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Communication Competence, Emotional Intelligence and Interpersonal Attractiveness of Pharmaceutical Workers in the Quality of Drug Services

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Abstract

The competency of pharmaceutical workforce significantly influences the quality of drug services, with low competence detrimentally impacting service standards. Conversely, proficient pharmaceutical professionals contribute to improved service quality. This study explores the relationship between pharmaceutical competencies - such as communication, personal appeal, and emotional intelligence - and drug service quality. Conducted in Tegal City, Central Java Province, Indonesia, the research surveyed adult pharmacy visitors. Out of 404 participants aged 18 years or older who received pharmaceutical services, data were analyzed using univariate and bivariate methods. The majority rated drug service quality positively. Bivariate analysis revealed significant correlations with verbal communication, non-verbal communication, emotional intelligence, and interpersonal attractiveness. Notably, non-verbal communication exhibited the highest correlation coefficient. Effective communication, interpersonal appeal, and emotional intelligence positively influence pharmaceutical service quality, highlighting the importance of these competencies in enhancing patient satisfaction and medication adherence.

Keywords: Communication, Emotional Intelligence, Interpersonal Attractiveness, Drug Services

Introduction

Pharmaceutical services play a critical role in ensuring the safety, efficacy, and accessibility of medicines for patients. Globally, pharmaceutical services are essential for improving health outcomes and reducing the burden of disease. According to a study by Brhlikova et al. (2020), access to essential medicines and quality pharmaceutical services can save lives and improve

the quality of life for patients, particularly in low- and middle-income countries. Foster et al. (2020) found that effective pharmaceutical services are crucial for achieving universal health coverage and promoting health equity. In Indonesia, pharmaceutical services are also crucial for improving health outcomes and addressing the burden of disease. A study by Kusuma et al. (2020) found that pharmaceutical services play an important role in managing chronic diseases, such as diabetes and hypertension, in Indonesia. Another study by Purba et al. (2021) highlighted the importance of pharmaceutical services in addressing the growing burden of non-communicable diseases in Indonesia, such as cancer and cardiovascular disease. Thus, quality pharmacy services play an important role in delivering healthcare services to patients. The quality of pharmacy services is influenced by various factors such as resource availability, organizational support, communication, patient satisfaction, and adherence to standards. A study conducted by Mardiyanto et al. (2021) evaluated the quality of pharmaceutical services at community health centers in Indonesia. The study found that the availability of pharmaceutical resources, patient counseling, and pharmacist competence had a significant effect on the quality of pharmaceutical services. Another study by Marliyana et al. (2020) assessed the factors influencing the implementation of pharmaceutical care in community pharmacies in Indonesia. They discovered that a lack of communication between health workers, inadequate training, and the absence of regulations as the main barriers to the implementation of pharmaceutical care. The soft skills possessed by pharmacy personnel influence the quality of pharmaceutical services.

Puspitasari et al. (2021) found that patient satisfaction is an important factor affecting the quality of pharmaceutical services in Indonesia. The study found that patient satisfaction was positively associated with pharmacist-patient communication, medication information, and medication management. In addition, organizational support is also an important factor in ensuring the quality of pharmacy services. Another study conducted by Palupi et al. (2020) also found that organizational support has a positive effect on pharmacist job satisfaction and pharmaceutical service quality in community pharmacies. Several studies have also shown a relationship between soft skills possessed by pharmaceutical personnel and the quality of drug services. A study by Al-Surimi et al. (2020) explored the relationship between communication competence and the quality of pharmacy services in Saudi Arabia. The study found that effective communication was positively associated with patient satisfaction, medication adherence, and overall quality of care. Another study by Bakhtiar et al. (2021) assessed the relationship between emotional intelligence and pharmacy service quality in Malaysia. The study found that pharmacists with higher emotional intelligence were more effective in patient counseling, medication management, and patient education, which ultimately improved the quality of pharmacy services. They are also better able to cope with stressful conditions and situations. They are also more capable of collaborating with other health workers. Interpersonal attractiveness, which refers to the ability to establish and maintain positive relationships with patients, is also an important factor in pharmacy service quality. A study by Shamsi et al. (2020) examined the relationship between interpersonal attractiveness and patient satisfaction in community pharmacies in Iran. The study found that pharmacists who demonstrated interpersonal attractiveness were more likely to have satisfied patients, indicating a positive impact of this skill on pharmacy service quality. Pharmaceutical workers who have high interpersonal attractiveness tend to have emotional attachment with patients. In addition, pharmacy workers also have the ability to direct

patients to follow treatment procedures, which can have a positive impact on treatment outcomes.

Based on previous research, it shows that there are many studies that review the factors associated with the quality of pharmaceutical services. Previous research also shows that the soft skills possessed by pharmaceutical personnel also play a role in improving the quality of research. However, not many studies have analyzed the role of communication competence, emotional intelligence and interpersonal attractiveness in the context of pharmacy in the developing countries. Therefore, this study aims to enrich the literature related to the role of soft skills in pharmacy service. Specifically, this study analyzes the relationship between communication competence, emotional intelligence and interpersonal attractiveness possessed by pharmaceutical personnel with the quality of drug services in pharmaceutical services from Indonesia country setting.

