International Journal Of Health, Engineering And Technology (IJHET) *E-ISSN 2829 - 8683*
Volume 4, Number 6, March 2026, *Page. 2391 - 2398*
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Analysis Of The Relationship Between Pharmacists' Knowledge, Attitude, And Perception Levels Towards Telepharmy Implementation In Sukoharjo Regency

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Abstract

The Covid-19 pandemic has accelerated the adoption of technology in healthcare services, including the implementation of telepharmacy. The success of telepharmacy implementation depends on the readiness of pharmacists in terms of their knowledge, attitudes, and perceptions. This study aims to analyze the relationship between the level of knowledge, attitudes, and perceptions of pharmacists towards the implementation of telepharmacy in the Sukoharjo Regency. This study is a qualitative descriptive study with a cross-sectional approach. The study sample consisted of 30 pharmacists working in pharmacies and community health centers in Sukoharjo Regency, selected using purposive sampling. Data were collected using a questionnaire that had been tested for validity and reliability, as well as in-depth interviews. Data analysis included univariate and bivariate analysis with chi-square. The results showed that the majority of pharmacists had a good level of knowledge (mean 76.7%), indicating that pharmacists had a good understanding. Pharmacists' attitudes were in the adequate category (mean 60%), and pharmacists' perceptions were in the adequate category (mean 70%). Statistical analysis using chi-square indicated that there was a significant relationship between pharmacists' knowledge and perceptions, with a p-value of 0.014 ($p < 0.05$). There was a significant relationship between the variables of attitude and perception, as indicated by a p-value of 0.001 ($p < 0.05$). The conclusion of the implementation of tele-pharmacy is not only in terms of knowledge, but also in strengthening positive attitudes through supportive infrastructure, technical training, and clear regulations.

Keywords: Pharmacists, Knowledge, Perception, Community Health Centers, Attitude, Sukoharjo, Tele-pharmacy.

INTRODUCTION

The World Health Organization (WHO) declared the COVID-19 outbreak a Public Health Emergency of International Concern (PHEIC), including in Indonesia (Carmassi et al., 2020). Pre-pandemic, society tended to be less open to technological advancements and innovation. The emergence of COVID-19 marked a turning point, accelerating the development of technology in various aspects of life. This situation significantly impacted the healthcare system, particularly the pharmaceutical sector (Farid et al., 2022). To adapt, innovative information technology-based pharmaceutical services were developed to facilitate remote services while ensuring quality. A technology increasingly emerging in the healthcare sector is telepharmacy (Sianturi et al., 2025).

Telepharmacy can be implemented in various healthcare facilities, such as pharmacies and community health centers. Telepharmacy services in pharmacies and community health centers encompass a range of clinical pharmacy services, such as drug therapy monitoring (DMT), drug information provision (DMT), dispensing, and medication side effect mentoring (DMT mentoring). Various media are used in its implementation, including telephone, WhatsApp, Instagram, SMS, and websites (Rasdianah et al., 2024). Fernanda's (2022) research involving 145 pharmacists in South Kalimantan revealed that 71% had high knowledge, 22.1% were in the moderate category, and only 6.9% had low knowledge (Fernanda et al., 2022).

Ilma's (2022) research involving 78 pharmacists in Banyuwangi Regency found that 89% had good knowledge, and 46% had poor attitudes. The success of implementing telepharmacy as a form of technological innovation is influenced by various factors, such as pharmacists' level of knowledge, attitudes, and behavior (Ilma et al., 2022). Pharmacist knowledge and effectiveness (attitudes) are key indicators in shaping perceptions of telepharmacy (Wiryani et al., 2024). This aligns with research by Abigael and Ernawaty, which shows that in developing countries, the implementation of telepharmacy

still faces various obstacles, particularly related to the readiness of healthcare workers. Based on these conditions, it is important to assess the readiness of healthcare workers, particularly pharmacists, to optimally implement telepharmacy services (Wathoni et al., 2023).

Sukoharjo Regency has 12 community health centers (Health Center) supported by professional staff, including 18 pharmacists responsible for the provision and management of pharmaceutical preparations (Dinkes, 2021). Sukoharjo Regency has several pharmacies managed by pharmacists responsible for providing independent pharmaceutical services to the community. The presence of pharmacists in community health centers (Health Center) and pharmacies is a crucial factor in the development of pharmaceutical services (Ilma et al., 2022).

