Community Treatment Security Index in Makassar City

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ABSTRACT

The safety of treatment must be a concern, especially for people who decide to do self-medication. Irrational treatment affects unwanted effects. The purpose of this study was to analyze several treatment safety indicators to serve as the safety index of self-medication. This type of research is a survey using a cross sectional study design. Research location of Makassar city area with 4 regions, namely 1. North 2. East 3. South and 4. West. Research sites are pharmacies and drug stores. The number of pharmacy samples is 84 and 21 drug stores. Each pharmacy or store is taken 3 to 4 respondents. The sample size is 400 respondents. 306 for respondents who came to buy medicine at the pharmacy and 96 respondents who came to buy medicine at a drug store. The sampling technique is multistage random sampling. processing data using Confirmatory Factor Analysis. The instrument used in this study is a structured quiz. The results of the study indicate that the use of drugs for the purpose of self-medication must refer to medication safety indicators to ensure that respondents are safe for the drugs used. Of the six treatment indicators, the score for the treatment safety index was obtained with 3 categories: Less (<1.64), Enough (1.64- <3.28), Safe (≥3.28). Based on the treatment safety index, it was found that respondents who did self-medication at pharmacies or drug stores to deal with pain complaints 281 (70.3%) were in the safe category.

Keywords: Self-medication, Treatment Safety Index

INTRODUCTION

Self-medication or self-medication becomes increasingly important in dealing with health, where the community is given a large role in making decisions to deal with diseases that are considered capable of being overcome, the role of the community can improve self-empowerment[1,8,16]. Self-medication contributes to access to medical treatment because it does not use medical services and prescription drugs, so costs can be minimized, but undesirable risks such as excessive drug use, duration of treatment, improper drug dosages, and undesired drug effects can occur and the important strategy is to maximize benefits and minimize risks[2,3,5,9].

The safety of drug use is a key element of public safety to avoid drug side effects. Proper and safe use of drugs is a method to increase awareness in terms of drug use[4,7,10]. Identification regarding the safety of drug use is the first step that must be taken before making a decision to choose and implement treatment[11,12]. Medication errors are caused by improper use of drugs and the consequences can endanger health[13,14,15]. The use of drugs is said to be safe if the drug used does not provide a hazard that can cause problems or threats to their health. There are 6 categories of security indicators that are used for self-medication, among others: 1) Appropriate drug selection, 2) Precise drug dosage, 3) Appropriate use of drugs, 4) Proper drug information, 5) Proper drug storage, and 6) Alert drug side effects. Treatment safety indicators must be a parameter in carrying out self-medication so that the drugs used do not provide hazards that can cause problems or threats to their health[2,3,4]. The purpose of this study was to analyze some of the safety indicators of treatment as a safety index of self-medication.

MATERIAL AND METHOD

This type of research is a survey with a cross sectional study method. This research was carried

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out at pharmacies and drug stores spread across 14 sub-districts of Makassar City, then divided into four regions, namely North, East, South and West. The number of samples is 84 pharmacies and 21 drug stores, where each region consists of 21 pharmacies and 7 drug stores. Each pharmacy or store is taken 3 to 4 respondents. The sample size is 400 respondents. 306 for respondents who came to buy medicine at the pharmacy and 96 respondents who came to buy medicine at a drug store. Exogenous variables in the study are indicators of treatment safety and endogenous variables are the safety index of treatment. The sampling technique is multistage random sampling. Statistical analysis and processing of data using Confirmatory Factor Analysis (CFA) using the Amos Program. The instrument used is a structured questionnaire, how to collect data using an enumerator.

FINDINGS

Based on the results of the analysis and formulas obtained, the calculation of the scores of each indicator and the safety index score of the self-medication with the following results:

Table 1: Indicator Scores and Treatment Safety Index in Makassar Communities Doing Self-Treatment in Makassar City

Indicator/Index	$\bar{x}$	SD	Minimum	Maximum
Choose	1,08	0,36	0,00	1,26
Dose	1,15	0,37	0,00	1,32
Way	1,21	0,35	0,00	1,35
Inform	0,88	0,45	0,00	1,23
Save it	1,24	0,67	0,00	1,67
Effect	0,43	0,59	0,00	1,47
Secure	3,66	1,05	0,00	4,92

Table 2: Indicator Scores and Treatment Safety Index in Makassar Communities Doing Self-Treatment at Pharmacies and Drug Stores in Makassar City

Indicator/Index	Pharmacy				Drug Store			
Choose	$\bar{x}$	SD	Min	Max	$\bar{x}$	SD	Min	Max
Dose	1,07	0,38	0,00	1,26	1,12	0,29	0,00	1,26
Way	1,15	0,36	0,00	1,32	1,14	0,38	0,00	1,32
Inform	1,22	0,33	0,00	1,35	1,16	0,41	0,00	1,35
Save it	0,89	0,43	0,00	1,23	0,83	0,49	0,00	1,23
Effect	1,24	0,68	0,00	1,67	1,22	0,66	0,00	1,67
Secure	0,44	0,60	0,00	1,47	0,37	0,55	0,00	1,47
	3,69	1,01	0,00	4,92	3,56	1,15	0,50	4,92

The treatment safety index category of respondents who do self-medication is expressed in 3 categories, namely less, sufficient, and safe based on index score and safety indicator of treatment.

