



Self-Medication Pattern among Customers in a Community Pharmacy

Dedy Almasdy*

Faculty of Pharmaceutical Sciences, Andalas University, Padang, West Sumatera, Indonesia

#This research has been presented at The 3rd International Conference on Contemporary Science and Clinical Pharmacy (ICSCP 2023), Universitas Andalas, Indonesia, 30-31 October 2023

ABSTRACT: Self-medication is a common practice carried out by the community. This practice is increasingly popular due to the increasing number of OTC products being marketed and the increase in public knowledge due to advances in information technology. This cross-sectional research was conducted at a community pharmacy by collecting data using a structured interview approach to document self-medication practices carried out by customers. A total of 285 customers were interviewed. The Mean age was 30.54 years old. The majority of them were female (74.4%), students (57.2%), and had secondary-level education (72.3%). The majority of the customers came to the pharmacy to continue their medicines which were bought before the day of the visit (60.4%). The dominant factor that influenced the customers to buy the medicines was the experience of using previous medicines (34.9%). Related to a question about customer's adherence to drug regimen, the majority of them (71.5%) answered 'always' and 'often', meanwhile to question about customers' practice if the medicine could not produce the desired effect, the majority of them (75%) answered 'stopping the medicines and seeking professional advice's. The total number of medicines that were bought by the customers were 375 items (mean 1.27 + 0.51), consisting of scheduled poison medicines, OTC medicines, vitamin/mineral supplement, and phyto-medica.

Keywords: community pharmacy; self-medication; non-prescription medicines; over the counter medicines.

Introduction

Self-care is a process in which individuals function on their behalf regarding health promotion; health decision making; and prevention, detection, and treatment of diseases or other health problems" [1]. Another definition is responsibly taking charge of personal well-being by undertaking self-recognition/diagnosis of emergent signs, symptoms, and conditions; seeking professional diagnosis and consultation; using conventional and alternative therapies such as prescription and nonprescription drugs, medical foods, devices, and dietary supplements; and instituting appropriate lifestyle changes such as a balanced diet and exercise [2]. This definition emphasizes that the individual is an active participant in the decision-making process and is the subject rather than the object of health care decisions.

Self-medication is one of several possible self-care actions including the use of nonprescription medicines by people on their initiative. Self-care with nonprescription medicines, especially Over-the-counter (OTC) medicines, has evolved to a modern era of new drug development

involving prescription-to-OTC switch [2]. In recent years, there has been an increasing prevalence of self-medication- especially the utilization of nonprescription drugs for therapeutic benefit and healthcare proposes [3,4]. Patients reported reasons to select nonprescription therapies are due to the assumption of safety and the proposed benefit of these therapies [5].

In pharmacies, community pharmacists, provide various services for patients. These services can be divided into traditional services, and newer, innovative services. Most people are familiar with traditional community pharmacy services such as prescription drugs, non-prescription drugs, and perhaps home delivery drugs [6]. This study aims to describe demographic characteristics and self-medication patterns among community pharmacy customers.

Method

The study is an exploratory study with the approach of a structured interview. This method

Article history

Received: 29 Okt 2023

Accepted: 05 Des 20223

Published: 30 Des 2023

Access this article



*Corresponding Author: Dedy Almasdy

Faculty of Pharmaceutical Sciences, Andalas University,
Padang, West Sumatera, Indonesia 25175 | Email: dedyalamsdy@phar.unand.ac.id

was used because it is more appropriate for exploring the pattern of self-medication, and also more appropriate to be used in studies that do not have a concrete population list, for instance in a community pharmacy setting [7,8].

The study population consisted of the customers of a community pharmacy. With the assumption that this was a large population, the study samples were determined based on the following formula [9,10].

$$n = \frac{Z\alpha^2 * p * q}{e^2}$$

where:

n = the sample size

Z α = critical value at the confidence level α

e = the desired level of precision

p = the estimated proportion

q = 1 – p

At the confidence level (α) was 95%, the estimated proportion (p) was 18%, and the desired level of precision (e) was 5%.

$$n = \frac{1.96^2 * 0.18 * 0.82}{0.05^2}$$

$$n = \frac{0.5670}{0.0025}$$

$$n = 226.8 \rightarrow 227$$

The number of the sample size was 227. To prepare for the anticipated sampling error, an extra 10% was added to the calculated sample size. Thus the minimal final sample size (n) was 250 (227 + 22.7 = 249.7 ~ 250).

