

A Prospective Observational Study Evaluating the Postoperative Pain Experiences Inpatients of General Surgery Department at Tertiary Care Hospital

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ABSTRACT

Background: Postoperative operative pain is a common condition among postoperative patients. It is experienced by patients regardless of type of surgery. Severe pain after surgery is an unrecognized clinical problem and is associated with decreased patient satisfaction, delayed ambulation and an increased risk of cardiac and pulmonary complications.

Objective: To evaluate the postoperative pain experiences in patients of general surgery department at Government Medical College Hospital during three consecutive postoperative days.

To evaluate the prescribing practices of analgesics during the first three consecutive postoperative pain days.

Result: In this study of postoperative pain experiences and its management among the patients who underwent surgical procedures ,number of males undergoing surgeries was high .65 out of 100 patients (61.90%)were males .Majority of surgical procedures performed was appendectomy followed by hernioplasty .

41.9% patients underwent appendectomy and 25.7% patients underwent hernioplasty .More number were performed in patients between 18-33 years (38%) followed by those between 34-49years (36%).There was high incidence of mild – moderate pain (61.9%).Postoperative pain had significant impact with the activities of daily living .The mean interference score of doing activities in bed was 4.17+/-2.09 and 4.57+/-2.09 for doing activities out of bed and the mean interference score was 0.5+/-1.91 on sleep. The administration of analgesic had an association with patient 's perception of pain.

Conclusion:Postoperative pain had a substantial impact on patient 's activities of daily living. Patient centric management of postoperative pain reduces morbidity and improves patient satisfaction.

KEYWORDS: Post operative pain,Analgesic,Pain perception,Pain intensity.

I. INTRODUCTION

[1].According to the American Society of Anaesthesiologists practice guidelines for acute pain management in the perioperative setting, acute pain is defined as pain present after the surgery. The World Health Organization and International Association for the Study of Pain have recognised pain relief as a human right during the first “Global Day against pain” on October 11, 2004. Surgery is an action on human body that can have implications for pain .The WHO estimates that every year 230 million major operations are performed worldwide . Postoperative pain is a common condition among postoperative patients. It is experienced by the patients regardless of the type of surgery.

A large proportion of acute pain occurs during the 24 -72 hrs after surgery .Pain intensity shows how severe the pain is experienced by the individual and pain intensity is a subjective experience. Pain interference is a consequence of pain that affects the patient's ability to do daily chores.

Despite declaration of pain as the 5th vital sign ,alleviation of which is considered a human right and with recent advances in pain management ,still only less than 50% of patients receive adequate pain relief. Therefore ,there is a need for regular assessment of postoperative outcomes of pain management and patient satisfaction .

II. MATERIALS AND METHODS

The prospective observational study was conducted at General Surgery Department of Government Medical College and Hospital, Nagapattinam.

Study Material :

Patient data collection form was used to collect information about patient demographics, diagnosis and type of surgery and Modified questionnaire using Revised American Pain Society Patient Outcome Questionnaire as the reference which uses a 0-10 rating scale to quantify postoperative patient experiences. It includes questions about pain intensity and interference of pain in doing activities in bed, interference of pain in doing activities out of bed and interference of pain in sleep.

Study Procedure :

Each patient was interviewed for three consecutive postoperative days. Patient's demographic details like age, diagnosis, type of surgery, duration of hospitalization was collected from case sheets and patient's pain perception at 24 hrs, 48 hrs and 72 hrs was assessed on 0 (no pain)

to 10 (worst pain) numerical rating scale. Similar assessment was adopted to assess the pain interference on activities of daily living and patient's satisfaction to overall treatment.

Inclusion criteria :

- Patient's aged 18 years and older falling under American Society of Anaesthesiologists category I and II
- Both male and female patients were included in the study
- Patients who underwent surgeries in general surgery department

Exclusion criteria :

- Patients who were not willing to participate were excluded from the study.
- Patients who could not properly respond to the questions were excluded.

III. RESULTS

Age wise distribution of study population

The mean age of study participants in our study was found to be 39.89 \pm 14.02 years. The findings are given in table 1.

Table 1 : Age wise distribution of study subjects

S. No.	Age group	No. of Patients		Total	Percentage
		Males	Females		
1.	18-33	29	11	40	38%
2.	34-49	19	17	36	36%
3.	50-65	14	12	26	22%
4.	66-81	3	0	3	4.7%



Fig 1 : Age wise distribution of study subjects

Gender wise distribution of study subjects

Among the 105 patients included in the study, majority of participants (65, 61.90%) were males.

The findings are given in table 2.

