Media Farmasi: Jurnal Ilmu Farmasi (Journal of Pharmaceutical Science) e-ISSN 2503-5223
Vol. 20, No. 1, March 2023, pp. 8-14
http://journal.uad.ac.id/index.php/Media-Farmasi/index

The Relationship Level Of Community's Knowledge And Attitude Toward The Use of Antibiotics In Gandaria, South Jakarta

Teodhora*, Eka Putri Maliawati

Faculty of Pharmacy, National Institute of Science and Technology, Jakarta, Indonesia
*corresponding author: e-mail: c.teodhora@istn.ac.id

ARTICLE INFO

Article history
Received: 16-07-2021
Revised: 13-04-2022
Accepted: 17-01-2023

Keywords
Antibiotics
Community
Knowledge
Attitude

ABSTRACT

Antibiotics will be beneficial and have the anticipated therapeutic effect if prescribed and administered as instructed. The purpose of this study was to evaluate community attitudes and knowledge levels regarding the use of antibiotics, as well as the relationship between these two variables. The sample size for this descriptive-analytic study was 95 respondents, and a cross-sectional design was used. The sampling technique utilized was purposeful sampling. Women made up the bulk of responses (65.3%), and their age range was 36 to 45 (44.2%). The latest educational levels indicated were high school (61.1%), antibiotic use in the past or present (100%), and housewife (38.1%). The respondent received scores of 62.1% for "excellent" knowledge, 3.5% for "adequate" learning, and 7.4% for "poor" expertise. In contrast, there were 0.0% of participants in a horrible disposition, 52.6% with an acceptable attitude, and 47.4% with an excellent attitude. The Chi-Square test findings showed a significant value of 0.097, or more significant than 0.05, between the variable amount of knowledge and attitudes against antibiotics. The p-value (> 0.05) indicates no correlation between the level of competence and perspectives regarding the use of antibiotics. Education, knowledge, and attitudes toward antibiotics were found to be correlated, with a p-value of (0.05). It was determined that the local population had a good and insightful understanding of antibiotics.

1. Introduction

Antibiotic self-medication is a severe issue that is becoming more prevalent worldwide. One of these is an increase in the bacteria's susceptibility to antibiotics, which leads to ineffective therapy, elevated patient morbidity, and mortality, and increased treatment costs. It is essential to pay attention to the principles of taking antibiotics to match the symptoms of the disease, the dose, the mode of administration at intervals, the duration of administration, effectiveness, quality, safety, and cost to combat these effects effectively (Azahari & Perwata, 2018). Antibiotics will benefit and achieve a therapeutic effect if prescribed and consumed under the rules. However, the community has used antibiotics freely and widely without knowing the impact of unregulated use (Yarza et al., 2015).

Antibiotics are antibacterial compounds that can either inhibit or kill other microbes. Various microorganisms, including bacteria, fungi, and actinomycetes, create antibiotics (Yanty & Oktarlina, 2018). The most critical problems in public health, particularly in underdeveloped nations, are infectious diseases (Sholih et al., 2015). Based on a number of studies, 40 and 62% of antibiotics were being abused by people who didn't need them, among other issues (Yuswantina et al., 2019). According to a study of antibiotics in underdeveloped nations, people thought of antibiotics as "exceptional drugs" or "specialist drugs" that might prevent or treat numerous diseases or symptoms. There is the idea of incorrect thinking, and understanding the basics of antibiotics is necessary

(Ivoryanto et al., 2017). Knowledge and attitudes are social cognitive variables connected and affect antibiotic behavior; 85% of participants were aware that inappropriate use of antibiotics results in antibiotic resistance (Murthi & Artini, 2018).

The issue of resistance is now a worldwide issue. Irrationality is the primary factor in antibiotic resistance (Yuswantina et al., 2019). The incorrect selection of the antibiotic to the route and duration of administration is one example of irrational drug use when it comes to antibiotics. People frequently administer antibiotics incorrectly, including at the incorrect frequency, for an excessively long or short period, or in circumstances that need to be approved. Due to these factors, antibiotics' ineffective functioning power becomes a serious issue (Arrang et al., 2019).