In light of these conditions, this study was conducted to determine the relationship between pharmacists' knowledge, attitudes, and perceptions regarding the implementation of telepharmacy services in pharmacies and Health Center as an effort to support the improvement of the quality and efficiency of technology-based pharmaceutical services.

RESEARCH METHODS

This type of research is quantitative and descriptive. Descriptive research is research conducted with the aim of describing problems based on variable characteristics (Ahliyah., 2022).

Research Variables

Research variables are objects, properties, attributes, and activities with different variations determined by the researcher and from which conclusions can be drawn (Purwanto, 2019). The variables in this study used independent and dependent variables.

An independent variable is a variable that influences or can influence another variable (Purwanto, 2019). The independent variables used in this study were pharmacists' knowledge and attitudes toward telepharmacy.

A dependent variable is a variable that is influenced by or is a consequence of the independent variable. Therefore, this variable is a variable with a large probability of influence, depending on the magnitude of the independent variable (Purwanto, 2019). The dependent variable in this study was pharmacists' perceptions of telepharmacy implementation in Sukoharjo Regency.

RESULTS AND DISCUSSION

Respondent Description

This research was conducted at community health centers (Health Center) and pharmacies in Sukoharjo Regency, with 30 pharmacists as respondents. Data were obtained through questionnaires and in-depth interviews, which were then analyzed according to the research objectives. The results will provide data on pharmacists' knowledge, attitudes, and perceptions regarding telepharmacy implementation in Sukoharjo Regency. However, prior to questionnaire distribution, the instrument used must be tested.

Validity Test

The validity test of this research instrument was conducted to ensure that each question item in the questionnaire accurately measured a variable. The testing process was carried out using SPSS version 23, with each item analyzed for a total score to determine consistency. The significance test was conducted by comparing the calculated r value with the table r value. This comparison used the degrees of freedom (df) calculated based on the n-2 formula (Ahliyah., 2023). The table R value of 0.361 was obtained from the distribution table with $n = 30$ and $\alpha = 0.05$. Based on the data results in Table 4.1, Table 4.2, and Table 4.3, it can be seen that all 21 question items are valid.

The decision was taken by comparing the calculated R value from the SPSS analysis to the R table value. Using 30 respondents, the R table value of 0.361 became the limit of the validity criteria. The calculated R value of all items was greater than the R table, so all the questions met the validity

requirements according to Sugiyono (2014). There were no invalid items, thus all the questions could be used as a measuring tool in the study, where each item represented the research parameters which included knowledge, attitudes and perceptions of pharmacists towards telepharmacy in the Sukoharjo Regency area.

Reliability Test

Reliability testing in this study was conducted to measure the consistency of questionnaire responses. The Cronbach's alpha coefficient was chosen to assess the consistency of an instrument using a measurement scale. An instrument is deemed reliable if the resulting Cronbach's alpha coefficient exceeds the minimum threshold of 0.6 (Krisnawati et al., 2024). Table 4.6 shows that the reliability test results show that the Cronbach's alpha value for the 21 questions on the knowledge variable was 0.713, the attitude question was 0.713, and the perception question was 0.732, indicating a value greater than 0.6, indicating reliability.

This aligns with research by Sankay & Langi (2021), who stated that if a questionnaire is considered reliable when the Cronbach's alpha coefficient value exceeds 0.6, the instrument is considered reliable and meets the requirements. This is in line with research by Zayrin (2025), who stated that a correlation value above 0.60 but less than 1 indicates high reliability. Testing the reliability of the perception questionnaire can conclude that the instrument on the perception variable meets the requirements (is reliable).

Respondent Characteristics

The characteristics of pharmacists in Sukoharjo Regency are grouped by age based on human developmental stages. Based on the research in Table 4.7, the majority of respondents were in early adulthood (26-35 years old) (43.3%), late adulthood (36-45 years old) (26%), early elderly (46-55 years old) (26%), and the fewest were in late elderly (56-60 years old) (3%). This indicates that the respondents were predominantly young or relatively new pharmacists. The majority were in the productive age range, associated with a higher level of adaptability and openness to innovation.

This aligns with research by Ahliyah (2023), which states that young pharmacists tend to be skilled in using digital-based technology and are more responsive in seeking out new information. They are more adept at using telepharmacy services than senior pharmacists who have a more dominant focus and responsibility (Ahliyah, 2023). This is in line with research by Wathoni (2024), which states that older age groups are 65% less likely to have sufficient knowledge about telepharmacy compared to younger age groups.