Literature Review

Communication Competence

Effective communication is an important component in providing quality healthcare. In the context of pharmaceutical services, communication competence refers to the ability of pharmacists and pharmacy staff to communicate effectively with patients, caregivers, and other health personnel through verbal and nonverbal communication. Verbal communication involves the use of spoken words to convey information and ideas. In pharmacy services, effective verbal communication skills are essential to ensure that patients understand their medication, dosage, and potential side effects. A study by Machado et al. (2021) examined the impact of pharmacist-patient verbal communication on medication adherence among diabetic patients. The study found that patients who received clear and concise verbal instructions from their pharmacist were more likely to adhere to their medication regimen. Nonverbal communication includes gestures, facial expressions, and body language, which can convey important messages in pharmacy services. For example, maintaining eye contact and using open body language can convey empathy and build trust with patients. A study by Vanegas et al. (2021) explored the impact of pharmacists' nonverbal behaviors on patient satisfaction in community pharmacies. The study found that patients rated their satisfaction with pharmacists higher when pharmacists exhibited positive nonverbal behaviors, such as smiling and maintaining eye contact.

Communication training programs can help pharmacy staff develop and improve their verbal and nonverbal communication skills. Garrelts MacLean et al. (2021) evaluated the impact of a communication training program on pharmacy students' communication skills. The study found that students who participated in the training program showed significant improvement in their communication competencies, including their ability to listen actively, provide empathic responses, and adapt their communication style to meet patients' needs. The development of effective communication competencies is crucial in pharmacy services to ensure the best patient outcomes, such as medication adherence, patient satisfaction, and overall health improvement. Communication skills, both verbal and nonverbal, are a very important part of the overall effective communication process. Through communication training programs, pharmacy staff can receive guidance and development to improve these skills, ensure better interactions between pharmacists and patients, and positively impact the overall pharmacy service.

Emotional Intelligence

Emotional intelligence (EI) is defined as the ability to feel, understand, manage and express emotions in a positive and effective way. Emotional intelligence has been recognized as an important factor in various fields, including healthcare. Pharmacy services, which involve direct interaction with patients, require pharmacists and pharmacy staff to have high levels of emotional intelligence to provide quality care. This literature review aims to explore the role of emotional intelligence in pharmacy services and its impact on patient outcomes. Research has shown that emotional intelligence positively influences pharmacy practice. Pharmacists who have high levels of emotional intelligence have been shown to communicate more effectively with patients, resolve conflicts more efficiently, and have a better understanding of patient needs and concerns (Dharmayanti et al. 2020). In addition, pharmacists with high EI have been shown to have higher levels of job satisfaction and reduced levels of burnout, leading to improved performance and patient outcomes (Shokri et al. 2020). The impact of emotional intelligence on patient outcomes has also been explored. A study by Aldhafiri et al. (2021) found that patients rated their satisfaction with pharmacy services higher when they perceived pharmacists to have high levels of emotional intelligence. Similarly, another study by Salih et al. (Salih 2021) found that patients were more likely to adhere to their medication regimen when their pharmacist demonstrated high emotional intelligence.

Pharmacy schools and continuing education programs can incorporate training and development programs to enhance emotional intelligence in pharmacy students and practicing pharmacists. For example, a study by Lai et al. (2020) found that a short training program on emotional intelligence improved pharmacy students' empathy and communication skills. In addition, Dharmayanti et al. (2020) suggested that pharmacists can improve their emotional intelligence by engaging in reflective practice, seeking feedback, and developing a supportive work environment. Emotional intelligence is an important skill for pharmacists and pharmacy staff in providing quality patient care. Research has shown that emotional intelligence positively affects communication, conflict resolution, and patient outcomes. Pharmacy schools and continuing education programs can incorporate training and development programs to improve emotional intelligence in pharmacy students and pharmacists. This could improve patient satisfaction, medication adherence, and job satisfaction among pharmacists.

Interpersonal Attraction

Interpersonal attraction is the extent to which people are attracted to each other based on factors such as physical appearance, personality and social similarities. It plays an important role in the healthcare field, particularly in pharmacy services, as it affects patient satisfaction, medication adherence and overall healthcare outcomes. This literature review aims to explore the factors that contribute to interpersonal attractiveness in pharmacy services and its impact on patient outcomes. Several factors influence interpersonal attractiveness in pharmacy services. One significant factor is the pharmacist's communication skills, including verbal and nonverbal cues. Effective communication, such as active listening and using open-ended questions, can increase patient satisfaction and trust in the pharmacist, leading to greater interpersonal appeal (Kim, Kim, and Jung 2021).

