



*Research Article*

## Analysis precision of joint pain in Apotek Kimia Farma Mejasem Tegal

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### ARTICLE INFO

#### Article History

Received August 23, 2021

Revised August 26, 2021

Accepted December 15, 2021

Published January 17, 2022

#### Keywords

Self medication

Joint pain

Information

#### Doi

10.22219/farmasains.v6i2.15957

### ABSTRACT

This research aims to find out and analyze the accuracy of self-medication for joint pain in the community, especially those who buy drugs at the Apotek Kimia Farma, Mejasem, Tegal. The sampling technique in this study uses the purposive sampling method, which determines sampling by determining specific characteristics according to the research objectives so that it is expected to answer the research problem. This research is classified into descriptive research, namely research with a method to make a systematic description of the accuracy of self-medication for joint pain in the community who visited the Apotek Kimia Farma Mejasem. The instruments used in this study were demographic data and questionnaires. The work steps used in data collection in this study used interview techniques guided by the questionnaire. The results of the study were as follows, community self-medication in joint pain showed the correct percentage of people with an indication of 85%, the percentage of people who were right in the group of 85%, the percentage of people who had the correct dose of 71%, and the percentage of people who were alert to drug side effects was 27%. In conclusion, most people who buy drugs at the Apotek Kimia Farma Mejasem were correct in self-medication for joint pain, except for the awareness of drug side effects. The percentage of people who had the correct dose was 71%, and the percentage of people alert to drug side effects was 27%.

## 1. INTRODUCTION

The increase of drug information, especially for joint pain medication, makes people choose their medicine personally from the information influenced by the mass media, electronic media, friends, relatives, or closest neighbors. So they know the dose and class of drugs only from the mass media and do not ask the experts.

The impact of self-medication errors is the emergence of unwanted side effects. There are several cases of joint pain self-medication related problems found at Apotek Kimia Farma Mejasem; for example, a patient came to the pharmacy with a swollen and rounded face (moonface) due to continuous consumption of dexamethasone. The patient came with skin conditions redness, itching, and swelling in another case. This result is due to an allergic reaction to antalgic drugs.

The prevalence of joint pain is more in women than in men. Overall, under 45 years old, the frequency of joint pain is more or less the same in men and women. But over 50 years old (after menopause), the frequency of joint pain is more in women than men. In Indonesia, the prevalence of joint pain reaches 5% at age <40 years

old, 30% at age 40-60 years old, and 65% at age >61 years old (Lewis, Dirksen, Heitkemper, Bucher & Camera, 2010). Based on data from RISKESDAS 2018, the prevalence of joint disease in Indonesia is around 7.3%, and osteoarthritis (OA) is a common joint disease. Although often associated with increasing age, otherwise known as degenerative diseases, the joint disease has occurred in people aged 15-24 years old (prevalence rate is around 1.3%) (Kemenkes RI, 2018). This study aimed to determine and analyze the accuracy of disease self-medication painful the community, especially the people who buy drugs at the Apotek Kimia Farma Mejasem Tegal.

## 2. MATERIALS AND METHODS

The sample in this study uses purposive sampling, which determines the selection by determining specific characteristics following the research objectives so that it is expected to answer research problems. This research was classified in the descriptive study, which is used by describing the data that has been collected without intending to make conclusions that apply to the general public or generalizations that aim to analyze data, namely regarding the accuracy of self-medication for joint pain in the community who visited the Apotek Kimia Farma Mejasem (Sugiyono, 2017). The instruments used in this research were demographic data and questionnaires. The scale of the instrument used in this study was the Likert scale, which used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena.

## 3. RESULTS AND DISCUSSIONS

### Description of Respondents Self-medication

#### Characteristics of respondents

Characteristics of respondents from the results of the study include gender where out of 55 respondents (Table 1), most of them are female, namely 34 respondents (62%). While the remaining 21 respondents (38%) were male. This result is because people who buy painkillers are primarily women. Based on the age of the respondents from 55 people who seek treatment at Apotek Kimia Farma Mejasem who are willing to become respondents, most of them are 20 respondents (36%) aged between 17-33 years, while a small number of 5 respondents (9%) are >63 years old. This result is because the age range of 17-33 years old is susceptible to joint pain. Meanwhile, at the age of >63 years old, it is rare for people to become respondents due to the influencing age factor. So it is difficult to participate in this research.

