

**THE INFLUENCE OF PHARMACEUTICAL CARE TO IMPROVE THE KNOWLEDGE AND ATTITUDE CLIENT BY SELF MEDICATION OF NON STEROIDAL ANTI INFLAMMATORY DRUG (STUDIES IN SEVERAL PHARMACIES IN SURABAYA-INDONESIA)**LizaPristiany^{*}, Fasich^{*}, Arief Wibowo^{**}, Mufarrihah^{*}^{*}Faculty of Pharmacy, Airlangga University,^{**} Faculty of Public Health, Airlangga University, Indonesia***Corresponding author e-mail:** liza_ffua@yahoo.com**ABSTRACT**

Currently self medication NSAIDs getting much done in the community. Efforts are made by using drugs on their own without any guidance from health professionals. The fact that there is a lot done despite such action, but not many people who know choose and rational use of NSAIDs. NSAIDs are widely used in self-medication as an analgesic, antipyretic, and anti-inflammatory. The main side effects are nausea, vomiting, diarrhea, stomach bleeding, and dyspepsia. NSAIDs area class of drugs can be delivered directly to the client by the pharmacist at the pharmacy. A pharmacist as professionals in the pharmacy has a major contribution to the client's decision to self-medication NSAIDs. The purpose of this study was to determine the effect of the practice of pharmaceutical care by pharmacists during a service clients NSAIDs by self medication to increase knowledge and change attitudes of clients, thus expected to achieve an optimal therapeutic effect. This study was an experimental study that conducted 7 training to pharmacists in pharmacy practice in Surabaya with a guide booklet, the pharmacist then implement pharmaceutical care in the service of self-medication NSAIDs to their clients follow the guidelines in the booklet. Monitoring results of interventions by pharmacists in selected pharmacies were evaluated using pre Experimental Design type-One Group Pre Test Post Test Design. The results showed pharmaceutical care by pharmacists in the service of self medication with NSAIDs guide booklet significant effect on attitude change in the use of NSAIDs clients with Sig. (2-tailed) $0.03 \leq 0.05$ and significant effect on the improvement of the client's knowledge of the NSAIDs with the Sig. (2-tailed) $0.00 \leq 0.05$.

Keywords: Pharmaceutical Care, self medication, knowledge and attitude**INTRODUCTION**

Pharmaceutical care is a paradigm in the practice of pharmacy services. The practice of pharmacy services were originally only focused on medication management has been shifted to the practice-oriented services to the clients. Pharmaceutical care is contains a number of elements that is based on the needs of the community, focusing on the individual, the care approach as the basis of practice and responsibility to identify, prevent and resolve the occurrence of drug-related problems (Cipole, 1998). Pharmaceutical care is to describe the professional responsibility of pharmacists in the therapy process in order to achieve client specific out

comes to improve quality of life (Hapler, 1990). Similarly, the self-medication (treatment efforts by the client) at the pharmacy, pharmacists in the service of self-medication are expected to provide appropriate solutions to the problems faced by clients in order to achieve an optimal therapeutic effect. Self medication is being increasingly carried by individuals, an alternative that has been chosen to relieve health complaints (Young, 1996).

Efforts are made by using drugs on their own without any guidance from medical personnel. Based on data from the Central Bureau of Statistics 2011, there were 70.66% of women aged 15-49 years in Indonesia if experiencing pains then choose self

medication. The results of the study in Chile on the pattern of self medication pharmacy client note that the majority of clients using drugs without the proper knowledge about the benefits of drug use, how to use drugs and duration of treatment (Katherin, 2008) and a study in the UK revealed that 66% of drug-related problems in Tayside hospital due to drug side effects nonsteroidal anti-inflammatory (Cunningham, 1997).

Self medication is the responsible use of drugs based on its own initiative, the decision of choosing and using drugs in self medication is on the client, so the client's decision to perform self-medication is the description of overt behavior performed by the client. Act of self-medication, if done correctly can make a major contribution to the government's national health care, but if not done properly can lead to not heal diseases or the emergence of new diseases caused by drug use. The negative impact of self medication is to encourage individuals to believe that self-medication can be performed on each disease so as to cover the diagnosis of serious diseases, increased risk of interactions and adverse drug reactions as well as the potential for drug abuse. One of the classes of drugs that are widely used by self medication is the drug class of non-steroidal anti-inflammatory (NSAID), is efficacious as an analgesic, antipyretic, and anti-inflammatory. The main side effects were much felt by the client with the use of oral non-steroidal anti-inflammatory that is in the gastrointestinal tract such as nausea, vomiting, diarrhea, gastric hemorrhage, and dyspepsia and kidney (Rossi, 2006).