Another important factor is pharmacists' empathy and emotional intelligence. Empathy is the ability to understand and share patients' feelings, while emotional intelligence is the ability to manage emotions effectively. Pharmacists with high levels of empathy and emotional intelligence can better connect with patients, leading to increased interpersonal attraction and better healthcare outcomes (Yeung, Fung, and Cheng 2021). In addition, the physical environment of the pharmacy can influence interpersonal attraction. Factors such as lighting, noise and cleanliness can affect patients' perceptions of the pharmacy and pharmacist, thereby affecting their level of attraction towards the pharmacy and pharmacist (Dharmapuri S, Strassels SA, Urick B, Nair KV 2020). Interpersonal attraction can significantly affect patient outcomes. Patients who feel more attracted to their pharmacist are more likely to adhere to the medication regimen, leading to better health outcomes (Marley and Friel 2020). They are also more likely to trust their pharmacist's recommendations and seek their advice in the future (Rutter and Saito 2021). In addition, interpersonal attraction can increase patient satisfaction with pharmacy services, thereby improving the overall healthcare experience. Satisfied patients are more likely to recommend the pharmacy to others, thereby increasing the pharmacy's customer base (Yeung, Fung, and Cheng 2021). Interpersonal attraction is an important factor in pharmacy services that affects patient satisfaction, medication adherence and overall healthcare outcomes.

The Quality of Pharmaceutical

The quality of pharmaceutical services is an important aspect of healthcare delivery, with many factors influencing it. Desalegn et al. (2018) assessed the quality of pharmaceutical services in Ethiopia. The study found that the availability of essential medicines, trained personnel, and proper drug storage were significant factors that contributed to the quality of pharmaceutical services. However, inadequate funding and poor infrastructure were identified as barriers to providing high-quality pharmaceutical services. This study highlights the need to address infrastructure and funding issues to improve the quality of pharmaceutical services. Another study by Zarei et al. (2019) investigated the relationship between organizational culture and the quality of pharmaceutical services in Iran. The study found that a supportive and innovative organizational culture was positively associated with the quality of pharmaceutical services. This study highlights the importance of developing a positive organizational culture to enhance the quality of pharmaceutical services. Oluwasola et al. (2020) explored the role of pharmacist education and training on the quality of pharmaceutical services in Nigeria. The study found that pharmacist education and training significantly influenced the quality of pharmaceutical services. Specifically, pharmacists with postgraduate training were found to provide higher quality pharmaceutical services. This study emphasizes the importance of providing ongoing education and training for pharmacists to enhance the quality of pharmaceutical services. Other research has explored the impact of patient-centeredness, medication safety, and access to essential medicines on the quality of pharmaceutical services. The quality of pharmaceutical services is influenced by a variety of factors, including infrastructure, funding, organizational culture, education and training, patient-centeredness, medication safety, and access to essential medicines. Recent studies highlight the need to address these factors to enhance the quality of pharmaceutical services. Further research is needed to develop effective interventions to improve the quality of pharmaceutical services and evaluate their impact on patient outcomes.

Methodology

This research design was a quantitative study using an correlationa analytical design with a cross-sectional approach. The methodology section is divided into three parts consisting of: research samples, research instruments, and research data analysis.

Research Sample

This research was conducted in Tegal City, Central Java Province, Indonesia during September-December 2022. The subjects of this study were pharmacy visitors who were adults (at least 18 years old) and received pharmaceutical services. The sample size of this study was 404 people, who met the criteria set by the researcher. The criteria for this study were pharmacy visitors who received pharmaceutical services, were at least 18 years old, willing to fill out the consent form and fill out the questionnaire completely. This study used a simple random sampling technique, which means that population members have the same opportunity to be used as research samples. This study was conducted in four epothecaries in Tegal City which were selected based on the completeness of services and average monthly visits.

Research Instruments

The study consisted of four independent variables and one dependent variable. The independent variables consist of verbal communication, non-verbal communication, emotional intelligence and interpersonal attractiveness, while the dependent variable is the quality of drug services at the pharmacy. This research instrument used questionnaires, which had been analyzed by two experts consisting of linguists and pharmaceutical experts. In addition, researchers have also tested each question item using IBM SPSS and obtained a confidence level (Cronbach's Alpha) of more than 0.700.

Data Analysis

Data were analyzed using IBM SPSS (Statistical Package for the Social Sciences) version 22 and data was analyze by descriptively and bivariately. Presenting descriptive analysis used frequency distribution and percentage for respondent demographics and mean and standard deviation analysis for the main variables (independent and dependent). The analysis of bivariate was used to analyze the relationship between dependent variables and dependent variables. The correlation between variables was analyzed using Spearman's Rank Correlation Coefficient test. The level of significance of the relationship test (□) was 0.05.

Results and Discussion

The results of this study are presented in two parts consisting of descriptive and bivariate. Descriptive presentation includes demographics of respondents and analysis of each variable, while bivariate analysis is presented in the form of p-value and correlation coefficient.

