Patients' Perception towards Post Operative Pain Management in a Tertiary Hospital

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Abstract

Introduction: Severity of post operative pain is one of the primary factors that determine the impact of pain on a person's overall function and sense of wellbeing. Despite increase focus on pain management, introduction of new strategy, guidelines and educational efforts, many studies reveals inadequate post operative pain management and patients were suffering from severe to intolerable pain. In this study, patients' perception regarding post operative pain management was assessed.

Methods: A descriptive explorative study was carried out in Tribhuvan University Teaching Hospital. The sample size was estimated based on 80% prevalence. Data were collected through purposive sampling technique from 100 respondents using American Pain Society Patient Outcome Questionnaire (APS-POQ) through interview method and reviewing the record.

Results: The study revealed that respondents' pain intensity on first post operative day was severe to worst, the mean score was 7.0 (2.12) than intensity on second post operative day i.e moderate to severe, mean score was 4.39 (1.56). It was associated with education and waiting time for pain medicine. Pain in past 24 hours had interfered during deep breathing and coughing exercise. Sixty five percent respondents were fully satisfied in overall pain treatment. Respondents perceived on use of prescribed pain medicine and communication in terms of pre and post operative counseling of patients will be helpful for reducing post operative pain most effectively.

Conclusion: More than half of the respondents were satisfied with post-operative pain management but severity was worst in first post operative day which was affected by education status and waiting time for pain medicine.

Key words: Pain perception, Post operative pain management, Numerical rating scale

Introduction

American Pain Society coined the phrase "Pain as the 5th Vital Sign" to increase the awareness among health care professionals for the importance of effective pain management.[1] Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or describe in terms of such damage.[2] Acute pain is a major challenge worldwide and chronic pain affects an estimated 20% of adults rising to 50% in the older age population.[3]

Pain is enduring, debilitating and devastating and arises after an operation, injury or onset of disease. It is one of the most common symptoms of illness.[4] Millions of people with life threatening illness suffer unnecessarily from severe pain.[5] It is the most common perceptual phenomenon that are influenced by several factors including emotional, social, environmental context, socio-cultural background, beliefs, attitudes and personal expectations. Pain prevalence increases with age and is higher in females and in those with physically strenuous work or less education. A survey of patients having undergone surgery found a

high prevalence of chronic postsurgical pain in patients whose acute postsurgical pain was inadequately managed.[6] Post operative pain is major and under recognized problem. Though improved management of acute pain, 80% of patients had acute pain postoperatively and of these patients, 86% had moderate to severe pain.[7]

Several studies have reported that the factors contributing to such high levels of pain include tendency to underestimate pain and under medicate patients for pain, as well as patient-related factors, such as patients' reluctance to report pain, beliefs about addiction or other adverse effects of analgesia.[8] Pain interferes with many daily activities and one of the goals of acute pain management is to reduce the affect of pain on patient function and quality of life.

Surgical pain management is complex because of variations in patients' pain experiences, the nature of the surgery, the intensity and the expected duration of pain, the myriad analgesics, the expertise of the staff and the patient factors such as illness, age, and psychological state.[9] Post-operative patient satisfaction are related to the level of pain intensity, expectations of outcome, perceived concerns by the staff and the treatment.[10]

Despite an increased focus on pain management programs, introduction of new standards, guidelines and educational efforts, data suggests that post-operative pain continues to be undermanaged.[7] Many patients continue to experience intense pain after surgery.[11] Adequate post-operative pain control is important determinant of patient satisfaction. Many patients have been untreated for their postoperative pain, which may have a negative impact on short term recovery, affects quality of life in all directions.[12,13] Physiological, psychological, ethical and financial consequences result from undermanaged pain.[14] Hence, assessment of a patient's experience of pain is a crucial component in providing effective pain management.[15] Therefore, this study is done to identify patients' perception of pain and satisfaction towards pain management in order to evaluate the existing pain management postoperatively.

Methods

The study was conducted in Tribhuvan University Teaching Hospital among the entire adult and elderly post operative patient with major surgery admitted in different wards of TUTH (i.e. Post-operative ward, Male Surgical Ward, Female Surgical Ward, Annex-I / Cabin, Renal Transplant Unit, Orthopedic ward and Maternity ward).

Purposive sampling technique was adopted. The sample size was estimated based on 80% prevalence with confidence interval 95% and error 8%. During the period of data collection, the patient with age more than or equal to 20 and less than or equal to 75, who underwent major surgery were included in this study. Patients admitted in intensive care unit, patients who were cognitively impaired, unable to respond interview, all the emergency cases, general surgery cases and neuro cases were excluded.

