Conference Paper

Factors Affecting the Level of Public Knowledge About the Use of Chlorpheniramine Maleate in Pesanggrahan Village

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Abstract.
A person's level of knowledge is influenced by internal factors (e.g., age, education, occupation, experience) and external factors (e.g., environment, socioeconomic, information). The purpose of this study was to determine the level of knowledge of the people of Pesanggrahan Village, Batu City about the use of chlorpheniramine maleate and factors that influence it. This was quantitative research with a descriptive approach, using a questionnaire that has been tested and shown to be valid and reliable. There were 100 respondents. The results showed that more than half of the public (52%) had a level of knowledge about the use of chlorpheniramine maleate that was in the low category, which was influenced by three factors: education ($p < 0.001$), occupation ($p = 0.006$), and environment/socialization ($p = 0.010$). The multivariate analysis showed that knowledge about using chlorpheniramine maleate in those aged 46-65 years and in those aged > 65 years was over 2,000 times better than the level of those aged 18-25 years. It was found that the respondents with a secondary education had a knowledge level of 32.06 times better than the primary education group. In conclusion, the level of public knowledge about the use of chlorpheniramine maleate in this population was generally low, which was influenced by the level of education, occupation, and environment/socialization of the community.

Keywords: knowledge level, drug use, chlorpheniramine maleate

1. Introduction

Knowledge is a person's ability to know or predict something that is the result of learning [1]. Human curiosity can be fulfilled if a person gains an understanding of what he is looking for [2]. A person's level of knowledge is influenced by two factors, namely internal factors (age, education, occupation, and experience) and external factors (environment, socioeconomic, and information) [2, 3].

Self-medication (self-medication) is defined as the selection and use of drugs, including herbal and traditional treatments, by individuals to treat themselves from illness

or disease symptoms [4]. Drugs used in self-medication are medicines that can be purchased without a doctor's prescription [5]. In 2019, the percentage of Indonesian people who carried out self-medication using conventional or synthetic drugs was 71,46%. This number has continued to rise over the last three years, starting from 69.43% in 2017 and then 70.74% in 2018 [6]. The high tendency of self-medication is influenced by several factors, including public perceptions of minor illnesses, relatively cheaper drug prices, and practicality in the use of self-medication medicines.

The implementation of self-medication must be carried out following the disease experienced, and meet the criteria for rational drug use, including appropriate drug selection, appropriate dosage, appropriate route of administration, alertness of side effects, absence of contraindications, absence of drug interactions, and absence of polypharmacy [7]. If the implementation is rational, self-medication will make a big contribution to the improvement of national health services [8]. However, in practice, self-medication can be a source of medication errors if not done properly [9]. Medication errors can lead to drug abuse and the wrong use of drugs (drug misuse). Knowledge about drug use is still low due to limited public knowledge of drugs and a lack of information about drugs [10].

The prevalence of allergic rhinitis in Indonesia is quite high, which is 12.3% [11]. One of the drugs that is widely known by the public to treat allergic rhinitis is chlorpheniramine maleate (CTM), which is included in the limited over-the-counter drug class so that it can be purchased without a doctor's prescription[12]. People often misinterpret CTM as a sleeping medicine because of its side effect which is causing drowsiness. This drug should be used based on its indications, as an antihistamine (antiallergic) and not using side effects as a therapeutic effect or new rules [13]. One of the factors that greatly influences the success of self-medication therapy is the self-medication behavior that occurs in the community [14].

A government center generally has adequate health, education, and employment facilities and it tends to have a productive community. Pesanggrahan Village is the government center of Batu City with a population of 13.568 people consisting of 4.088 families. This study was conducted to determine the level of knowledge and the factors that influence the level of public knowledge of the use of the drug Chlorpheniramine maleate, located in Pesanggrahan Village, Batu City.

2. Materials and Methods

This study uses a descriptive method with a cross-sectional research design because the data collection is carried out at the same time. Collecting data was carried out using an instrument in the form of a questionnaire with a Guttman scale that has been declared valid and reliable. Determination of the number of samples was carried out using the Slovin and Taro Yamane formulas, which resulted in the required samples size of 100 respondents. The sampling technique used is non-probability sampling, in which all objects or elements in the population do not have the same opportunity to be selected as samples, because they must comply with the inclusion and exclusion criteria of the study.

3. Results

3.1. Characteristics of Participants

After collecting data with a questionnaire to determine the sociodemographic data and knowledge of the respondents on the level of knowledge of the drug chlorpheniramine maleate, the data was analyzed and the results obtained showed in Table 1 and Table 2 below.

Table 1 shows the results in the form of a frequency distribution based on the demographic characteristics of the respondents. The gender of the respondents is dominated by women and most of the respondents were in the age range of 26-45 years. The education of most respondents is high school graduates and as for the occupation, housewives is the most. Most respondents are with family income between IDR 2.100.000 – 5.000.000 and the sources of information were dominated by self-reading the information from the drug package.