Table 3: Treatment Safety Index Category in Respondents Who Have Self Treatment in Makassar City

Category	Pharmacy	Drug Store	Total
Less (<1,64)	12 (3,9%)	11 (11,7%)	23 (5,8%)
Enough (1,64-<3,28)	75 (24,5%)	21 (22,3%)	96 (24,0%)
Secure (≥3,28)	219 (71,6%)	62 (66,0%)	281 (70,3%)
Total	306 (100,0%)	94 (100,0%)	400(100,0%)

Table 3. shows that the treatment safety index category of respondents who do self-medication at pharmacies and drug stores is in the safe category.

DISCUSSION

So that the body isn't considered a problem that must be troubled, so there are no steps taken to handle the condition. The results of confirmatory factor analysis of the 6 safety indicators of self-medication indicate that there is an influence of drug selection indicators on treatment safety. Indicator values for drug selection indicate that drug selection contributes to the safety of treatment. Statement 4 on the drug selection indicator gives a value of $\lambda = 0.48$, which indicates that the respondent knows the drug purchased is often used when the same pain complaint occurs, but the understanding and knowledge of the content of the drug and other products is not enough. For the drug dosage indicator in statement 2, it was shown that the duration of drinking had an effect on the dose of the drug taken by the respondent. The duration of treatment depends on the complaints of illness and disease experienced. The longer the duration of the drug, the greater the concentration of the drug exposed in the body and the side effects caused will be even greater. Indicators of caution side effects of drugs indicate that drug side effects can affect the safety of treatment, but understanding and knowledge of drug side effects still need to be improved. The results of the scores on the indicator values and the treatment safety index of the people in Makassar City who carry out self-medication show that the index values are in the safe category (≥ 3.28). This indicates that the people in Makassar City have carried out self-medication according to guidelines for rational drug use. Rational medicine is a drug that meets the exact criteria of drug selection, the right dosage, the exact method of use, the exact information of the drug, the proper storage of the drug, and being aware of the side effects of the drug[6,9,12].

CONCLUSION

Based on the treatment indicator analysis, the scores of the treatment safety index compiler were obtained with 3 index categories, namely Less (<1.64), Enough (1.64-<3.28), and Safe (≥ 3.28). Based on the treatment safety index obtained shows that the majority of respondents who do self-medication are in the safe category.

REFERENCES

1. Abel, C., Johnson, K., Waller, D., Abdalla, M., Goldsmith, C.A.W.Nonprescription Medication Use and Literacy Among, New Hampshire, Journal of American Pharmacist Association. 2012;Vol. 52 (6): 777–782.

2. Food and Drug Control Agency of the Republic of Indonesia. Guidelines for Monitoring Medication Side Effects (MESO) for Health Workers, Directorate of Therapeutic Product Distribution Monitoring and Jakarta PKRT. 2012: 4-6.

3. Food and Drug Control Agency of the Republic of Indonesia. Drug for Patien Safety, Buletin MESO. 2013; 2-10.

4. Food and Drug Control Agency of the Republic of Indonesia. Towards Secure Self-medication. Jakarta: POM Info. 2014; Vol. 15: 1-5.

5. Balamurugan E and Ganesh K. Prevalence and Pattern of Self Medication use in coastal regions of South India, British Journal of Medical Practitioners. 2011; Vol. 4 (428): 1-3.

6. Cipolle, R.J, Strand, L,M, Morley, P.C. Pharmaceutical Care Practice: *The Clinician's Guide*, 2nd Edition, The McGraw-Hill Companies. 2007; (4): 23-27.

7. Classen, D. Medication Safety Moving From Illusion to Reality, JAMA. 2007; (9): 1154-1156.

8. Cohen, M.R.Medication Safety Self Assessment, for Community /Ambulatory Pharmacy, The American Pharmaceutical Association Foundation and The National Association of Chain Drug Stores, Institute for Safe Medication Practices. 2001; 1-36.

9. Directorate General of Pharmacy and Medical Devices Development of the Ministry of Health

of the Republic of Indonesia. Module for Use of Rational Drugs, Jakarta. 2011; 1, 69, 97, 137.

10. The Directorate General of Pharmacy and Medical Devices of the Ministry of Health of the Republic of Indonesia. Training Material for Improving Knowledge and Skills in Choosing Medicines for Health Workers, Directorate of Rational Drug Use 2008; 1-2.

11. Holt, Gary A. & Edwin L. Hall. The Pros and Cons of Self-medication inJournal of Pharmacy Technology. 1986; 213-218.

12. Holt, G.A and Hall, E.L.Handbook of Nonprescription Drugs in Self-Care and Nonprescription Pharmacotherapy, 18th edition, American Pharmacists Association. 2015; 1-16.

13. Hughes, C.M, McElnay, J.C. and Fleming, G.F. Benefits and Risks of Self Medication, School of Pharmacy, The Queen's University of Belfast, Belfast, Northern Ireland, Drug Safety, 2001; 24 (14): 1027-1037.

14. Morgan E.K.T, Williamson M.Medication Safety in the Community: A Review of the Literature, National Prescribing Service. Sydney. 2009; 10-12.

15. Selvaraj, K., Kumar, S.G., Ramalingam, A. Prevalence of Self-Medication Practices and its Associated Factors in Urban Puducherry, India, Perspective Clinical Research. 2014; Jan-Mar; 5(1): 32–36.

16. Shankar, P. R., Partha, P., Shenoy, N. Self-Medication and Non-Doctor Prescription Practices in Pokhara Valley, Western Nepal: a Questionnaire-Based Study, BMC Family Practice. 2002; 3 (17): 1-7.