Based on government regulations in Indonesia, diclofenac and piroxicam including drug classes that may be submitted by the client directly to the pharmacist at the pharmacy. Pharmacists as health workers who do self-medication services play a central role in the behavior of the client in self medication NSAIDs. Of research on pharmaceutical care model of self medication NSAIDs is known that there is a significant relationship between the pharmaceutical care performed by pharmacists with the rational behavior of the client in the use of NSAIDs (liza, 2014).

From the description of an attempt to establish a rational individual behavior in self-medication becomes important for rational medication dikembangkan. self ie selecting and using appropriate medications correctly include medication, right dose, right duration of treatment, the right way of life and be aware of side effects (WHO, 1987).

MATERIALS AND METHODS

This research study types Pre-Experimental Design One Group Pre-Post Test Design Test. Conducted training to 7 pharmacist's pharmacy manager who is willing to be a partner by using guide booklet, then the pharmacist pharmacy services to their clients implement the guidelines found in the booklet.

Population and sample: The population was clients of pharmacies in Surabayawhodo self medication NSAIDs. While the sample is selected pharmacy clients who do self medication NSAIDs and willing to be the respondent. Is purposive sampling of pharmacies that are willing to be a partner? Every pharmacist in pharmaceutical care pharmacy conduct by means of booklets to 5 clients who met the inclusion criteria.

Inclusion criteria: Clients who do self medication pharmacy NSAIDs, ≥ 16 years old, willing to be respondent.

Research variables: The independent variable is pharmaceutical care by pharmacists to client self-medication with NSAIDs guide booklet, while the dependent variable is the client's knowledge and attitudes about self medication include the client's knowledge about the intended use of NSAIDs, NSAID drugs and dosage, duration of use, side effects, contra-indications, how to save NSAIDs. Attitudinal variables include attitudes toward NSAIDs dose, time consuming NSAIDs, long time consuming and alert NSAIDs side effects

Research instruments: The research instrument was a questionnaire given to clients who have received pharmaceutical care by pharmacists when doing self medication NSAIDs.

Data processing and analysis: Analysis of the data used is the one group pre-test and post-test design based on the calculation of paired statistical test (t-test). T-test was conducted to measure the effectiveness of pharmaceutical care by pharmacists in pharmacies to changes in the client's knowledge and attitudes using NSAIDs. Pharmaceutical care by pharmacists declared effective influence if the value of the calculation result signifikan ≤ 0.05 (Wibowo, 2008). This research was also carried out an analysis of the data confirm the results of pharmaceutical care by pharmacists conducted by the client and by pharmacists. Test the difference between the opinion and the opinion clients pharmacists, were not different if the significance value > 0.05 .

RESULTS**Demographics of Respondents Pharmacy Clients:**

In this research, observation of client demographics of the respondents, the results can be seen in Table 1. From Table 1 it is known that the age of the client that most respondents are 34-49 years is 43.9%, while by gender, most were female (61%), most clients are high school education (39%) and work most clients are private employees (39%). Most clients come to

the pharmacy to perform self-medication because your symptoms are pain (63.4%), the frequency of the clients come to the pharmacy to perform self-medication is often (43.9%). 46.3% of clients do not know the right drug to treat the symptoms of pain and 82.9% of clients stated recognize pharmacists as health professionals who perform services at the pharmacy NSAIDs.

Table 1. Demographic data on the client Trial Research Model of Pharmaceutical Care

| Demographic | Categories | Frequency | Percentage |
|----------------------------------|--------------------|-----------|------------|
| Age(years) | 18-33 | 14 | 34,1 |
| | 34-49 | 18 | 43,9 |
| | 50-71 | 9 | 22,0 |
| Gender | man | 16 | 39,0 |
| | woman | 25 | 61,0 |
| Education | elementary school | 7 | 17,1 |
| | Junior high school | 9 | 22,0 |
| | Senior high school | 16 | 39,0 |
| | University | 9 | 22,0 |
| job | Housewife | 13 | 31,7 |
| | private employees | 16 | 39,0 |
| | civil servants | 1 | 2,4 |
| | self-employed | 11 | 26,8 |
| Symptoms perceived | pain | 26 | 63,4 |
| | gout | 3 | 7,3 |
| | toothache | 12 | 29,3 |
| The frequency of self-medication | rarely | 15 | 36,6 |
| | often | 18 | 43,9 |
| | Always | 8 | 19,5 |
| Know the drugs consumed | True | 17 | 41,5 |
| | Not true | 19 | 46,3 |
| | Do not know | 5 | 12,2 |
| Know the pharmacists | yes | 34 | 82,9 |
| | No | 7 | 17,1 |

Pharmaceutical care with a guide booklet:

Pharmaceutical care with a guide booklet conducted in stages, giving a pre-test to the client before it is given pharmaceutical care by pharmacists in pharmacy and after pharmaceutical care by pharmacists, conducted post-test in the client's home. Of the data respondent clients as many as 41 people,

who can be processed for the analysis of pre-post test are 35 respondents. Frequency distribution of the pre-test and post-test attitude of clients towards self medication NSAIDs can be seen in Table 2, where as Frequency distribution of the value of pre-test and post-test knowledge of the client in self medication NSAIDs can be seen in Table 3.

