

**UNIVERSITI TEKNOLOGI MARA**

**EVALUATION OF ANALGESIC USE IN  
ORTHOPAEDIC POSTOPERATIVE ACUTE  
PAIN MANAGEMENT**

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Dissertation submitted in partial fulfilment of the requirements  
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## AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This dissertation has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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## ABSTRACT

*Objective:* The main purpose of this study is determine the pain score profile of patients prescribed with analgesic using the Short Form McGill Pain Questionnaire and to assess the use of analgesic drugs in orthopedic post operative patients is appropriate.

*Method :* A cross sectional study was conducted on 102 patients undergoing orthopaedic surgeries in Hospital Kajang, Selangor. The data was collected between August and November 2011. Data collection was carried out using the Short-Form McGill Pain Questionnaire (SF-MPQ). Patients pain score was measured using VAS pain score (1 to 10), on day 1 of operation (D1), day 3 (D3) and on last day of treatment (DL). Descriptive statistics were used to describe demographic data. Pearson Chi-square was used for all categorical data. The Independent T-test was applied to compare mean pain score with two categorical variables. One-way analysis of variance (ANOVA) was used to compare mean pain score with categorical variables of more than 2 groups. For the cost of medications taken by patients during their hospitalization, Spearman's Rho Correlation Coefficient was used to see the correlation between drug costs and pain score with other numerical variables. Repeated Measure ANOVA was used to investigate the pattern or changes in pain score from day 1(D1) to last day of treatment (DL) in different categorical variables. Mean and standard deviations value for Sensory and Affective Descriptors was also calculated. A *p* value of <0.05 was considered statistically significant with a confidence interval of 95%.

*Results:* This study found that the mean difference between the 3 days after operation was significantly different ( $p < 0.001$ ). The mean pain score was  $6.52 \pm 2.18$  on D1,  $3.72 \pm 1.69$  on D3 and  $0.93 \pm 0.85$  on DL of treatment respectively. There were no significant difference in total pain score between male ( $133.37 \pm 93.23$ ) and female patients ( $158.94 \pm 77.20$ ). Further analysis with Repeated Measure ANOVA found a significant reduction ( $p < 0.05$ ) of pain score between male and female ( $p = 0.0109$ ) on D1 to DL. There was a significant reduction ( $p < 0.05$ ) of pain score between duration of treatment ( $p = 0.016$ ) on D1 to DL. There was also a low, positive correlation between Analgesia Drug Cost and Patients' Pain Score ( $r = 0.311, n = 102, P = 0.001$ ), Analgesia Cost and Duration of Treatment ( $r = 0.468, n = 102, P = < 0.001$ ) and Analgesia Cost and Duration of Operation ( $r = 0.383, n = 102, P = < 0.001$ ).

*Conclusions:* This study found that there was a significant reduction in pain levels of patients from D1 to DL after surgery. This illustrates that the use of proper medication can produce positive outcome. The selection of appropriate drugs is important to ensure the effectiveness of treatment, to achieve patient satisfaction and to reduce side effects of drugs and complications after surgery.

*Keywords:* analgesic, postoperative, acute, pain management

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