Table 2 : Gender wise distribution of study subjects

S. No.	GENDER	No. OF PATIENTS	PERCENTAGE
1.	Males	65	61.90%
2.	Females	40	38.09%

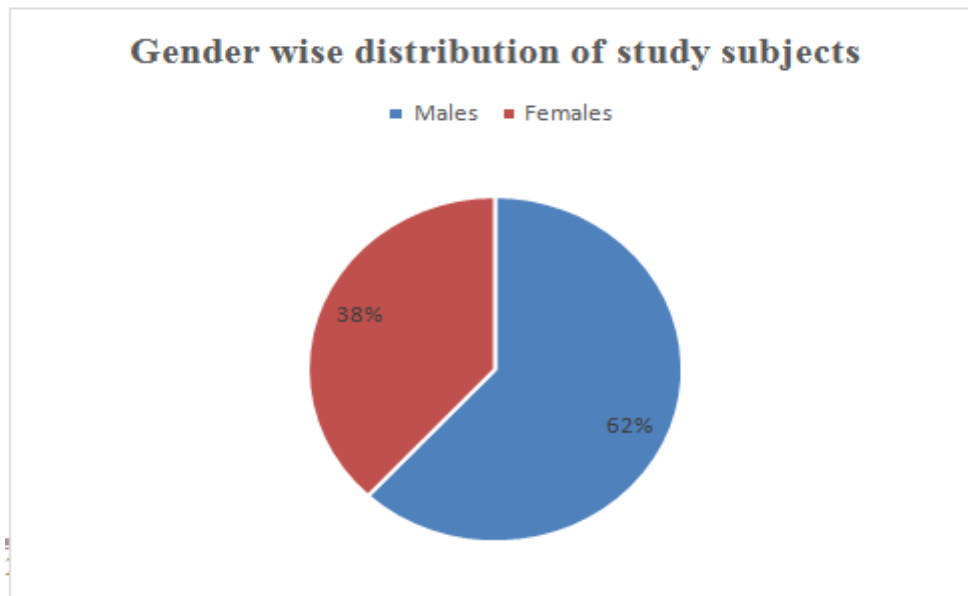


Fig 2 : Gender wise distribution of study subjects

Distribution of study subjects based on type of surgery

The distribution of type of surgeries from our study revealed that majority of surgical procedures performed include appendectomy in

41.9% (44) patients followed by hernia in 25.7% (27) patients, surgeries of thyroid gland was performed in only 9.51% (10) patients. The findings are given in table 3.

Table 3 : Distribution of study subjects based on type of surgery

S.No	TYPE OF SURGERY	NUMBER OF PATIENT			PERCENTAGE
		MALES	FEMALE S	TOTA L	
1.	APPENDECTOMY	22	22	44	41.9%
2.	HERNIOPLASTY	19	8	27	25.7%
3.	ANORECTAL PROCED URES	18	0	18	17.1%
4.	SURGICAL WOUND DEBRIDEMENT	3	3	6	5.71%
5.	HEMITHYROIDECTOM Y	3	4	7	6.66%
6.	TOTAL THYROIDECT OMY	0	3	3	2.85%

