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Perceptions of Practice Towards Management of Common Ailments In Indonesian Community Pharmacies: A Cross-Sectional Study

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KEYWORDS
common ailments, pharmacists, pharmacy technicians, pharmacy services, indonesia

ABSTRACT
Managing common ailments is a growing service in developing countries. Community pharmacists and pharmacy technicians managing common ailments are essential for improving treatment outcomes. While common ailment services have been successfully implemented in developed countries, Indonesia needs more documentation of these practices. This study aimed to document the scopes of community pharmacists and pharmacy technicians in managing common ailments, their practices, and the perceived experience in providing these services. These cross-sectional surveys were conducted from May to June 2023 in separate pharmacists' and pharmacy technicians' seminars in Surakarta, Indonesia. Binary logistic regression compared the pharmacists' and pharmacy technicians' perceptions of managing ailments. A total of 180 pharmacists and 140 pharmacy technicians participated. Among 13 common ailments listed in the survey, acute pain ($P<0.001$) was an ailment that was perceived as limited to a pharmacist's scope. Ailments such as dandruff, constipation and mild headache were perceived to be within the scope of a pharmacy technician ($P<0.001$). Given the differing approaches by pharmacists and pharmacy technicians, there is a need to ensure that each professional practices within their area of scope.

INTRODUCTION

A community pharmacy is described as a pharmacy that provides access to medicines and their provision for a particular community (also identified as retail premises) (Shirdel et al., 2021). Published literature describing community pharmacy demonstrates a notable practice shift over the past two decades (Yuan et al., 2019; Yusuff et al., 2021). The traditional community pharmacy model focused on dispensing medicines to patients based on a doctor's prescription. Additionally screening valid prescriptions and providing interventions and information on the safe and effective use of both prescribed and non-prescribed (over-the-counter/OTC) was standard practice (Babar, 2021; Mizranita et al., 2023).

In many developing countries, community pharmacies are often the first point of contact for minor health problems because the staff are trusted, have options to buy medicines in small quantities and provide easy access to essential medicines (often without prescription). Pharmacies are conveniently located and provide more prolonged opening hours into the evenings (Belachew et al., 2021). People can visit a pharmacy without a prior appointment and receive professional advice immediately from a pharmacist. In contrast to a doctor's practice where people must make an appointment in advance for a consultation, pay a consultation fee,

and are often required to wait. There is no doubt that community pharmacy offers more convenient encounters within the healthcare system (Yong et al., 2020)

In developing countries, the practice of community pharmacists and pharmacy technicians is often hindered by factors such as (1) inadequate pharmacy staff training, (2) profit and business orientation, (3) lack of pharmacists' presence, (4) non-pharmacist ownership, (5) lack of contact with the patient, and (6) low level of quality services (Kellar et al., 2021; Mizranita et al., 2023). Additionally, optimal management of minor ailments is often compromised as many patients practice self-medication of over-the-counter medications, bypassing healthcare providers (Makhlouf et al., 2021). To effectively contribute to common ailment management, community pharmacists and pharmacy technicians need a solid foundation in pharmacy knowledge. A well-trained and accessible pharmacy staff is a crucial factor that may influence patients to seek common ailment services from a community pharmacy (Makhlouf et al., 2021).

The clinical knowledge of community pharmacists and pharmacy technicians in managing common ailments is vital for improving healthcare outcomes (Bhuvan et al., 2020). Insufficient clinical knowledge is one of the main barriers to providing appropriate interventions (Athiyah et al., 2019).

Whilst the provision of minor ailment services and other expanded pharmacist roles (e.g., medication therapy management, immunisation) has been successful in developed countries (Dineen-Griffin et al., 2020; Mengistu et al., 2019), these practices and the knowledge of Indonesian pharmacists regarding these roles have not been thoroughly investigated. Given that most of Indonesian pharmacists and pharmacy technicians practice in community settings, their experience and knowledge in managing common ailments remain undocumented. Establishing a basis for improving and developing community pharmacies as competent and accessible healthcare facilities for managing minor ailments is essential.

To our knowledge, this is the first study to document the practices of Indonesian community pharmacists and pharmacy technicians in managing common ailments. This study aimed to document pharmacists and pharmacy technicians who manage common ailments and their scopes of practice.

