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Research Paper

Counselling practices in an East Javan district, Indonesia: what information is commonly gathered by pharmacy staff?

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Abstract

Counselling by pharmacy staff plays a key role in ensuring the quality use of medications in community settings. Information gathering is the first step and an essential part of counselling. Yet, data on information gathering during counselling in Indonesia is lacking.

Objective To identify pharmacy staff's practice of counselling and information gathered during counselling in an East Javan district, Indonesia.

Methods A survey questionnaire was conducted in community-based health facilities in the district (i.e. 3 hospital outpatient clinics, 69 community pharmacies and 24 Community Health Centres [CHCs]); one health facility was represented by one pharmacy staff. Quantitative content analysis was used to summarise data regarding information gathering.

Key findings Sixty-six pharmacy staff responded, giving a 69% response rate. Almost all staff reported providing counselling; those at CHCs and outpatient clinics mostly provided prescription medicine counselling (95.5% and 100.0%, respectively), while those at community pharmacies mostly provided non-prescription medicine counselling (symptom-based versus product-based requests: 94.9% versus 71.8%, respectively). For non-prescription counselling, the most frequent information gathered was details of symptoms (symptoms-based versus product-based requests: 97.3% versus 75.0%, respectively). While for prescription medication counseling, pharmacy staff mostly asked the patient's identity (76.2%). Less than 20% of the pharmacy staff for non-prescription/prescription medication counselling gathered information on concurrent medications or history of allergies or adverse drug reactions.

Conclusions Pharmacy staff in these Indonesian settings provided prescription/non-prescription counselling to some extent. Improved information gathering skills are required for effective counselling, especially for prescription medications, thus ensuring rational drug use among Indonesians.

Keywords: counselling; pharmacy staff; information gathering; prescription; non-prescription

Introduction

The appropriate use of medications, both prescription or non-prescription, are of importance in optimising the effectiveness of therapy and minimising adverse drug reactions. However, studies worldwide, including in Indonesia, have reported inappropriate medication use or practises, particularly in community settings.[1–4] For example, self-medication with prescription drugs, such as antibiotics. Several studies in Indonesia have indicated that approximately 15–45% of community members have purchased or used antibiotics without prescription.[1–3] Patients' non-compliance, especially those with chronic conditions requiring long-term treatment, are of concern regarding medication optimisation. A study conducted by Farisi *et al.* (2020) in Lampung, Indonesia, explored compliance of patients with various chronic diseases showed that 63.3% of the respondents had low levels of medication compliance.[4] A systematic review by Abegaz *et al.* (2017) reported that approximately 40% of hypertensive patients were non-compliant with their treatment.[5] Likewise, a systematic review by Krass *et al.* (2015) stated that most of the studies (21/27) reported less than 80% of respondents complied with their treatment.[6]

Pharmacists, as health professionals are authorised to dispense and supply medications in Indonesia,[7] play an important role to ensuring rational drug use. While supplying medications, pharmacists are expected to provide counselling as the final checking process to ensure optimum medication outcomes for the correct patient. Indonesian pharmacists' role in providing counseling in community settings (including community pharmacies, outpatient clinics and community health centres [CHCs]) have been emphasised in a range of practice standards and policies.[8–11] Results from various studies in Indonesia have shown that pharmacists' counselling provided positive outcomes in increasing knowledge,[12–14] compliance,[13, 14] as well as rational drug use;[15, 16] and further, counselling have been reported to improve clinical outcomes or patients' quality of life.[17] It should be acknowledged, however, that counselling is a complex process; and many factors can contribute to effective counselling, such as patient's socioeconomic and cultural factors, patient's trust, pharmacist's professionalism, availability of counselling time and area, as well as other external factors (such as support from professional organisations, organisational culture, or regulations and healthcare systems).[18–20]

Gathering information is an initial step as well as an essential one for effective counseling.[8–11] It should be noted that information gathered during counseling can be varied depending on several factors, such as guidelines used, conditions of illness presented, types of drugs requested (prescription versus non-prescription drugs) and the type of patients counselled (new patients versus established patients who have taken the drugs before).[18–20] In principle, the more comprehensive the information gathering process, the greater the opportunity for a pharmacist to provide effective counselling. While a review by Puspitasari (2009) reported varied counseling rates (8–100%); [21] some low counselling rates reported in this study might imply the need to improve counselling as well as an appropriate information gathering process.

There is limited data available on the counselling practices, particularly regarding information gathering. A systematic review of studies in developing countries reported that the rates of information gathering during non-prescription drug counselling in community pharmacies ranged from 18–97%; most information gathered were details of symptoms and patient's identity.[22] In Indonesia, a study by Brata *et al.* (2016) in an eastern Indonesian community pharmacies reported less than 40% of pharmacy staff asked for important information during non-prescription medication counselling, including symptom details and patient's identity.[23] Another study in Surabaya, East Java, Indonesia, reported that very few pharmacies assessed patients for antibiotic requests.[24] While these studies were conducted in community pharmacies, there is a need to evaluate the counselling and information gathering process in other community settings in addition to community pharmacies, such as outpatient clinics and CHCs, as they have different patient characteristics and systems. In addition to community pharmacies, these facilities supply medications to many Indonesians.[7] Therefore, this research aimed to describe pharmacy staffs' counseling practices and information gathered during non-prescription and prescription medication counselling in a range of community settings in an East Javan district, Indonesia.

