

“PRESCRIPTION TRENDS OF ANALGESICS IN POSTOPERATIVE UNITS IN A TERTIARY CARE HOSPITAL”

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ABSTRACT

The goal of the study was to evaluate the therapeutic effectiveness of analgesics. **Materials and Methods:** A prospective observational study was carried out for a period of six months at General Surgery, OBG, and Orthopedics department of Basaveshwara Medical College & Hospital, Chitradurga. **Results:** A total of 161 patients were enrolled the study of which 61 were males and 100 were females aged above 21 years from the General surgery, OBG, Orthopedics departments. Surgeries were seen more in Orthopaedic department. Female patients were more than male. Tramadol & Diclofenac were the most commonly prescribed class of analgesics during the study period.

Paracetamol were the least prescribed analgesics. In this study the preferred route of drug administration for analgesics was intravenous route. Dual therapies were commonly preferred and more effective for postoperative pain than mono therapy. **Conclusion:** This study concludes that Tramadol & Diclofenac were the first line choice of analgesics for Post operative pain.

KEYWORDS: Prescription pattern, Analgesics, OBG, Tramadol, Dual therapy.

INTRODUCTION

PAIN is a sensory & emotional experience. The emotional component is variable from person to person & in the same person from time to time. The International Association for Study of Pain (IASP) defines pain as an unpleasant sensory & emotional experience associated with actual or potential tissue damage or describes in terms of such damage.^[1]

Pain is occurring in varying degrees of severity as a consequence of injury, disease, or emotional disorder. Poor pain control is unethical, clinically unsound and economically

wasteful. The recent initiative of including pain as fifth vital sign in health care has emphasized pain assessment is equally important to that of temperature, pulse, blood pressure, and respiratory rate recording.^[2]

Postoperative pain is one of the main postoperative adverse outcomes causing distress to patients, prolonging stays in ambulatory care units, and increasing the incidence of unanticipated admissions after surgery. The surgical injury can lead to chronic pain is now well established.^[4]

Analgesics are defined as the drugs that relieve pain without blocking nerve impulse conduction or markedly altering sensory function. Large varieties of analgesics are available in the market which may lead to the problem of irrational prescription.² The concept of preemptive analgesia has become increasingly popular where in anti-nociceptive treatment is started before the onset of pain such treatment prevents the establishment of altered central processing which normally amplifies post operative pain by sensitizing the central nervous system to sensory input.^[3]

A diversity of combinations is currently employed in clinical practice, and well documented 'gold standards' do not exist and also many patients do not receive the prescribed intervention due to organizational problems with handling of these often rather complex prescriptions. Hence, there are important scientific and organizational arguments to systematically document benefit and harm of currently applied 'multimodal' analgesic regimens.⁸ Insufficient management of postoperative pain results in a number of 'negative effects' on the community, including disrupted sleep patterns, longer recovery periods, and a general delay in return to normal work and function. Despite the availability of evidence-based reports and guidelines, postoperative pain is recognized internationally as being under-managed.^[10]

METHODOLOGY

Study design: This was a prospective observational study.

Study site: The study was conducted in OBG, Surgical and Orthopedics department of Basaveshwara Medical College & Hospital, Chitradurga.

Study period: The study was conducted over a period of six months from 2016 to 2017.

Study subjects: Postoperative patients who were presented to the OBG, Surgical and Orthopedics wards of the hospital during the study were eligible for enrolment. Patient who met the following criteria were enrolled.

Inclusion Criteria

- Patients of both gender from age 21-60years.
- Patients who are willing to participate in the study.
- Patients were admitted in Surgical ward, OBG, Orthopaedics.

Exclusion Criteria

- Comatose patients.

Ethical approval

The study was approved by the Institutional Ethical Committee of Basaweshwara Medical College Hospital & Research Centre, Chitradurga.

Vide number: SJMCP/IEC/26/2016-2017.

Sources of data

- Medical records of Postoperative patients.
- Interview with patients and/or care takers.

Study procedure

- The study was started after obtaining the approval from institutional ethical committee (IEC) of SJM college of Pharmacy.
- Patients who satisfied the above study criteria were included in the study after taking the informed consent.
- The study was conducted on patients undergone surgery. The medical records of such patients were reviewed. The patient's demographics, medical and medication history, clinical data such as diagnosis, clinical condition; therapeutic data such as name of the drug, dose, route, frequency, duration of therapy and other relevant details by reviewing their prescriptions and medical records. Pain scores were collected from patient by using 0-10 pain rating scale.