Table 2. Frequency Distribution of Value Pre Post-test Attitude of clients in self medication NSAIDs

| Score Range (%) | Pre- test | % Pretest | Post-test | % Post-test |
|-----------------|-----------|-----------|-----------|-------------|
| 61-70 | 2 | 5,7 | 2 | 5,7 |
| 71-80 | 9 | 25,7 | 6 | 17,1 |
| 81-90 | 17 | 48,6 | 7 | 20 |
| 91-100 | 7 | 20,0 | 20 | 57,1 |
| Total | 35 | 100 | 35 | 100 |

Table 3. Frequency Distribution of Value Pre Post-test Knowledge of clients in self medication NSAIDs

| ScoreRange (%) | Pre- test | % Pretest | Post-test | % Post-test |
|----------------|-----------|-----------|-----------|-------------|
| 0-25 | 0 | 0 | 0 | 0 |
| 26-50 | 7 | 20,0 | 2 | 5,7 |
| 51-75 | 23 | 65,7 | 15 | 42,8 |
| 76-100 | 5 | 14,3 | 18 | 51,4 |
| Total | 35 | 100 | 35 | 100 |

Analysis of differences in pre-test and post-test results pharmacy self care medication medicine NSAID done by pharmacists: Data eligible is 35, performed the analysis using paired-t test(t-test), to see the difference between knowledge and attitudes before and after the client is given pharmaceutical care by pharmacists in pharmacies. The results of

different tests on client attitudes before and after the pharmaceutical care by pharmacists in pharmacies can be seen in Table 4, while the results of different tests on the client knowledge tentang self NSAIDs medication before and after pharmaceutical care by pharmacists in pharmacies can be seen in Table 5.

Tabel 4. The result of pre and post test on the client attitude about self medication NSAIDs

| Questionnaire | Mean | N | Std. Error Mean | Std. Deviation | Valid. (2-tailed) |
|---------------|--------|----|-----------------|----------------|-------------------|
| Pre-test | 3.3796 | 35 | | 0.36985 | 0.003* |
| Post-test | 3.6041 | 35 | .07035 | 0.42305 | |

* significant

Table 5. The result of pre and post test on the client knowledge about self medication NSAIDs

| Questionnaire | Mean | N | Std. Error Mean | Std. Deviation | Valid. (2-tailed) |
|---------------|--------|----|-----------------|----------------|-------------------|
| Pre-test | 6.9714 | 35 | | 1.68882 | .000* |
| Post-test | 8.2571 | 35 | .30006 | 1.22097 | |

*significant

From tables 4 and 5 can be stated that the pharmaceutical care services performed by pharmacists in self-medication NSAIDs can increase the client's knowledge about the use of NSAIDs significantly and significantly influence attitude change in the use of NSAIDs in self medication. For complete information pharmaceutical care carried out by pharmacists, conducted confirmation of pharmacists as providers of pharmaceutical care and

self care clients receiving medication NSAIDs, the results can be seen in Table 6. From Table 6 known pharmaceutical care carried out by pharmacists has been received by the client and there was no significant difference according to pharmacists and clients, seen from the significance value $0.219 > 0.05$. this suggests that pharmacists have done in the pharmaceutical care services and self-medication NSAIDs client has received well.

Table 6. Pharmaceutical care activities according to pharmacists and Clients

| Group | Mean | N | Std. Deviation | Valid. (2-tailed) |
|-------------|-------|----|----------------|-------------------|
| Clients | 18.23 | 35 | 5.088 | 0.219 * |
| Pharmacists | 19.46 | 35 | 2.863 | |