In a survey of 130 respondents, 105 (80.8%) had inadequate knowledge, and 109 (83.8%) had a favorable attitude toward antibiotic use in the Jakarta village of Tomang (Angelina & Tjandra, 2019). According to another study in Jakarta, 29 participants (90.6%) were aware of antibiotics. Antibiotics used to treat bacterial infections were identified by 13 responders (40.6%) (Arrang, 2019). According to the research background, researchers were curious about the community's knowledge and attitudes regarding the use of antibiotics on Jalan Gandaria Ujung Rt 011/002, Jagakarsa, South Jakarta, for May 2020 because antibiotic use is still frequently done irrationally and without a prescription in the location. There may have been a high prevalence of antibiotic resistance due to widespread public misinformation about antibiotics.

2. Materials and Methods

This research was conducted in an analytical descriptive manner. The design was a *cross-sectional* approach to respondents on Jalan Gandaria Ujung RT 011/002, Jagakarsa District, South Jakarta, from December 05 until December 21, 2020. The research was conducted in the morning, starting from 9:00 a.m. to 12:00 p.m. and 3.00-5.00 p.m. This research used a questionnaire distributed directly to respondents who met the sample criteria and had filled out an informed consent form as consent form. The population was all people who lived on Jalan Gandaria Ujung RT: 011/002, Jagakarsa District, South Jakarta, while the sample was part of the people who lived on Jalan Gandaria Ujung RT: 011/002, Jagakarsa, South Jakarta aged 17-50 years old. The Slovin formula determined the number of samples. Variables of univariate analysis were age, gender, education, occupation, level of knowledge, and attitude towards the use of antibiotics. Bivariate analysis was the relationship between the level of knowledge with people's attitudes towards the use of antibiotics and the relationship between characteristics (gender, age, last education, and occupation) with the level of knowledge and attitudes towards the use of antibiotics.

The knowledge questionnaire was direct with a closed question model; namely, the respondent chooses a right or wrong answer. The attitude was that the respondent chose the answer always, often, sometimes, and never, then each statement item was given a score of 1 to 4. The closed-question knowledge survey method required a right or wrong answer. If the respondent always answered, often, sometimes, or never, each statement item was scored 1 to 4. Five statements agreed with antibiotic use (favorable question), and five disagreed (unfavorable question) (Wawan & Dewi., 2011). Good knowledge was 76%, sufficient was 56-75%, and poor was 55%. A score of >30 indicated an excellent attitude, 16-30 showed a moderate attitude, and <16 displayed a poor attitude. In the preliminary study, 30 respondents completed the questionnaire’s validity test, which included 23 question items on antibiotic use knowledge and perspectives. Each question had 13 statements and ten ideas.

SPSS Windows 16.0 was used for Chi-Square. SPSS validated and analyzed the data. All variables were declared valid because all questions had r-count values greater than 0.361. Meanwhile, the knowledge reliability test yielded 0.787, and the attitude reliability test 0.703. Knowledge and attitudes were measured on the Guttman and Likert scales, respectively (Sugiyono, 2013). The Likert scale respondents used was a tick (√) on the best answer. The Health Research Ethics Committee approved the study on 03/21.02/0838.

3. Results and Discussion

The research was conducted on 95 respondents at Jalan Gandaria Ujung RT 011/002, Jagakarsa, South Jakarta, to determine the relationship between community knowledge and attitudes about antibiotics and gender, age, last education, and occupation. Table 1 shows the relationship between knowledge and perspectives.

