Pain Management in a Tertiary Care Setup: Assessing Patient Satisfaction and Pain Relief

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ABSTRACT

The aim of this study was to assess patient satisfaction and pain relief before and after interventions for chronic pain in a tertiary care pain clinic. It was a cross-sectional study, carried out in the Anaesthesia, Pain, and Intensive Care Department of the Combined Military Hospital, Rawalpindi, Pakistan, from January to July 2021. The patients were included in the study after obtaining an Ethical Committee Certificate and informed consents from the patients. The pain scores and patient satisfaction were measured before the procedure and after the procedure and comparisons were drawn with the help of Chi-square analysis with significance at less than 0.05. The mean visual analogue score recorded in the patients before the procedure was 8.9 ± 0.846. The mean visual analogue score (VAS) recorded after the procedure was 1.56 ± 1.328 at 10 minutes, 1.77 ± 1.535 at day three, and 3.13 ± 1.522 at three months with p-value of 0.28, 0.20, and 0.007, respectively. The patient satisfaction was 84.19 ± 13.89% at 10 minutes post-procedure, 83.08 ± 14.82% after three days, and 70.79 ± 44.5% after three months. Pain interventions provided reliable and satisfactory analgesia to patients with chronic pain who were refractory to pharmacological treatment. Moreover, chronic pain was prevalent in all adult age groups and pain interventions were effective in all age groups alike.

Key Words: *Intervention, Pain, Patient satisfaction, Visual analogue scale*.

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Pain is a physiological phenomenon that also harbours some non-physiological counterparts which aid its perception such as the type of personality, cognitive behaviour, personal belief, social behaviour, cultural traits, and emotional character of the patient. Regardless of the type of pain, there are three successive mechanisms involved in its perception identified as transduction, transmission, and modulation.[1] It is a patients' personal experience intertwined with psychological, biological, and social aspects.[2] Its expressions are immense. It has been described subjectively in terms of similes such as whirling wind, heavyweight, and red colour.[3] Pain relief is recognised as a basic human right according to the Declaration of Montreal. Under this declaration, it is the prerogative of every human being to have access to adequate assessment and treatment of pain.[4] That is why pain is now considered as a vital sign.

The objective of this cross-sectional study was to assess the effectiveness of pain interventions given to the patients with chronic pain in a pain clinic.

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The study was carried out in the Anaesthesia, Pain, and Intensive Care Department of CMH Rawalpindi, Pakistan, from January to July 2021 after approval from the Hospital's Ethical Committee. A sample of 180 was calculated with the help of a WHO sample size calculator keeping confidence level of 95%, margin of error 5%, and patient proportion of 7%. However, the authors included 315 patients in the present study by purposive sampling. Patients aged between 18 and 85 years were included in the study who had chronic pain, refractory to medical treatment, and did not have any history of prior intervention for pain relief. Paediatric patients and patients with neurological and psychiatric problems were excluded from the study.

All patients were clearly explained the purpose of the study and written informed consent was taken. Their contact information was also noted. The preoperative pain scores were recorded through a visual analogue scale (VAS). The procedure was done by a single pain specialist who had done the first fellowship in Anaesthesiology and the second fellowship in pain medicine. Two imaging modalities were used to perform the procedures that were: Image intensifier (C-ARM) and an ultrasound machine. Intravenous access was achieved with a 22-gauge cannula. Subsequently, the patient was scrubbed with Virkon and draped. There were a variety of procedures which were performed as described in Table I. These procedures were performed in the following diseases i.e., backache and leg pain, headache, chest pain, trigeminal neuralgia, knee and shoulder pain, abdominal pain, neck pain, ankle pain, and postherpetic

neuralgia. Triamcinolone (40 mg) which is a corticosteroid and local anaesthetic bupivacaine (0.125%) were used. The concentration of medicine was kept constant, but the volume was adjusted according to the site of injection. All patients were observed in the recovery room for 30 minutes. VAS was recorded at 10 minutes and the patients were discharged after that.

Table I: The prevalence (frequency) of various pain interventions (n = 315).

