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Evaluation of Analgesic Swamedication Rationality In West Java Tourist Site

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Abstract

Self-medication or swamedications is often an alternative taken by the society including people who are in tourist site, to improve the affordability of treatment. In the implementation of self-medication carried out by the society can be a source of medication-related errors due to the limited knowledge of the society about drugs and their use (Drug related problem). One class of drugs that are often used for self-medication is analgesic used to treat pain. The use of analgesic is often without clear indications, determination of the dosage and duration of improper administration. So that drug administration by self-medication should follow the rational drug use requirements. This study aims to evaluate the rationality of several analgesic used by the society in the tourist cities in West Java. This study is a cross sectional study. The research uses ATC/DDD and Drug Utilization 90% (DU90%) methods. The data were obtained using qualitative methodology with structured interview to 218 patients who used analgesic drugs without prescription at the pharmacy in one of tourist site in West Java. The research showed that the selection pattern of analgesic groups was piroxicam totaling 53 people or 24.31% with the value of 60 DDD at 2 times daily use, sodium diclofenac had a value of 21 DDD, mefenamic acid 25 DDD, meloxicam 29 DDD, paracetamol 7.496 DDD, mothers profen 7.67 DDD, and antalgin 1.39 DDD. According to WHO, the drug is declared rational if the maximum value defined by the lecturer is 20 DDD. The main limitation of this study is that it was a cross- sectional survey. Therefore, it illuminates the current situation, which may differ in other seasons and city.

Keyword : Selfmedication, analgesics, Tourism

Abstrak

Pengobatan sendiri atau swamedikasi seringkali menjadi alternatif yang dilakukan oleh masyarakat termasuk masyarakat yang berada di lokasi wisata, untuk meningkatkan keterjangkauan pengobatan. Dalam pelaksanaan pengobatan mandiri yang dilakukan oleh masyarakat dapat menjadi sumber kesalahan terkait pengobatan karena terbatasnya pengetahuan masyarakat tentang obat dan penggunaannya (Drugrelated problem). Salah satu golongan obat yang sering digunakan untuk pengobatan sendiri adalah analgesik yang digunakan untuk mengatasi nyeri. Penggunaan analgesik seringkali tanpa indikasi yang jelas, penentuan dosis dan lama pemberian yang tidak tepat. Sehingga pemberian obat dengan pengobatan sendiri harus mengikuti syarat penggunaan obat yang rasional. Penelitian ini bertujuan untuk mengevaluasi rasionalitas beberapa analgesik yang digunakan oleh masyarakat di kota-kota wisata di Jawa Barat. Penelitian ini merupakan penelitian cross sectional. Penelitian ini menggunakan metode ATC/DDD dan Drug Utilization 90% (DU90%). Data diperoleh dengan menggunakan metodologi kualitatif dengan wawancara terstruktur terhadap 218 pasien pengguna obat analgesik tanpa resep di apotek salah satu tempat wisata di Jawa Barat. Hasil penelitian menunjukkan pola pemilihan kelompok analgesik adalah piroksikam berjumlah 53 orang atau 24,31% dengan nilai DDD 60 pada pemakaian 2 kali sehari, natrium diklofenak bernilai 21 DDD, asam mefenamat 25 DDD, meloxicam 29 DDD, paracetamol 7,496 DDD, ibu profen 7,67 DDD, dan antalgin 1,39 DDD. Menurut WHO, obat tersebut dinyatakan rasional jika nilai maksimal yang ditetapkan dosen adalah 20 DDD. Keterbatasan utama penelitian ini adalah survei cross-sectional. Oleh karena itu, ini menjelaskan situasi saat ini, yang mungkin berbeda di musim dan kota lain.

