

PUBLIC PERCEPTIONS AND UTILIZATION OF COMMUNITY PHARMACIES AND PHARMACISTS: A QUALITATIVE STUDY IN INDONESIA

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ABSTRACT

BACKGROUND:

Pharmacists in community pharmacies are essential healthcare providers, offering high-quality and affordable drug services. However, in some countries and notably in Indonesia, they are often wrongly perceived as drug dispensers. This misconception is fuelled by a low pharmacist-to-population ratio, limited counselling, and infrequent interactions with pharmacists. Understanding these perceptions is crucial for enhancing pharmacy services and ensuring communities can access quality and affordable healthcare.

OBJECTIVE:

To assess the knowledge and perceptions of individuals regarding pharmacists and the utilization of community pharmacies in Semarang and Palembang, Indonesia.

METHODS:

Qualitative phenomenological research was conducted using in-depth interviews. Participants were recruited through purposive sampling from Semarang and Palembang Cities from October through December 2021. The inclusion criteria: aged >18 years, having visited a community pharmacy within the last 6 months, and possessing good communication skills. The interviews were recorded, transcribed verbatim, and analysed thematically using a deductive approach guided by the KAP framework.

RESULTS:

We included 22 participants in this study. Most participants recognized community pharmacies as drug shops and considered pharmacists as regular employees rather than healthcare professionals. Only a few participants had received counselling from pharmacists. Participants frequently purchased Over the Counter (OTC) medications such as analgesics and antipyretics from community pharmacies. Occasionally, they also bought antibiotics, antihypertensive, and other drugs. There are several factors that participants took into account when visiting community pharmacies such as accessibility, drug availability, and drug quality.

CONCLUSION:

Pharmacists must lead patient-centred care initiatives to address public health disparities and solidify their indispensable role within healthcare systems.

KEYWORDS

pharmacist, community pharmacy, perception, knowledge, pharmacies utilization

INTRODUCTION

The role of health services is strategic in enhancing public health [1]. As a critical component of healthcare systems, community pharmacies provide accessible pharmaceutical services through pharmacists, who are positioned to deliver patient education, resolve drug therapy issues, and promote appropriate medication use [2, 3, 4, 5]. Ideally, these pharmacies should offer pharmaceutical advice to all societal segments, including underserved populations, by providing affordable services such as reducing hospitalization costs linked to inadequate care or adverse drug reactions [6, 7, 8]. In Indonesia, national standards mandate comprehensive pharmaceutical services, including prescription assessment, drug dispensing, counselling, and therapy monitoring, ensuring high-quality care for pharmacy customers [9].

Despite this potential, global studies highlight systemic underutilization. Pharmacies are seldom consulted for minor illnesses, even in populations with high prevalence rates [10, 11]. Public perception remains a barrier: few individuals view pharmacists as patient-centered professionals, often associating them with commercial motives [6, 12]. In Indonesia, this gap is more pronounced. Pharmacists are predominantly perceived as drug sellers or cashiers [13], despite their capacity to provide clinical services like medication counselling, treatment evaluation, and health promotion [14].

Compounding this issue is the scarcity of pharmacists, particularly in rural areas, which limits direct public interaction and perpetuates misconceptions [15]. While Indonesia enforces robust pharmaceutical service standards [9], the lack of pharmacist availability undermines their implementation. This disconnect between policy and practice restricts opportunities for pharmacists to demonstrate their healthcare contributions, further entrenching their marginalized professional image.

Positive public perception of pharmacists correlates with reduced medication errors, emphasizing the need to align community understanding with pharmacists' roles [11]. To address this, our study explores public knowledge and perceptions of pharmacists and community pharmacy utilization in Semarang and Palembang, Indonesia, representing diverse urban and healthcare landscapes.

METHODS

STUDY DESIGN

This study was designed qualitatively with face-to-face semi-structured interviews to get a deeper understanding of how individuals interpret their experiences [16]. This study uses a phenomenological approach to find out the important phenomena in the participants' lives [17]. The phenomena investigated in health research may have to do with people's health and sickness, medical treatment, or systems for delivering healthcare that are viewed, used, or experienced subjectively [18]. In this research, the phenomenon studied was the perception of pharmacists and community pharmacy utilization among the people of Semarang and Palembang City, Indonesia.