The customers who attended the pharmacy buying non-prescription products for their use, aged 18 years and above, and were able to communicate were invited to participate in the study. Those customers who either refused or did not fall in the above criteria were excluded from being the subjects of this study.

The instrument used in this study is a form to guide the structured interview, consisting of the customers' demographic data and the self-medication pattern. The first part of the form deals with the customers' demographic data, such as age, gender (male and female), occupation (student, staff, and others), and level of education (elementary level, secondary level, and graduate). The second part of the form is related to the customers' self-medication pattern. This part consists of eight aspects, on which the questions are based:

1. The product was bought by customers from the pharmacy while the study was being conducted.

2. The factors influencing the customers' decision to buy the product.
3. Customers' experience in using the product.
4. The customers' attitude in taking the product as directed on the label.
5. The customers' actions if the medicine did not work properly.
6. The customers' experiences on MRPs.
7. Other products are used up to seven days prior to the visit.
8. Other products were used on the day of the visit.

A descriptive analysis was used to explain the customers' demographic characteristics and their self-medication patterns. The Statistical Package for the Social Sciences (SPSS) for Windows 15 edition was used to analyze the data obtained.

Results and Discussion

Out of 381 customers invited to participate in the study, only 285 customers gave their consent and agreed to be the subjects of the study. The reason for non-participation customers was due to their busy schedules. The total of customers who were involved in this study was more than the minimal samples required which gives the confidence interval more precisely. The response rate of 74.8%, which is considerably credible. The response rate to survey-type research has been classified into three levels which are adequate, good, and very good if the responses were more than 50%, 60%, and 70%, respectively [7].

Demographic characteristics of the subjects are enlisted in [Table 1](#). These characteristics are also consistent with the results of studies that have been conducted in several other countries. A study in Malta shows that female students constitute a greater population [11]. The present study is also supported by other studies done at the Arabian Gulf University, Bahrain [12], the Palestinian University [13], the University of Karachi [14], and another study that was conducted in the Spanish population [15].

Related to the prevalence of self-medication to types of courses, several studies have shown pros and cons. A study conducted on students at Karachi University showed that there was no difference in the self-medication proportion based on the type of courses [14]. Contrary to a study on Palestinian students, the type of courses was evidently a significant factor in self-medication [13].

The patterns of the self-medication activity of the subjects were evaluated. These patterns are represented by the factors influencing the subjects' choices when buying

Table 1. Demographic characteristics of the study subjects (n = 285)

Characteristic	Value
Age (years)	
Mean + SD	30.54 + 12.64
Range	19- 71
Median	23
Modus	22
Gender, no (%)	
Male	73 (25.6)
Female	212 (74.4)
Education level, no (%)	
Primary/less	16 (5.6)
Secondary	206 (72.3)
Graduated	63 (22.1)
Occupation, no (%)	
Student	163 (57.2)
Staff	90 (31.6)
Others	32 (11.2)
Student courses¹, no (%)	
Science	49 (32.9)
Non science	100 (67.1)

¹ Calculated from the number of students who responded to the question (n = 149)

the product, and their experiences in using the product. The attitudes, actions, and experience of the respondents, particularly those who bought the product for repeated use also was explored (Table 2).

In terms of a pattern of self-medication practice, this study found that most of the study subjects came to the pharmacy to continue using the products which have been bought prior to the visit (60.4%), while the rest of them bought the product for the first time (39.6%). This fact should be a serious concern for the pharmacist because when customers come to the pharmacy to buy the medicines for the second time, there is a possibility that the medications that have been purchased previously may not be as effective as expected (especially on the subjects who have acute diseases). This may be due to the improper drug regimen or the subjects do not comply with the drug regimen. In this regard, the pharmacist needs to be alert for those customers who come to the pharmacy buying the same product for the second time.

The two most common factors that influence the customers' selection of products were the previous experiences of using the medicine (34.9%) and the

recommendation of doctors or pharmacists (32.7%). Other factors include the pharmacy's staff recommendation (19.0%), family member's or friend's recommendations (12.6%), and commercial advertisements (0.8%). This finding is similar to the findings of another study that has been conducted in Karachi [14]. Unlike the results of these two studies, a study in Malta showed that the dominant sources of information in product purchasing decisions were family physicians, community pharmacists, parents, and medicine packages. Other sources of information were teachers, friends, and television [11].