After analyzing the data on the answers to the respondent's questions, the knowledge category was obtained based on the median value as the cut-off point from the knowledge grouping. Table 2 shows the results of the number of respondents with *low* knowledge category as much as 52% and *high* category as many as 48%.

2.2 Analysis of the Relationship between Knowledge Levels and Factors Affecting Knowledge Levels of Chlorpheniramine Maleate

The results of the bivariate analysis using the Chi-Square test show results that can be seen in Table 3. As shown from the table, the level of public knowledge of chlorpheniramine maleate is significantly influenced by three factors, that are education

TABLE 1: Demographic characteristics of respondents.

Variable	Total Respondent (n = 100)	
	Frequency (n)	Precentage (%)
Gender		
Male	39	39
Female	61	61
Age (years old)		
18 - 25	28	28
26 - 45	34	34
46 - 65	31	31
> 65	7	7
Education		
Primary education		
Did not finish elementary school	3	3
Elementary school	11	11
Junior high school	29	29
Middle education		
Senior high school	44	44
Higher education		
Colleges other than Medicine/Pharmacy	10	10
College of Medicine/Pharmacy	3	3
Occupation		
Student/unemployed	23	23
Housewife	28	28
Civil servant	9	9
Non-civil servant		
Private employees	19	19
Farmer	7	7
Animal farmer	5	5
Entrepreneur	9	9
Family Income		
≤ IDR 2.000.000	19	19
IDR 2.100.000 − 5.000.000	37	37
IDR 5.100.000 − 10.000.000	26	26
> IDR 10.000.000	18	18
Environment/socialization		
None	17	17
Other socialization		
Medical device	5	5
Elderly health	4	4
The health of mother and child	3	3
Socialization of environmental hygiene	20	20
Socialization of disease	29	29
Socialization of drugs	22	22
Information Sources		
Relatives or neighbors	16	16
Health workers	21	21
Medicine package	41	41
Social media/internet	19	19
Book of drug information	3	3
Where to obtain drugs		
Shop/Drug store	14	14
Pharmacy	57	57
Hospital/Public health center	23	23

TABLE 2: The respondent's level of knowledge of the drug chlorpheniramine maleate.

Knowledge category	Total Respondent	
	Frequency (n)	Precentage (%)
Low	52	52
High	48	48
Total	100	100

level (p-value $< 0,05$), occupation (p-value $< 0,05$) and environment/socialization (p-value $< 0,05$).

The results of the logistic regression analysis showed that the age of 46-65 years was 2,142.471 times better and age > 65 years was 2,357.414 times better in the level of knowledge of the drug chlorpheniramine maleate compared to the age of 18-25 years. And when compared to the level of primary education, it was found that the respondents with secondary education level are 32,061 times better in the level of knowledge of the drug.

4. Discussion

From the results, it can be seen that most respondents are female. Females are more likely to rationally self-medicate and are perpetrators of self-medication with high modalities than males [5]. Following this, a housewife, as the most respondents, is usually the decision-maker in the use of drugs for herself and for her family members who experience health complaints [15]. Besides, women spend more time at home and socialize more often in their environment so that information can be received more easily, such as in the Family Welfare Empowerment (PKK) activity. This is what makes housewives' knowledge continues to grow. Most of the respondents were in the productive age. Those conditions commonly increase a person's perception and mindset so that it is easy to find information about the rational use of drugs. The level of education determines whether or not a person understands information easily, so the higher a person's education, the better his knowledge [16], which is in accordance with the results of this study. The higher the education of the respondent, the more questions answered correctly, so the category of the level of knowledge is high. In the age range 46-65 years old, they have better knowledge about self-medication, causing a tendency or awareness to choose to take self-medication rather than having to check with a doctor to deal with complaints or symptoms of minor illnesses [17]. Age is closely related to a person in gaining knowledge, this is related to the more experience he gains and with

TABLE 3: Analysis of factors affecting knowledge levels of chlorpheniramine maleate.