The novelty of this study lies in its exploration of the specific roles and perceptions of Indonesian pharmacists and pharmacy technicians in managing common ailments within community pharmacies. While previous studies have largely focused on developed countries, this research fills a critical gap in understanding how these healthcare professionals operate in a developing country context like Indonesia. By documenting and comparing the scopes of practice and perceptions of both pharmacists and pharmacy technicians, the study provides new insights into the distinct roles these professionals play in providing over-the-counter (OTC) care. Furthermore, it highlights the discrepancies between pharmacists and pharmacy technicians in handling certain ailments, which is crucial for improving service delivery and patient outcomes in Indonesian community pharmacies. This research is the first to offer a detailed analysis of the different approaches taken by these professionals, contributing significantly to the body of knowledge on pharmacy practice in developing countries and guiding future training and policy development.

RESEARCH METHOD

This study was approved by Universitas Sebelas Maret, Dr. Moewardi Hospital, Surakarta, Indonesia with approval number 383/III/HREC/2023; and the Indonesian Pharmacists Association (IAI) with approval number B1-002/PC-IAI/Surakarta/IV/2023.

Pharmacist and pharmacy technician respondents were surveyed during the IAI and PAFI seminars, which they attended to earn credits (SKP) necessary for maintaining their competency certificates or re-registration. These certificates are mandatory for practising in a

community pharmacy and require renewal every five years. The inclusion criteria for this study were pharmacists and pharmacy technicians practising in a community pharmacy in Surakarta, Indonesia and attending the IAI and PAFI seminars. The exclusion criteria included pharmacists and pharmacy technicians working in a doctor's or skin care clinic.

A sample size of approximately 120 community pharmacists and 120 pharmacy technicians ensured that statistical analyses were performed. The questionnaires used in this study were adapted from a previous study. The questionnaires were distributed on separate IAI and PAFI seminars in Surakarta, Indonesia. The questionnaires were distributed at the registration desk prior to each seminar. Completed questionnaires were submitted at the registration desk for anonymity purposes.

Data analysis was performed using SPSS version 25.0 software. Years of practice and age groups were dichotomised according to the distribution of responses and analysed using non-parametric tests. Descriptive statistics summarises demographics and respondent characteristics. The age of respondents was categorised based on median values. Binary logistic regression was used to compare perceptions of managing ailments between pharmacists and pharmacy technicians. In this study, the scope of common ailments was presented within the pharmacy technician's scope, only within the pharmacist's scope and beyond the scope of the pharmacist and pharmacy technician. Data was considered statistically significant if the p-value <0.05. Px represents data collected from the pharmacist survey, and Tx represents data collected from the pharmacy technician survey.

RESULTS AND DISCUSSION

This study has evaluated the extent of current community pharmacy practice in managing common ailments related to pharmacist/pharmacy technician scopes in Indonesia. To our knowledge, this is the first study to evaluate Indonesian pharmacists' and pharmacy technicians' perceptions regarding their current pharmacy-based service for managing common ailments.

In total, 229 pharmacists attended the IAI seminar; 10 declined to participate, leaving 219 questionnaires distributed. Of those distributed, 190 were returned. We exclude ten incomplete questionnaires. The response rate was 78.6% (180/229). On the other hand, 214 pharmacy technicians attended the PAFI seminar, and eight declined to participate, leaving 208 questionnaires distributed. Of those distributed, 149 were returned. We exclude nine incomplete questionnaires. The response rate was 67.4% (140/208). This study achieved response rates of 78.6% for pharmacists and 67.4% for pharmacy technicians, which were higher, thus minimising the bias.

The demographic profiles of 180 pharmacist and 140 pharmacy technician respondents are summarised in Table 1. Most pharmacist and pharmacy technician respondents were female (Px=160/180, 88.9%; Tx=118/140, 84.3%), under the age of 30 years for pharmacists (89/180, 49.4%), and under the age of 30 years for pharmacy technicians (125/140, 89.2%). Most pharmacists held an Apothecary degree (175/180, 97.2%) and a diploma degree (106/140, 75.7%) for the pharmacy technician respondents.

A high number of female respondents was found in the overall demographic of pharmacist and pharmacy technician respondents. The characteristics of pharmacy ownership and type of pharmacy in this study were similar, as noted in previous studies conducted in Jakarta, Indonesia (Apriansyah, 2017).