Pain intervention	Frequency, n (%)
Caudal block	92 (29.2)
Celiac plexus block	3 (1)
Cervical ESI	15 (4.8)
Erector spinae plane block	13 (4.1)
Facet joint block	4 (1.3)
Fascia iliaca block	1 (0.3)
Femoral nerve block	1 (0.3)
Ganglion impair block	5 (1.6)
Gasserian ganglion block	7 (2.2)
Genicular nerve block	4 (1.3)
Genicular RFA	2 (0.6)
Greater occipital nerve block	1 (0.3)
I/A injection	18 (5.7)
I/A ozone injection	3 (1.0)
Lumbar plexus block	1 (0.3)
Paravertebral block	1 (0.3)
Piriformis muscle injection	3 (1.0)
Sacroiliac joint injection	28 (8.9)
Saphenopalatine block	1 (0.3)
Serraitus anterior plane block	1 (0.3)
Subcutaneous injection	1 (0.3)
Suprascapular nerve block	9 (2.9)
Transforaminal ESI	91 (28.9)
Transversus abdominis plane block	2 (0.6)
Trigger point injection	6 (1.9)
Zygomaticotemporal nerve block	2 (0.6)

Records of the following parameters was made for the purpose of analysis: Patients' age, gender, disease, intervention, imaging technique used, visual analogue score, and patient satisfaction. The pain was measured through visual analogue scale and VAS was recorded before the procedure, and 10 minutes, three days, and three months after the procedure. Patients were asked to rate their pain along a 100 mm horizontal scale with a pointer at every one cm along the length of the scale. The millimetres on the scale were equivalent to the pain score. Patient satisfaction was measured on a scale of zero to 100 percent. The data were recorded and analysed through Social Package of Statistical Science (SPSS) version 26. Mean ± SD were calculated for continuous variables such as age and VAS. Frequencies and percentages were calculated for gender and pain interventions. Chi-square analysis was done to compare preoperative and postoperative pain scores and patient satisfaction and sample t-test were used to compare means between the two groups. A p-value of less than 0.05 was considered significant.

The mean age of the patient was 48.88 ± 15.803 years. There were 151 (47.9%) females and 164 (52.1%) males in the study group. The mean VAS recorded before the procedure was 8.9 ± 0.846 in the patients. The mean VAS recorded after procedure was 1.56 ± 1.328 at 10 minutes, 1.77 ± 1.535 at three days, and 3.13 ± 1.522 at 3 months with p-value of 0.28, 0.20, and 0.007, respectively. The patient satisfaction was 84.19 ± 13.89 percent at 10 minutes post-procedure, 83.08 ± 14.82 percent after three days and 70.79 ± 44.5 after three months. The most common treatment was caudal block done in 92 (29.2%) patients, the second was transforaminal epidural steroid injection given to 91 (28.9%) patients, and third most common procedure was Sacroiliac joint injection given to 27 (8.6) patients (Table I). Image intensifier was used in 246 (78.1%) procedures and ultrasound was used in 69 (21.9%) procedures.

In the 16th century, doctors prescribed opium for pain alleviation, in the 18th century, ether and chloroform were seen as important painkillers, and in the 19th century, morphine and heroin hijacked the horizon of pain remedies.[5] Although the first pain procedure performed dated back to the 18th century, when Tuffer gave a nerve block in 1899, the formal start of interventional pain was marked by the start of the 21st century.[6]

The most common complaint of the patients in the present study group was lower backache (73.7%) with the mean age of patients presenting with lower back pain being 47.56 ± 15.84. There was a greater number of males than females with lower backache in the study group although the global prevalence of lumbago is higher in the female gender. The two most common interventions given for chronic lower backache were caudal block and transforaminal epidural steroid injection. Patient satisfaction is the most important outcome of any clinical intervention.

The careful management of chronic pain can have lasting effects on patients' lives. The underlying causes must be identified before giving any invasive treatment to subside it. The pain interventions break the cycle of pain and allow patients to mobilise. These are especially helpful in patients with musculoskeletal diseases such as ankylosing spondylitis. The physical rehabilitation after intervention also helps in the persistence of analgesia. Physical activity can prevent centrally mediated chronic pain and a sedentary lifestyle is a risk factor for the development of the chronic pain. The authors concluded that pain interventions provide reliable and satisfactory analgesia to patients of chronic pain who are refractory to pharmacological treatment. Moreover, chronic pain is prevalent in all adult age groups and pain interventions are effective in all age groups alike.

The study was conducted on adults only. The demographics, comorbid, and medical treatments were not recorded for the purpose of simplicity. These constitute the main limitations to the generalisation of the results.

PATIENTS' CONSENT:

All patients were clearly explained the purpose of the study and written informed consent was taken.

COMPETING INTEREST:

The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION:

MRI: Conception of study, drafting, data collection and interpretation.

AA: Drafting, data collection, and analysis.
MI: Design of study and interpretation of data.
SMW: Design of study, data collection, drafting, and interpretation.
MA: Conception of study, drafting, and interpretation of data.
MTT: Conception of study, analysis of data, and final approval.
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