Table 1. Relationship between Knowledge Levels and Attitudes towards Antibiotic Use

Variable	N	%	Mean± SD	*P-Value*
Level of Knowledge	95	100	1.4526± 0.6319	0.097*
Attitudes	95	100	1.5263± 0.5019	

*= There was no significant relationship between the level the of community's knowledge and attitudes towards the use of antibiotics (p-Value > 0.05)

No relationship was found between knowledge and antibiotic attitudes at 0.097 (0.05). The story of personal knowledge influences attitudes. However, beliefs, experiences, and societal values may still affect attitudes. Environmental factors also strongly influence attitudes. It often happened that someone with a good level of knowledge took an attitude that was not influenced by friends or their experiences. The advancement of technology also affected the respondents' command, which made information more accessible. It explained why this research's expertise didn't affect attitude. There was no significant relationship between the level of knowledge and attitudes toward the use of antibiotics (Sianturi et al., 2020). There was an effect between the level of knowledge and attitudes toward antibiotics (Kondoj et al., 2020). The analysis of respondents' knowledge and attitudes showed a significant relationship with a p-value = 0.001. (Suwarso, 2017). Table 2 shows demographic characteristics.

The correlation between gender and knowledge had a p-value of 0.424, owned by 40 females. It showed that gender did not affect antibiotic learning. Women had more citizen-to-citizen interactions, causing this condition. Women were better informed than men because they received information more thoroughly. Antibiotic use was taught to both sexes. Gender shouldn't be used to judge a person's knowledge. Influenced by environmental factors, the individual's experience, and sociocultural factors where the experience has been previously known, assumed and believed to motivate and intend to act (Notoatmodjo, 2010). The research was in line with Fitriah's (2019) research, showing the results of the correlation between gender and knowledge level (Fitriah, 2019). The *p*-value (≥0.05) was 0.245. Furthermore, it was also in line with (Nurmala & Gunawan, 2020), showing no relationship between gender and level of knowledge. The research was also in line with (Murthi & Artini, 2018), which showed no significant difference between gender and the level of knowledge about the use of antibiotics.

Table 2. Relationship between Respondents' Characteristics and Knowledge Level of Antibiotic Use

Demographic Characteristics	Knowledge Level			Total (n=95)	*P (Value)*
	Good (n=59)	Sufficient (n=29)	Poor (n=7)		
Gender					
Male	19	10	4	33	0.424
Female	40	19	3	62	
Age					
17-25	11	7	1	19	
26-35	14	10	1	25	0.476
36-45	30	8	4	42	
46-55	4	4	1	9	
Last Education					
Elementary School	2	4	2	8	
JHS	7	4	3	14	0.036**
SHS/VHS	37	19	2	58	
Diploma/Academic	7	2	0	9	
Bachelor (S1)	6	0	0	6	
Occupation					
Housewife	23	11	3	37	
Students	3	2	0	5	
Self-employed	4	2	1	7	0.239
Government employees	2	1	0	3	
Private employees	18	9	0	27	
Laborer	4	1	3	8	
Others	5	3	0	8	

**= There was a significant relationship

Age and knowledge had a p-value (> 0.05) of 0.476, with 30 people 36–45 years old having good knowledge. Antibiotic ability did not correlate with age. Both adults and children had the same chance to learn about antibiotics and how to use them, so age didn't matter. A person's knowledge may be shaped by previous knowledge, personal experience, other people, and other factors that last into old age. Age is thought to influence perception and mindset. Cognitive functioning improved with age, but at a certain age, cognitive development slowed. Increasing a person's age could affect the increase in knowledge gained (Ar-Rasily & Dewi, 2016). The research was in line with Dewi's (2018) research, which showed no relationship between age and level of knowledge on the use of antibiotics (Dewi & Farida, 2018). The research was in line with Nurmala's (2020) research, which showed no relationship between age and level of knowledge on the use of antibiotics (Nurmala & Gunawan, 2020). The research was in line with (Yuswantina et al., 2019), showing that there was no significant difference between age and level of knowledge of the use of antibiotics.

