



The Relationship of Sociodemographic Characteristics Toward the Level of Vitamin Swamedication Knowledge in the Community at A Pharmacy X, Cirebon Regency

Efriani^{1*}, Nurlaela², Irawan³, Putra TA⁴, Hadi⁵

⁵Sekolah Tinggi Kesehatan Muhammadiyah Cirebon, West Java, Indonesia, * apt.likeefriani@gmail.com

Abstract. Knowledge of a person's health determines behaviour when seeking treatment. Vitamin swamedication is a swamedication activity that uses vitamins needed by the body for normal metabolic processes and growth. This study was conducted to determine the relationship between sociodemographic characteristics and the level of knowledge of vitamin swamedication at Apotek X, Cirebon Regency. The method used is a cross sectional method with a sampling technique of consecutive sampling as many as 80 respondents. The data were analyzed by Spearman test using Statistical Product and Service Solutions (SPSS) version 25. The results showed the sociodemographic characteristics of the majority of respondents aged 26-45 years (44%), female gender (65%), education level SMA/SMK/MA (49%), and 55% of other occupations. Having sufficient knowledge level (63%) and having a relationship between sociodemographic characteristics in the form of education level with knowledge level of vitamin swamedication with p-value = 0.015 ($p < 0.05$). The conclusion of the study is that there is a significant relationship between the level of education and the level of knowledge of vitamin swamedication.

Keywords: Consists Sociodemographic Characteristics, Knowledge, Vitamin Swamedication

INTRODUCTION

Swamedication is an activity carried out for swamedication purposes. Swamedication drugs are all types of drugs that are given not with a doctor's prescription, including over-the-counter drugs, limited over-the-counter drugs, mandatory pharmacy drugs, and traditional medicines (Ilmi et al., 2021). In other terms, swamedication is also known as self-medication. In this article we will use the term swamedication. Vitamins are substances that the body needs for normal growth and function. Vitamins are needed for various biological processes in the body, including growth, digestive processes, mental development, and the body's resistance to infection (Rotulung et al., 2021).

There are two groups of vitamins that are beneficial to the body, namely fat-soluble vitamins in the form of vitamins A, D, E, K and water-soluble vitamins in the form of vitamins B and C (Dhiani et al., 2021). When taking vitamins, they must be used properly because if you do not take them according to the rules, they can cause side effects from the

drug (Sukmawati et al., 2021). Excessive intake of water-soluble vitamins, such as vitamins B and C interferes with kidney function by forcing the kidneys to excrete large amounts of compounds. Excessive intake of fat-soluble vitamins, such as vitamins A, D, E, and K results in the deposition of compounds in tissues such as the brain, bones, and liver, which can lead to high blood pressure (Dhiani et al., 2021).

Various related problems in the use of drug often occur in society. For example, lack of understanding of the correct and rational use of drugs and excessive use of over-the-counter drugs, where health workers may be less considered to lack adequate information about drug use (Zulkarni et al., 2019). Therefore, as self-medics, people need knowledge about the correct use of vitamins according to the rules. This is because knowledge influences treatment beliefs (Rotulung et al., 2021). Some studies state that swamedication behavior is influenced by sociodemographic factors such as age, gender, and social environment. That is why researchers are interested in conducting research on the Relationship of Sociodemographic Characteristics to the Level of Knowledge of Vitamin Swamedication in the Community in one of the Cirebon Regency Pharmacies.

LITERATURE

Swamedication is the practice of using drugs without a doctor's prescription to self-medicate. Swamedication can be synthetic or traditional drugs, including vitamins and other supplements. Swamedication has several benefits, such as ease of access, availability, and lower costs. However, selfmedication also has some risks, such as side effects, drug interactions, overdose, and drug abuse (Sadio, 2020). Vitamins are organic compounds needed by the body in small amounts to carry out important functions. Vitamins can be obtained from food or supplements. Some people do vitamin swamedication to prevent or treat various diseases, such as anemia, infections, osteoporosis, and cancer. However, not everyone needs vitamin supplements, because an excess of vitamins can also cause toxicity and health problems (www.mayoclinic.org, 2020).

