectional study was conducted from August to October, 2016. The survey was conducted in different wards (cardiac, urology, surgical, operation theater, orthopedic, pediatrics, gynecology, medicine, outpatient department etc) of different hospitals of Quetta city namely, Christian Hospital Quetta, Sandeman Provincial Hospital, Bolan Medical Complex Hospital, Rahat Hospital and Lady Different Hospital. Data was collected from 208 conveniently selected nurses willing to participate in the study.

2.2 Ethical Considerations

Permission to conduct the survey in these Hospitals was obtained through Institutional

Review Board of University of Baluchistan according to the National Bioethical Committee Guidelines (Committee-Guidelines., 2011).

2.3 Study Instrument

A structured questionnaire was designed consisting of two sections i.e. demographic and knowledge regards pain management. In addition, the questionnaire was designed in English as well in Urdu language, each question had five options for all questions. The demographic data and questionnaire was approved and validated by the research committee of Faculty of Pharmacy.

2.4 Data Collection

208 (Two hundred and eight) questionnaires containing letters of explanation were distributed to the nurses. Nurses from hospital were asked and guided to fill the questionnaire containing questions related to nurses' knowledge regarding pain management in post operative patient. The nurses were asked to answer each question with options of, Agree, disagree, strongly disagree Strongly Agree, or Neutral. Questionnaire was collected after it had been completed and was requested to answer the question on the spot.

2.5 Data Analysis

The completed questionnaires after data cleaning were coded, entered and analyzed

in SPSS. Descriptive analysis is used for describing demographic characteristics of study respondents and their responses regarding knowledge of pain management. The comparison of mean score have been established with regards to demographic characteristics of nurses by using Kruskal-Wallis and Mann-Whitney Tests (≤ 0.05).

3. Results

3.1 Demographic Characteristics

Four hundred questionnaires were distributed and 208 were received with a response rate of 52%. More than half of the respondents were matriculate (n = 121, 58.2%). Majority of the nurses (n = 130, 62.5 %) had experience of more than a year. Majority of the respondents were from Bolan Medical Complex Hospital (n = 136, 65.4%) and were working as staff nurse (n = 139, 66.8%). A detail description is given (Table 1).

Table 1: Demographic Characteristics

Description	n (%)
Age	
17-26	92 (44.2)
27-36	66 (31.7)
37-46	43 (20.7)
47-56	7 (3.4)

Educational Status	
Matric	121 (58.2)
Fsc	48 (23.1)
F.A	20 (9.6)
B.A	9 (4.3)
M.A	4 (1.9)
BSC	5 (2.4)
M.Com	1 (0.5)
Experience Level	
1 – 10	130 (62.5)
11 – 20	54 (26)
21 – 30	24 (11.5)
Ethnicity	
Pashtun	24 (11.5)
Baloch	24 (11.5)
Punjabi	129 (62)
Urdu	24 (11.5)
Others	7 (3.4)
Hospital	
Christian Hospital	19 (9.1)
Sandeman Provisional Hospital	7 (3.4)
Bolan Medical Complex	136 (65.4)
Rahat Hospital	12 (5.8)
Lady Differen	34 (16.3)
Specialty	
Trainee	69 (33.2)
Staff Nurse	139 (66.8)

3.2. Perceptions of Nurses Regarding Post-Operative Pain Management

Majority of nurses (n=152, 73.1%) answered that a patient may experience discomfort before having the following dose of pain treatment while nearly half of them (n = 107, 51.4%) agreed that approximation of pain by a MD or RN is a more legal measurement of pain than self-reported by patient (Table 2).

3.3. Knowledge of Nurses Regarding Post-Operative Pain Management

The nurses' knowledge regarding pain management in post-operative patients was very poor. Approximately eleven percent of the respondents knew the correct response for giving narcotics being preferred on a regular schedule over a prn timetable for constant pain. Out of 208 nurses, only 5.24% of the nurses were aware that patients should experience discomfort before getting next dose of medication of pain (Table 3).

3.4 Association of Demographic Characteristics to Pain Management Knowledge and Perceptions

The comparison of mean score has been established with regards to demographic characteristics of nurses by using Kruskal Wallis Test and Mann-Whitney U Test ($p \geq 0.05$). Ethnicity and qualification of nurses were found statistically significant ($p \geq 0.05$) with knowledge as shown in (Table 4).