The attitude, practice, and experience of the respondents who came to continue the previous medication were analyzed. The questions were based on their compliance with the directions of medication which are written on the brochures/boxes or the directions given by health staff (doctors, pharmacists, or pharmacy technicians). The result showed that the majority of their answers were "always or often" (71.5%), while the remaining answers were "sometimes or rarely" (28.5%). The finding was somewhat similar to another study conducted in Belfast, Ireland. The author of the study

Table 2. Self-medication pattern of the study subjects (n = 285)

Characteristic	Value (N, %)
Factors that influenced the customers' decision to buying the product¹	
Experience of previous medicine	94 (34.9)
Medical doctor/pharmacist	88 (32.7)
Pharmacy technician	51 (19.0)
Family/friends	34 (12.6)
Advertising	2 (0.8)
Customers' experience to using the product	
First time	113 (39.6)
Second time or more (refill the past products)	172 (60.4)
Customers' attitude to take the product as directed on the label²	
Always	91 (52.9)
Often	32 (18.6)
Sometimes	46 (26.7)
Rare	3 (1.8)
Customers' action if the product(s) did not produce the desired effect²	
Stop/seek for doctor	129 (75.0)
Stop/seek for pharmacist	22 (12.8)
Usage of more dose/duration the product(s)	5 (2.9)
Others	16 (9.3)
Customers' experience to MRPs²	
	116 (67.44)
Numbers of the MRPs³, mean + sd	
	2.21 + 1.076

¹ Calculated from the number of study subjects who responded to the questions (n = 269)

² Calculated from the number of study subjects who refill the past products (n = 172)

³ Calculated from the number of study subjects who have experience to previous MRPs (n = 116)

reported that the majority of the participants (86.4%) stated that they "often or always" follow the directions on the products [16].

Concerning the respondent's reactions upon experiencing negative responses, the majority of them stopped taking the medicine and seek for health worker's help (87.8%), while the rest claimed that they would add more doses or take longer duration of the medicine. Generally, there were good findings. However, the study was conducted on a specific population, it could be assumed that the findings in the general population would be different. More customers would add more doses or take longer duration of medicine. A similar study conducted in Karachi found that 43.3% of the students have reported that they alter the doses [14]. Other studies conducted in Jordan discovered that males are more likely to increase the doses if the medication still does not work at the period of time recommended, while females were

more likely to decrease the doses or stop using the product altogether [16].

The purchased products from the pharmacy, and other products used seven days prior to the day of the visit or on the day of the subjects' visits were given close scrutiny in Table 3. There were 375 items or products that were purchased by the study subjects during the period of this study (mean \pm SD = 1.22 \pm 0.51). They consisted of four types of medications, namely scheduled poison medicines (68.0%), OTC medications (26.0%), vitamins/minerals (4.5%), and herbal medications (0.5%). Compared to other studies, the amount of products purchased is less than those bought by Palestinian students (mean \pm SD = 2.63 \pm 1.38). In theory, this difference in the medicinal usage pattern is perhaps influenced by the law, culture, and income of a country [13].

A total of 56.8% of subjects, reported that they had used other medicine up to seven days before the day of

Table 3. The products purchased at the pharmacy and used by customers seven days prior the visit and on the day of the visit

Characteristic	The product purchased at the pharmacy	Other product used seven days prior the visit	Other product used on the day of the visit
The study subjects, no (%)	285 (100)	162 (56.8)	13 (4.56)
Total products	375	240	17
Mean + SD	1.27 + 0.51	1.49 + 0.73	1.31 + 0.75
The products classification, no (%)			
Scheduled poison medicine	255 (68.0)	87 (36.25)	9 (52.94)
OTC medicines	101 (26.0)	57 (23.75)	3 (17.64)
Vitamin/mineral	17 (4.5)	80 (33.33)	4 (23.53)
Herbal medicine, others	2 (0.5)	16 (6.67)	1 (5.89)

the visit. The total number of products used was 240 items (mean \pm SD = 1.49 \pm 0.73). These products consisted of scheduled poison medicines (36.25%), OTC medicines (23.75%), vitamin/mineral supplements (33.33%), and herbal medicines (6.67%). This factor should also be a serious concern for the pharmacist, because in many cases MRPs prove to be a dominant factor for people's visits to healthcare institutions, such as pharmacies, clinics, or hospitals. Even in the USA, irrational drug usage serves to be the leading cause of deaths such as heart attacks, pulmonary problems, and highway accidents [17].