Sociodemographic characteristics are characteristics of the population related to age, gender, education, occupation, income, and others. Sociodemographic characteristics can influence vitamin swamedication behavior. Several studies have found that sociodemographic characteristics that influence vitamin swamedication include young age, female gender, higher education level, formal employment, and high income (Sadio, 2021). Vitamin swamedication is the practice of using vitamins without a doctor's prescription to

prevent or treat various diseases. Vitamin swamedication can have health benefits, but it can also pose a risk of toxicity and drug interactions if used excessively or inappropriately. Therefore, it is important to know the factors that influence vitamin swamedication behavior in the community.

Sociodemographic characteristics may reflect knowledge, attitudes, access, and needs to vitamins among different groups. Several studies have examined the relationship between sociodemographic characteristics and vitamin swamedication in different countries and populations. In general, such studies have found that older people tend to take vitamin swamedication more often than younger ones, as they are more susceptible to chronic diseases and vitamin deficiencies (Jaaskelainen, 2013; Sadio, 2020). However, there are also studies that show that vitamin swamedication is quite high among young age groups, because they pay more attention to their health and appearance (Sadio, 2021). Women also do more vitamin swamedication than men, because they are more aware of their health and beauty, and need more vitamins during menstruation, pregnancy, and menopause.

The results also found that higher levels of education were also associated with higher vitamin swamedication, as educated people had more knowledge and information about the benefits and risks of vitamins, and were more likely to choose quality products (Jaaskelainen, 2013; Sadio, 2020; 2021). In addition, formal workers also do more vitamin swamedication than informal workers, because formal workers have the ease and affordability to buy vitamins, and have a higher awareness of the importance of maintaining health in the midst of busy work (Jaaskelainen, 2013; Sadio, 2020). Higher income also contributes to higher vitamin swamedication, as high-income people have better financial ability to buy vitamins, as well as have a higher preference for health products (Jaaskelainen, 2013; Sadio, 2020).

METHOD

The method used is the cross-sectional method with a sampling technique in the form of consecutive sampling. Data was collected directly using previously validated and reliable questionnaires. The population in the study was all people who came to Apotek X to buy vitamins with a sample of 80 respondents who met the inclusion criteria. The number of samples is calculated using the Yamane formula (Sugiyono, 2021). The inclusion criteria for this study are: (1) patients who buy vitamins at Apotek X Kota Cirebon; (2) patients aged >17 years; (3) patients who are willing to be respondents. While the exclusion criteria are respondents who are not willing to fill out questionnaires.

$$n = \frac{N}{1 + N(e)^2}$$

Information:

n = number of samples required

N = total population

e = sampling error rate 5%

In this study, N = 100 patients, thus:

$$n = \frac{100}{1 + 100(0,05)^2}$$

$$n = \frac{100}{1,25}$$

$$n = 80$$

DISCUSSION

The sociodemographic characteristics of the study sample are factors that can influence the study results. The sociodemographic characteristics that were investigated in this study are age, gender, education level, and occupation. Data on respondent characteristics were collected through a questionnaire and analyzed descriptively. The total number of respondents whose questionnaires can be analyzed is 80 respondents. The distribution of respondent characteristics can be seen in Table 1.

Table. 1 Characteristics of respondents

Characteristics of Respondents	Frequency (n)	Presented
Age		
17-25 tahun	21	26%
26-45 tahun	35	44%
46-65 tahun	23	29%
>65 tahun	1	1%
Gender		
Perempuan	52	65%
Laki-laki	28	35%
Education Level		
Tidak tamat SD/MI	1	1%
SD/MI	20	25%
SMP/MTS	9	11%
SMA/SMK/MA	39	49%
Perguruan tinggi	11	14%
Occupation		
Pelajar/mahasiswa	8	10%

Ibu rumah tangga	19	24%
Tenaga kesehatan	1	1%
ASN	3	4%
Wirausaha	5	6%
Lainnya	44	55%
Total	80	100%

Source: Research Data

Based on the table. 1, the characteristics of the majority of respondents aged 26-45 years (44%). The results of the study are similar to Putri's research (2018) which states the age group of 26-45 years is the highest compared to other age groups. This is because age is one of the factors that influence swamedication decisions (Widyaningrum et al., 2021). The gender of respondents was mostly female (65%). This result is similar to a study conducted by Purnamayanti & Artini (2020) which showed that women's survey samples were higher than men's. This is because more female visitors are self-medicating and willing to be respondents in the study. Women also pay more attention to their health than men (Octavia et al., 2019).