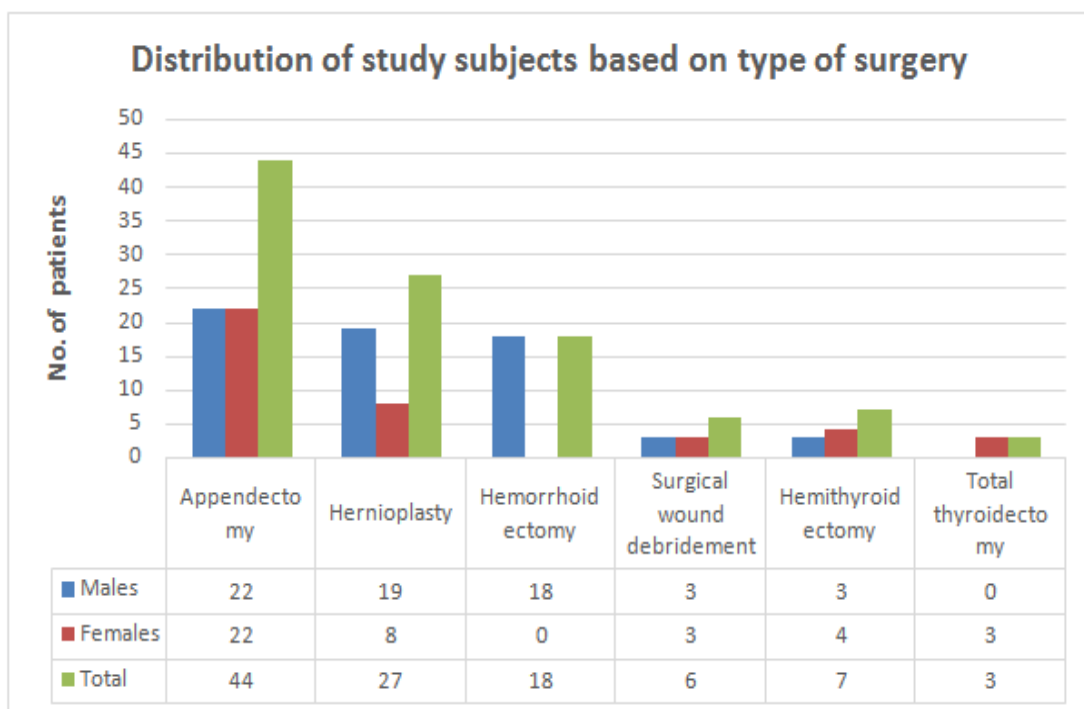


Fig 3 : Distribution of study subjects based on type of surgery

Impact of postoperative pain on activities of daily living

According to our findings, majority of patients 60% (64) experienced moderate to severe

level of interference of pain in doing activities in bed on postoperative day – 1, and the interference of pain on sleep was minimal.

Table 4 : IMPACT OF POSTOPERATIVE PAIN ON ACTIVITES OF DAILY LIVING

S.NO.	DOMAINS OF IMPACT	MEAN ± SD	LEVEL OF IMPACT			
			MILD	MODERATE	SEVERE	NO IMPACT
1.	INTERFERENCE IN DOING ACTIVITIES IN BED					
	24 H	4.17 ± 2.09	30 (28%)	38 (36%)	26 (24%)	11 (12%)
	48 H	2.07 ± 1.55	55 (52%)	28 (26%)	18 (17%)	4 (5%)
	72 H	1.83 ± 1.51	58 (55%)	14 (13%)	8 (7%)	25 (25%)
2.	INTERFERENCE IN DOING ACTIVITES OUT OF BED					
	24 H	4.57 ± 2.09	20 (19%)	51 (48%)	33 (31%)	1 (2%)
	48 H	2.30 ± 1.73	50 (47%)	35 (33%)	20 (20%)	0 (0%)
	72 H	1.97 ± 1.77	55 (52%)	33 (31%)	0 (0%)	17 (17%)
3.	INTERFERENCE IN SLEEP					
	24 H	0.50 ± 1.91	12 (11%)	0 (0%)	0 (0%)	93 (89%)
	48 H	0	0 (0%)	0 (0%)	0 (0%)	105 (100%)
	72 H	0	0 (0%)	0 (0%)	0 (0%)	105 (100%)
Scoring of impact on 0-10 scale : Slight : 1-3; Moderate : 4-6; Severe :7-10						

Perception of pain on three consecutive postoperative days

Mean pain score on postoperative days 1,2 and 3 was 3.44+/-1.85, 2.9+/-1.41, 1.70+/-0.77 respectively.

Table 5 : Perception of pain on three consecutive postoperative days

S. No.	Pain perception	Mean ± SD	Mild	Moderate	Severe
1.	Pain at 24 hrs	3.44 ± 1.85	65 (61.9%)	25 (23.8%)	15 (14.2%)
2.	Pain at 48 hrs	2.6 ± 1.41	65 (61.9%)	28 (26.6%)	12 (11.4%)
3.	Pain at 72 hrs	1.70 ± 0.77	71 (67.6%)	22 (20.9%)	12 (11.4%)