#### Types of drugs used

Description of the action of self-medication of respondents in joint pain disease mainly chose the drug mefenamic acid with ten respondents (19%) (Table 2). Mefenamic acid is an anthranilic derivative NSAID that has moderate anti-inflammatory activity. It is widely used as an anti-pain and antirheumatic drug, although it can

**Table 1.** Characteristics of respondents in Apotek Kimia Farma Mejasem

Information	Quantity	Percentage (%)
Gender		
Man	21	38
Woman	34	62
Age		
17 – 33 years old	20	36
34 – 48 years old	13	24
49 – 63 years old	17	31
>63 years old	5	9
Education		
Elementary School	15	27
Junior High School	12	22
Senior High School	23	42
College	5	9
Type of work		
Civil servant	7	13
Private	25	45
Farmer	8	14
Trader	13	24
Student	2	4

**Table 2.** Type of drug use in Apotek Kimia Farma Mejasem

Type of Drugs	Amount	Percentage (%)
Ibuprofen	7	13
Piroxicam	5	9
Diclofenac sodium	7	13
Dexamethasone	8	14
Diclofenac potassium	4	7
Mefenamic acid	10	19
Allopurinol	8	14
Prednisone	0	0
Antalgin	1	2
Paracetamol	5	9

**Table 3.** Type of drug class use in Apotek Kimia Farma Mejasem

Type of Drug Class	Amount	Percentage (%)
OWA	35	63.7
Sodium diclofenac		
Mefenamic acid		
Antalgin		
Piroxicam		
Allopurinol		
Diclofenac Potassium		
Prescription Drugs	8	14.5
Dexamethasone		
Prednisone		
Limited Free Medicines	7	12.7
Ibuprofen		
Over-the-counter Drugs	5	9.1
Paracetamol		
Amount	55	100

**Table 4.** Side effects of drugs on joint pain self-medication

Side effects	Amount	Percentage (%)
Gastric pain	17	30.9
Moonface	7	12.7
Nauseous vomit	12	22
Urticaria or Rash	6	10.9
Nausea, vomiting, and stomach pain	13	23.4
Amount	55	100

cause gastric-intestinal disorders, especially dyspepsia and diarrhea in sensitive people (Tjay & Rahartja, 2015). Mefenamic acid is one of the Obat Wajib Apotek (OWA) or compulsory pharmacy drugs, which is prescription drugs that can be given by the pharmacist to the patient without use a prescription from a doctor. The affordable price makes people choose mefenamic acid for their joint pain. At the same time, the drug selected from at least by respondents was prednisone with 0 respondents (0%) because it was less familiar and less known as a joint pain drug.

#### *Joint pain self-medication selection*

The results of the percentage on drug classification, respondents who chose the mandatory pharmacy drug class were 35 respondents (63.7%) more than those who chose other drug classes, while the least were respondents who chose drugs in the over-the-counter drug category with 5 respondents (9.1%) (Table 3). This number shows that most people are following the selection of drug classes. The drugs used for self-medication are relatively safe drugs, namely OWA, limited free medicines, and over-the-counter (OTC) drugs, which can be used without a doctor's prescription (Depkes RI, 2006).

**Table 5.** Accuracy of indication

Indication	Amount	Percentage(%)
Appropriate	47	85
Not exactly	8	15
Amount	55	100

**Table 6.** Accuracy of drug class selection

Drug Class Selection	Amount	Percentage (%)
Appropriate	47	85
Not exactly	8	15
Amount	55	100

**Table 7.** Accuracy of dosage

Dosage	Amount	Percentage (%)
Appropriate	39	71
Not exactly	16	29
Amount	55	100

**Table 8.** Precautions for drug side effects

Drug Side Effects	Amount	Percentage (%)
Alert	15	27
Not Alert	40	73
Amount	55	100

### *Side effects of drugs on joint pain self-medication*

The respondents who experience side effects of gastric pain from using joint pain self-medication drug have the highest percentage of 17 respondents (30.9%), while respondents who experience urticaria or rash have the smallest percentage of 6 respondents (10.9%) (Table 4). This data is caused by NSAID drugs, namely mefenamic acid (Tjay & Rahartja, 2015). NSAIDs such as mefenamic acid can cause side effects, especially the gastrointestinal tract. These side effects are associated with the action of these drugs inhibiting the biosynthesis of prostaglandins which are essential substances in several organs (Sari, Harahap & Saleh, 2018).