The education level of the majority of SMA/SMK/MA graduates (49%). The results of the study were similar to the research conducted by showed that the respondents' last education was included in the high school category. Other main occupations (private employees, SPG, and private workers) account for 55%. The level of vitamin swamedication knowledge is above three levels of knowledge, namely good knowledge, sufficient knowledge and lack of knowledge. From the survey results, it is known that the level of vitamin swamedication knowledge is sufficient (63%). The results of the study are similar to those of Widyaningrum, et al. (2021) which stated that the level of knowledge of most respondents was quite good. The distribution of data on the level of vitamin swamedication knowledge can be seen in the Table. 2.

The relationship between age and the level of vitamin swamedication knowledge was not significant, with a p-value = 0.069 ($p > 0.05$). The results of this study are similar to Harahap et al (2017) showing no significant relationship between age and the level of knowledge of vitamin swamedication respondents. Data on the relationship between age and the level of vitamin swamedication knowledge can be seen in the table. 3.

Table.3 Relationship between Age and Level of Vitamin Swamedication Knowledge

Age	Level of knowledge						Total	P Value
	Good		Enough		Less			
	N	%	N	%	N	%		
17-25 tahun	3	15	17	34	1	10	21	26

26-45 tahun	8	40	19	38	8	80	35	44	0,069
46-65 tahun	1	40	14	28	8	10	23	29	
> 65 tahun	1	5	0	0	0	0	1	1	
Total	13		50		17		80	100	

Source: Research Data

The relationship between sex and the level of vitamin swamedication knowledge was not significant, with p-value = 0.651 ($p > 0.05$). The results of this study are similar to Purnamayanti & Artini (2020) which states that gender does not have a statistically significant effect on the level of knowledge. Some people believe knowledge is influenced by gender. However, regardless of gender, people tend to have a higher level of knowledge if they are still productive, educated, and experienced (Kholifah, 2018; Ningrum, 2019). Data on the relationship between sex and the level of knowledge of vitamin swamedication are presented in the Table. 4.

Table. 4 Relationship between Age and Level of Vitamin Swamedication Knowledge

Gender	Level of knowledge						Total		P Value
	Good		Enough		Less		N	%	
	N	%	N	%	N	%			
Perempuan	9	69	34	68	9	53	52	65	0,651
Laki-laki	4	31	16	32	8	47	28	35	
Total	13		50		17		80	100	

Source: Research Data

The relationship of sociodemographic characteristics based on education level with vitamin swamedication knowledge level has a significant relationship with p-value = 0.015 ($p < 0.05$). The results of the study are in accordance with Harahap et al (2017) which states the level of education is related to the level of knowledge. The level of education determines whether or not someone easily understands the knowledge gained (Suryaningsih et al., 2022). The distribution of data on the relationship between the level of education and the level of vitamin swamedication knowledge can be seen in the Table. 5.

Table. 5 Relationship between Age and Level of Vitamin Swamedication Knowledge

Education Level	Level of knowledge						Total		P Value
	Good		Enough		Less		N	%	
	N	%	N	%	n	%			
Tidak tamat SD/MI	0	0	0	0	1	0	1	1	0,015
SD/MI	1	8	14	28	6	86	20	25	
SMP/MTS	0	0	7	14	0	0	9	11	
SMA/SMA/ MA	7	54	25	50	0	0	39	49	
Perguruan Tinggi	5	38	4	8	1	14	11	14	
Total	13		50		17		80	100	

Source: Research Data

With p -value = 0.994 ($p > 0.05$), there was no significant relationship between the sociodemographic characteristics of the occupation and the level of vitamin swamedication knowledge. The results of this study are similar to the research of Damayanti et al (2021) stating that there is no relationship between work and level of knowledge. The distribution of data on the relationship between work and the level of knowledge of vitamin swamedication can be seen in Table.6.