LOCATION AND PARTICIPANTS

This study was conducted in Semarang and Palembang city from October until December 2021. Semarang is the capital city of Central Java Province and is located on Java Island, the most populous island, inhabited by more than 151.6 million people, or about 56.10% of Indonesia's total population, while Palembang is the capital city of South Sumatra Province, located on Sumatra Island, the second most populous island inhabited by more than 58.6 million people, or about 21.68% of Indonesia's total population [19].

The inclusion criteria for participants included people who were over 18 and who had used a community pharmacy over the previous six months. Participants with health education backgrounds or who worked in medical institutions were excluded from this study. Participants were recruited using purposive methods until saturation of themes was achieved. The participants get the first information about the study from an announcement on the researcher's social media. If they consented to participate and met the criteria, they were asked to sign an informed consent, and the researchers would then provide more information.

DATA COLLECTION

The interview guide developed for this study could be expanded depending on participants' responses. The questions posed to the participants were prepared based on a research framework that had been developed from the Knowledge, Attitude, and Practice (KAP) theory [20]. All interviews were conducted by the first and third authors and an undergraduate student specializing in social pharmacy with a qualitative research focus, actively trained in qualitative research methodologies. During the study, the interviewers were supervised by the second author, a lecturer specializing in social pharmacy research with over five years of experience in qualitative studies.

The semi structured interview guidelines were divided into two sections. The first section was about sociodemographic data from the participants which included age, gender, job, education, and disease history. The second section is the main question that was made into three groups as the theme of this study. The first one was knowledge and perception about community pharmacies; the second was knowledge and perception about a pharmacist; and the last was the factor that influences and inhibits the use of community pharmacies.

The main questions were as follows: 1) What do you think about pharmacists? Could you please tell me anything you know about pharmacists? 2) Could you please tell me about your experience of visiting pharmacies? 3) What are the barriers or difficulties you experience when visiting pharmacies? 4) What is your intention or motivation to go to pharmacies? Pilot testing was carried out on two people from Semarang and Palembang City. This pilot testing was conducted to assess whether the questions that have been developed are easy to understand and can all be answered as the researcher expected. To minimize bias, all participants were encouraged to clarify their responses during the interview process. The saturation was achieved at the 9th and 11th interview in Semarang and Palembang respectively; however, additional interviews were carried out further to confirm the saturation of the data.

DATA ANALYSIS

The interview data were transcribed verbatim in the original language (Bahasa Indonesia) and analysed using the original transcripts. Interview accuracy and consistency were verified by cross-checking the transcripts with audio recordings. After analysis, the data were translated into English by professional translators. The analytical process comprised three stages: (1) preparation (comprehensive data familiarization), (2) organization (data reduction and thematic categorization aligned with the KAP framework: Knowledge, Attitude, and Practice (experience in visiting community pharmacies)), and (3) reporting (presentation of findings in tables and narrative prose). Analysis began during data collection and continued until saturation was achieved through iterative thematic analysis, with recruitment continuing until no new themes emerged, halting further data collection. Coders independently analysed the data, then convened to resolve discrepancies, compare similarities/contrasts, and identify common themes. All authors participated in discussions to finalize coding, ensuring accuracy. Consensus on coding outcomes preceded result interpretation.

ETHICS APPROVAL

Ethics approval was submitted to and granted by the Ethics Committee of the Faculty of Medicine, Public Health, and Nursing (FKKMK) UGM and has been approved with the approval number Ref. No. KE/FK/1093/EC/2021.

Prior to the interview, participants were informed about the study, and written informed consent was obtained as confirmation of their consent. The researcher keeps participant information private and excludes it from research papers and publications. Souvenirs were given out as a thank you to the participants.

RESULTS

Twenty-two people from Semarang and Palembang participated in this qualitative study. The participants were between the ages of 21 and 67. The participants' educational backgrounds varied, whereas the majority of them had graduated from high school (Table 1). The results of this study described some community pharmacy and pharmacist issues from the participants' point of view that affect how they use community pharmacies. According to the conceptual framework we used to construct the study, we divided these problems into three categories: knowledge and perception of community pharmacies; knowledge and perception of pharmacists; and experience on visiting community pharmacies. Examples of quotes that fall into these categories are included in Table 2.