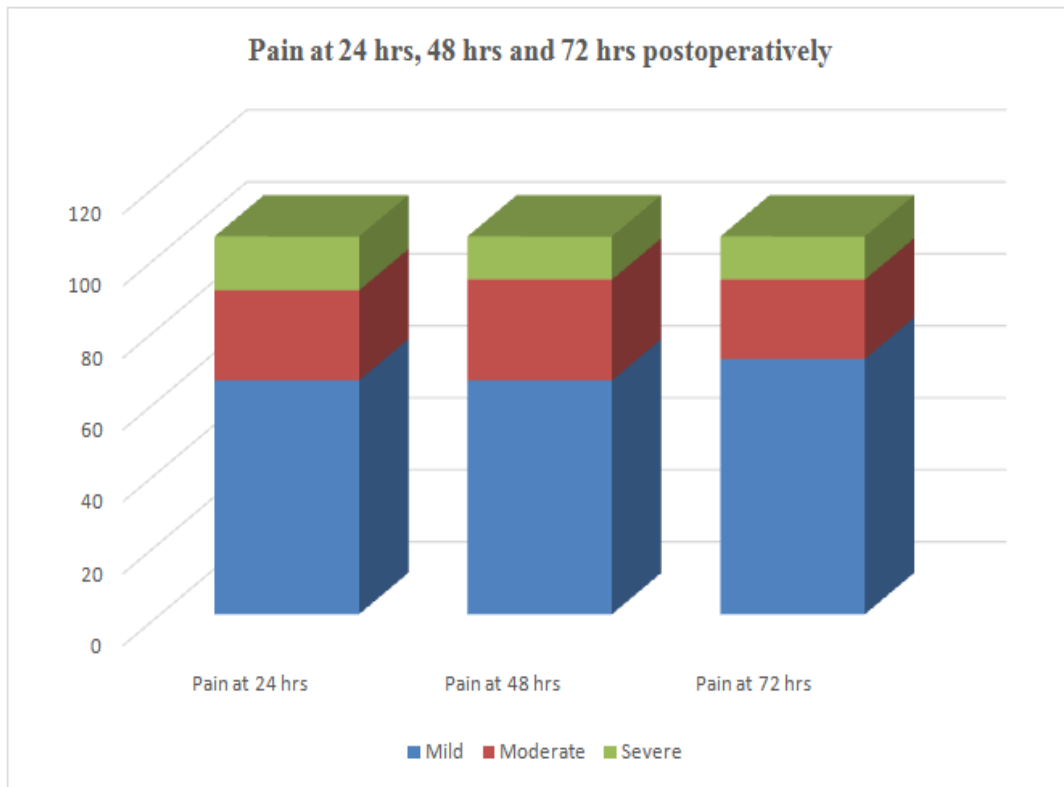


Fig 4 : Perception of pain on three consecutive postoperative days

Analgesics used on postoperative days 1-3

According to our study, there was an apparent relationship between the perceived level of pain and administration of analgesics. Inj. Paracetamol and diclofenac was used to treat mild

pain and a combination of inj. Tramadol and paracetamol was used to alleviate moderate and severe pain.

The findings are given in table 6.

Table 6 : Analgesics used on postoperative days 1-3

S. No.	Analgesic used	POD - 1	POD - 2	POD - 3
1.	Inj. Paracetamol 1g IV infusion BD	48 (45.7%)	85 (80.9%)	90 (88.2%)
2.	Inj. Diclofenac 50 mg IM BD	17 (16.1%)	0	0
3.	Inj. Tramadol 100 mg IM BD	25 (23.8%)	20 (19.0%)	15 (14.7%)
4.	Inj. Paracetamol + Inj. Tramadol	15 (14.2%)	12 (11.4%)	12 (11.4%)

Patient's satisfaction on overall pain management

The results of our findings reveal that large proportion of study population was moderately to very satisfied. The findings are given in table 7.

Table7: Patient's satisfaction on overall pain management

S NO.	LEVEL OF SATISFACTION	NUMBER OF PATIENTS	PERCENTAGE
1.	VERY SATISFIED	75	71 %
2.	MODERATELY SATISFIED	20	19 %
3.	MILDLY SATISFIED	10	9.5 %
4.	EXTREMELY DISSATISFIED	0	0 %
5.	EXTREMELY SATISFIED	0	0%

IV. DISCUSSION

Postoperative pain is an inevitable complication of any operating procedure. Despite advancements in its management, the impact on patient's quality of life post – surgery is significant. A patient centred approach in prescribing analgesics helps to reduce the morbidity and duration of hospital stay.

Out of the surgeries performed, our study found that majority of surgeries performed was appendectomy. This is relevant to the study conducted by M.Jawaid et al., . This can be partly attributed to the age group of study population as patients in the age group of 18 – 33 years constituted greater proportion.

The findings of our study demonstrated that mean interference score for doing activities in bed was 4.17+/-2.09 and 4.57+/-2.09 for doing activities out of bed and mean interference score on sleep was 0.50+/-1.91. Interference of postoperative pain on sleep was minimal. This was in accordance with the study conducted by Sharma S K et al.,.

According to our study, the most common analgesic used was paracetamol in both monotherapy and in combination therapy. This varied with the study done by Ghosh S et al., which reported NSAIDs like diclofenac as the commonly used drug.

Similar to the study by M. Jawaid et al., majority of patients in our study were very satisfied with overall pain management.

V. CONCLUSION

The assessment of pain interference in activities of daily living post – operatively revealed

a substantial impact on the patients particularly on postoperative day 1. However, there was a noticeable reduction in the level of interference over the period of three days, indicating a positive outcome. Finally, patient centric management of pain increases postoperative patient outcomes and improves patient satisfaction.

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