Most pharmacist (n=180) and pharmacy technician respondents received religious holiday allowances (Px=120/180, 66.7%; Tx=102/140, 72.9%), but a quarter or less dispensing fees (Px=15/180, 8.3%; Tx=23/140, 16.4%), incentives when selling pharmacist-only medicines (Px=11/180, 6.1%; Tx=15/140, 10.7%). It is unclear whether the consultation fee had an impact on pharmacist providing the common ailment services in this study. Many

studies have argued that charging a consultation fee is part of the activity in delivering professional pharmacy services and supports pharmacists' competence in providing these services (Cassie et al., 2019; Newlands et al., 2018; Perrot et al., 2019; Yuswar et al., 2021). However, the findings in this study showed that pharmacists and pharmacy technicians in Indonesia were not supportive of a consultation fee when providing the services. Rosenthal et al. reported that the ultimate barrier to providing professional pharmacy services was the "pharmacists' psyche and culture" (Rosenthal et al., 2010). A study conducted in Ethiopia identified several factors that influenced the pharmacists' role in providing consultations, such as attitude, knowledge, communication skills of pharmacy staff, remuneration, pharmacy settings, and the complex demands from consumers (Ayele et al., 2018; Mengistu et al., 2019).

Table 1. Demographic profiles of the respondents

Pharmacists (n=180)		**Pharmacy Technicians (n=140)**	
Characteristics	**n (%)**	**Characteristics**	**n (%)**
Gender		**Gender**	
Male	20 (11.1)	Male	22 (15.7)
Female	160 (88.9)	Female	118 (84.3)
Age (years)		**Age (years)**	
21-30	89 (49.4)	16-20	12 (8.5)
31-40	76 (42.2)	21-30	113 (80.7)
41->50	15 (8.4)	31->40	15 (10.8)
Years of practice		**Years of practice**	
<2-5 years	91 (50.5)	<2-5 years	100 (71.4)
6-10 years	47 (26.1)	6-10 years	32 (22.8)
11- >15 years	42 (23.3)	11- >15 years	8 (5.8)
Level of education		**Level of education**	
Apothecary Degree	175 (97.2)	Pharmacy assistant school	34 (24.3)
Master's Degree	5 (2.8)	Diploma	106 (75.7)
Received additional remuneration		**Received additional remuneration**	
Yes	140 (77.8)	Yes	125 (89.3)
No	40 (22.2)	No	15 (10.7)
Type of additional remuneration (n=140)		**Type of additional remuneration**	
Dispensing fees	15 (8.3)	Dispensing fees	23 (16.4)
Consultations fees	9 (5.0)	Incentives (pharmacist only medicines)	15 (10.7)
Incentives (pharmacist-only medicines)	11 (6.1)	Religious holiday allowance	102 (72.9)
Gross turnover profit	25 (13.9)		
Religious holiday allowance	120 (66.7)		

Table 2 showed that independent pharmacies (Px=112/180, 62.2%; Tx=94/140, 67.1%) comprised the highest proportions of community pharmacies where pharmacist and pharmacy technician respondents worked. More than half of the pharmacists (108/180, 60.0%) and pharmacy technicians (90/140, 64.3%) worked in pharmacies with non-pharmacist owners.

Consumers who came to the pharmacy in an average week ranged from <450 to >550 consumers, with more than half of pharmacists (116/180, 64.4%) reporting more than 60 consumers per week seeking management of a common ailment (Table 2). On the other hand, more than half of the pharmacy technician respondents reported they worked in pharmacies visited by less than 450 consumers per week (83/142, 59.3%), of which more than 60 consumers were patients who sought advice for common ailments.

Table 3 shows a range of common ailments listed by the Indonesian Ministry of Health with which may required an OTC or pharmacist-only medicines in a community pharmacy (Directorate General of Pharmacy and Medical Devices, 2008). Respondent groups were asked to indicate how they perceived to manage each of the common ailments in a community pharmacy or if it was beyond the scope of both groups. Of the 13 common ailments included in the survey, 11 showed significant differences between the perceptions of the pharmacists and the pharmacy technicians based on their education and experience.

Table 2. Pharmacy characteristics of the respondents

Pharmacists (n=180)		**Pharmacy Technicians (n=140)**	
Characteristics	**n (%)**	**Characteristics**	**n (%)**
Type of pharmacy		**Type of pharmacy**	
Independent	112 (62.2)	Independent	94 (67.1)
Franchise	28 (15.5)	Franchise	19 (13.6)
Co-located with medical practice	40 (22.2)	Co-located with a doctor's practice	27 (19.3)
Pharmacy owner		**Pharmacy owner**	
Pharmacist	72 (40.0)	Pharmacist	51 (36.4)
Non-pharmacist	108 (60.0)	Non-pharmacist	89 (63.6)
Room for consultation		**Room for consultation**	
Yes	150 (83.3)	Yes	107 (76.4)
No	30 (16.7)	No	33 (23.6)
Average consumers per week		**Average consumers per week**	
<450	116 (64.4)	<450	83 (59.3)
451- >550	64 (35.6)	451- >550	57 (40.7)