TABLE 1. CHARACTERISTICS OF PARTICIPANTS IN THIS STUDY

Characteristics	Participants	
	Number	Percentage (%)
Gender		
Male	9	41
female	13	59
Age (years)		
18-39	9	41
40-59	10	45
60-79	3	14
Education		
Elementary School	3	14
Junior High School	2	9
Senior High School	10	45
Undergraduate	5	23
Postgraduate	2	9
Occupation		
Students	4	18
Housewives	5	23
Employees	6	27
Retired	2	9
Civil servants	2	9
Teacher	1	5
Private employee	2	9

TABLE 2. THEMES, SUBTHEMES, CATEGORIES, AND CORRESPONDING SAMPLE QUOTES IDENTIFIED IN THIS STUDY

Themes	Subthemes	Categories	Sample Quotes
Knowledge and perception on	Knowledge about community pharmacy	Knowledge about community pharmacy	"A pharmacy is similar to a drug store as it sells medications but is required to have a legal permit and a pharmacist. Subsequently, pharmacies need to follow their own regulations and guidelines." (Participant 4)

community pharmacy			"Pharmacies in general are places that provide medicines, including herbal medicines, and also provide consultation with pharmacists. It's more convenient for us than making a doctor's appointment" (Participant 5).
	Perception about community pharmacy	Perception of drug availability	"Usually, if there's a pharmacy in a doctor's clinic or hospital, the medicine availability is good. But if the pharmacy is far away from the city, the availability of the drug is bad" (Participant 20)
			"The OTC medicines are completely available, however, most of the prescribed medicines are not available in several pharmacies, so sometimes it's hard to find them" (Participant 12)
	Perception about community pharmacy	Perception of community pharmacy's services	"A pharmacy must prioritize the maintenance of medicine quality. Providing inappropriate medications to patients can result in the loss of consumer trust and loyalty, which, in turn, can have severe financial consequences, potentially leading to bankruptcy." (Participant 9).
"I've had instances where the pharmacist provided me with costly medications without my consent. On another occasion, when I purchased minoxidil, I received the incorrect concentration percentage." (Participant 13)			
Knowledge and perception on pharmacist	Knowledge about pharmacist	Knowledge about pharmacist	"A pharmacist is someone who has completed a bachelor's degree in pharmacy and continues in the pharmacist profession program. The pharmacist is in charge of everything, including drug issues at the pharmacy. " (Participant 6)
			"I've heard about pharmacists, but I don't know what they do. I only know pharmacy; I believe pharmacists and pharmacies are the same thing" (Participant 17)
	Perception about pharmacist	Perceptions of pharmacists in general	"Generally, pharmacists wear a uniform. In my opinion, the pharmacist's availability doesn't matter for me. I just paid for the medication I needed, bought it, and that was it." (Participant 7).
			"As far as I know, the pharmacist does not work at the front desk; she works from behind. The pharmacist prepares the medicine, and after that, the medicine is given to us by the front desk person." (Participants 19)
		Perceptions of pharmacist consultation	"There are several pharmacies that have counselling facilities. The counselling was conducted in-person with the pharmacist and is informative and helpful. Other pharmacies, however, don't always offer consultation services.." (Participant 5).

			<p>"The pharmacist's counsel usually only focuses on when, how, and how much to take the medication. However, they did not discuss the side effects of the medications.." (Participant 13)</p> <p>"According to my observations, counselling is available in the hospital pharmacy, but I've never seen it at a community pharmacy. I never asked the pharmacist about a drug; instead, I prefer to look it up on the internet on my own." (Participant 7).</p>
Experience on visiting community pharmacies	Community pharmacy utilization	Commonly purchased medications	"The most common drugs that I bought were OTC drugs like paracetamol, vitamins, and sometimes I bought antibiotics as well" (Participant 1).
			"Due to a more than 10-year history of heart disease and hypertension, I must take medication every day. So I purchased bisoprolol, ramipril, and amlodipine as my routine medicines." (Participant 21)
		Frequency of visits	"I'll visit the pharmacy once a week because my family has a tendency to stockpile medications. We are confident that the pharmacy will provide guaranteed medications, which we would then resell, but only for OTC drugs" (Participant 1).
			"Depending on the situation and condition, it is typically necessary to buy only OTC drugs like paracetamol, indigestion medications, and dental care products." (Participant 15)
	Behaviour in treating minor illnesses	"I'll go to the pharmacy first, and if it gets worse, I'll go to the public health center" (Participant 8).	
		"I'm an old-fashioned person, so I won't take medication if I'm feeling sick. I'll scrape (kerokan in Bahasa) first, and then I'm good to go. I only take medicine if it's necessary" (Participant 3).	
		"If it's just a minor illness, I usually choose to rest, eat a lot, or take vitamins instead of taking medicine. because of my stigma that medicine is poison, I prefer vitamins." (Participant 19)	
	Enabling factors in community pharmacy use	Motivations for choosing community pharmacies	"To buy a medicine and its affordability in terms of price and distance. Because making an appointment with a doctor is expensive, I prefer go to the pharmacy" (Participant 1)
"To buy some medicines such as vitamins, supplements, and others common drugs that are used daily. I'd rather go to pharmacy because it's a legal and trusted place to buy			