Data were collected by using American Pain Society Patient Outcome Questionnaire (APS-POQ) through interview method and reviewing the records from 100 respondents on first and second post operative day. The entire study period was from August, 2011 to February, 2012.

Pre-testing the instrument was done among 10% of the total sample from similar setting at Kathmandu Medical College Teaching Hospital, Sinamangal. Records were reviewed to collect the information regarding type of surgery, type of anesthesia, duration of surgery as well as treatment measures used for post operative pain management.

Data were collected after obtaining permission from the research committee and concerned authorities by submitting official request letter. All the participants were requested to participate voluntarily, obtained the informed consent and explained the purpose of study before collecting the data. Interview was taken with participants at bed side by maintaining privacy with screen. Apart from data collection, respondents were given information regarding post operative care (deep breathing and coughing technique, ambulation technique, diet, medicine etc.) and responded to their various queries.

Analysis was done using descriptive and inferential statistics such as mean, Standard deviation, Chi square test, Correlation and Paired t test.

Results

Out of 100 respondents, majority of the respondents (78%) were female and 22% were male. The mean age of respondents was 36.21 years ± SD 13. In educational status, almost half of the respondents (47%) had above secondary level education and 21% respondents were illiterate. Highest proportion of the respondents had undergone obstetric surgery (46%), followed by gynae surgery (17%), uro surgery (16%), orthopedic surgery (13%) and Cardio thoracic and vascular surgery (8%). Thirty eight percent respondents had the history of previous surgery. Only thirty eight percent respondents received information regarding pain management. Regarding demand for pain medicine, 69% respondents had demanded for medicine and among them majority of the respondents 73.9% had waited for 15 min to have pain medicine, 18.8% respondents waited for 15- 30min (Table 1).

Regarding respondents' intensity of pain, almost half of the respondents (48%) had severe pain, 27% had worst pain on the 1st post operative day and more than half of the respondents (66%) had moderate pain on 2nd post operative day (Table 2). The relationship between respondents' pain intensity on 1st and 2nd POD revealed that patients' pain intensity significantly decreased after 24 hour ($p < 0.01$) (Table 3). Additionally, Pain in the past 24 hour (pain on 1st POD) significantly interfered in the deep breathing and coughing exercise i.e. $r = 0.352$ & $p < 0.01$ (Table 4).

In respondent's satisfaction status in overall pain treatment, 2/3rd of the respondents (65%) were fully satisfied with overall post-operative pain management ($p < 0.01$). In terms of health personnels' response to complain of pain, 55.8% and 65.6% respondents were fully satisfied with nurses' and physicians' response to complain of pain respectively. To identify the satisfaction status, dissatisfied groups were merged into slightly satisfied as there were very few in number, only 6% in overall pain treatment, 3.2% and 3.2% in nurses' and physicians' response to complain of pain respectively. The respondents' satisfaction status was significantly high with physicians' response to complain of pain ($p < 0.01$.) than nurses' response to complain of pain ($p > 0.05$) (Table 5).

There was a significant inverse relationship ($p < 0.05$) between educational status and patient's pain intensity on 2nd POD i.e. higher the education level, lower the pain intensity. Similarly, there was significant ($p < 0.01$) positive relationship between duration of waiting time for pain medication and the pain intensity on 2nd POD i.e. higher the duration of waiting time for pain medication, higher the pain intensity (Table 6).

Relationship between different variables and respondents' satisfaction status in overall treatment and health personnel's response to complain of pain reveals that female were fully satisfied with nurses' response to complain of pain ($p < 0.05$). Similarly, there was a significant ($p < 0.05$) relationship between severity of post operative pain experienced in previous surgery and physicians' response to complain of pain (Table 7).

Regarding respondents' opinion to reduce pain, majority of the respondents (86%) answered that use of medicine would help to reduce post operative pain. Similarly 33% answered on importance of good communication skill followed by providing proper treatment, performing regular pain assessment and alternative measures (meditation, mind distraction, sharing with others etc.) were needed to relieve post operative pain (Table 8).