Common ailments or minor ailments are commonly classified as non-complicated and may be managed within a community pharmacy setting. Our findings suggest that pharmacists' perceived to manage certain ailments was much broader. There appears to be a disagreement between pharmacists' and pharmacy technicians' perceptions of their practice and those of each other in managing common ailments in community pharmacies. This highlights that the pharmacists' and pharmacy technicians' perspectives or attitudes toward a common ailment may differ. Inadequate training and knowledge among pharmacy technicians may pose a problem, thus raising safety concerns (Verma et al., 2018). The research found that discordance was evident where pharmacy technicians' perceptions of their scope were wider than that ascribed by community pharmacists (Mizranita, 2022; Mizranita et al., 2021, 2023; Mizranita & Pratisto, 2015). Acute pain was an ailment that was perceived as limited to a pharmacist's scope. Ailments such as dandruff, constipation and mild headache were perceived to be within the scope of a pharmacy technician.

These perceptions underscore the importance of clear role definitions and training for both groups to ensure they operate within their competencies and provide optimal patient care. The significant p-values indicate that these differences are statistically meaningful and should be considered in policy and training program development.

Although pharmacists and pharmacy technicians demonstrated different perspectives regarding their survey responses, this reflects differing scopes of practice, training, and expertise. The trends reported in the study reflect those observed in studies from many countries (Chamberlain et al., 2020; Kellar et al., 2021; Yusuff et al., 2021). People may prefer to go to the pharmacy instead of general practice for the treatment of cough, hay fever, and minor eye inflammation/irritation (Collins & Moles, 2019).

Table 3. Common ailment management based on perceived experience as reported by the respondents

Minor ailment	Pharmacists (n=180)	Pharmacy Technicians (n=140)	P-value**
	n (%)		
Acne			**<0.001***
Pharmacy technician scope	136 (75.6)	132 (94.3)	
Pharmacist scope	41 (22.7)	7 (5.0)	
Beyond the scope	3 (1.7)	1 (0.7)	
Acute pain			**<0.001**
Pharmacy technician scope	38 (21.1)	59 (42.1)	
Pharmacist scope	130 (72.2)	71 (50.7)	
Beyond the scope	12 (6.7)	10 (7.1)	
Constipation			**0.001**
Pharmacy technician scope	143 (79.4)	128 (91.4)	
Pharmacist scope	36 (20.0)	10 (7.1)	
Beyond the scope	1 (0.6)	2 (1.5)	
Cough and cold symptoms			**0.001**
Pharmacy technician scope	139 (77.2)	127 (90.7)	
Pharmacist scope	41 (22.8)	11 (7.8)	
Beyond the scope	0 (0.0)	2 (1.5)	
Dandruff			0.114
Pharmacy technician scope	140 (77.8)	121 (86.4)	
Pharmacist scope	35 (19.4)	15 (10.7)	
Beyond the scope	5 (2.8)	4 (2.9)	
Dermatitis			**<0.001**
Pharmacy technician scope	44 (24.4)	82 (58.6)	
Pharmacist scope	134 (74.4)	51 (36.4)	
Beyond the scope	2 (1.2)	7 (5.0)	
Diarrhoea			**<0.001**
Pharmacy technician scope	77 (42.8)	117 (83.6)	
Pharmacist scope	100 (55.6)	21 (15.0)	
Beyond the scope	3 (1.6)	2 (1.4)	
Eczema			**<0.001**
Pharmacy technician scope	53 (29.4)	85 (60.7)	
Pharmacist scope	121 (67.2)	45 (32.1)	

Beyond the scope	6 (3.4)	10 (7.2)	
Indigestion/heartburn			**<0.001**
Pharmacy technician scope	36 (20.0)	68 (48.6)	
Pharmacist scope	134 (74.4)	60 (42.8)	
Beyond the scope	10 (5.6)	12 (8.6)	
Mild headache			**0.023**
Pharmacy technician scope	156 (86.7)	133 (95.0)	
Pharmacist scope	22 (12.2)	6 (4.3)	
Beyond the scope	2 (1.1)	1 (0.7)	
Minor burns			**0.008**
Pharmacy technician scope	121 (67.2)	111 (79.3)	
Pharmacist scope	55 (30.6)	25 (17.9)	
Beyond the scope	4 (2.2)	4 (2.8)	
Wounds			**<0.001**
Pharmacy technician scope	68 (37.8)	87 (62.1)	
Pharmacist scope	104 (57.8)	38 (27.1)	
Beyond the scope	8 (4.4)	15 (10.8)	
Warts			0.721
Pharmacy technician scope	114 (63.3)	91 (65.0)	
Pharmacist scope	51 (28.3)	40 (28.6)	
Beyond the scope	15 (8.4)	9 (6.4)	