Table 4: Association of Demographic Characteristics with knowledge of pain management

Variable	n	Mean	SD	P value
Age				
17 – 26 years	92	59.27	5.78	0.14
27 – 36 years	66	61.10	4.80	
37 – 46 years	43	61.58	5.08	
47 – 56 years	7	60.85	5.87	

Qualifications				0.006
Matric	121	61.27	5.37	
F.Sc	48	59.81	4.89	
F.A	20	59.10	7.04	
B.A	9	58.22	3.11	
MA	4	54.75	2.06	
B.Sc	5	57.00	2.73	
M.Com	1	65.00	-	
Experience				0.22
1 - 10 years	130	59.86	5.59	
11 - 20 years	54	61.38	5.13	
21 - 30 years	24	60.91	4.73	
Ethnicity				0.02
Pashtun	24	58.33	5.60	
Baloch	24	58.20	4.74	
Punjabi	129	61.34	5.09	
Urdu	24	59.33	6.69	
Others	7	60.85	3.89	
Hospital				0.06
Christian	19	62.89	4.13	
Sandeman	7	61.14	5.89	
Bolan	136	60.40	5.15	
Medical	12	55.83	6.50	
Rahat	34	60.35	5.79	
Hospital Lady Differen				
Specialty				
Trainee	69	59.82	4.88	0.18
Staff nurse	139	60.66	5.64	

Table 2. Perceptions Regarding Postoperative Pain Management

Question	SD n (%)	D n (%)	A n (%)	SA n (%)	N n (%)
The giving of narcotics on a continuous timetable is favored over a pro schedule for regular pain	7 (3.4%)	73(35.1%)	88(42.3%)	22(10.6%)	18(8.7%)
a patient may experience discomfort before having the following dose of pain treatment	11(5.35%)	18(8.7%)	152(73.1%)	26(12.5%)	1(.5%)
The constant calculation of pain and medication efficiency is must for good management of the pain	4(1.9%)	15(7.2%)	120(57.7%)	61(29.3%)	8(3.8%)
Patients (or family members) may expect complete relief from pain as the main target of treatment	8(3.8%)	38(18.3%)	132(63.5%)	25(12.0%)	5(2.4%)
The patients (or family members) might be cautious to ask for medications of pain because of the use of narcotics	23(11.1%)	39(18.8%)	115(55.3%)	20(9.6%)	11(5.3%)
approximation of pain by a MD or RN is a more legal measurement of pain than the self-report by patient	17(8.2%)	42(20.2%)	107(51.4%)	31(14.9%)	11(5.3%)
patients feeling pain can bear large doses of narcotics without respiratory depression or sedation	11(5.3%)	68(32.7%)	96(46.2%)	15(7.2%)	18(8.7%)
The patients can be upheld in a state of free from pain	5(2.4%)	28(13.5%)	128(61.5%)	42(20.2%)	5(2.4%)
if patients (or family members) report relief from pain or euphoria, the patient must be given a smaller dose of the analgesic	8(3.8%)	23(11.1%)	137(65.9%)	28(13.5%)	12(5.8%)

patients who are having chronic pain should get pain medications at regular break of time with or without the incidence of discomfort	14(6.7%)	67(32.2%)	91(43.8%)	26(12.5%)	10(4.8%)
The patients who receive narcotics regularly are at the risk for respiratory depression and sedation	4(1.9%)	17(8.2%)	144(69.2%)	33(15.9%)	10(4.8%)
The patients who have big chronic pain need higher dosages of the given medication	3(1.4%)	34(16.3%)	143(68.8%)	22(10.6%)	6(2.9%)
Maintenance of patients in a state of free from pain	19(9.1%)	75(36.1%)	81(38.9%)	29(13.9%)	4(1.9%)
deficiency of pain appearance does not essentially mean the lack of pain	7(3.4%)	12(5.8%)	140(67.3%)	43(20.7%)	6(2.9%)
The nurse should contact the physician, if a patient still feels pain despite giving medication	2(1.0%)	6(2.9%)	102(49.0%)	88(42.3%)	10(4.8%)
Diversion of the attention of patients (relaxation)can decrease the sensitivity of pain	4(1.9%)	12(5.8%)	122(58.7%)	68(32.7%)	2(1.0%)
a continuous level of analgesic must be maintained in the control of blood pain efficiently	4(1.9%)	41(19.7%)	125(60.1%)	24(11.5%)	14(6.7%)
Having an increase in requirements of analgesics and physical symptoms are symbols that the patient is attractive or being addicted to the narcotics	13(6.3%)	20(9.6%)	108(51.9%)	65(31.3%)	2(1.0%)
Family cannot asses in comparison with the nurse can make a more accurate assessment of the pain	6(2.9%)	18(8.7%)	102(49.0%)	76(36.5%)	6(2.9%)
(heat, massage, ice) cutaneous stimulation effective for slight pain	10(4.8%)	14(6.7%)	151(72.6%)	28(13.5%)	5(2.4%)