The last education that had good knowledge about antibiotics was the previous education of high school (SHS) graduates, as many as 37 people. The results of the correlation between the latest education and knowledge obtained a *p*-value (≤0.05) of 0.036. It showed a significant relationship between the respondents' last education and their level of knowledge. The higher a person's education, the easier it is to receive information. With higher education, someone would tend to get information from other people and the mass media: the more information that came in, the more people's knowledge about health. Knowledge was closely related to education. It is hoped that someone with higher education would have more extensive knowledge. However, it should be emphasized that someone with low education does not mean someone with no education. Increased knowledge was not obtained in formal education but can also be obtained in non-formal education (Songgigilan et al., 2020). The research was in line with Dewi's research (2018), which showed a relationship between education and the level of knowledge on the use of antibiotics (Dewi & Farida, 2018). The research was in line with Fitriah's research (2019), which showed a relationship between education and the level of knowledge on the use of antibiotics (Fitriah, 2019). The research was also in line with Suwarso's (2017) research, which showed a significant relationship between education and the level of knowledge on the use of antibiotics (Suwarso, 2017).

The correlation between occupation and knowledge had a p-value of 0.239 (0.05). Antibiotics were well-known by 23 homemakers. It showed no significant relationship between the respondent's employment and antibiotic knowledge. Antibiotic information was available to homemakers and other workers. A person's occupation couldn't be used to judge their ability. Environmental factors influenced it, as the individual's experience, and sociocultural factors where the experience has been previously known, assumed, and believed so that motivation and intention to act emerged (Notoatmodjo, 2010). Media like television, radio, newspapers, and magazines shape people's opinions and beliefs (Songgigilan et al., 2020). In theory, one's job will affect one's knowledge and experience. When people work, they use their brains and body's abilities so that they can store them, or there is an increase in memory because they often do it (Kondoj et al., 2020). The research was in line with Fitriah's research (2019), showing the results of the correlation between occupation and knowledge level (Fitriah, 2019). The p-value was 0.000. This value showed no correlation between occupation and knowledge. The research was in line with Nurmala's (2020) research, which showed no relationship between occupation and the level of knowledge regarding the use of antibiotics (Nurmala & Gunawan, 2020). The research was not in line with Suwarso's research (2017), which showed a significant effect between occupation and level of knowledge on the use of antibiotics (Suwarso, 2017). The Chi-Square Test in SPSS 16.0 was used to analyze respondent characteristics and antibiotic attitudes. Table 3 shows the results.

Antibiotic attitudes were sufficient in 32 women, men and women. Gender and attitude results were correlated with a p-value of 0.785. It showed no significant relationship between gender and attitude. The correct use of antibiotics was the same for men and women, so gender did not affect the respondent's attitudes. The research was in line with research (Fitriah, 2019). There was no relationship between gender and attitudes towards the use of antibiotics. The research was in line with (Murthi & Artini, 2018) research, which showed no significant difference between gender and attitudes towards the use of antibiotics. Furthermore, the research was in line with research by (Suwarso, 2017), which showed no relationship between gender and attitudes towards antibiotics.

Table 3. The relationship between respondents' characteristics with attitudes towards antibiotic use

Demographic Characteristics	Attitudes		Total (n=95)	*P (Value)*
	Good (n=45)	Sufficient (n=50)		
Gender				
Male	15	18	33	0.785
Female	30	32	62	
Age				
17-25	10	9	19	
26-35	11	14	25	0.949
36-45	20	22	42	
46-55	4	5	9	
Last Education				
Elementary School	4	4	8	
JHS	9	5	14	0.029**
SHS/VHS	25	33	58	
Diploma/Academic	7	2	9	
Bachelor (S1)	0	6	6	
Occupation				
Housewife	18	19	37	
Students	3	2	5	
Self-employed Government employees	2	5	7	0.908
Private employees Laborer	2	1	3	
Others	13	14	27	
	4	4	8	
	3	5	8	

**= There was a significant relationship

The highest correlation between age and attitude was 0.949, with 22 people 36–45 years old having a moderate perspective. The respondent's age did not affect antibiotic use attitudes. Adults and children had the same chance to learn and remember antibiotics. Age cannot be used to judge a person's perspective. The research was in line with Murthi's (2018) research, which showed no significant difference between age and attitudes towards the use of antibiotics (Murthi & Artini, 2018). The research was in line with Suwarso's research (2017), showing the correlation between age and attitude. A significant p-value = 0.593 was obtained that there was no significant relationship between age and the attitude of the respondents (Suwarso, 2017). This research was not in line with research (Fitriah, 2019). There was a relationship between age and attitudes towards the use of antibiotics.