### **Self-medication Accuracy Analysis**

#### *Accuracy of indication*

The accuracy of the indication is assessed if the drug selection is following the perceived complaints. Table 5 shows that most people use drugs according to the indications as much as 85%. At the same time, the rest that does not match the symptoms are only 15%. The accuracy of the indications, namely the selection of joint pain medication used by the respondent, follows the complaints or symptoms they feel. Of the 55 respondents, most have chosen the right drug for the indication, as many as 47 respondents (85%). Meanwhile, eight respondents (15%) have incorrect indications. This result shows that most respondents already understand the selection of drugs with perceived complaints. Inappropriate respondents are caused by incorrectly recognizing their complaints about the medications used. For example, a patient who has pain in the knee then buys the drug allopurinol. Type errors that cause death in patients include 40.9% wrong dose, 16% wrong drug, and 9.5% wrong route of administration. Patient safety is a top priority that must be carried out by pharmacies or hospitals related to patient care so that patients become safe and also associated with the image of the pharmacy and the hospital (Saputera, Waty & Rahmina, 2018).

#### *Accuracy of drug class selection*

The accuracy of the selection of drug classes is assessed if the drugs selected are following statutory regulations, namely from OTC, limited free medicine, and OWA classes. Most 85% use drugs, according to class. The rest that does not fit the group are 15%. The study results obtained data as many as 47 respondents (85%), i.e., most of them were correct in choosing the drug class, and the remaining eight respondents (15%) had not chosen the drug class correctly (Table 6). Respondents who did not select the suitable drug class were getting

information from relatives, friends, and neighbors. The public must have precise and reliable information about the drugs used to carry out self-medication properly. Accurate and correct information in the use of drugs is critical in supporting the success of therapy (Kemenkes RI, 2011).

#### *Dosage Accuracy*

In the research results on the accuracy of the dose obtained, 39 respondents (71%) of the public are already right in using the amount, and the remaining 16 respondents (29%) do not use the correct dose of joint pain medication (Table 7). This result shows that most respondents have used the correct dose, and only a few have not used the right dose. Respondents did not take the right dose because the drug was taken once, and the daily frequency was not following the usual dose. If the dose is used excessively will be very risky for side effects. On the other hand, a too-small dose will not guarantee the achievement of the expected therapeutic level (Kemenkes RI, 2011).

#### *Side Effects Precautions*

The Table 8 shows that most people are not aware of the side effects of drugs, as many as 40 respondents (73%). While the rest who are aware of drug side effects are only 15 respondents (27%). Awareness of drug side effects tends to be high because respondents do not read and pay attention to warnings side effects of drugs listed in the brochure. In drug therapy for patients, a pharmacist is expected to identify problems related to drug use (Drug Related Problems) that have occurred or have the potential to happen, then seek their handling and prevention of the issues identified. One of the problems associated with drug use is an adverse drug reaction (ROTD). ROTD is a response to a drug that is noxious or unexpected that occurs at usual doses and is used by humans for prophylactic, therapeutic, and diagnostic purposes (Christianie, Setiati, Trisna & Andrajati, 2012)

### 4. CONCLUSIONS

Based on the results of research that has been carried out on Accuracy Analysis Self-medication on Joint Pain Disease at Apotek Kimia Farma Mejasem, the conclusions obtained are as follows: The accuracy of self-medication in patients at Apotek Kimia Farma Pharmacy Mejasem was quite good with details of the percentage of people with the right indications of 85%, the percentage of people who are in the right group of 85%, the percentage of people who have the right dose of 71%, and the percentage of people who are aware of side effects drug was 27%. Most of the patients at Apotek Kimia Farma Mejasem Tegal follow drug classes. With details, the percentage of people who choose prescription drugs was 14.5%, the rate of people who decide on limited free medicines was 12.7%, the percentage of people who choose OWA drugs was 63.7%, and the percentage of people who decides OTC drugs was 9.1%.

### 5. ACKNOWLEDGMENT

Thanks to Nizar Suhendra, SE., MPP, as Director Harapan Bersama Polytechnic Tegal for the support.

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