			drugs, also the drugs are safe and guaranteed" (Participants 20)
		Considerations in community pharmacy selection	"Facilities that are available at the pharmacy. Some pharmacies don't have accessibility for wheelchair users. So I hope that every pharmacy is aware of this and furthermore I hope that pharmacy will not charge more than the standard price for the medication. " (Participant 7)
			"The first consideration is the price; I prefer the cheaper ones. Second is the speed of the services, and third is the availability of the medicine" (Participant 20)
	Barriers to community pharmacy utilization	Barriers to community pharmacy utilization	"Incomplete medicine dispensing equipment. I had an experience when I wanted to buy a medicine for my child, it had to be crushed before use, but it turned out there was no grinding tool available in the pharmacy, so I grind it myself at home using a spoon" (Participant 10).
			"The problem is related to the queue, sometimes I have to wait so long to get the prescription drug due to the patient queue and the compounding time. Another obstacle that I experience was related to the drugs availability" (Participant 12)

KNOWLEDGE AND PERCEPTION OF COMMUNITY PHARMACY

Most participants recognized that pharmacies were basically stores selling medicines, including over the counter (OTC) medicines, prescription medicines, vitamins, and supplements. Some participants further indicated that pharmacies also provided health tests (e.g., blood glucose, uric acid, cholesterol, and blood pressure tests) and consultations with pharmacists. Some participants mentioned that pharmacies were required by law to open a business and to ensure the quality of medicines they sold.

Perceptions of pharmacies centered on medication availability and service quality. Most participants reported that the medications they needed were consistently available, particularly common drugs like paracetamol, though prescription medications were less accessible. However, during the COVID-19 pandemic, some participants faced challenges obtaining vitamins. Participants also believed a pharmacy's location significantly influenced medication availability. Regarding services, most participants viewed pharmacies positively due to their friendly, efficient, and professional staff, and emphasized that good service encouraged repeat visits. A minority, however, criticized instances of being offered medications at high prices without prior consultation.

KNOWLEDGE AND PERCEPTION ON PHARMACIST

Most participants demonstrated limited understanding of pharmacists' roles, often perceiving them as regular pharmacy employees. Some could not distinguish pharmacists from other staff, while others conflated pharmacists with pharmacies entirely. A minority, however, provided detailed descriptions of pharmacists' responsibilities.

Participants generally viewed pharmacists as working behind the scenes, with no tangible impact on their experience. One participant explicitly stated that a pharmacist's presence (or absence) made no difference, as they perceived no direct benefits from pharmacist interactions. Most noted that pharmacists rarely provided counselling; when they did, interactions focused narrowly on dosing instructions, omitting critical details like potential drug interactions or side effects.

EXPERIENCE ON VISITING COMMUNITY PHARMACIES

A. Commonly purchased medications

Most participants visited pharmacies to purchase OTC medications for minor health complaints or to fulfill other health-related needs. Some reported buying antibiotics without prescriptions, while others regularly obtained prescription medications for chronic conditions like hypertension and diabetes.

B. Frequency of visits

Participants fell into two categories: those who visited pharmacies frequently (to stockpile OTC medications for resale or manage recurring prescriptions) and those who visited only when necessary.

C. Behaviour in treating minor illnesses

Many participants preferred pharmacies as their first choice for minor illnesses. If symptoms persisted after using pharmacy medications, they consulted doctors or visited public health centers. A minority opted for alternative remedies (e.g., rest, vitamins, or traditional practices like scraping), avoiding medications due to beliefs that they were “harmful like poison.”