The correlation between attitude and latest education had a p-value (0.05) of 0.029, with 33 senior high school (SHS) graduates having a sufficient perspective. It showed a significant relationship between antibiotic use and education. Awareness increases with education. Personal experience, media, and environment influenced it. Furthermore, this research was in line with Fitriah's (2019) research (Fitriah, 2019). There was a relationship between education and attitudes towards the use of antibiotics. The research was also in line with Murthi's (2018) research, which showed a significant difference between education and attitudes towards the use of antibiotics (Murthi & Artini, 2018). The research did not align with Suwarso's research (2017), showing the correlation between education and attitudes (Suwarso, 2017). A significant *p*-value = 0.001 was obtained that there was a significant relationship between education and respondents' attitudes.

The correlation between occupation and attitude yielded a p-value (0.05) of 0.908, with 19 housewives having the highest value, indicating a sufficient attitude. It showed no significant relationship between the respondent's occupation and attitudes toward antibiotics because working as a housewife and doing other assignments gave the same opportunity to learn about antibiotics. Work couldn't be used to judge a person's attitude. Personal experience, others' influence, culture, mass media, and educational institutions all influenced it (Wawan & Dewi, 2011). The research was in line with research by (Fitriah, 2019). There was no relationship between characteristics (gender and occupation) with attitudes towards the use of antibiotics. The research was in line with Murthi's (2018) research, which showed no significant difference between occupation and attitudes towards the use of

antibiotics (Murthi & Artini, 2018). The research was not in line with Suwarso's research (2017), which showed that a significant *p*-value = 0.001 was obtained between work and attitude (Suwarso, 2017). Respondents' attitudes were strongly influenced by work. Due to the COVID-19 pandemic, counseling and outreach could not be done to improve antibiotic perspective and use.

4. Conclusion

Antibiotic knowledge and attitudes were good in the community. It was 59% in the good knowledge category and 45% in the good attitude category.

Author Contributions

Teodhora conceived and designed the study. Eka Putri Maliawati wrote the manuscript. All authors read and approved the final manuscript.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing Interests

The authors disclose no conflict.

References

Angelina, S., & Tjandra, O. (2019). Hubungan antara pengetahuan dan sikap ibu terhadap perilaku penggunaan antibiotik pada anak di Kelurahan Tomang periode Januari-Maret 2017. *Tarumanagara Medical Journal*, *1*(2), 410–416. https://journal.untar.ac.id/index.php/tmj/article/view/3844.

Ar-Rasily, O. K., & Dewi, P. K. (2016). Faktor - faktor yang mempengaruhi tingkat pengetahuan orang tua mengenai kelainan genetik penyebab disabilitas intelektual di kota Semarang. *Diponegoro Medical Journal (Jurnal Kedokteran Diponegoro)*, *5*(4), hal 1428-1430.

Arrang, S. T., Cokro, F., & Sianipar, E. A. (2019). Penggunaan antibiotika yang rasional pada masyarakat awam di Jakarta. *Jurnal Mitra*, *3*(1), 73–82.

Azahari, E., & Perwata, T. (2018). Analisis tingkat pengetahuan pasien di apotek manfaat terhadap penggunaan Amoxicilin. *D-3 Farmasi, AkademiFarmasiMuhammadiyahKuningan*, *3*(2), 24–29.

Dewi, M. A. C., & Farida, Y. (2018). Tingkat pengetahuan pasien rawat jalan tentang penggunaan antibiotika di puskesmas wilayah Karanganyar. *JPSCR : Journal of Pharmaceutical Science and Clinical Research*, *3*(1), 27. https://doi.org/10.20961/jpscr.v3i1.15102.

Fitriah, R. (2019). Pengaruh faktor sosiodemografi terhadap pengetahuan dan sikap tentang penggunaan antibiotik di kalangan masyarakat perkotaan. *Jurnal Penelitian Dan Kajian Ilmiah Kesehatan Politeknik Medica Farma Husada Mataram*, *5*(2), 107–114.