Figure 1 shows clinical scenarios where the respondent pharmacists were asked to rate the extent of the likelihood of referring a patient who sought advice about common ailments to another healthcare professional (e.g. doctor, nurse, physiotherapist, etc.). Approximately 50% of the respondent pharmacists were reluctant to refer a patient to another health care professional only from assessing a patient's signs and symptoms on presentation to the pharmacy as shown in Figure 1. However, if the patient had experienced a recurrence of symptoms, more than half of the respondent pharmacists (Px=115/180, 63.9%) indicated they would possibly refer the patient to another healthcare professional. The majority of pharmacists (Px=136/180, 75.6%) reported they would refer a patient to another healthcare professional when symptoms had not improved following previous treatment.

The majority of pharmacists fall into the "Sometimes" and "Rarely" categories, emphasising their role in managing common ailments independently but recognising the need for referrals in specific cases. This balance ensures that patients receive appropriate care without unnecessary referrals. Further, the frequency of referrals may reflect the training and confidence of pharmacists in managing various health conditions. Those who refer more frequently might feel less confident in managing certain ailments or might encounter more complex cases that require specialist attention. Understanding these referral patterns can help in designing continuing education programs for pharmacists, ensuring they have the necessary skills and confidence to manage a broader range of ailments independently.

In contrast, although managing common ailments are one of the primary activities that the pharmacist and pharmacy technician respondents reported in this study, more than half of the respondents (Px=108/180, 60.0%; T=134/140, 94.3%) did not think that a consultation fee should be charged for minor ailments management in addition to the cost of medication (Table 4).

Consultation Fee

The data from Table 4 reveals a significant difference in opinion between pharmacists and pharmacy technicians regarding whether a consultation fee should be charged for common ailments. Out of 180 pharmacists, 40.0% (n=72) believe that a consultation fee should be charged, whereas only 5.7% (n=8 out of 140) of pharmacy technicians share this view. This suggests that pharmacists, who might have more responsibility and insight into the value of their professional consultation, are more inclined to see the necessity of a fee. Conversely, a substantial majority of pharmacy technicians (94.3%, or 132 out of 140) believe that no consultation fee should be charged, reflecting perhaps a perspective focused more on accessibility and the role of the pharmacy as a free resource for common ailments.

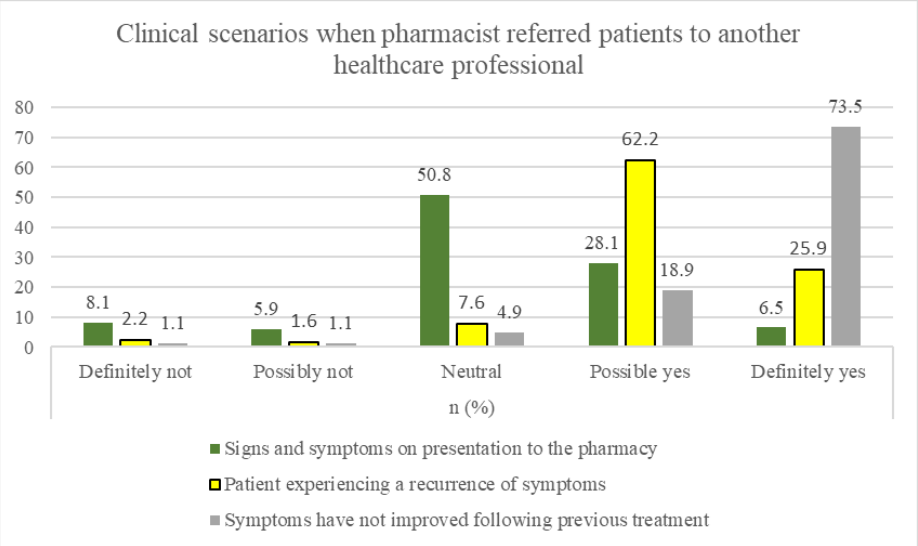

Figure 1. Frequency distribution (%) when the pharmacist referred patients to another healthcare professional as reported by the pharmacist respondents (n=180)

Table 4 indicates a clear divergence between pharmacists and pharmacy technicians in their views on charging consultation fees for common ailments. Pharmacists, more inclined to support a fee, seem to value the professional service provided, whereas pharmacy technicians prioritise keeping services free. Both groups, however, largely agree that if a fee is to be charged, the patient should be the one to pay, though pharmacists also see a role for government and insurance. This data highlights important considerations for policy makers and pharmacy management in designing fee structures and payment responsibilities in the context of common ailments consultation services.