*not significant

DISCUSSION

In this study, 41 respondents collected through 7 pharmacist at the pharmacy who are willing to cooperate, then the data were analyzed, the data client demographic characteristics can be seen in Table1, the results showed the highest percentage age distribution of respondents by age 34-49 years at 43.9%. These results are consistent with research (Alghanim SA, 2011) on the practice of self-medication in Saudi Arabia which states that the practice of self-medication ever done by the younger age group. Young age has many activities that drain energy and this can affect the health of the body. Distribution of respondents by gender is male by 39.0% and women 61.0%. This phenomenon occurs because women are generally responsible in dealing with family health, so the response overcome pain complaints in the family is mostly done by women and the results obtained are in line with research on self medication in Iran that 86% of self medication is done by women (Pirzadesh , 2011). Another study conducted in West Bengal reported that the practice of self-medication is mostly done by women (Shankar, 2003). Education level of the respondents pursued can be categorized into 4 categories: elementary, junior high, high school, university, from the survey results revealed the highest percentage of respondents education level is high school by 39.0% and much less educated respondents SD (17.1 %) and secondary (22.0%). The conditions in accordance with the highest number of people in Surabaya is a high school graduate 767352 people, while 202 046 college people (BPS, 2011). The level of education is useful to indicate the level of knowledge and ease of respondents received information about treatment and behavior in seeking treatment (Gupta, 2010). Educated person is not necessarily true to the selection and use of drugs. For that there is the need for the pharmacist's role as a source of drug information and counseling to the drug to be selected and used by patients. Research result shows the kind of work is the highest respondent amounted to 39.0% of private employees. This phenomenon occurs because private employee health costs not covered by insurance so the first attempt to do if pain is treat self. Client's decision to use NSAIDs by self medication to overcome the perceived symptoms. Distribution of the symptoms experienced by the client so that the client perform self-medication can be seen in Table 1 It is known that the symptoms experienced by clients is painful symptoms 63.4%, followed by symptoms of toothache and rheumatism 29.3% by 7.3%. These results are consistent with research Ali, 2012 which indicates that the disease is the most common self-medication is a pain (15.7%); followed by a cough

and runny nose (15.0%); fever and influenza (10.6%); stomach pain and diarrhea (10.1%); Allergy (8.0%), constipation (6.1%); fungi (4.9%) and other diseases (2.1%). (Ali, 2012).

In this study observed a pharmacy visit by the client, the results showed that 43.9% of respondents frequent visits to the pharmacy to perform self-medication, 36.6% rarely do self medication NSAIDs and 19.5% always. In this study also observed the client's knowledge of the NSAIDs are used to treat the symptoms of pain, gout or dental pain experienced by the client. There are 3 categories that do not know (1), is not true (2) and know the true (3). That is not true is the client feel know pain medication but is actually mentioned by the client is an antibiotic (amoxicillin 500mg) or reducing uric acid (allopurinol 100mg). Know the true meaning clients choose medications that are used to treat the symptoms of pain, rheumatism and toothache. The highest percentage of the client's knowledge about medication for pain is not correct (46.3%) while the client knows the correct (41.5%), the client does not know the drugs used to treat the symptoms of 12.2%. To the pharmacists were given training on pharmaceutical care on client self medication NSAIDs. Furthermore, pharmacists who have been trained to test methods that have been trained to each of the five clients who met the inclusion criteria. If pharmacists to clients who meet the inclusion criteria, the client is asked to his willingness to be a respondent. To the client is also informed that there will be a survey of clients who came to the house. Clients who agree will be given pre-test. Pre-test is a question of the variables in the client's knowledge and attitudes of self medication NSAIDs. Furthermore, the client is given pharmaceutical care by pharmacists in pharmacies. After that, the client will be contacted by a survey or to enter into an agreement with a client-related post-test that will be held in the client's home. Frequency distribution of the pre-test and post-test attitude of the client in self medication NSAIDs can be seen in Table2, the frequency distribution of the pre-test and post-test knowledge of the client in self medication NSAIDs can be seen in Table 3. In table 3 are known to an increase in the value of true in the post test.

The results of different tests on client attitudes about self medication NSAIDs and client knowledge about self medication NSAIDs can be seen in Table4 and 5. From the table it is known that the significance of the difference between pre-test and post-test both the variable knowledge and attitude variables showed difference significant (sig 2 tailed=0.00) with a positive value of the standard error of the mean. This

shows that the model of pharmaceutical care performed by pharmacists in pharmacies is significantly positive effect on changes in attitudes and knowledge of client self medication NSAIDs. For complete information, made confirmation of pharmaceutical care that has been made by pharmacists to clients who have received care, also carried out the confirmation to the pharmacists who have been doing care, the result is no significant difference according to the client and the pharmacist. This indicates that the pharmaceutical care given by pharmacists has been well received by clients. The results of these trials showed that pharmaceutical care is carried out with a model that is formatted properly can affect the attitude of the client in the use of

NSAIDs by self medication can also increase client self-medication knowledge NSAIDs.

CONCLUSION

Model pharmaceutical care by pharmacists in the service of self medication with NSAIDs guide booklet shows significant effect on increasing the knowledge of the client NSAIDs with the Sig. (2-tailed) $0.00 \leq 0.05$. Model pharmaceutical care by pharmacists in the service of self medication with NSAIDs guide booklet shows significant effect on changes in client attitudes towards the use of NSAIDs with Sig. (2-tailed) $0.03 \leq 0.05$.

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