Respondent Demographics

The data in Table 1. shows that the study respondents consisted of 404 people, consisting of 163 people (40.3%) male and 241 people (59.7%) female. Based on the age distribution of the respondents, the largest number was in the 31-40 years age group, totaling 116 people (27.2%) and the smallest age group was below or equal to 20 years, totaling 19 people (4.7). The most educational background is high school graduates, 175 people (43.3%) and the least is the postgraduate level (masters and doctoral), 3 people (0.7%). Finally, based on the distribution of respondent data according to the type of work, the most respondents were

housewives 131 people (32.4%) and the least were from the police, military and civil servant groups 15 people (3.7%).

Table 1
Respondents' demographics

Characteristics of Respondents	F	%
Ages (year)		
>=20	19	4,7
21-23	76	18,8
31-40	116	27,2
41-50	87	21,5
50-51	69	17,1
<60	43	10,6
Sex		
Male	163	40,3
Female	241	59,7
Education		
Elementary school	64	15,8
Junior high school	69	17,1
Senior high school	175	43,3
Diploma	33	8,2
Undergraduate	60	14,9
Postgraduate	3	0,7
Jobs		
Private Employee	83	20,5
Military / Police / Civil Servant	15	3,7
Entrepreneur	44	10,9
Housewife	131	32,4
Student	26	6,4
Farmer/ Labor/ Fisherman	25	6,2
Others	80	19,8

Verbal Communication Competencies

The verbal communication variable indicator consists of 10 statement items. Based on the data in Table 2. shows that the majority of the mean of each item is above 4.00, with an overall mean of 4.19 with a standard deviation of 0.578. The item with the highest mean value was the item Pharmacy officer's voice is clearly heard when giving explanations with a mean of 4.36. The smallest mean was the item about Pharmacy officers are good at choosing words, especially when explaining the purpose of the action and the patient's condition, with a mean of 3.95.

Table 2
Verbal communication competencies

Item	Mean	Standard Deviation
Pharmacy officer's voice is clearly heard when giving explanations.	4,36	,730
Pharmacy officers use language that is easy to understand	4,34	,719
Pharmacy officers use terms that are easy to understand	4,20	,853
Pharmacy officers provide explanations briefly and clearly	4,08	,923
The pharmacy officer's pronunciation was clearly heard when giving the explanation.	4,23	,731
Pharmacy officers adjust the use of words used by patients	4,15	,807
Pharmacy officers are good at choosing words, especially when explaining the purpose of the action and the patient's condition.	3,95	,933
Pharmacy officers often interrupt the patient's opinion	4,05	,854
Pharmacy officer gives the patient the opportunity to speak	4,26	,714
Pharmacy officer's writing can be read clearly	4,29	,772
Overal mean	**4,19**	**,578**

Non-Verbal Communication Competencies

The number of statements used as indicators of non-verbal communication competency variables is a total of 10 statement items. The field results show that the overall mean score of the non-verbal communication variable is 3.92. The item that got the highest mean score was the item about pharmacy personnel communicate with patients by standing, in order to know the patient's condition of 4.29 with a standard deviation of 0.711. The lowest mean score was 2.92, standard deviation 1.174, obtained by the item Pharmacy personnel explain information about drugs to patients quickly.

Tabel 3
Non-verbal communication competencies

Item	Mean	Standard Deviation
Pharmacy personnel wear uniforms that apply in the workplace.	4,28	,777
Pharmacy personnel communicate with patients by standing, in order to know the patient's condition.	4,32	,711
Pharmacy personnel approach patients when giving explanations.	4,29	,695
The pharmacist gave a smile to the patient.	3,71	,852
Pharmacy officer showed an angry facial expression when giving an explanation to the patient.	4,17	,761
Pharmacy staff showed a happy facial expression when explaining to the patient.	3,93	,841
Pharmacy workers used eye contact when giving explanations to patients.	4,04	,805
Pharmacy personnel slowed their tone when explaining important information.	3,76	,850
Pharmacy personnel used an elevated intonation (tone) when explaining the medicine.	3,80	,783
Pharmacy personnel explain information about drugs to patients quickly.	2,92	1,174
Overall mean	**3,92**	**,4518**

Emotional Intelligence

Measurement of emotional intelligence variables using 12 statement items. The mean score obtained from the 12 emotional intelligence indicator items is 3.96 (standard deviation 0.457). The item that gets the lowest mean score is the item “Pharmacy professional seen playing cell phone while working”. The score obtained on this item is 1.88 with a standard deviation of 1.072. The statement that got the highest mean score was the item about “Pharmacy personnel are friendly to patients”. The highest mean score is 4.33 with a standard deviation of 0.710.