Methods

Research design, setting and participants

This is a cross-sectional study using a questionnaire survey in a district in East Java, Indonesia. The district is located in the western part of East Java Province, Indonesia. Based on the 2017 data, the district covers an area of 1296 km² with a population of 911 911 people; the area is divided into 17 sub-districts (*kecamatan*) which consist of 217 villages (*desa*). Community-based health facilities in this district included 3 hospital-outpatient clinics, 24 Community Health Centres (CHCs) and 69 community pharmacies; [25] a CHC is a technical unit of the Region Health Office that provides primary health care with referrals to hospitals for secondary/tertiary care.

A census sample was used to include all of the community-based health facilities in the district. Each health facility was represented by one pharmacist or non-pharmacist pharmacy staff. Further, the term 'pharmacy staff' was used to refer either to the pharmacist or non-pharmacist pharmacy staff involved in this study. The data collection process was approved by the Head of the District Health Office, and an ethical approval was granted from the Research Ethics Commission of the University of Surabaya (082/KE/VII/2019).

Questionnaire development

A questionnaire survey was used to collect the data. The questionnaire was generated based on prior literature[23]; the developed questionnaire consisted of three sections: (1) participant demographics; and (2) counselling practices, and the information gathering process. The first part consisted of seven closed-ended demographic questions, including: gender, age, occupation, level of education, work experience, days of work in a month and hours of work in a day. The second part included closed-ended questions to ask about the frequencies and types of counselling performed. In addition, open-ended questions were used to explore the information gathering process during each type of counselling, that is prescription medication counselling (question: "*What information do you request when a customer presents a prescription, e.g. 'captopril'?*"); non-prescription counselling – product based requests (question: "*What information do you ask when a customer requests to purchase a product, e.g. 'black cough syrup?"*); and non-prescription counselling – *symptom-based requests* (question: "*What information do you asked when a customer asks for a recommendation to treat his/her symptom, e.g. cough?*"). The questionnaire was face-validated with four pharmacist academics who have expertise in the clinical area, and was piloted to five pharmacy staff to ensure understanding of the questions. A reliability test was not considered neccessary since questions in this questionnaire were not used to measure specific domains and were exploratory in nature.

Data collection

Ninety-six community-based health facilities in this district (i.e. 3 hospitals-outpatient clinics, 24 CHCs and 69 community pharmacies) were included in the survey. An invitation was sent by the District Health Office to the sample health facilities in which each facility was asked to choose one pharmacy staff as their representatives to attend a seminar about counselling in April 2018. At the beginning of the seminar, one of the researchers (AP) explained about the nature and purpose of the study to the pharmacy staff; then, the questionnaire was distributed and the pharmacy staff was asked for their participation. Those who agreed to participate were asked to provide written informed consent, and to complete the questionnaire.

Data analysis

Responses from closed-ended questions in the questionnaire were analysed descriptively; the results were presented in frequencies and percentages for categorical data or *means* ± standard deviation (SD) for continuous data. The analysis was performed using SPSS Statistics version 23 (IBM Corp., Armonk, NY, USA). Further, responses to the open-ended questions related to the types of information gathered were analysed using a quantitative content analysis approach.[26] One of the researchers (ES) generated a code book on the types of information gathered during counselling based on the literature; [27] eight types of information were included: patient's identity, presenting symptoms, social habit, history of allergy and adverse drug reaction, concurrent medication use (not for presenting symptoms), medical conditions, action taken, source of information. Responses from open-ended questions were initially coded by two of the researchers (ES and YIW) using the code book (94% agreement). Disagreements between the two coders were discussed to reach a consensus; when necessary, a new code (other than those in the code book) could be added to better represent the responses. During this process, a new code was added, that is 'details on the product requested/prescribed'. The frequencies and percentages of the code appearances were determined.

Results

Participant characteristics

A total of 66 participants represented 66 community-based health facilities were involved in this study, giving a response rate of 69%. Most participants were pharmacists (81.8%) and were female (87.9%). More than one-third of the participants had been working in the health facilities for approximately 6 to 10 years. On average, they worked for 21 days per month with an average of 6.5 hours per day. Details of participants' demographic data can be seen in Table 1.

Counselling practice

Almost all of the pharmacy staff participating in this study stated that they have ever performed counselling (95.5%); of those, approximately one-third provided counselling more than 30 times a month. More than 60% of the participants reported that they performed counselling related to prescription medicines, especially those at CHCs and hospital-outpatient clinics (95.5% and 100.0%, respectively). Pharmacy staff at community pharmacies had more counselling related to non-prescription medicine in which more counselling was provided for symptom-based requests compared to product-based requests (94.9% versus 71.8%, respectively). Detail profiles of counseling practices performed by participating pharmacy staff can be seen in Table 2.