Variable	Knowledge levels		Asymp. Sig. (2-sided)
	Low	High	
	n (%)	n (%)	
Age (years old)			
1. 18 - 25	20 (71,4)	8 (28,6)	0,093
2. 26 - 45	15 (44,1)	19 (55,9)	
3. 46 - 65	13 (41,9)	18 (58,1)	
4. > 65	4 (57,1)	3 (42,9)	
Education			
1. Primary education	29 (67,4)	14 (32,6)	0,000*
2. Secondary education	23 (52,3)	21 (47,7)	
3. Higher education	0 (0,0)	13 (100,0)	
Occupation			
1. Student/unemployed	16 (69,6)	7 (30,4)	0,006*
2. Housewife	15 (53,6)	13 (46,4)	
3. Civil servant	0 (0,0)	9 (100,0)	
4. Non civil servant	21 (52,5)	19 (47,5)	
Family Income			
1. ≤ IDR 2.000.000	13 (68,4)	6 (31,6)	0,095
2. IDR 2.100.000 − 5.000.000	22 (59,5)	15 (40,5)	
3. IDR 5.100.000 − 10.000.000	11 (42,3)	15 (57,7)	
4. > IDR 10.000.000	6 (33,3)	12 (66,7)	
Environment/socialization			
1. None	13 (76,5)	4 (23,5)	0,010*
2. Other socialization	2 (16,7)	10 (83,3)	
3. Socialization of environmental hygiene	12 (60,0)	8 (40,0)	
4. Socialization of disease	17 (58,6)	12 (41,4)	
5. Socialization of drugs	8 (36,4)	14 (63,6)	
Information Sources			
1. Relatives or neighbors	11 (68,8)	5 (31,3)	0,063
2. Health workers	11 (52,4)	10 (47,6)	
3. Medicine packaging	17 (41,5)	24 (58,5)	
4. Social media/internet	13 (68,4)	6 (31,6)	
5. Book of drug information	0 (0,0)	3 (100,0)	
Where to obtain drugs			
1. Shop/Drug store	11 (78,6)	3 (21,4)	0,152
2. Pharmacy	27 (47,4)	30 (52,6)	
3. Hospital/Public health center	12 (52,2)	11 (47,8)	
4. Midwifery practice	2 (33,3)	4 (66,7)	
*significant (there is a relationship/influence)			

increasing age his ability to process incoming information increases, so adults usually have better knowledge than young people [18].

Income can influence a person's behavior in determining the priority scale to meet daily needs, including the choice of self-medication [19]. Although from this study, it is likely does not influence the level of knowledge about the drug itself. The most socialization that respondents got in the last month was disease socialization. Environmental or socialization factors that a person gets will cause a qualitative change in that person's cognitive structure so that his knowledge gets better [18].

For sources of information, most respondents obtain it from reading the medicine packages. Interest in reading is shown by a strong desire to carry out reading activities to explore information that can be useful for people [20]. The place to get the medicine for most respondents is from pharmacies. People prefer to buy drugs at pharmacies because they can guarantee that the drugs are official and of good quality rather than buying them in the stalls, besides, people can dig up information on drug use to pharmacy officers [16].

Among those factors that potentially influenced the level of knowledge, only three factors were found to significantly influenced it as shown in Figure 1. The education factor is the factor that has the biggest influence on a person's level of knowledge because people with higher education are generally not easily influenced by advertisements or information that is not clearly sourced and tend to read more information stated on the drug packaging before consuming it [21]. Occupation factors influence a person's level of knowledge since work is usually associated with socialization or association between co-workers that occur in the work environment so that it can increase one's knowledge [16]. In addition, environmental/socialization factors have a big role that can affect a person's health status and level of knowledge, as well as concern for health itself [22]. The socialization obtained by the community regarding rational use of drugs such as in the socialization of DAGUSIBU and GEMA CERMAT will affect the self-medication behavior of the community and the level of knowledge about rational drug use [18, 23].

In this study, it is known that the level of knowledge about the drug chlorpheniramine maleate in the community is still low. From the relationship with the three factors that influence this, it can be seen that there are still many people in Pesanggrahan Village who only receive education up to the primary level, many are still unemployed or not working, and there are still few socialization activities about the drug that are held in this community. Therefore, various efforts, especially related to these three factors need to be made to improve drug use behavior and to prevents adverse risk in this community and the society.
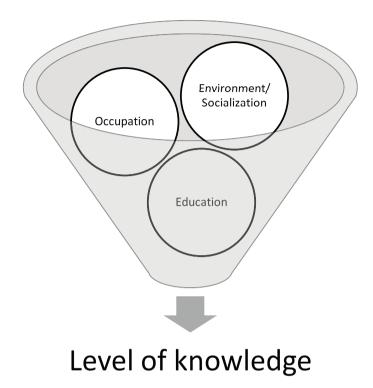
Figure 1: Factors affecting the level of knowledge of using chlorpheniramine maleate.

5. Conclusion

Based on the results obtained, it can be concluded that the level of knowledge of respondents in the Pesanggrahan Village community in the use of chlorpheniramine maleate is mostly categorized as *low*. Three factors are known to influence it, which are including the level of education, occupation, and environment or socialization. In addition, those aged more than 45 years old are generally better in the level of knowledge of the drug chlorpheniramine maleate compared to those aged 18-25 years old. On the other hand, compared to the level of primary education, it is found that respondents with secondary education level are better in the level of knowledge of the drug. Thus, socialization is one of the important efforts that must be carried out collaboratively by healthcare providers towards a better level of public knowledge about the use of drugs.

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