Table 1: Respondents according to having History of Previous Surgery, Receiving

Pre- Operative Education and Waiting Time for Pain Medicine

n=100

Variables	%
History of previous surgery	
Yes	38.0
Pre – operative teaching regarding Post op pain	
Yes	38.0
Demand for pain medicine	
Yes	69.0
If yes , duration of waiting time for pain medicine	
Within 15 min	51 (73.9)
15-30min	13 (18.8)
30-60min	4 (5.8)
More than 60min	1 (1.4)
Mean± SD (min)	1.35± .66

Table 2: Respondents' Intensity of Pain on 1st and 2nd POD

n=100

Pain intensity	Pain on 1st POD* (%)	Pain on 2nd POD* (%)
No Pain	0.0	0.0
Mild Pain	4.0	17.0
Moderate Pain	21.0	66.0
Severe Pain	48.0	16.0
Worst Pain	27.0	1.0

* POD – Post Operative Day

Table 3: Relationship between Respondents' Pain Intensity on 1st and 2nd POD

n=100

Characteristics	Mean	SD	*p* value
Pain on 1st POD	7.00	2.12	**0.001***
Pain on 2nd POD	4.39	1.56	

*p <0.01 significant**

Table 4: Relationship between Pain Intensity and Pain Interference in Past 24 hours in Different Activities

n=100

Pain Intensity	Pain interference	Mean	SD	r_s	*p* value
Pain on 1st POD	General activity	1.16	.420	-.01	.888
	Walking ability/ exercise for bed ridden patient	1.10	.541	-.08	.488
	Communication	.49	.577	.17	.084
	Sleep	.54	.642	.04	.675
	Deep breathing and coughing exercise	1.16	.788	.35	.001*

p <0.01 significant

Note: Pain interference were rated in 0-2scale with 0 representing no interference and 2 representing completely interference

Table 6: Relationship between Different Variables and Pain Intensity

variables	Pain Intensity				
	Pain on 1st POD			Pain on 2nd POD	
	No.	r_s	*p* value	r_s	*p* value
Age Group ♦	100	-.09	0.348	0.12	0.851
Educational status	100	0.17	0.084	-.20	0.047
Severity of post operative pain experienced in previous surgery	38	-.03	0.860	0.26	0.110
Pain expectation in current surgery	100	-.04	0.664	-.05	0.619
Duration of waiting time for pain medicine	100	0.14	0.269	0.30	0.014

♦Pearson correlation

Table 5: Respondents' Satisfaction Status in Overall Pain Treatment & Health Personnel's Response to Complain of Pain

Satisfaction Status	Overall Pain Treatment n=100 (%)	*p* value	Nurses' Response to Complain of Pain n=95 (%)	*P* Value	Physicians' Response to Complain of Pain n=93 (%)	*p* value
Fully Satisfied	65 (65) *	0.003	53 (55.8)	0.250	61 (65.6)*	0.003

p <0.01

Table 7: Relationship between Different Variables and Respondents' Satisfaction status in Overall Pain Treatment and Health Personnel's Response to Complain of Pain

		Fully Satisfaction and slightly satisfaction/ Dissatisfaction		
		Overall pain treatment	Nurses' Response to pain	Physician' Response to pain
Variables	**No.**	***p* value**	***p* value**	***p* value**
Age Group	100	0.485	0.911	0.390
Gender	100	0.390	0.035*	0.639
Educational status	100	0.152	0.468	0.109
Ethnicity	100	0.241	0.212	0.870
Severity of post operative pain experienced in previous surgery	38	0.407	0.383	0.030*
Pain expectation in Current surgery	100	0.677	0.37	0.944
Pre- operative Teaching	100	0.574	0.513	0.985
Duration of waiting time	100	0.219	0.087	0.126

p <0.05 significant

Table 8: Respondents' Opinion for Reducing Post operative Pain

	n=100	
Opinion for reducing pain*	**No.**	%
Medicine use	86	86.0
Good communication skill	33	33.0
Proper treatment	16	16.0
Pain Assessment	16	16.0
Pre operative education	12	12.0
Alternative measures(meditation, Mind distraction, sharing with others etc.)	9	9.0

Multiple Responses*

Discussion

Postoperative pain is a major and under-recognized problem and pain management remains one of the major challenges in the care of surgical patients. This study revealed increase intensity of pain on 1st POD with mean 7.00± SD 2. 12 than the mean intensity on 2nd POD (4.39 ±1.56). Similar finding was reported by Panteli & Patistea.[16] The pain severity may be attributed to several factors such as patient may not have received an adequate dose or regimen of their pain medication, patient may take their medications for pain on "as needed" basis and as a consequence, patient may have severity of pain. Also, shortage of staff may contribute to lack of time to attend carefully to the patient's pain.[17] Beside this, inadequate assessment and documentation of pain leads to underestimation of the intensity of pain by the health caregivers.[18] Ohqvist et al. reported that many patients think that they have to accept pain in the post operative period and often do not complain or ask for more

analgesic drugs even when they are in need of it.[19] Cohen stated that nurses who are responsible for pain management in acute care settings may wait for patients to request medication for pain rather than offering it. [20]