Appropriate Fee Range

Among those who support charging a fee, there is again a difference in opinions on the most appropriate amount. For pharmacists, the most common fee range is 5000-10000 ($0.50 to $1), preferred by 44.1% (34 out of 77) of respondents. This fee range is seen as moderate and likely reflects a balance between compensating professional time and maintaining affordability for patients. Pharmacy technicians who support charging a fee (8 respondents) show varied preferences, but the most favored fee range is also 5000-10000 ($0.50 to $1), preferred by 37.5% (3 out of 8). Interestingly, 32.5% (25 out of 77) of pharmacists who support charging a fee believe it should be less than 5000 (<$0.50), indicating some consideration for keeping the costs very low. In contrast, a quarter (25%) of the pharmacy technicians also support a fee of less than 5000 (<$0.50).

Responsibility for Payment

When it comes to who should bear the cost of the consultation fee, the majority opinion among both groups is that the patient should pay. Specifically, 64% (48 out of 75) of

pharmacists and 75% (6 out of 8) of pharmacy technicians hold this view. However, there is a notable percentage of pharmacists who think that either the government (10.6%, or 8 out of 75) or health insurance (18.7%, or 14 out of 75) should cover the cost, reflecting a belief in shared responsibility or an insurance-based model for covering health expenses. Only a small fraction of pharmacists (4%, or 3 out of 75) believe that the pharmacy company should pay, which might be due to concerns about financial sustainability. In contrast, pharmacy technicians do not consider health insurance or pharmacy companies as responsible for the payment, suggesting a more patient-centric approach or possibly reflecting a different understanding of funding structures within healthcare.

Table 4. Pharmacist and pharmacy technician responses to standard procedure for minor ailments at pharmacy

	Reported by the pharmacist	Reported by the pharmacy technician
	n (%)	
Do you think a consultation fee should be charged?	**(n=180)**	**(n=140)**
Yes	72 (40.0)	8 (5.7)
No	108 (60.0)	132 (94.3)
The most appropriate fee?	**(n=77)**	**(n=8)**
<5000 (< $50c)	25 (32.5)	2 (25.0)
5000-10000 ($50c - $1)	34 (44.1)	3 (37.5)
11000-15000 ($1 – 1.5)	11 (4.3)	2 (25.0)
16000-20000 ($1.6 - 2)	2 (2.6)	0 (0.0)
>20000 (> $2)	5 (6.5)	1 (12.5)
Who should pay?	**(n=75)**	**(n=8)**
Patient	48 (64.0)	6 (75.0)
Government	8 (10.6)	2 (25.0)
Health insurance	14 (18.7)	0 (0.0)
Pharmacy company	3 (4.0)	0 (0.0)
Other	2 (2.7)	0 (0.0)

Overall, the data from this study shows that both professionals play an essential role in managing minor ailments in Indonesian community pharmacies. Thus, the urgency to establish a clear scope of practice for each professional is needed, and the pharmacy technicians clearly understand when to refer patients to the Pharmacist. Although pharmacy technicians and pharmacists in Indonesia are qualified professionals, pharmacists hold higher qualifications and are responsible for the conduct of the pharmacy; therefore, they should refer to another healthcare professional based on ailments beyond the scope of their practice.

The main limitation of this study relates to self-reported perceptions reported by respondents. Data were based on recall, recollections, and perceptions about the MMAs in the Indonesian community pharmacy. Therefore, caution should be applied when generalising the outcome.

CONCLUSION

The scope of practice of pharmacists and pharmacy technicians in managing common ailments must be broadly identified. Importantly, given the differing approaches by pharmacists and pharmacy technicians, there is a need to ensure that each professional practices within their area of scope and adheres to safe pharmacy practices. Further, this pattern underscores the importance of pharmacists in the healthcare system and the need for ongoing support and training to optimise their role in patient care.

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