In addition to age, respondent characteristics based on gender determine a pharmacist's attitude. This study found that the majority of pharmacist respondents in Sukoharjo Regency were female (86%), while the remaining were male (13%). The predominance of female respondents in this study is related to women's interest in the pharmaceutical field. This interest is supported by a high sensitivity to health and personal or family experiences that foster interest in the world of health (Sianturi et al., 2025).

This aligns with research by Wiryani (2023), which states that pharmacy education has long been dominated by women. Furthermore, female pharmacists are more patient and meticulous in providing understanding about medications to patients with various characteristics, attitudes, and personalities. This may be due to their better and clearer communication skills with patients than male pharmacists (Wiryani et al., 2023).

In addition to gender, pharmacist education is an important factor that can influence a person's knowledge and behavior. Based on the data in Table 4.9, the majority of respondents in this study had a bachelor's degree in pharmacy, totaling 30 respondents (100%). The fewest respondents were pharmacists with a master's degree in pharmacy (0%). This indicates that the majority of respondents in this study had completed their professional education.

Educational background influences a person's level of knowledge because it is related to the ability to absorb and receive information, especially about health (Yuswantina et al., 2019). The higher the knowledge, the more information is received. Knowledge is closely related to education; someone

with a higher education is expected to have broader knowledge (Notoadmojo, 2012). This aligns with research by Ilahi (2019), which states that education level can influence a person's abilities and knowledge. Higher education increases the intellectual level of a person, allowing them to more quickly and easily absorb information and develop a more advanced mindset (Ilahi et al., 2019). Length of service also determines the level of knowledge and attitudes of pharmacists in the study. This study showed that all pharmacist respondents in Sukoharjo Regency (100%) had more than one year of work experience. The longer a person works, the more experience they gain and the more optimal their performance (Retnowati et al., 2024).

This aligns with research by Fatiha (2025), which found that length of service is a factor associated with pharmacist knowledge. Experienced pharmacists are familiar with clinical guidelines, therapeutic protocols, and patient management strategies, which enhances their ability to respond effectively to health emergencies (Fatiha et al., 2025).

Categorization of pharmacists' knowledge, attitudes and perceptions

The categorization results show that the majority of pharmacists had good knowledge (n=23; 76.7%) and a significant number (n=7; 23.3%) regarding telepharmacy. This is in line with research by Siantur (2025), which showed that the level of knowledge was in the good category with a frequency of 89.97%. Regarding pharmacist attitudes, 60% (n=18) had good attitudes and 40% had fair attitudes toward the use of telepharmacy.

This is in line with research by Ahliyah (2021), which stated that a good attitude indicates that the use of telepharmacy is understood and well-accepted by pharmacists (Ahliyah et al., 2021). This is in line with research by Fadil & Emmanuela (2024), which stated that a positive attitude toward telepharmacy implementation is positively perceived among pharmacists. Pharmacists' perceptions of telepharmacy implementation showed that the majority of results were in the good category (70% (n=25), and the fair category (30%). This indicates that pharmacists have a positive view of telepharmacy in service delivery.

Respondents' level of knowledge about telepharmacy

On average, respondents responded with the highest percentage (100%) to question item (1), which concerns pharmacists' understanding and knowledge of the definition of telepharmacy and pharmacist authority. The analysis of the distribution of respondents' knowledge levels indicates that all pharmacists (100%) have a good level of knowledge regarding telepharmacy. This good knowledge can serve as a foundation for pharmacists in implementing telepharmacy services. This aligns with research conducted by Aryanto (2023), which found that the majority of respondents had good knowledge (97.9%).

This indicates that pharmacists' knowledge of telepharmacy is considered good. The implementation of telepharmacy in this study still faces several challenges, one of which was identified in the knowledge item with the lowest percentage (43%), namely the question stating, "In some situations, telepharmacy can hinder the efficiency of pharmacy service time compared to face-to-face services." This is reinforced by an interview with several community health center pharmacists, "...Most patients at the community health center are elderly, ma'am. Mobile phone use is definitely not possible, so more patients prefer face-to-face consultations because they're more convenient and clearer." (Informant 5, 2026).