Ivoryanto, E., Sidharta, B., & Kurnia Illahi, R. (2017). Hubungan tingkat pendidikan formal masyarakat terhadap pengetahuan dalam penggunaan antibiotika oral di apotek kecamatan Klojen. *Universitas Brawijaya*, *2*(2), 31–36.

Kondoj, I. V., Lolo, W. A., & Jayanto, I. (2020). Pengaruh tingkat pengetahuan dan sikap terhadap penggunaan antibiotik di apotek Kimia Farma 396 Tuminting kota Manado. *Pharmacon*, *9*(2), 294. https://doi.org/10.35799/pha.9.2020.29284.

Murthi, M. C. W., & Artini, I. G. A. (2018). Studi cross-sectional tentang pengetahuan dan sikap pengunjung puskesmas Denpasar Utara II terkait dengan antibiotika. *E-Jurnal Medika*, *7*(2), 62–66.

Notoatmodjo, S. (2010). *Ilmu perilaku kesehatan*.

Nurmala, S., & Gunawan, D. O. (2020). Pengetahuan penggunaan obat antibiotik pada masyarakat yang tinggal di kelurahan babakan madang. *Fitofarmaka: Jurnal Ilmiah Farmasi*, *10*(1), 22–31. https://doi.org/10.33751/jf.v10i1.1728.

Sholih, M. G., Muhtadi, A., & Saidah, S. (2015). Rasionalitas penggunaan antibiotik di salah satu rumah sakit

umum di Bandung tahun 2010. *Indonesian Journal of Clinical Pharmacy*, *4*(1), 64–70. https://doi.org/10.15416/ijcp.2015.4.1.64.

Sianturi, M. O., Ompusunggu, H. E. S., & . D. . (2020). Hubungan tingkat pengetahuan tentang antibiotik dengan sikap dan tindakan penggunaan antibiotik tanpa resep pada mahasiswa/i Universitas HKBP Nommensen Medan. *Health and Medical Journal*, *3*(1), 38–42. https://doi.org/10.33854/heme.v3i1.580.

Songgigilan, S. D., Mongie, J., Tampa'i, R., & Untu, S. D. (2020). Evaluasi tingkat pengetahuan pasien pada penggunaan obat antibiotik di Apotek UNO 1 Kota Manado. *Biofarmasetikal Tropis*, *3*(1), 97–100. https://doi.org/10.55724/j.biofar.trop.v3i1.263.

Sugiyono, D. (2013). *Metode penelitian kuantitatif, kualitatif dan R & D*. Bandung : Alfabeta.

Suwarso, E. (2017). *Pengetahuan dan sikap masyarakat terhadap antibiotik di puskesmas kota Jantho kecamatan kota Jantho kabupaten Aceh Besar.(Skripsi)*. Universitas Sumatera Utara.

Wawan, A., & M., D. (2011). *Teori dan pengukuran pengetahuan, sikap dan perilaku manusia*. Nuha Medika, Yogyakarta.

Yanty, R. D., & Oktarlina, R. Z. (2018). Pengaruh penggunaan antibiotik terhadap kasus Stevens Johnson Syndrome. *Jurnal Ilmiah Bakti Farmasi*, *3*(2), 23–28.

Yarza, H. L., Yanwirasti, Y., & Irawati, L. (2015). Hubungan tingkat pengetahuan dan sikap dengan penggunaan antibiotik tanpa resep dokter. *Jurnal Kesehatan Andalas*, *4*(1), 151–156. https://doi.org/10.25077/jka.v4i1.214.

Yuswantina, R. Y., Dyahariesti, N. D., Fitra Sari, N. L., & Kurnia Sari, E. D. (2019). Hubungan faktor usia dan tingkat pendidikan terhadap pengetahuan penggunaan antibiotik di kelurahan Sidorejo Kidul. *Indonesian Journal of Pharmacy and Natural Product*, *2*(1), 25–31. https://doi.org/10.35473/ijpnp.v2i1.193