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Kata Kunci : Swamedikasi, Analgesik, Pariwisata

INTRODUCTION

Self medication can be defined as the use of medicine to treat self diagnosed desease, disorder or symptoms or the intermittent or continued use of prescribed drug without prior medical consultation regarding indication, dosage and duration of treatment (1,2,3). Studies carried out on self medication states that is very common practise to reduce the load on medical services, decrease the time spent in waiting to see the phycisian, and save cost economically deprived communities (3,4). The increase of self medication was influenced by many factors like age, sex, medication knowledge, previous experience of disease, non seriousness of illness, society, law, availability of drugs and exposure to advertisments (2,4). It has a positive impact on individual health and community level such as self reliance in preventing or relieving minor symptoms, education opportunities on specific health issues, lowering the cost of community funded health care program and increase the availability of health care to populations living in rural or remotes areas (4,5).

Meanwhile, self medication without sufficient knowledge may lead to serious obstacle in the rational use of drug (2). Major problem related to self medication are wastage of resources, increased resistance of pathogens and causes serious health hazards such as drug dependence, adverse reaction and prolonged suffering (4). Hoarding a drug is also problematic. The store of unused medication without appropriate identification can contribute to potential misuse (5).

The most common drugs used for self medication are catagorized as cough and cold, analgesic, antipyritics, antiseptic, and antibiotics (4). The use of analgesics is widespread worldwide, not only for the relief of pain and fever but also of their anti-inflammatory effect (2,6). Some analgesics are catagorized as OTC (over the counter) and some are not (6,7). Pain problem are important reasons for self medication of analgesics. Sporadic consumption of analgesics may relieve the symptoms of pain for a time, but the actual phatology may sometimes be aggravated, complicated and even turn to fatality in some cases (6). In previous studies performed in UK and Australia, around 25 % of OTC analgesics were found at a dosage exceeding the maximum dose and 30% of OTC nonsteroid anti inflammatory drugs users had a warning or contraindications (8).

Acetaminophen used primarly as a non-opioid analgesic and antipyretic medication was inappropriate used for headache in which the daily use of dose. Some administration of acetaminophen can cause liver deseases, hypersensitivity and severe renal impairment (6,8). NSAID are widely used analgesic drugs. They are used for headache, backache, menstrual cramp, other related pain related symptoms and reduce inflammation, some are also used to reduce fever (8,9). The improper or irrational use of analgesics lead to increased healthcare cost, misusing of healthcare resources. Prescribers lack of education is one of the factors influencing irrational use of analgesics (6,8,10). The impact of irrational use of analgesics can increased unwanted effect, phsycosocial impact, polypharmacy which involves the use of inessential combination of analgesics.

The main purpose of this study to evaluate the rationality of several analgesics used by the society in West Java tourist site.

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METHODS

Study design and setting

This study is a cross sectional study. The study took place in Lembang, on of the famous tourist city in West Java. We aimed to evaluate analgesic self medication among the people in this society in April 2018 to June 2018. In this study a "Rational Use of Analgesics Drugs Questionnaire", developed by the researchers and consisting 12 question. The fist four question pertain to the socio-demographic characteristic while the rest questions were related to health status, use of self medication asnd self medication with analgesics during the three months proceded the study.

Participants

The paprticipants taken were included in the inclusion criteria i.e. people who came to bought analgesic drugs as supplies and people who buy analgesics for their current complaints. Totally 218 people consented for the study and filled in the questionnaire. All participants complete questionnaires. Only the completed questionnaires were considered for the final analysis.

Data Collection and analysis

Researcher carried out te distribution of questionnaires to the one of the pharmacy in this city and controlled wether the questionnaires were responded correctly. Data collection periode was two months during April 2018 to June 2018. At the end of this periode a total of 218 participants have been reached out.
The results of the study were analyzed using the ATC/DDD method, is the use of analgesic drugs in accordance with the principles of drug selection (Drug Choice).

RESULTS

Total of responden were 218 who complete the questionnaire appropriately and more than half of respondents was female (76,6%) and 23,39 were male. The demographic and characteristics more detailed in table 1.

