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Assessing The Effectiveness of Patient Education in Postoperative Pain Management

			
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ABSTRACT

Post-operative pain is considered a serious public health problem both in developed as well as in developing countries. There is a need to improve post-operative pain organization and management. Pain should be prevented and controlled to a degree that facilitates function and quality of life. The study was intended to assess the effectiveness of patient counseling on the intensity of pain and analgesic use in post-operative patients, by comparing two groups as study group and the control group. The study group patients were educated about non-pharmacological pain management techniques and the importance of rational analgesic use. The intensity of pain was assessed using VAS- Visual Analog Scale and recorded in the data collection form. The impact of patient counseling on patient understanding, use of non-pharmacologic pain management techniques and analgesic use was assessed during a follow-up visit after discharge, using a questionnaire. The intensity of pain based on pain scale readings, the use of non-pharmacologic pain management techniques and analgesic use was compared between both study and control groups. T-test statistical method was used to show the significance in analgesic usage in the study and test group. A total of 103 patients were assessed over a period of six months. Among them, the study group patients used more non-pharmacological therapies (44.6%) and less analgesics use (28.2%) whereas control group patients used more analgesics (31.4%), and also observed that only 14.8% of patients did not use pain medication in the control group, while 50% patients did not use pain medication after discharge. In overall when comparing both groups on basis of level of pain it was found that most patients in control group experienced moderate (76.5%) to severe pain (12.7%) whereas in study group the patients experienced only mild (26.5%) to moderate pain (69.6%). Our study concludes that effective patient education reduces the usage of analgesics among postoperative patients and also enhances the usage of non-pharmacological pain management techniques.

INTRODUCTION

Pain can be defined as “An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.”¹ Globally 20% - 80% of patients undergoing surgery suffer from inadequately treated pain. Post-operative pain can be considered as a serious health problem both in developed as well as developing nations. There is a need to improve post-operative pain organization and management.^{2,3}

Patients who have undergone surgery experience a significant amount of pain associated with the surgery. Effective pain relief therapy using drugs is therefore considered to be of utmost importance for the wellbeing of the patients and the quality of treatment after surgery.⁴ Most commonly used analgesics are Opioid Analgesics, Non-Opioid Analgesics/NSAIDS, Adjuvant analgesics.^{5, 6} The application of psychological knowledge in physical therapy might range from providing reassurance to setting goals about the functional consequences of pain.⁷

ROLE OF PATIENT COUNSELLING IN POSTOPERATIVE PAIN MANAGEMENT:

Post-operative pain continue to be significant in healthcare, with a considerable number of patients experiencing severe pain after surgery and finding it more challenging⁸, hence it is essential that patient should have an understanding of the likely etiology of their pain, the treatment plan should be discussed and should include a description of recommended medications, injections and therapeutic exercise proper education ensures that patient will become an active participant in their treatment patient must be made to understand the necessary commitment to their program, as poor compliance with treatment may be the risk factor for poor patient outcome⁹. Aggressive analgesic treatment during the hospital stay should be provided along with a comprehensive patient education program.¹⁰

The National Drug Policy supports the use of generic drugs instead of brand names. Generic prescription has got special importance for rational use of drug as regards to cost, safety and efficacy by permitting the identification of the products by its scientific names.^{11,12}

MATERIALS AND METHODS

The study was a prospective observational study, carried out for six months. The study included the In-patients who were 18 years of age and above who were undergoing surgery under general surgery, orthopedics and gastro-surgical departments. Study data were collected using a specialized data collection form which was prepared and validated by the institutional ethical committee. Pain information was collected using VAS scale and was validated by a patient feedback form. Microsoft Excel was used for recording and analyzing the data of recruited subjects. Descriptive statistics including values and percentages with mean, standard deviation, and t-test were used to analyze data.

RESULTS AND DISCUSSION:

For 103 surgical patients, a total of 406 drugs were used, according to data collected up to postoperative day 2. The majority of drugs utilized were analgesics (29.8%) to manage pain and Antibiotics (27%).

These data show that the pre and post-operative treatment has majorly focused on pain management and surgical-related infection prophylaxis. The results were similar to a study conducted by Arshad M et al¹³.

There was observed to be increased use of analgesics by the control group (31.47 %) than study group (28.22 %) which received preoperative patient counseling, thus suggesting that patient counseling has a positive impact on analgesic use and may even prevent drug abuse. The results are similar to Armaenazgaia et al.

The most commonly prescribed class of analgesics overall was found to be non-opioid analgesic and the use of non-opioid analgesics was more in the control group (76.59%) than the study group (62.5%), which shows that the patients that received counseling, displays lesser tendency to use drugs for managing pain.

Table No. 1: Depicting total drug utilization

MEDICATION CLASS	STUDY GROUP		CONTROL GROUP		N=406
	N=209		N=197		
Analgesics	59	28.22	62	31.47	121(29.80)
Anti-Diabetic	46	22.00	40	20.30	86(21.18)
Anti-Hypertensive	15	7.17	14	7.10	29(7.14)
Anti-Thyroid	9	4.30	5	2.53	14(3.44)
Anti-Hyperlipidemic	11	5.26	20	10.15	31 (7.63)
Antibiotics	60	28.70	50	25.38	110(27.09)
Others	9	4.30	6	3.04	15 (3.69)

It was also found that opioid analgesics usage was seen more among inpatients (29.12%) than outpatients (17.47%) and the use of non-opioid analgesics was more in outpatients (80.58%) than inpatients (68.93%). This shows the prescribers keen on avoidance of drug dependence among the opioid analgesics.

