

UNIVERSITI TEKNOLOGI MARA

**UTILIZATION OF NON-STEROIDAL
ANTI-INFLAMMATORY DRUGS IN
ORTHOPAEDIC WARD AT
AMPANG HOSPITAL**

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Dissertation submitted in partial fulfilment of
the requirement for the degree of
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AUTHOR'S DECLARATION

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

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

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ABSTRACT

Non-steroidal Anti-Inflammatory Drugs (NSAIDs) are among the most frequently prescribed medications worldwide. NSAIDs are among the group of drugs which contribute to most-reported cases of adverse drug reactions and their safety profiles always become a concern. Despite its therapeutic effects, many studies have shown that chronic NSAIDs use heightens the risk of gastrointestinal complications, acute renal failure, and cardiovascular event. This is a retrospective drug utilization study of NSAIDs available at Ampang Hospital. Patient's data were extracted from electronic system namely eHIS. The objective of the study is to describe the utilization pattern of NSAIDs in orthopaedic ward at Ampang Hospital. The specific objectives for this study are to assess the pattern of NSAIDs prescribed, to estimate Define Daily Dose (DDD) for each NSAIDs prescribed, to determine relation in pattern of NSAIDs usage with patient's characteristics and to identify potential NSAIDs prescription related problem. A total of 210 patient records were retrieved from eHIS system in Ampang Hospital with the median age of 31 years old. Based on the DDD's calculated, the most prescribed NSAIDs were diclofenac tablet (80.46), diclofenac injection (19.25), meloxicam (1.25) and ibuprofen (0.35). Majority of patients received NSAIDs for 4 to 7 days. Analgesics were being prescribed to the patients in the ward regardless types of pain and types of disorder ($p=0.280$, $p=0.299$) respectively. However, types of injury with p -value of 0.007 showed that it has statistically associated with types of analgesic prescribed during study period. Among the NSAIDs user, there were 8.4% had chronic conditions such as hypertension, diabetes mellitus and cardiovascular disease. The prevalence of concurrent antihypertensive usage among all NSAIDs user were 1.8%. All potential drug-drug interactions with NSAIDs were involving diuretics and ACE Inhibitors. This study also able to show NSAIDs drug utilization practice among patients especially who were at risk for NSAIDs adverse event or who have chronic conditions that should be monitored closely for adverse event. Within one year after the study period, none of the patient has been admitted due to gastrointestinal complications but there were 3.2% patients being started on gastroprotective agent. Nevertheless, the gastrointestinal complications were not dependent on age group, gender and ethnicity factor ($p=0.606$, $p=0.269$, $p=0.163$) respectively. These results should raise awareness to prescribers and pharmacist of such risks and work collaboratively to encourage safe prescribing and use of NSAIDs. Pharmacist also plays a key role in the overall operation of the drug utilization program to provide a more comprehensive understanding of NSAIDs utilization pattern.

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