Table. 6 Relationship between Age and Level of Knowledge of Vitamin Samedication

Occupation	Level of knowledge						Total		P Value
	Good		Enough		Less		N	%	
	N	%	N	%	N	%			
Pelajar/ mahasiswa	1	8	7	14	0	0	8	10	0,994
Ibu Rumah Tangga	2	15	11	22	6	35	19	24	
Tenaga kesehatan	1	8	0	0	0	0	1	1	
ASN	1	8	2	2	0	0	3	3	
Wirausaha	0	0	4	8	1	6	5	6	
Lainnya	8	61	26	54	10	59	44	56	
Total	13		50		17		80	100	

Source: Research Data

CONCLUSION

Vitamin swamedication is the practice of using vitamins without a doctor's prescription to prevent or treat various diseases. Vitamin swamedication can have health benefits, but it can also pose risks of toxicity and drug interactions if used excessively or inappropriately. Therefore, it is essential to have adequate knowledge about the benefits and risks of vitamin swamedication, and to make informed decisions about one's health. In this study, we investigated the relationship between sociodemographic characteristics and the level of vitamin swamedication knowledge among the community at a pharmacy X, Cirebon Regency.

We found that the level of education was the only sociodemographic characteristic that had a significant relationship with the level of vitamin swamedication knowledge. This means that people who have higher education tend to have more knowledge about the benefits and risks of vitamin swamedication, and can make more informed decisions about their health. On the other hand, age, sex and occupation did not have a meaningful impact on the level of vitamin swamedication knowledge. This implies that vitamin swamedication is a common practice among different groups of people, regardless of their differences in age, sex and occupation.

Acknowledgement:

Thank you to Apotek X for allowing this research to be carried out and to the public who have been willing to become respondents in this study. Contains a thank you to sponsors who have supported your publication.

BIBLIOGRAPHY

- Damayanti, D., Tilaqza, A., Sulistyowati, E., Kedokteran, F., Islam, U., Sulistyowati, E., Timur, J., Damayanti, D., Tilaqza, A., & Sulistyowati, E. 2021. "Correlation Between Sociodemographic Characteristics and Knowledge Level of Malang Citizens About Skin Infection Self". *Jurnal Bio Komplementer Medicine*, Volume 8(0341).
- Dhiani, B. A., Nurjanah, S., Putri, N. I., & Umam, I. I. 2021. "Peningkatan Pengetahuan Guru dan Orang Tua Siswa Taman Kanak-Kanak Tentang Penggunaan Suplemen Vitamin yang Tepat". *Jurnal Inovasi Hasil Pengabdian Masyarakat (JIPEMAS)*. Volume 4(2), pp: 161. <https://doi.org/10.33474/jipemas.v4i2.9138>
- Harahap, N. A., Khairunnisa, K., & Tanuwijaya, J. 2017. "Patient knowledge and rationality of swamedication in three pharmacies of Panyabungan City, Indonesia". *Jurnal Sains Farmasi & Klinis*. Volume 3(2), 186. <https://doi.org/10.29208/jsfk.2017.3.2.124>
- Ilmi, T., Suprihatin, Y., & Probosiwi, N. 2021. "Hubungan Karakteristik Pasien dengan Perilaku Swamedikasi Analgesik di Apotek Kabupaten Kediri , Indonesia". *Jurnal Kedokteran Dan Kesehatan*. Vol. 17(1), pp: 21–34. <https://jurnal.umj.ac.id/index.php/JKK>
- Jääskeläinen, T., Knekt, P., Marniemi, J., Sares-Jäske, L., Männistö, S., Heliövaara, M., & Järvinen, R. 2013. Vitamin D status is associated with sociodemographic factors, lifestyle and metabolic health. *European Journal of Nutrition*, 52(2), 513–525. <https://doi.org/10.1007/s00394-012-0354-0>
- Mayo Clinic Staff. 2020, November 3. Do you need a daily supplement? Mayo Clinic. <https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/supplements/art-20044894>
- Ningrum, A. C. 2019. "Tingkat Pengetahuan Penggunaan Obat Bebas Dan Obat Bebas Terbatas Untuk Swamedikasi Pada Masyarakat Rt.01/Rw.17 Desa Suradadi Kecamatan Suradadi Kabupaten Tegal". *Journal of Physics A: Mathematical and Theoretical*. Volume 44(8), pp: 1689–1699.
- Octavia, D. R., Zakaria, M. S., & Nurafifah, D. 2019. "Tingkat Pengetahuan Masyarakat Tentang Swamedikasi yang Rasional di Lamongan". *Jurnal Surya*. Volume 11(03), pp: 1–8. <https://doi.org/10.38040/js.v11i03.54>
- Purnamayanti, N. P. D., & Artini, I. G. A. 2020. "Pengaruh Karakteristik Sosiodemografi Terhadap Tingkat Pengetahuan Tentang Swamedikasi OAINS Pada Mahasiswa Universitas Udayana". *Jurnal Medika Udayana*. Volume 9(1), pp: 12–17.