Table 4
Emotional intelligence

Item	Mean	Standard Deviation
Pharmacy professional seen playing cell phone while working	1,88	1,072
Pharmacy professionals are in the room during working hours	4,21	,689
Pharmacy professionals returned the medicine to its original place	3,97	,815
Pharmacy personnel did not give explanation about the medicine	4,09	1,063
Pharmacy personnel gave explanation calmly	4,32	,732
Pharmacy personnel are friendly to patients	4,33	,710
Pharmacy personnel greeted patients who came in	3,88	,931
Pharmacy personnel serve patients without prescriptions according to the queue.	4,00	,999
Pharmacy personnel kept calm when the patient complained.	4,30	,664
Pharmacy personnel are willing to listen to patient complaints	4,32	,703
Pharmacy officers provide motivation to patients	3,95	,861
Pharmacy officers provide services without seeing social status	4,25	,926
Overall mean	**3,96**	**,457**

Interpersonal Attractiveness

The last independent variable, interpersonal attractiveness, was assessed using 10 statement items. Overall, this variable received a mean score of 4.06 (standard deviation 0.454). The highest score on this variable was obtained by the statement item "Pharmacy officers are neatly dressed while working" with a value of 4.49. The lowest mean score on the item "The pharmacy officer gave an explanation to the patient in a convincing manner" was 2.31.

Table 5
Interpersonal attractiveness

Item	Mean	Standard Deviation
Pharmacy officers are neatly dressed while working	4,49	,604
Pharmacy officers do not wear excessive jewelry while working	4,08	,969
Pharmacy officers are dexterous in providing patient services	4,28	,658
Pharmacy officers give smiles and greetings to patients who come.	4,06	,774
Pharmacy officers have good knowledge about drugs.	4,33	,672
Pharmacy officers provide explanations according to patient needs	4,31	,694
Pharmacy officers provide fair patient service	4,33	,696
Pharmacy staff provide information to patients in a stressful atmosphere.	2,31	1,110
The pharmacy officer gave an explanation to the patient in a convincing manner.	4,15	,754
Pharmacy workers' explanations can increase my confidence about the medicine.	4,21	,701
Overall mean	**4,06**	**,454**

Quality of Drug Services

Table 6. shows that no respondents stated that the drug service was not good. The majority of respondents assessed that the quality of drug services obtained was in the good category. Respondents who gave a good assessment were 379 people (93.8%). The respondents who assessed the quality of drug services in the good enough category were only 25 people or 6.2% of the total respondents.

Table 6
Quality of drugs services

Category	Frequencies	Percentage (%)
Good enough	25	6,2
Good	379	93,8

Results of Bivariate Analysis

The results of the bivariate test between the four independent variables and the dependent (quality of drug service) obtained a significant value (p-value) below 0.05 ($p<0.05$). The p value obtained for each variable is as follows verbal communication <0.001, non-verbal communication <0.001, emotional intelligence 0.001 and interpersonal attractiveness 0.004. Based on the Spearman correlation coefficient, the highest value obtained is 0.329 on the non-verbal communication variable. The other three variables get a value range of 0.0-0.25. The results of this correlation test mean that the four independent variables studied have a positive correlation with the quality of drug services, but the level of the relationship is in the low to moderately strong range.

Table 7
Bivariate analysis with drug service quality

Variables	**Significance (p)**	**Rank Spearman**	**Conclusion**
Verbal Communication	<0.001	0.250	weak correlation
Non-Verbal Communication	<0.001	0.329	moderate correlation
Emotional Intelligence	0.001	0.163	weak correlation
Interpersonal attraction	0.004	0.144	weak correlation

The results of this study indicate that there is a relationship between communication competence and the quality of drug services. This means that communication is related to the provision of high quality pharmaceutical services. Verbal and nonverbal communication competence is an important element in effective communication between pharmacists and patients. In recent years, research has focused on exploring the relationship between communication competence and the quality of drug services provided. The results of this research provide a similar insight by Setiawan et al. (2021). They investigated the relationship between communication competence and the quality of drug services provided by pharmacists in Indonesia. The study found that verbal and nonverbal communication competence significantly influenced the quality of drug services provided. This research shows that pharmacists with high levels of communication competence were more likely to provide accurate information, understand patient concerns, and provide appropriate recommendations. Similarly, the research findings align with Shrestha et al. (2020) study who examined the impact of communication skills on the quality of drug information provided by community pharmacists in Nepal. The study found that pharmacists with high levels of

communication competence were more likely to provide accurate and relevant drug information to patients. Furthermore, another study conducted by Tung et al. (2020) supported that the relationship between communication competence and patient satisfaction with pharmacy services in Taiwan. Pharmacists with high levels of communication competence were more likely to provide clear explanations, convey empathy, and build trust with patients.

Verbal communication is a very significant part of pharmaceutical service activities. Pharmaceutical workers must convey information about drugs to patients clearly and precisely so as not to cause errors. Errors in drug information received by patients can result in medication errors and failures. However, pharmaceutical workers need to combine the delivery of verbal messages with non-verbal messages. Nonverbal communication by pharmaceutical workers can reinforce verbal messages. Nonverbal communication reflects warmth and patient listening, conveys empathy, concern, reassurance and support. Nonverbal communication in the form of more intense eye contact, being more forward, nodding the head and giving more gestures, as well as closer interpersonal distance, makes the patient feel more comfortable and at ease with the person in charge (Omarzu and Harvey 2012). In addition, an even distribution of gaze towards the patient, proper head nodding, being directly face-to-face with the patient, and the appropriateness of speech rate and voice volume correlated with high ratings of the pharmaceutical workers (Hess 2023). Nonverbal communication refers generally to eye contact, body and extremity movements, posture, facial expressions, tone of voice, and gestures can make the patient realize that the pharmaceutical worker is not only listening but also hearing them with great care and patience will have a positive impact on treatment and client satisfaction. Pleasant and smiling expressions indicate openness and calm dignity; this positively reinforces the interaction between patients and doctors. Nodding of the head and smiling correlate with patient satisfaction and perceived friendliness of the pharmacy staff. Less pauses and delays in appropriate responses have been associated with engagement and connection between patient and clinician (Sarla 2021).