Similarly, this study revealed that pain experienced on 1st POD was more intense than that of pain on 2nd POD *(p <0.01)*. It might be due to decrease pre- operative counseling regarding post operative pain and waiting time for pain management. As, pre-operative information enables the patient to express their fears concerns about their expected pain experience after surgery, giving information preoperatively will reduce the pain that the patient experiences post operatively. But, this study revealed only thirty eight percent respondents received pre operative counseling and 69% respondent had demanded for pain medicine. Chunj & Lui reported that there was a significant difference between the current Numerical Rating Scale (NRS) and the worst NRS scores ($Z = 17.6$, $p < 0.00$), indicating the degree of pain relief over the 24 hour period was improved. [21] Although patient may experience similar level of pain intensity, the hesitancy of people to display pain in public, wanting to be a good patient may shows the decrease pain intensity on 2nd POD. Furthermore, old patient with low level of education may perceive less pain.

Present study showed the pain had interfered in deep breathing and coughing exercise i.e. r 0.352 & p <.01 in the past 24 hours. But, in contradictory to this finding, various studies found that the greatest interference was with activity, mobility (64.3%) & sleep (59.3%). [14, 8] In present context, adult respiratory diseases are a major burden in terms of morbidity and mortality and particularly as related to chronic respiratory disease, are of increasing concern in the developing world.[22]

In relation to satisfaction status in overall pain treatment, sixty five percent respondents were satisfied in overall pain treatment. It might be due to high expectation of the surgical patients that they will experience pain and low expectation that expedient pain relief will occur. If one does not anticipate that pain relief will occur in expedient manner, any level of pain relief may be perceived as satisfactory.[21] Respondents were more satisfy with physician response to complain of pain than in nurses' response to complain of pain. Similar finding was shown by other study in which mean satisfaction was 4.77 (SD 1.2). Mean satisfaction with physician response to complain of pain was 5.34 (SD 1.11), and mean satisfaction related to nursing response was 5.03 (SD 1.26).[14] This might be due to respondents' positive perception towards physician than nurses. Additionally, female were fully satisfied with nurses' response to complain of pain ($p < 0.05$), it might be due to higher proportion of respondents in this study were female but Malouf et al. found that no difference was seen between genders. The fact that patients think that feeling of pain is normal after surgical procedure. [23]

Additionally, respondents' pain intensity was associated with longer waiting time for pain medicine. Majority of them had waited for 15 minutes to have pain medicine. This result is similar with other study. [16, 21, 24] Comley and DeMeyer emphasized that patient satisfaction with nurse and physician treatment of pain was correlated with the amount of time waited for medication ($r = .32$, $P < .01$ and $r = .21$, $P < .05$ respectively), the shorter the waiting time, greater the satisfaction.[24] In contradictory to present study, Panteli and Patistea reported that less educated subjects reported significantly higher scores. These finding may focus the attention on whether the pain management was optimal. Low levels of satisfaction in past studies have been correlated with waiting a long time for medication (more than 15 min).[16] Addressing this issue, the World Health Organization recommends a pain ladder for managing pain and the drugs should be given "by the clock", that is every 3-6 hours, rather than "on demand".[25] WHO stated that drugs should be given by the clock, day and night. [26]

Though majority of the respondents were fully satisfied with overall post operative pain management, pain medicine must be administered by the clock to reduce the intensity of pain and decrease the pain interference.

Conclusion

More than half of the respondents were satisfied with post-operative pain management but severity was worst in first post operative day which was affected by education status and waiting time for pain medicine. Furthermore, respondents perceived on use of prescribed pain medicine and communication in terms of pre and post operative counseling of patients will be helpful for reducing post operative pain most effectively.