- Rotulung, C. R., Citraningtyas, G., & Jayanto, I. 2021. “Hubungan Antara Pengetahuan Dengan Perilaku Pasien Pengguna Vitamin di Puskesmas Touluaan dan Puskesmas Posumaen”. *Pharmacon Journal*. Volume 10(4), pp: 1100–1108.
- Sadio, A. J., Gbeasor-Komlanvi, F. A., Konu, R. Y., Bakoubayi, A. W., Tchankoni, M. K., Bitty-Anderson, A. M., Gomez, I. M., Denadou, C. P., Anani, J., Kouanfack, H. R., Kpeto, I. K., Salou, M., & Ekouevi, D. K. (2020). Demographic, socio-economic and other associated risk factors for swamedication behaviour among university students of Sri Lanka: a cross sectional study. *BMC Public Health*, 20(1), 613. <https://doi.org/10.1186/s12889-020-08622-8>
- Sadio, A. J., Gbeasor-Komlanvi, F. A., Konu, R. Y., Bakoubayi, A. W., Tchankoni, M. K., Bitty-Anderson, A. M., Gomez, I. M., Denadou, C. P., Anani, J., Kouanfack, H. R., Kpeto, I. K., Salou, M., & Ekouevi, D. K. (2021). Assessment of swamedication practices in the context of the COVID-19 outbreak in Togo. *BMC Public Health*, 21(1), 58. <https://doi.org/10.1186/s12889-020-10145-1>
- Suherman, H., & Febrina, D. 2018. “Pengaruh Faktor Usia, Jenis Kelamin, Dan Pengetahuan Terhadap Swamedikasi Obat”. *Viva Medika: Jurnal Kesehatan, Kebidanan Dan Keperawatan*. Volume 10(2), pp: 94–108. <https://doi.org/10.35960/vm.v10i2.449>
- Sukmawati, I. K., Lisni, I., Hartini, N. N. S. M., Pryadi, A., & Yunisa, E. 2021. “Pelaksanaan Swamedikasi Vitamin Sebagai Penguat Sistem Imun Dimasa Pandemi Covid-19”. *Jurnal Asta*. Volume 01(01), pp: 82–93.
- Suryaningsih, N. P. A., Reganata, G. P., & Rinata, A. D. 2022. “Faktor Rasionalitas Swamedikasi Suplemen Yang Mengandung Vitamin C Di Kota Denpasar”. *Lambung Farmasi: Jurnal Ilmu Kefarmasian*. Volume 3(1), 40. <https://doi.org/10.31764/lf.v3i1.6440>
- Widyaningrum, E. A., Wika Admaja, W., Winduhani Astuti, L., & Masyriqoh, B. 2021. “Pengaruh Usia dan Jenis Kelamin Terhadap Pengetahuan Serta Perilaku Penggunaan Suplemen di Masa Pandemi pada Mahasiswa IIK Bhakti Wiyata”. *Majalah Farmasetika*. Volume 6(Suppl 1), 49. <https://doi.org/10.24198/mfarmasetika.v6i0.36675>
- Zulkarni, R., Rahmi Yosmar, & Octafiani, I. 2019. “Hubungan Pengetahuan Pasien terhadap Rasionalitas Swamedikasi di Beberapa Apotek Kecamatan Lubuk Basung”. *Jurnal Sporta Sainatika*. Volume 4(September), pp: 1–9.