Table No. 2: Distribution chart for analgesic usage

DRUG CLASS	STUDY GROUP		CONTROL GROUP	
	N=56	%	N=47	%
Non-Opioids	35	62.5	36	76.59
Opioids	19	33.92	11	23.40
Adjuvant therapy	2	3.57	0	0

While comparing both groups on basis of the level of pain it was found that most patients in the control group experienced moderate (76.59%) to severe pain (12.76%) while in the study group the patient's experienced only mild (26.5%) to moderate pain (69.6%), thus highlighting that the perception of pain or prior awareness of pain encounter reduces the intensity of the pain followed by operation. The results were similar to Sharif F et al.,¹⁵

Table No. 3: Illustrating the inpatient and outpatient analgesic usage pattern

DRUG CLASS	IN-PATIENT		OUT-PATIENT	
	N=103	%	N=103	%
Non-Opioids	71	68.93	83	80.58
Opioids	30	29.12	18	17.47
Adjuvant therapy	2	1.94	2	1.94

Table No. 4: Comparing pain score of both group

PAIN SCORE:	STUDY GROUP		CONTROL GROUP	
	N=56	%	N=47	%
No Pain (0)	0	0	0	0
Mild Pain (1–3)	15	26.7	5	10.63
Moderate Pain (4–6)	39	69.6	36	76.59
Severe Pain (7-9)	2	3.57	6	12.76
Worst Possible Pain (10)	0	0	0	0

As per the data collected from feedback form during follow-up after discharge it was found that the study group experienced less pain than the control group (26.7% and 69.6% respectively) which shows that the preoperative counseling regarding the pain will reduce the intensity of the pain after surgery. The majority of patients in the study group (44.64%) utilized non-pharmacological techniques to control pain whereas most patients from the control group (70.21%) used medication to control pain. These data reveal that patients with the knowledge of the side effects of analgesics will show hesitation on overuse of the analgesics or in other words patients' education towards the side effects of analgesics will improve the rational use.

From post-discharge follow-up, it was seen that patients in the study group had better understanding regarding analgesic drug use and non-pharmacological techniques when compared to control group patients. It was also seen that only 14.89% patients did not use pain medication.

Table No. 5: Depicting patient feedback form response

QUESTION	OPTIONS	STUDY GROUP	CONTROL GROUP
ITEM 1: What was the frequency of pain after discharge?	No pain	7.14	4.25
	Very rarely	16.07	25.53
	Occasionally	37.5	31.91
	Frequently	32.14	25.53
	Continuous	7.14	12.76
ITEM 2: Did the pain seem to restrict any Daily Life Activities?	No restriction	5.35	8.51
	Mild restriction	50	25.53
	Moderate restriction	32.14	38.29
	Severe restriction	10.71	17.02
	Very severe restrictions	1..78	10.63
ITEM 3: How did you attempt to relieve your pain?	No pain	7.14	4.25
	Consulted physician	3.57	10.63
	Tolerated pain	5.35	4.25
	Used Medication	39.28	70.21
	Used Non-Pharmacological techniques	44.64	10.63

ITEM 4: Do you feel that increased use of analgesics can be harmful?	Strongly Agree	25	21.27
	Agree	46.42	25.53
	Neutral	17.85	36.17
	Disagree	7.14	10.63
	Strongly Disagree	3.57	6.38
ITEM 5: Do you feel that the use of non-pharmacological techniques for pain management is more suitable (appropriate) than drugs after discharge?	Strongly Agree	23.2	17.02
	Agree	35.71	23.40
	Neutral	28.57	31.91
	Disagree	10.71	19.14
	Strongly Disagree	1.78	8.57
ITEM 6: How many doses of discharge medication did you utilize to relieve pain?	None	50	14.89
	Single dose	28.57	23.40
	Multiple doses/ Half the number of prescribed doses	12.5	40.42
	Entire number doses prescribed	8.92	17.02
	More than prescribed number of doses	0	4.25
ITEM 7: Do you believe that there are long term effects for chronic use of pain medication?	Strongly Agree	57.14	25.53
	Agree	26.78	42.55

	Neutral	8.92	19.14
	Disagree	7.14	8.51
	Strongly Disagree	0	4.25

Table No. 6: Illustrate the patients skipped their pain medication

Category	No of patients	Percentage	T value	P value
Study group	28	50	3.80244	0.000124*
Test group	7	14.89		

*significant at $p < 0.05$

After discharge in the control group while up to 50% of patients did not use any pain medication after discharge in the study group. Most of the analgesics are prescribed as sos in the discharge summary so the patients with knowledge of analgesic side effects will reduce the usage and improve the utilization of non-pharmacological techniques for the management of pain. The results data is thus contradicting to that of study conducted by Callaghan.P.etal.,¹⁶

CONCLUSION:

Our study concluded that preoperative patient education reduces the intensity of postoperative pain and that pain perception can play a major role in pain management. Clinical pharmacists can use effective patient education to aid in altering pain perception and reduce the usage of analgesics. So, the clinical pharmacist plays an important role in maintaining the rational use of analgesics. Hence from this research study, we conclude that effective patient education by clinical pharmacists has a key role in ensuring rational and effective pain management, therefore significantly improving the quality of patient's life.

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