Table 3. Knowledge of Postoperative Pain Management

Questions	Correct Response n (%)	Incorrect Reponses n (%)
Giving narcotics on a continuous timetable is favored over a pro schedule for regular pain	11.43 %	70.95
Patient may experience discomfort before having the following dose of pain treatment	5.24 %	37.14
Constant calculation of pain & medication efficiency is must for good management of the pain	29.05 %	89.05
Patients/family members) may expect complete relief from pain as the main target of treatment	62.86 %	91.90
Patients/family members) might be cautious to ask for medications of pain because of the use of narcotics	10.95 %	94.76
Approximation of pain by a MD or RN is a more legal measurement of pain than the self-report by patient	8.10 %	39.05
Patients feeling pain can bear large doses of narcotics without respiratory depression or sedation	5.24 %	86.67
The patients can be upheld in a state of free from pain	60.95 %	87.62
If patients (or family members) report relief from pain or euphoria, the patient must be given a smaller dose of the analgesic	13.33 %	84.29
Patients having chronic pain should get pain medications at regular break of time with or without the incidence of discomfort	12.38 %	89.52

patients who receive narcotics regularly are at the risk for respiratory depression and sedation	15.71 %	86.19
patients who have big chronic pain need higher dosages of the given medication	10.48 %	79.52
Maintenance of patients in a state of free from pain	13.81 %	58.10
Deficiency of pain appearance does not essentially mean the lack of pain	20.48 %	67.62
Nurse should contact the physician, if a patient still feels pain despite giving medication	41.90 %	88.57
Diversion of attention of patients (relaxation) can decrease the sensitivity of pain	32.38 %	93.81
Continuous level of analgesic must be maintained in the control of blood pain efficiently	11.43 %	63.81
Having an increase in requirements of analgesics and physical symptoms are symbols that the patient is attractive or being addicted to the narcotics	6.19 %	86.67
Family cannot assess in comparison with the nurse can make a more accurate assessment pain	36.19 %	70.95
(heat, massage, ice) cutaneous stimulation effective for slight pain	13.33 %	37.14

4. Discussion

The acute post-partum pain is experienced by almost every patient who undergoes surgical procedures and evidence also suggests that more than half of them were reported with inadequate relief from post-partum pain (Joshi and Ogunnaike, 2005, Warfield and Kahn, 1995). The patients who undergo surgical procedures require an effective relief of pain and the provision of an efficacious pain management and/or treatment is a prime responsibility of health professionals especially nurses, towards post-partum patients (Garimella and Cellini, 2013). The significant physiological benefits have been associated with pain relief therefore monitoring of pain relief is increasingly becoming an important postoperative quality measure (Garimella and Cellini, 2013). The aim for postoperative pain management is to eradicate pain and distress with a minimum risk of interventions. Various agents (opioid vs. nonopioid), routes (oral, intravenous, neuraxial, regional) and modes (patient controlled vs. "as needed") for the treatment of postoperative pain exist with potential risks and benefits but healthcare professionals must choose a better and appropriate treatment modality according to individual patient (Garimella and Cellini, 2013). Nurses play an

important role in pain evaluation and in counselling patients regarding the post-operative pain management guidelines within the post-operative care setting (Chatchumni et al., 2016). The results of the current study revealed positive perceptions of nurses towards pain management and use of narcotic analgesics and opioids. It's necessary for nurses to comprehend the pathophysiology of pain and identify that management of pain is necessary in the healing of post-operative patients. The evaluation of pain and follow up with the patients are parts of the role of the nurses in pain control and relief and a study reported that nurses along with other health professionals emphasized on pain relief after surgery (Chatchumni et al., 2016, Chung and Lui, 2003). However, a study indicated inadequate knowledge of nurses about pain management and recommended the need of educational intervention to increase their knowledge so they may improve their practice in pain management (Tse and Ho, 2014). Number of studies have been conducted on attitude towards pain management and those studies involved patients rather than health professionals when compared to the current study (Chung and Lui, 2003, Owen et al., 1990). The current study reported the nurses' overall knowledge

about post-operative pain management being inadequate which in line with the previously conducted studies (Clarke et al., 1996, Watt-Watson et al., 2001, Brown et al., 1999). Eventually, these knowledge shortfalls may have influenced the provision of actual and optimum care to patients. The results from this study replicate to the articles that were published previously, which strengthen the worldwide apprehension of the momentous problem of poor knowledge and insurances by nursing care for the patients who are suffering pain. The limitation of the current study should also be considered which was - along with pain management pain assessment was also needed to evaluate and cross check the pain assessment and pain management scores.

5. Conclusion & Recommendations

The study concluded inadequate knowledge of nurses regarding post-operative pain management and usage of interventions (doses, risk of addiction). It would be helpful to conduct the quality improvement programs such as training programs on nurses' knowledge, attitudes, and subsequent practices in pain management. Moreover, regulatory initiatives taken combined with pain management education programs for nurses under training and healthcare

professionals at the undergraduate level would surely meet patients' privileges to be great practice in management of pain in various hospitals of Quetta Baluchistan.

Competing interests

Authors have declared that no competing interests exist.

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