This aligns with research by Siantur (2025), which found that many respondents preferred in-person pharmacy services and were unfamiliar with consultations and communication via telepharmacy, using text messages or phone calls. This is due to the predominantly elderly patient population. This is in line with a study by Ilahi (2019), which stated that verbal communication via telepharmacy can worry pharmacists if patients misunderstand the information conveyed. Therefore, direct communication with patients is considered more effective in conveying drug information, thereby improving patient understanding of the medications prescribed (Ilahi et al., 2019).

Pharmacists' attitudes towards the implementation of telepharmacy

As can be seen in the attitude questionnaire, two items had the lowest percentage scores. The first question, with 40%, was "In my opinion, the use of digital health applications increases the technical complexity of implementing telepharmacy." This complexity in this study stems from the network's inadequacy. This is reinforced by interviews with several pharmacists who stated, "...The difficulty is sometimes, if there's no signal or the Wi-Fi is down here, I can't send messages to patients, ma'am." (Informant 1, 2026). For telepharmacy to run smoothly, adequate preparation and infrastructure are required (Irwanda et al., 2023).

This aligns with Rahayu's (2023) research, which states that technical obstacles include limited internet connection, given that telepharmacy relies on it. Technical disruptions result in reduced service effectiveness on the telepharmacy platform or media. This is in line with Segal's (2020) research, which states that patients, especially elderly patients, who lack access to smartphones, computers, or the internet cannot utilize telepharmacy services (Segal et al., 2020). The question item with the second lowest percentage (48%) was "The implementation of telepharmacy has the potential to increase the workload of pharmacists."

This question is supported by interviews with several pharmacists who stated, "...at this community health center, we use WhatsApp for counseling, ma'am. Once we're in the room, we rarely use WhatsApp because there are so many patients coming offline, so we hold our phones when we call, and there are fewer patients coming in person. It does add to the workload, but as employees, we must still fulfill our responsibilities, ma'am." (Informant 3, 2026).

This aligns with Sasanti's (2022) research, which states that with telepharmacy, pharmacists' workload tends to increase, dividing their time and attention between in-person and online services. This situation makes it difficult for pharmacists to manage their time effectively, especially outside normal service hours. This contrasts with research by Irwanda (2023), which found that telepharmacy reduces workload and increases human resource efficiency.

Pharmacists' perceptions of telepharmacy implementation

The results of this study indicate that pharmacists' perceptions are in the adequate category, with a percentage of 60%. This result indicates that pharmacists have a supportive view of telepharmacy implementation. This study aligns with previous research by Naufal (2023), which stated that pharmacists' perceptions of the implementation of telepharmacy services showed adequate results. In the perception questionnaire, two items with low percentages (46%) were included: "Counseling and drug information services via telepharmacy are less effective than face-to-face counseling."

This indicates that some pharmacist respondents agreed that telepharmacy is less effective than face-to-face counseling. This is supported by interviews with several pharmacists who stated, "...the majority of patients at community health centers are elderly. Using mobile phones, let alone WhatsApp, is certainly not possible, so more elderly people prefer face-to-face consultations because they are more convenient and clearer." (Informant 2, 2026). The interviews revealed that the main obstacles to telepharmacy implementation are limited infrastructure (signal) and the characteristics of elderly patients who are less familiar with digital technology. This is in line with research by Ilma (2023), which stated that one reason pharmacists have not yet optimally utilized telepharmacy is due to technological limitations (Ilma et al., 2023).

This is in line with research by Arifi (2020), which stated that the effectiveness of telepharmacy for the elderly remains inconsistent and does not show improvements in clinical adherence. This suggests that trust in consultations is more easily established through face-to-face counseling to address patient non-adherence and concerns (Arifi et al., 2020). The second lowest-reported statement (56%) was "Telepharmacy implementation cannot be carried out outside of working hours." This is reinforced by interviews with several pharmacists who stated, "...how can I do it, miss? At home, my time is divided, and if I respond to counseling via WhatsApp, I'm often late" (Informant 6, 2026).

This indicates that, although perceptions are generally positive, the implementation of telepharmacy outside of office hours is difficult. This aligns with research by Sasanti (2022), which states that the relatively heavy workload and the imbalance in the number of available pharmacists often disproportionate to the number of patients requiring pharmaceutical services.

Analysis of the relationship between the level of knowledge, attitudes and perceptions of pharmacists.

The chi-square test results showed a statistically significant correlation between pharmacists' knowledge levels and their perceptions of telepharmacy, with a p-value (p=0.014; <0.05). This is in line with research by Siantur (2025), who stated that those with good knowledge and positive perceptions tend to be more prepared to implement telepharmacy services as part of innovation. This contrasts with research by Ilma (2023), who stated that knowledge did not influence a person's perception (Ilma et al., 2023).