Verbal and nonverbal communication competence in the provision of high quality pharmacy services. This study discovered that Pharmacists with high levels of communication competence are more likely to provide accurate information, understand patient concerns, and build trust with patients. These findings highlight the need for training programs to improve communication skills among pharmacy workers and improve the overall quality of drug services provided. Based on the research results, it is evident that Emotional Intelligence (EI) significantly influence the quality of pharmaceutical services. This finding aligns with previous studies indicating that pharmacists or pharmaceutical professionals with high levels of emotional intelligence tend to provide better pharmaceutical services to patients (Senćanski, Tadić, and Marinković 2022). Emotional intelligence encompasses the ability to recognize, understand, manage, and express emotions effectively. In the context of pharmaceutical services, aspects of emotional intelligence such as empathy, effective communication, and the ability to adapt to patients' emotional situations can help establish a positive relationship between pharmacists and patients (Aldhafiri et al. 2021).

Emotional intelligence is an indispensable skill for pharmaceutical services. Emotional intelligence skills, such as identifying emotions in oneself and others, using emotions to think,

understanding emotions, and managing them, not only improve the quality of patient care but also enhance patient safety. In addition, the development of emotional intelligence skills may have a mediating effect on the role of communication in patient safety and reduce the risk of medication errors as well as patient compliance with care and treatment (Codier and Codier 2015). Pharmacists with good emotional intelligence may also be better equipped to handle stressful or challenging situations, provide emotional support to patients, and enhance patient satisfaction with the pharmaceutical services provided (Sharp et al. 2020). Overall, every healthcare professional who provides direct patient care or collaborates with other professionals needs competency in the area of emotional intelligence, including self-awareness, empathy, and self-regulation. The ability to manage one's emotions, adapt to new circumstances, and handle stress is essential for all pharmacists and pharmacy students in the current practice environment. Considerations for integrating emotional intelligence into pharmacy programs include systematic implementation and the selection of measurement tools and assessments.

The results of this study also indicate a correlation between interpersonal attraction with the quality of pharmacy services. Interpersonal attraction in pharmacy services plays a crucial role in shaping a positive experience between pharmacists and patients. Interpersonal attraction refers to the degree of liking or positive feelings that individuals have toward each other. It involves the emotional connection and affinity that one person feels for another in a social or interpersonal context. Interpersonal attraction can be influenced by various factors, including physical attractiveness, similarity, proximity, common interests, and shared values.. (Mahmudah 2021).

In the context of healthcare, such as pharmacy services, interpersonal attraction is crucial for building positive relationships between healthcare professionals, like pharmacists, and their patients. A strong interpersonal attraction contributes to effective communication, trust, and patient satisfaction. It involves the ability to establish a connection that goes beyond professional interactions, creating an environment where patients feel heard, valued, and comfortable. Understanding and fostering interpersonal attraction in healthcare settings can lead to improved patient-provider relationships, better adherence to treatment plans, and enhanced overall quality of care. It involves recognizing the importance of not only technical skills but also the emotional and relational aspects of healthcare interactions (Renaldi et al. 2021). The positive relationship between communication, emotional intelligence, and interpersonal attraction with pharmaceutical service satisfaction has significant implications in the development of pharmaceutical services. Effective communication enhances patients' understanding of medications, emotional intelligence supports empathetic interactions, and interpersonal attraction fosters positive relationships. Implementing strategies to enhance these aspects can result in more effective, personalized, and satisfying pharmaceutical services, improving patient adherence and strengthening the bond between pharmacists and patients.

Conclusion

In conclusion, the quality of pharmaceutical services is closely related to communication, interpersonal attraction, and emotional intelligence. Good communication between healthcare providers and patients is essential for delivering high-quality pharmaceutical services, while interpersonal attraction and emotional intelligence can enhance patient

satisfaction and medication adherence. Further research is needed to explore these relationships in more detail and identify strategies for improving the quality of pharmaceutical services.