Statistical analysis

- The data were entered in Microsoft excel and data were analyzed by SPSS software version 19.
- Categorical data were presented as frequency and percentage and qualitative data will be presented as measures of central tendency and dispersion. One sample t test was used to compare the means of two variables.

RESULTS

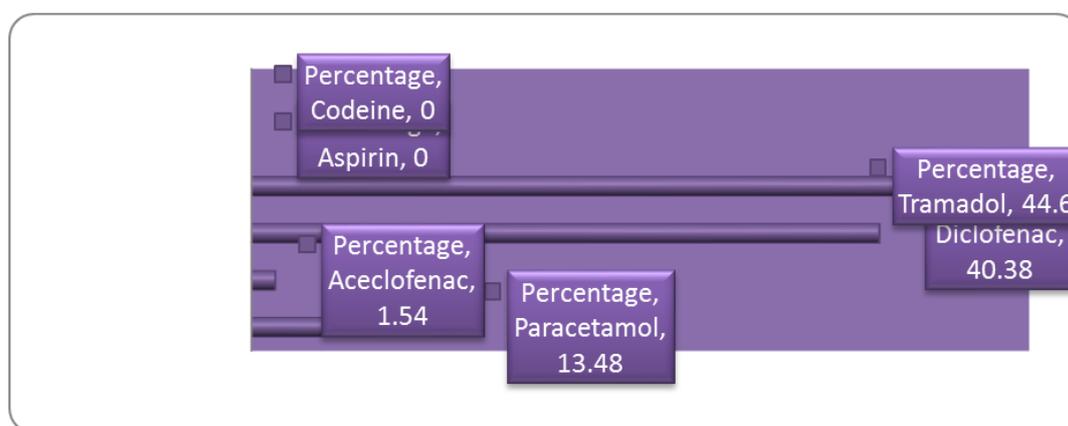
A total of 161 patient's data was collected from in-patient of medicine and psychiatry department from the hospital. Among the whole 161, 61 were males and 100 were females. This study showed that the effectiveness of Tramadol and Diclofenac is more in Postoperative patients.

Prescription Pattern of Analgesics

Analgesics used in the study population were identified and categorized. Out of 161 patients majority of the prescription share was for Tramadol 116 (44.60%) followed by Diclofenac 105 (40.38%), Paracetamol 35 (13.48%), Aceclofenac 4 (1.54%), Aspirin 0 (0%) & Codeine 0 (0%). The prescribing pattern of analgesis is explained in Table below.

Prescription pattern of analgesics (n=260)

Sl. No	Analgesics	Total number	Percentage
1	Paracetamol	35	13.48
2	Aceclofenac	4	1.54
3	Diclofenac	105	40.38
4	Tramadol	116	44.60
5	Aspirin	0	0
6	Codeine	0	0
	Total	260	100

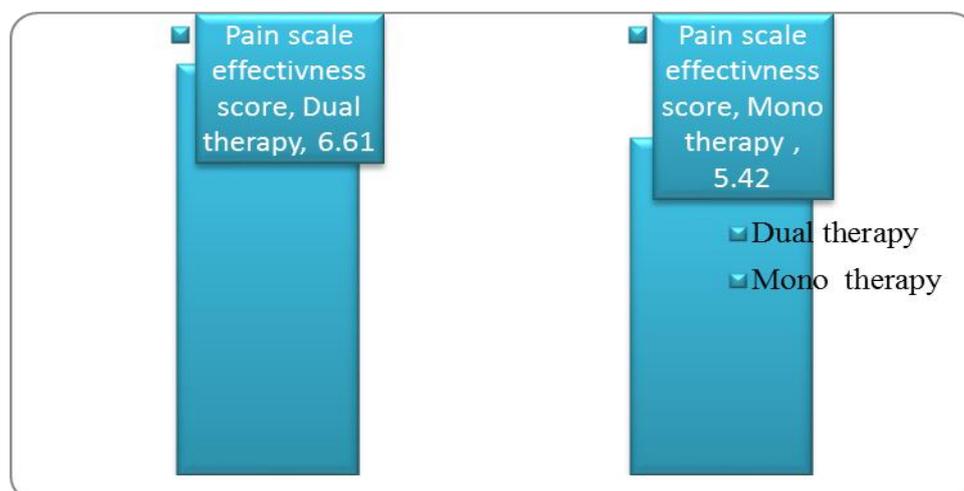


COMPARISON OF OVERALL MEANS SCORE OF MONO THERAPY VERSUS DUAL THERAPY ACCORDING TO PAIN SCALE SCORE (ONE SAMPLE STUDENT T TEST RESULT).