The interviews revealed factors influencing telepharmacy use, such as support from both pharmacists and patients, which is essential for its implementation. Barriers to pharmacists' use of telepharmacy include limited resources and time.

This is in line with research by Sasanti (2022), who stated that the heavy workload and the imbalance between the number of available pharmacists and the number of patients requiring pharmaceutical services. The use of telepharmacy tends to increase pharmacists' workload, thus dividing their time and attention between in-person and online services. This situation makes it difficult for pharmacists to manage their time effectively, and there are also inhibiting factors from patients, such as limited technology, financial situation, and acceptance of telepharmacy (Sasanti et al., 2022).

This is in line with research by Rasdianah (2024), who stated that access to electronic devices and signal are the most crucial factors in implementing telepharmacy for the community. A chi-square analysis of the attitude and perception variables toward telepharmacy showed a significant value with a p-value (p=0.001; <0.05). This aligns with research by Ahliyah (2021), which states that a positive attitude indicates that the use of telepharmacy is understood and accepted by pharmacists (Ahliyah et al., 2021). This is in line with research by Wiryani (2024), who stated that attitude and implementation are unidirectional, meaning that attitude impacts the implementation of pharmaceutical services.

Wathoni (2023) stated that most pharmacists have a positive perception of the benefits of telepharmacy, particularly in terms of cost efficiency and the time required for patients to reach healthcare facilities. This aligns with research by Ilma (2023), who also stated that attitudes toward telepharmacy use influence pharmacists' perceptions of its implementation. Attitude is crucial for healthcare workers' perceptions of telepharmacy implementation (Elhadi et al., 2021). The chi-square test results in this study indicate that pharmacists' knowledge, attitudes, and perceptions are related to the implementation of telepharmacy services.

CONCLUSION

Based on the results of research that has been conducted on the analysis of the relationship between the level of knowledge, attitudes and perceptions of pharmacists regarding the implementation of telepharmacy in the Sukoharjo Regency area, the following conclusions can be drawn:

1. The level of knowledge of pharmacists in Sukoharjo Regency is considered good, with an average of 76.7%. This indicates that pharmacists have a good theoretical understanding of telepharmacy.
2. Pharmacists' attitudes toward telepharmacy in Sukoharjo Regency are considered adequate, with an average of 60%. The majority of pharmacists responded positively to the implementation of telepharmacy in Sukoharjo Regency.

3. Pharmacists' perceptions of telepharmacy in Sukoharjo Regency are considered adequate, with an average of 70%, indicating that pharmacists have a relatively favorable view, but there are still obstacles to implementing telepharmacy in community health centers and pharmacies.
4. The relationship between the study variables shows a statistically significant relationship between pharmacists' knowledge and perceptions (p-value = 0.014 (<0.05). There is also a significant relationship between attitudes and pharmacists' perceptions (p = 0.001).

REFERENCES

Ahliyah, A. A. (2022). Persepsi Apoteker Tentang TeleFarmasi Pada Pelayanan Kefarmasian Di Apotek Pada Masa Pandemi Covid-19 Di Kota Malang. *Skripsi*. Universitas Islam Negeri Maulana Malik Ibrahim Malang.

Aryanto, F., Khairunnisa, A., Rhea, B., Ilmi, M., Salfa, R., Auli, R., Shavira, S., Afrilians, S., Ayatulloh, S., Hayfa, S., Nasikatus, S., Putri, S., & Rindang, M. (2023). Penerapan Layanan Telefarmasi oleh Apoteker di Apotek Wilayah Surabaya Pada Masa Pandemi Covid-19. *Jurnal Farmasi Komunitas*. Vol 10 (1).

Elhadi, M., Elhadi, A., Bouhuwaish, A., Alshiteewi, F. Bin, Elmabrouk, A., Alsuyihili, A., Alhashimi, A., Khel, S., Elgherwi, A., Alsoufi, A., Albakoush, A. dan Abdulmalik, A. (2021) "*Telemedicine awareness, knowledge, attitude, and skills of health care workers in a low-resource country during the COVID-19 pandemic: Cross-sectional study," Journal of Medical Internet Research.* Vol. 23(2)

Fadil, & Emmanuela. E. (2024). Pengaruh PengeyDan Sikap Terhadap Perilaku Penggunaan Telefarmasi. *Jurnal Kesehatan Muhammadiyah* (Madimuh). Vol. 5 (2).