D. Motivations for choosing community pharmacies

Participants favored pharmacies for their perceived simplicity and affordability compared to doctor visits, which often incurred additional consultation and diagnostic fees. They also trusted pharmacies as regulated sources of safe medications.

E. Considerations in community pharmacy selection

Key considerations included medication availability, pricing, service quality, convenient location, facilities, and drug suitability for their needs.

F. Barriers to community pharmacy utilization

Long wait times during peak hours were the most common issue. Others faced difficulties obtaining specific dosage forms (e.g., pediatric formulations) or encountered frequent stock shortages.

DISCUSSION

This study underscores how socioeconomic and educational disparities shape public interactions with pharmacies. Participants with higher education and income exhibited better understanding of pharmaceutical services, aligning with global evidence that health literacy correlates with educational access and socioeconomic status [21],[22]. Conversely, those with limited education and informal sector employment lacked awareness of pharmacists' roles [23], reflecting systemic inequities in healthcare access. Such gaps perpetuate underutilization of pharmacies as health hubs, despite their potential to bridge primary care needs in underserved communities.

Regarding drug availability, participants noted pharmacies reliably stock OTC medications like paracetamol [24], yet this commercial focus often overshadows regulatory compliance. For instance, during COVID-19, vitamin shortages occurred due to surging demand [25], while non-prescription antibiotics remained widely available—a direct violation of Government Regulation No. 51/2009 [26]. This misalignment between practice and regulation, particularly concerning antibiotic accessibility [27], risks long-term public health consequences, such as antimicrobial resistance [28]. Similarly, the prevalence of OTC purchases (e.g., analgesics, vitamins) [29] highlights pharmacies' prioritization of market demand over adherence to prescribing standards, further eroding trust in their clinical role. This gap likely stems from weak enforcement of Indonesia's drug regulations, allowing profit-focused practices to undermine patient safety.

Patient satisfaction with pharmacies hinges on operational factors like location, speed, and drug availability [30, 31], yet critical gaps persist in pharmacist-patient interactions. While dosing instructions are commonly provided, counselling on side effects, lifestyle adjustments, or chronic disease management is neglected [32], mirroring global shortcomings in

pharmacist communication [27]. This transactional approach contradicts Indonesia's regulatory mandate for pharmacist-led services [26] and undermines their potential in health promotion, medication safety, and emergency response [33, 34, 35]. For example, inadequate guidance on antibiotic use [27] or compounding services [9] exacerbates medication misuse, illustrating how operational pressures (e.g., long wait times, staffing shortages) compromise quality care.

To address these challenges, reforms must align pharmacy practices with public health objectives. Strengthening enforcement of Regulation particularly for antibiotic prescriptions and compounding standards [9] [27] [26] could curb non-compliance driven by commercial interests. Simultaneously, integrating public health training into pharmacy curricula would equip pharmacists to deliver comprehensive counselling, fostering trust and aligning services with WHO frameworks on primary healthcare [33]. Increasing public awareness about the roles and services of community pharmacies [36], expanding delivery services for vulnerable groups [37] and prioritizing patient education over mere transaction efficiency could further reposition pharmacies as equitable healthcare access points.

The main limitations of this study arise from the researcher's dual role as both data collector and interpreter. Due to the researcher's background as a pharmacy student, the focus may have leaned toward ideal healthcare protocols rather than patient-centered priorities like convenient pharmacy locations or affordable drug prices. Although efforts were made to reduce bias such as clarifying participant responses during interviews and discussing findings with fellow researchers. Additionally, recruiting participants solely through social media likely skewed the sample toward tech-literate urban populations, excluding rural communities. Expanding the inclusion period to six months also introduced recall bias, particularly among infrequent pharmacy users who may have described idealized rather than actual experiences.

CONCLUSION

High pharmacy utilization for minor illnesses is contrasted by low community knowledge of pharmacists' roles. To bridge this gap, pharmacists must take an active role in initiating patient education on medication use risks and chronic disease control with the support of mandatory counselling protocols and national health promotion campaigns. Future research should employ quantitative studies to measure the impact of pharmacist engagement on patient adherence and health outcomes, with expanded focus on rural Indonesia to address systemic healthcare disparities.

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AUTHORSHIP CONTRIBUTIONS

AWW conceptualized the study. MQA and THA analysed and interpreted the data. MQA drafted the article, reviewed and edited the manuscript. All authors read and approved the final version of the manuscript.

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