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References

1. Smeltzer SC, Bare BG. Brunner & Sudddarth's textbook of medical- surgical nursing: Pain management. J.B. Lippincott Company, Philadelphia: 2004, p. 216-248,10th edi,
2. International Association for the Study of Pain. Subcommittee on taxonomy pain terms: a list with definitions and notes on usage. Pain. 1979 (6): 249-252
3. International Association for the Study of Pain, Pain relief: A universal human right. Pain 2004(112):1-4.
4. Bostrom BM, Ramberg T, Davis BD, Fridlund B. Survey of post- operative patients' pain management. Journal of Nursing Management. 1997;5 (6): 341-349. doi: 10.1046/j.1365-2834.1997.00031.x
5. Human Right Watch Report. Managing pain effectively- Global state pain treatment. 2011.
6. Wells N, Pasero C, McCaffery M. Improving the quality of care through pain assessment and management. (n.d.)
7. Wu C L, Raja SN. Treatment of acute postoperative pain. Lancet 2011; 377(9784): 2215–2225. doi. org/10.1016/S0140-6736 (11) 60245-6.
8. Yates P, Dewar A, Edwards H, Fentiman B, Najman J, Nash R, et al. The prevalence and perception of pain amongst hospital in-patients. Journal of Clinical Nursing. 1998; 7 (6): 521-530. doi: 10.1046/j.1365-2702.1998.00192.x
9. Lellan KM. Postoperative pain: Strategy for improving patient experiences. Journal of Advanced Nursing. 2004; 46(2), 179–185. doi: 10.1111/j.1365-2648.2003.02977.x
10. Jamison NR, Ross JM, Griffin F, Levy J, Schaffer LJ. Assessment of postoperative pain management: Patient satisfaction and perceived helpfulness. Clinical Journal of Pain. 1997;13 (3): 229-236.
11. Apfelbaum JL, Chen C, Mehta SS, Gan TJ. A National Study, Patients' post-operative pain experience and the status of acute pain management. Anesth analog. 2003 (97): 534-540.
12. Lovatsis D, Jose JB, Tufman A, Drutz HP, Murphy K. Assessment of patient satisfaction with post operative pain management after ambulatory gynecologic laparoscopy. Journal of Obstetric Gynecology. 2007; 29 (8): 664-667.
13. Ferrell B. Pain management in elderly people. Journal of American Geriatric society. 1991(39): 64-73.
14. McNeill AJ, Sherwood DG, Thompson JC. Assessing clinical outcomes: Patient satisfaction with pain management. Journal of Pain and Symptom Management, 1998; 16 (1): 29-40. doi.org/10.1016/S0885-3924 (98)00034-7.
15. Wood S. Assessment and diagnosis for successful pain management. 2008, available from http://www.nursingtimes.net/nursing-practice/clinical-specialisms/pain-management/assessment-of-pain/1861174.article
16. Panteli V, Patistea E. Assessing patients' satisfaction and intensity of pain as outcomes in the management of Cancer- related pain. European Journal of Oncology Nursing. 2007; 11(5), 424-434. doi.org/10.1016/j.ejon.2007.09.002.
17. Anderson KO, Mendoza TR, Valero V, et al. Minority cancer patients and their providers. Cancer. 2000, (88): 1929-1938.
18. McCaffery M,Ferrell BR. Nurses' knowledge of pain assessment and management: How much progress have we made? Journal of Pain and Symptom Management. 1997 (14): 175-188.
19. Ohqvist R, Hallin S, Gelinder H, Samuelson S. A comparison between morphine infusion, meperidine and ketobemidone in continuous intravenous infusion for postoperative relief. Acta Anaesthesiology Scandinavica . 1991(35): 44-48
20. Cohen FL. Post surgical pain relief: patient's status and nurses medication choices. Pain 1980 (9): 265-274
21. Chunj JY, Lui JC. Postoperative pain management: Study of patients' level of pain and satisfaction with health care providers' responsiveness to their reports of pain. Nursing and Health Sciences. 2003 (5): 13–21. doi: 10.1046/j.1442-2018.2003.00130.x
22. Speizer FE, Horton S, Batt J, Slutsky AS. Disease Control Priorities in Developing Countries. Respiratory Diseases of Adults, 2nd edi.
23. Malouf J, Andion O, Torrubia R, Canellas M, Banos EJ. A survey of perceptions with pain management in Spanish inpatients. Journal of pain and symptom management. 2006 32 (4): 361-371 doi.org/10.1016/j.jpainsymman.2006.05.006.
24. Comely A, DeMeyer E. Assessing patient satisfaction with pain management through a continuous quality improvement effort. Journal of Pain and Symptom Management. 2001, 2 (1): 27-40. doi.org/10.1016/S0885-3924 (00)00229-3.
25. Shen Q, Sherwood GD, McNeill JA, Li Z. Post-operative pain management outcome in Chinese inpatients. Western Journal of Nursing Research. 2008; 30 (8): 975-990. doi:10.1177/0193945908319576
26. WHO. World Health Organisation Normative Guidelines on PainManagement. Report of a Delphi Study to determine the need for guidelines and to identify the number and topics of guidelines that should be developed by WHO Geneva. 2007.