Table 1. The Demographic and characteristic of participants

Variavle	**Percentage of participant**
Gender	
Male	23.39 %
Female	76.60 %
Age	
15-30	6.88 %
>30-45	46.33 %
>45-60	37.61 %
>60-75	9.17 %

There was a significant association between age of participants and the rate of use taking by participants. As the respondents show that the most analgesics users are females at 30 to 45 years old. Women and men are created differently, especially in terms of disease. Women feel pain more than men, the most in muscosceletal pain.

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Piroxicam (24,31%) was the most common self medicated analgesic followed Sodium diclofenac (19,72%), mefenamic acid (17,43%), meloxicam (15,59%), acetaminophen (13,30%), ibuprophen (5,03%) and antalgin (4,58%) [Figure 1].

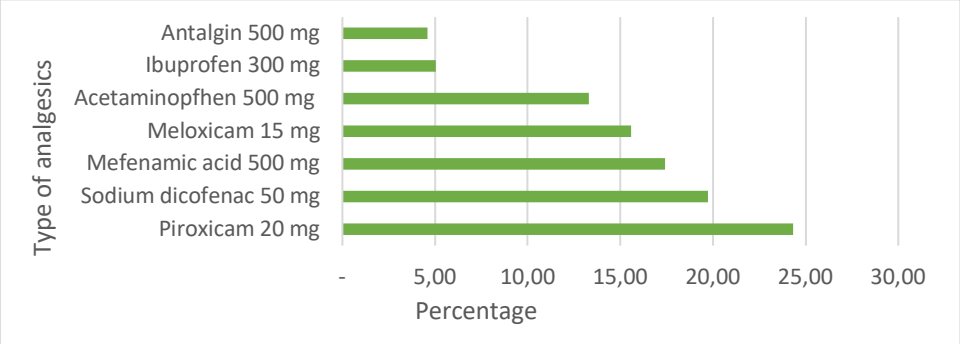


Fig. 1 Type of selfmedicated analgesic used by society in West Java tourist site

Of the illnesses that led the respondents to self medicate with analgesics, the most common were 44,954% pain in muscle, leg and others, toothache (36,697%), headache and fever (10,091%) and pain in joint (8,256%) [Figure 2].