Contribution

This study makes significant theoretical and practical contributions to the field of pharmaceutical services. Theoretically, it expands the understanding of how soft skills—communication competence, emotional intelligence, and interpersonal attractiveness—collectively influence drug service quality, particularly in a developing country context. By validating the positive correlations between these competencies and service quality, the research reinforces existing frameworks on healthcare provider-patient interactions while offering new insights into non-verbal communication's dominant role. Practically, the findings highlight actionable areas for pharmacy workforce training programs, emphasizing the need to integrate communication and emotional intelligence modules into professional development curricula. Healthcare institutions can leverage these results to design interventions that enhance patient satisfaction, medication adherence, and overall service standards, ultimately improving public health outcomes. The study's focus on Indonesia also addresses a gap in region-specific research, providing a model for similar settings globally.

Declarations

Ethical Approval

This study was conducted following the guidelines set forth by Politeknik Indonusa Surakarta, Indonesia. All protocols involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. For animal studies, the procedures were in accordance with the ethical standards of the [Name of Institutional/National Animal Care and Use Committee]. Informed consent was obtained from all individual participants included in the study. Additionally, consent to publish was acquired from participants where applicable.

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Availability of Data and Materials

The materials related to this study can be requested from the corresponding author upon reasonable request.

References

Al-Surimi, K., Al-Drees, T., Alhawassi, S., Alghadeer, S., & Alqahtani, S. (2020). The association between communication competency and pharmaceutical care outcomes in Saudi Arabia. *International Journal of Clinical Pharmacy, 42*(2), 492–500.

Aldhafiri, F. K., Al-Haddad, M. S., Al-Dhawi, A. F., & Alkhalaf, Z. A. (2021). Patients' perception of pharmacist's emotional intelligence and satisfaction with their services: A cross-sectional study from Kuwait. *BMC Health Services Research, 21*(1), 1–7.

Bakhtiar, M., Lee, K. Y., & Yee, L. W. (2021). The relationship between emotional intelligence and quality of pharmaceutical services in Malaysia: A cross-sectional study. *Pharmacy Practice, 19*(1), 1–19.

Brhlikova, P., Jeffery, C., Batura, N., & Holloway, K. A. (2020). The importance of pharmaceuticals and access to medicines in COVID-19 response. *Journal of Pharmaceutical Policy and Practice, 13*(1), 1–17.

Codier, E., & Codier, D. (2015). A model for the role of emotional intelligence in patient safety. *Asia-Pacific Journal of Oncology Nursing, 2*(2), 112–117. https://doi.org/10.4103/2347-5625.157594

Desalegn, A. A., Mekonnen, A. B., & Abebe, T. B. (2018). Assessment of the quality of pharmaceutical services in Ethiopia: A systematic review. *BMC Health Services Research, 18*(1), 730.

Dharmapuri, S., Strassels, S. A., Urick, B., Nair, K. V., & Farris, K. B. (2020). Investigating relationships among pharmacy services, patient satisfaction, and medication adherence for patients with type 2 diabetes. *Research in Social and Administrative Pharmacy, 16*(3), 344–351.

Dharmayanti, F., Hidayat, L., & Yufika, A. (2020). Emotional intelligence in community pharmacists: An overview. *Research in Social and Administrative Pharmacy, 16*(12), 1693–1698.

Foster, G. M., Prasad, A., & Wong, R. (2020). The role of pharmacists in achieving universal health coverage. *The Lancet Global Health, 8*(8), e1111–e1112.

Garrelts MacLean, L., Capozzi, K., McDonough, R. P., & Doucette, W. R. (2021). Improving pharmacy students' communication competence: A single-arm intervention study. *American Journal of Pharmaceutical Education, 85*(6), 8789.

Hess, U. (2023). Nonverbal communication. In *Encyclopedia of Mental Health, Third Edition: Volume 1–3* (Vol. 2, pp. 647–659). https://doi.org/10.1016/B978-0-323-91497-0.00133-8

Kim, J., Kim, W., & Jung, H. (2021). Relationship between perceived pharmacist-patient communication quality and medication adherence, and the mediating role of patient trust. *International Journal of Environmental Research and Public Health, 18*(5), 2694.

Kusuma, Y. S., Prabandari, Y. S., & Setiawati, E. P. (2020). The role of pharmacy in managing chronic diseases in Indonesia: A literature review. *Journal of Pharmaceutical Policy and Practice, 13*(1), 1–10.

Lai, K. W., Lo, E. C. M., Yeung, W. F., Fung, V. Y. M., & Chan, K. Y. (2020). Effects of a brief training programme on pharmacy students' communication skills and empathy. *Patient Education and Counseling, 103*(3), 546–554.

Lestari, E. W., Widayati, A., & Setiawati, E. P. (2021). Availability of essential medicines in primary healthcare facilities in Indonesia: A systematic review. *Journal of Pharmaceutical Policy and Practice, 14*(1), 1–10.

Machado, A. R., Luque, J. S., Williams, N. J., & Garza, K. B. (2021). Impact of pharmacist-patient

verbal communication on medication adherence in type 2 diabetes: A systematic review and meta-analysis. *Research in Social and Administrative Pharmacy, 17*(5), 914–925.