Ilahi, K. R., Hariadini, L. A., Pramestutie, R. H., & Diana, H. (2019). Efektivitas *Home Pharmacy Care* dalam Meningkatkan Pengetahuan dan Kepatuhan Terhadap Pengobatan Pasien Hipertensi. *Pharmaceutical Journal Of Indonesian*. Vol 5(1).

Ilma, L. D., Mustikaningtias, I., Salsabila, N. Y. I., Sholihat, K. N., & Parmasari, H. D. (2023). Analisis Tingkat Pengetahuan, Sikap dan Perilaku Apoteker Terkait Penggunaan Telefarmasi: Studi *Cross-Sectional*. *Journal of Pharmaceutical Science and Clinicak Research* (JPSCR). Vol. 2.

Irwanda, F. W., Widayanti, W. A & Kristina, A. S. (2023). Persepsi Apoteker Terhadap Manfaat dan Keterbaatsan Telefarmasi di Fasilitas Kesehatan Daerah Istimewa Yogyakarta. *Jurnal Majalah Farmaseutik*. Vol 20 (1).

Krisnawati, E., Artanti, K.D., & Umar, N.H. (2024). Uji Validitas dan Reliabilitas Instrumen Penelitian Dukungan Suami Terhadap Hambatan Penggunaan Metode Kontrasepsi Jangka Panjang Pada Multipara Akseptor Aktif Di Surabaya. *Media Gizi Kesmas*. Vol. 13 (2).

Naufal, M., Yuwindry, I., & Rizali, M. (2023). Persepsi Apoteker Tentang Penerapan Telefarmsi Di Apotek. *Journal of Pharmaceutical Care and Science*. Vol. 3(2).

Purwanto, N. (2019). Variabel dalam Penelitian Pendidikan. *Jurnal Teknodik*, 6115, 196–215.

Putri, U. W., & Wicaksono, A. I. (2021). Review Artikel : Pelayanan Telefarmsi Di Masa Pandemi Covid-19. *Jurnal Farmaka*. Vol. 19 (3).

Rahayu, F. R., Ramadhan, I. S., & Hendriani, R. (2023). Pelaksanaan Telefarmasi Pada Pelayanan Kefarmasian Di Farmasi Komunitas. *Journal Of Pharmaceutical And Sciences.* Vol 6 (1).

Rasdianah, N., Djuwarno, N.E., Madani, M., Suryadi, A. M. A., & Lasumpala, I. N. (2024). Analisis Persepsi Tenaga Farmasi Tentang TeleFarmasi Di Apotek Kota Gorontalo. *Journal of Community and Clinicak Pharmacy*. Vol. 1 (2).

Segal, E. M., Alwan, L., Pitney, C., Taketa, C., Indorf, A., Held, L., Lee, K. S., Son, M., Chi, M., Diamantides, E., dan Gosser, R. (2020). *Establishing Clinical Pharmacist Telehealth Services during the COVID-19 Pandemic. American Journal of Health-System Pharmacy,* 77(17)

Sianturi, S. A. C., Dewi, I. V. L., & Waty, E. C. (2025). Hubungan Tingkat Pengetahuan dan Persepsi terhadap Kesediaan Menggunakan Telefarmasi pada Mahasiswa Farmasi. *Jurnal Farmasi Indonesia.* Vol. 22 (1).

Sasanti, A. D., Maharani, L., Sholihat, N.K., Purwonugroho, A. T., Mustikaningtias, I., & Ilma, D. L. (2022). *Journal of Pharmaceutical Science and Clinical Research* (JPSCR) Vol. 2 (1).

Wiryani, L.S.U., Putri, E. M., & Dhafin, A.A. (2024). Analisis Tentang Sikap Apoteker Terkait Penggunaan Telefarmasi Pada Pelayanan Kefarmasian Di Apotek Kota Denpasar. *Jurnal Kesehatan Tambusai*. Vol 5 (4).

Wathoni, N., Lestari, K., Iftinan, N. G., Rahayu, A. S., Nurlatifah, A., Khairinisa, A. M., & Elamin, M. K. (2023). *Knowledge, Perception, and Readliness of Indonesia Pharmacists for the Implementation of Telepharmacy-Based Pharmaceutical Service in Indonesian. Integrated Pharmacy Research and Practice*. Vol 12.