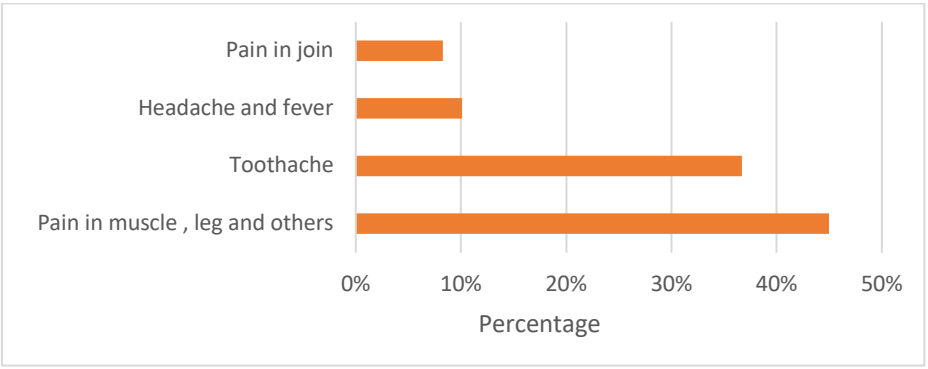


Fig. 2 Medical conditions that caused to self medicate with analgesics

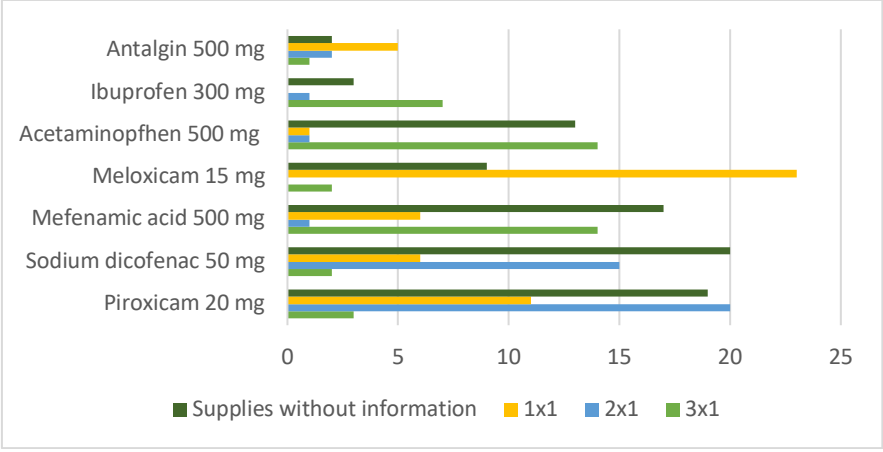


Fig 3. The direction use of analgesic as a self medication

Participants who take meloxicam once a day was the most common (23 people), followed by piroxicam (11 people), mefenamic acid and natirum diclofenac (6 people) and antalgin (5 people). Some participant take analgesic two times a day and three times a day. Hoarding analgesic without information also finding in this research. The frequent analgesic to hoard by participant were sodium diclofenac, piroxicam and mefenamic acid [Figure 3].

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Based on the results of the study, all types of drugs were given the ATC code in order to calculate the daily dose (DDD), then compare the DDD value from WHO with the calculated DDD. Piroxicam has 60 DDD shows the irrational use of piroxicam. Sodium diclofenac has 21 DDD is rational, mefenamic acid 25 DDD is irrational, meloxicam 29 DDD users are rational, acetaminophen7,496 rational DDD, ibuprofen 7,67 rational DDD, and antalgin 1,39 DDD users are appropriate [Table 2].

Table 2. The Pattern of analgesic use based on ATC/DDD

Analgesics	ATC code	DDD (WHO)	DDD (calculation)	DU 90 % and 0%
Piroxicam 20 mg	M01AC01	20 mg	60	90%
Meloxicam 15 mg	M01AC06	15 mg	29	
Mefenamic acid 500 mg	M01AG01	1 g	25	
Sodium diclofenac 50 mg	M01AB05	0,1 g	21	
Acetaminophen 500 mg	N02BE01	3 g	7.496	
Ibuprofen 300 mg	M01AE01	1.2 g	7.67	10%
Antalgin 500 mg	N02BB02	3 g	1.39	

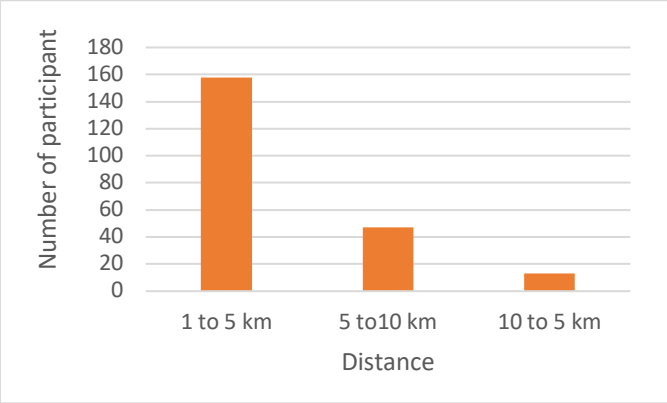


Fig 4. The distance to the the pharmacy

According to this research, 158 participant has 1-5 km from their living to pharmacy, 48 participant have >5-10 km distance, and 13 participants have >10-15 km. Based on the results of the study, 90% segments have been obtained 1-5 km and >5-10 km distance, while 10% segment is 10-15 km [Figure 4].

DISCUSSIONS

The aim of this study has been assess the rationality of OTC analgesics uses to estimates prevalence of analgesic self medication practices among people in West Java tourist site, particularly in Lembang. In previous study among university students, the rates were rising (1,2,7).