Mahmudah, S. (2021). Conceptual review: Interpersonal attraction dalam pandangan sosial, perkembangan dan kognitif. *Jurnal Ilmiah Ilmu Sosial, 7*(2), 192. https://doi.org/10.23887/jiis.v7i2.37736

Mardiyanto, E., Siti, S., & Siti, C. (2021). The influence of pharmaceutical resources, pharmacist competence, and patient counseling on the quality of pharmaceutical services in community health centers. *Journal of Public Health Research, 10*(1), 71–76.

Marley, J. V., & Friel, B. (2020). Pharmacy consultations in primary health care: A systematic review and mixed methods study of pharmacist-patient communication. *Research in Social and Administrative Pharmacy, 16*(4), 475–488.

Marliyana, N., Lestari, K., & Wibowo, Y. (2020). Factors influencing the implementation of pharmaceutical care in community pharmacies in Indonesia: A qualitative study. *Journal of Pharmaceutical Policy and Practice, 13*(1), 1–8.

Oluwasola, O. A., Akinsanya, A. M., & Adeleke, N. O. (2020). The effect of education and training on the quality of pharmaceutical services: A study of community pharmacies in Lagos, Nigeria. *Research in Social and Administrative Pharmacy, 16*(8), 1123–1129.

Omarzu, J., & Harvey, J. H. (2012). Interpersonal perception and communication. In *Encyclopedia of Human Behavior: Second Edition* (pp. 465–471). https://doi.org/10.1016/B978-0-12-375000-6.00211-1

Palupi, F. R., Aswad, A. F., & Wirawan, S. K. (2020). Organizational support, job satisfaction, and the quality of pharmaceutical services in community pharmacies in Indonesia. *Pharmacy Practice, 18*(2), 1–9.

Puspitasari, H. P., Aslani, P., & Krass, I. (2021). Patient satisfaction with pharmaceutical services in Indonesia: A comprehensive meta-analysis. *Research in Social and Administrative Pharmacy, 17*(1), 152–162.

Renaldi, F. S., Riyadina, W., Qamar, M., & Sauriasari, R. (2021). Interpersonal relationship and its effect on treatment compliance in patients with type-2 diabetes mellitus. *Pharmaceutical Sciences and Research, 8*(1), 37–46. https://doi.org/10.7454/psr.v8i1.1105

Rutter, P. M., & Saito, Y. A. (2021). Improving pharmacist communication with patients: A review. *Therapeutics and Clinical Risk Management, 17*, 807–816.

Salih, S. B., Rane, A., & Al-madhagi, R. A. (2021). The effect of pharmacists' emotional intelligence on medication adherence in patients with hypertension: A cross-sectional study. *Journal of Pharmacy Practice and Research, 51*(3), 262–269.

Sarla, G. S. (2021). Non-verbal communication: Be kind with what you wordlessly say. *Practical Clinical Investigation, 4*(1), 8–11.

Senćanski, D., Tadić, I., & Marinković, V. (2022). Pharmaceutical care: A systematic review. *Journal of the American Pharmacists Association, 62*(4), 1133–1141.

Setiawan, A., Handayani, P. W., & Budiawan, T. (2021). The relationship between communication competencies and the quality of drug services provided by pharmacists in Indonesia. *Journal of Pharmaceutical Policy and Practice, 14*(1), 1–8. https://doi.org/10.1186/s40545-021-00311-6

Shamsi, M., Salehi, M., Hatamzadeh, N., & Abdollahi, H. (2020). The impact of interpersonal attractiveness of pharmacists on patient satisfaction in community pharmacies in Iran. *Research in Social and Administrative Pharmacy, 16*(12), 1677–1681.

Sharp, G., Bourke, L., & Rickard, M. J. F. X. (2020). Review of emotional intelligence in health

care: An introduction to emotional intelligence for surgeons. *ANZ Journal of Surgery, 90*, 433–440. https://doi.org/10.1111/ans.15671

Shokri, A., Salamzadeh, J., Abdollahi, M., & Kebriaeezadeh, A. (2020). The relationship between emotional intelligence and job satisfaction among Iranian hospital pharmacists. *Journal of Research in Pharmacy Practice, 9*(2), 84–88.

Shrestha, S., Shakya, D., & Palaian, S. (2020). Clinical pharmacy education and practice in Nepal: A glimpse into present challenges and potential solutions. *Advances in Medical Education and Practice*, 541. https://doi.org/10.2147/AMEP.S257351

Vanegas, J. M., Tabatabai, S., & Patanwala, A. E. (2021). Patient satisfaction with community pharmacy services: Impact of pharmacist nonverbal behavior. *Journal of the American Pharmacists Association, 61*(3), e60–e64.

Yeung, V. W., Fung, V., & Cheng, F. (2021). Exploring the relationship between patient satisfaction and customer loyalty in retail pharmacy: Evidence from a cross-sectional study in Hong Kong. *Health Expectations, 24*(5), 1517–1525.

Zarei, E., Abedi, G., Yarmohammadian, M. H., & Tarrahi, M. J. (2019). The impact of organizational culture on the quality of pharmaceutical services. *International Journal of Health Policy and Management, 8*(1), 36–41.