Conclusion

Practicing the self-medication in a pharmacy is very dynamic. It is not only related to the amount and type of medicine used, it is also related to the reasons for doing it and the actions taken if the medicine does not work as expected. For this reason, the role of pharmacists as consultants in self-medication practices is very necessary, so that the public can avoid harmful self-medication practices.

Recomendation

Based on the results of this study, because the community pharmacist plays a major role in advising self-medicating customers, there is a need to develop a practice tool to help and guide the community pharmacist to triage customers (to treat, not to treat, or to refer) and to identify, prevent, and resolve medication-related problems (MRPs) associated with self-medication practice.

Limitation of Study

This study has some limitations, whereby the researcher only gathers the data only for four months. Throughout this time, not all the customers could be invited to participate in this study. Besides that, not all invited customers were willing to participate. Therefore, it is recommended to extend the study period, as well as provide gift to increase customers participation

Reference

- [1]. Holt, G. A., & Hall, E. L. (1990). The Self-Care Movement. In T. R. Covinton (Ed.), *Handbook Nonprescription Drug*. Washington DC: American Pharmacist Association.
- [2]. Soller, R. W. (1998). Evolution of Self-Care with Over-the-Counter Medication. *Chlinical Therapeutic*, 20(Supplement C), 134-140.
- [3]. Carmen-Kasperek, M. (1993). The state on herbal medicine in Canada. *Drug Information J*, 27, 155-157.
- [4]. Martin, J. E. (1999). Help on herbal: Weeding fact from fiction. *Pharm Pract*, 15, 45-57.
- [5]. Ackman, M. L., Campbell, J. B., Buzak, K. A., Tsuyuki, R. T., Montague, T. J., & Teo, K. K. (1999). Use of nonprescription medication by patient with congestive hearth failure. *Ann Pharmacother*, 33, 674-679.
- [6]. Bradley, C. P., & Bond, C. (1996). Increasing the number of drugs available over the counter: arguments for and against. *Br J Gen Pract*, 46, 121-122.
- [7]. Babbie, E. (1998). *Survey Research Methods* (2nd ed.). California: Wadsworth.
- [8]. Salant, P., & Dillman, D. A. (1994). *How to Conduct Your Own Survey*. New York: John Wiley&Sons.
- [9]. Lawanga, S. K., & Lemeshow, S. (1991). *Sample Size Determination in Health Study*. Geneva: World Health Organization.
- [10]. Raosoft (2004). Sample size calculator. Retrieved 1 July 2008, from Raosoft Inc.
- [11]. Ellul, R. D., Cordina, M., Buhagiar, A., Fenech, A., & Mifsud, J. (2008). Knowledge and sources of information about medicines among adolescents in Malta. *Pharmacy Practice*, 6(4), 178-186.
- [12]. James, H., Handu, S. S., Al-Khaja, K. A. J., Otoom, S., & Sequeira, R. P. (2006). Evaluation of the knowledge, attitude and practice of self-medication among first-year medical student. *Med Princ Pract*, 15, 270-275.

- [13]. Sawalha, A. F. (2008). A descriptive study of self-medication practices among Palestinian medical and nonmedical university student. *Research in Social and Administrative Pharmacy*, 4, 164-172.
- [14]. Zafar, S. N., Syed, R., Waqar, S., Zubairi, A. J., Vagar, T., Shaikh, M., et al. (2008). Self-medication among university student of Karachi: Prevalence, Knowledge and Attitudes. *Journal of Pakistan Medical Association*, 58(4), 214-217.
- [15]. Figueiras, A., Caamano, F., & Gestal, J. J. (2000). Sociodemographic factors related to self-medication in Spain. *European Journal of Epidemiology*, 19-26.
- [16]. Wazaify, M., Shields, E., Hughes, C. M., & McElneay, J. C. (2005). Societal perspectives on over-the-counter (OTC) medicines. *Family Practice*(22), 170-176.
- [17]. O'Sullivan, T. A., & Wittkowsky, A. K. (2006). The patent workup process clinical drug monitoring.



Copyright © 2023 The author(s). You are free to share (copy and redistribute the material in any medium or format) and adapt (remix, transform, and build upon the material for any purpose, even commercially) under the following terms: Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use; ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original (<https://creativecommons.org/licenses/by-sa/4.0/>)