Our finding indicating higher self medication among female participnats than male. This finding is in agreement with an earlier study in Spain, Brazil and Kuwait (7). Mostly female participants complain abaout musculosceletal pain. women are more easily tired when doing light to moderate work than men, where men are more resistant to workloads (11).

Participants who complaints with muscle pain, leg, waist and body were 44,954% of total participants, mostly in 29-66 years old. The aging process can result in decreased organ function including decreased vision, deterioration of nerve cells, decreased musculosceletal

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function, and decreased muscle mass which can cause disruption in muscles, one of which is myalgia or muscle pain. Based on the above results which enter the 90% segment are, complaints of muscle pain,leg, waist and for supplies

Regarding the types of analgesics used, Piroxicam and NSAIDs (sodium diclofenac) were the most common types of analgesics were taken by the participants. The results of the study were separated into 2 segments, 90% segment and 10% segment. Based on the ATC/ DDD method which includes 90% drug utility (DU) which is the drug item that is included in the 90% segment of the total drug use. Procurement of a drug can also be carried out with reference to 90% DU. Drugs that are in the 10% segment mean that they are used in small volumes so that they do not become a priority to be administered unless they are emergency drugs. In this study some drugs were included in the 90% segment i,e piroxicam 24.31% then sodium diclofenac 19.72%, mefenamic acid 17.43%, meloxicam15.59% and pacacetamol 13.30%. This shows that drugs that are included in the 90% segment need to be prioritized to avoid deficiencies and to meet patient needs. While the drugs that are included in the 10% segment are ibuprofen group 5.04% and antalgin 4.58%.

Among participant who taken piroxicam, 20 people take twice a day, 3 people take three times a day and 11 people take once a day. Based on WHO, the maximum dose of piroxicam is 20mg /day, so patients who take twice a day can be said to be irrational because it has an excessive dose. The main reason of the irrationality based on the habit or repeated taken. The irrational uses of piroxicam can caused side effects or adverse drug reactions such as gastric irritation. The cox2 enzyme affects acid secretion in the stomach. People who are taken piroxicam once a day is more rational, so the serious side effects and adverse reaction can be avoided. While the use of piroxicam three times a day also irrational use. Adverse drug reactions may be felt more faster in these participants group.

Participant who take sodium diclofenac twice day were 15 people, 3 times a day 2 people and once a day 6 people. The maximum dose of dsodium deiclofenac is 0.1 g. We found that sodium diclofenac that were taken three times a day is irrational use. Usually, people take sodium diclofenac based on previous use. The side effect may occur while take an exceeds dose od sodium diclofenac such as bone loss, wounds that do not heal and so forth. Participants who take twice and once a day meet the rational use of drugs. The correct information becomes the success of rational drug use.

Irrational use of mefenamic acid can be found in daily doses three times. The low price of mefenamic acid can be the main reason people take this analgesic three times a day. Mefenamic acid that were taken twice and once a day is more rational. The side effect of the irrational uses of mefenamic acid usually stomach irritation. Mefenamic acid can worsen the wound in the stomach if the user previously has a history of digestive disorders

Meloxicam with a dose once a day amounted to 23 people, and 3 times a day 2 people. The maximum dose of meloxicam is 15 mg, we can said that the use of meloxicam with a daily dose is more rational than three times a. Misinformation from the media or other people is a factor in the irrational use of meloxicam in these dose.

Participants who take Acetaminophen, ibuprofen and altalgin are more rational than other analgesics in every direction of use wether in three times, twice or once a day.

The mileage to get medicine is calculated because it can affect the cost of treatment. Curently costs to get medicines is one indicator of rational drug treatment.

CONCLUSIONS AND LIMITATIONS

The main limitation of this study is that it was a cross- sectional survey. Therefore, it illuminates the current situation, which may differ in other seasons and city.

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