The mean score of mono therapy versus dual therapy according to pain scale are presented in table no 7 and graph no 7. The mean score of dual therapy (6.61) suggesting that it is more effective for post operative pain and mean score of mono therapy (5.42) is less effective.

Comparison of overall mean score of Mono therapy versus Dual therapy according to pain scale.

Regimen	No of patients (n)	Pain scale effectiveness score Mean (SD)	SEM	T value	P value (CI 95%)
Dual therapy	89	6.61(1.12)	0.13	47.63	0.000(sig)
Mono therapy	67	5.42(0.76)	0.08	66.09	0.000(sig)



DISCUSSION

Pain relief after surgical procedures continues to be a major medical challenge. The present study was a hospital based descriptive study conducted among subjects undergone surgery, attending OBG, Surgery, Orthopaedics departments of a tertiary care hospital and mainly focused on prescription pattern and effect of analgesics. In our study found that surgeries were seen more in Orthopaedic department than OBG and General surgery departments. Age group of 51-60 were seen more in the study who undergone surgery. Female patients were more when compared to male patients. Tramadol were the most commonly prescribed Analgesic. Adjuvant therapies along with analgesics were not found in our study. Intravenous administrations are most preferable route. Dual therapies of analgesics were mostly preferred and effective for the management of post operative pain.

A study conducted by Kumarasingam T on Drug utilization pattern of analgesics among postoperative patients in a tertiary care hospital, the study population consisted of 56 postoperative patients of which 45%(25) were male and 55%(31) were female. Of these 39%(22), 36%(20) and 25%(14) were from General surgery, Obstetrics & gynaecology and Orthopaedic departments respectively. Diclofenac (60%) was the most commonly prescribed drug followed by Tramodal(37%). Intra muscular administration was the most preferred route. This study has suggested that postoperative pain control was able to be achieved by nonopioid drug Diclofenac alone itself and opioid analogues have been added to patients for whom pain relief could not be achieved.

A study was done by Mala M, Comparison of the Effectiveness of Unimodal Opioid Analgesia with Multimodal Analgesia in the Management of Postoperative Pain in Patients Undergoing Surgery under Spinal Anesthesia-Double Blind Study. A total of 120 patients who underwent infra-umbilical surgeries under spinal anesthesia. Combining an Opioid and an NSAID, like Tramadol or Pentazocine with Piroxicam, provides better post-operative pain relief than giving an opioid alone. The mean VAS scores of the patients in group Tramadol was lower, hence better pain relief, than Pentazocine group at all time periods.

CONCLUSION

According to the analyzed results and from view of literature, the conclusions made are; In the current scenario a number of analgesics are available in the market and the patient to patient drug response varies. In our study combination therapy was more effective while comparing to mono therapy. The study shows that tramadol +diclofenac are more effective in combination therapy. Tramadol were the most commonly prescribed analgesic. Adjuvant therapies along with analgesics were not found in our study. Intravenous administrations are most preferable route. Dual therapies of analgesics were mostly preferred and effective for the management of post operative pain. Post operative pain is one of the major health issues which affects the daily livelihood of human kind.

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CONFLICT OF INTEREST: The authors declare no conflict of interest.

ABBREVIATION USED

AH: Abdominal hysterectomy; ASATF: American Society of Anesthesiologists Task Force; COX: Cyclooxygenase; CS: Caesarean section; IASP: International Association for Study of Pain; IP: In Patient; IV- PCA: Intravenous patient controlled analgesia; NSAID: Non-Steroidal Anti-Inflammatory Drugs; OBG: Obstetrics and Gynecology; PA: Preemptive analgesia; PCA: Patient-controlled Analgesia; PCEA: Patient-controlled epidural Analgesia; PCRA: Patient-controlled regional Analgesia; SPSS: Statistical Package for Social Service; VAS: Visual Analog Scale; WHO : World Health Organization.

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