Table 1 Pharmacy staffs' demographic data

Characteristics	Pharmacy staff working settings			Total (66) n (%)
	Community health centre (22) n (%)	Community pharmacy (40) n (%)	Hospital outpatient clinic (4) n (%)	
Gender				
Male	2 (9.1)	5 (12.5)	1 (25.0)	8 (12.1)
Female	20 (90.9)	35 (87.5)	3 (75.0)	58 (87.9)
Age (year, mean ± SD)*	36.4 ± 5.2	34.4± 5.3	39.5 ± 11.9	35.3 ± 5.9
Occupation				
Pharmacist	10 (45.5)	40 (100.0)	4 (100.0)	54 (81.8)
Non-pharmacist staffs	12 (54.5)	0 (0.0)	0 (0.0)	12 (18.2)
Level of education				
High school of pharmacy	3 (13.6)	0 (0.0)	0 (0.0)	3 (4.5)
Diploma of pharmacy	6 (27.3)	0 (0.0)	0 (0.0)	6 (9.1)
Bachelor of Pharmacy	3 (13.6)	0 (0.0)	0 (0.0)	3 (4.5)
Pharmacist	10 (45.5)	38 (95.0)	4 (100.0)	52 (78.8)
Postgraduate	0 (0.0)	2 (5.0)	0 (0.0)	2 (3.0)
Work experience				
<5 year	3 (13.6)	11 (27.5)	1 (25.0)	15 (22.7)
6–10 year	9 (40.9)	17 (42.5)	1 (25.0)	27 (40.9)
11–15 year	7 (31.8)	6 (15.0)	1 (25.0)	14 (21.2)
>15 year	3 (13.6)	6 (15.0)	1 (25.0)	10 (15.2)
Working days per month (mean ± SD)	21.5 ± 7.6	21.1 ± 8.3	14.0 ± 9.2	20.8 ± 8.2
Workings hours per day (mean ± SD)	6.7 ± 0.7	6.4 ± 3.7	7.0 ± 1.4	6.5 ± 3.0

*6 missing responses.

Table 2 Pharmacy staffs' counselling practices

Counselling practices	Pharmacy staff working settings			Total (66) n (%)
	Community Health Centre (22) n (%)	Community Pharmacy (40) n (%)	Hospital outpatient clinic (4) n (%)	
Frequency*				
Never	1 (4.5)	1 (2.5)	1 (25.0)	3 (4.5)
Ever	21 (95.5)	39 (97.5)	3 (75.0)	63 (95.5)
0–10 times	8 (38.1)	11 (28.2)	1 (3.3)	20 (31.8)
11–20 times	0 (0.0)	7 (18.0)	0 (0.0)	7 (11.1)
21–30 times	4 (19.1)	4 (10.3)	0 (0.0)	8 (12.7)
>30 times	5 (23.8)	14 (35.9)	2 (66.7)	21 (33.3)
Type†				
Non-prescription drug counselling				
Symptom-based requests	N/A	37 (94.9)	N/A	37 (56.1)
Product-based requests	N/A	28 (71.8)	N/A	28 (42.4)
Prescription drug counselling	21 (95.5)	18 (45.0)	3 (100.0)	42 (66.7)

N/A, not applicable for community health centres and hospital outpatient settings as they have only supplied medications based on prescriptions.

*Frequency of providing counselling in the last month; some missing respondents.

†Type of counselling provided in the last month; participants could select more than one answer.

Table 3 Information gathering for non-prescription: symptom-based requests (*N* = 37)

Types of information	Illustrative questions	n (%)
Patient's identity	Patient's age? Child/adult? Pregnant mother/breastfeeding? Address? Weight? Name?	17 (46.0)
Presenting symptoms	Duration of cough? Any symptoms related to the cough (e.g. fever, colds, flu, inflammation, breathlessness)? Types of cough (dry or productive cough)?	36 (97.3)
Social habit	Smoking?	1 (2.7)
History of allergy and adverse drug reactions	Any allergy to certain medications? Any history of allergy with something (e.g. eggs)?	7 (18.9)
Concurrent medication use (not for presenting symptoms)	Any other medicines taken?	2 (5.4)
Medical conditions	Any other medical history?	1 (2.7)
Actions taken		
• Action taken, not specific	Any actions taken to treat the symptoms?	1 (2.7)
• Action taken, medication use for presenting symptoms	Any medicines taken to treat the symptoms? How long have you been taking this medication?	18 (48.7)
• Action taken, complementary and/or alternative medicine use for presenting symptoms	-	0 (0.0)
• Action taken, consultation with health professionals regarding the presenting symptoms	Have you consulted to a doctor?	1 (2.7)
Source of information	-	0 (0.0)

Information gathering during counselling

Information gathering during non-prescription medicine counselling

Non-prescription medicine counselling could be divided into symptom-based and product-based requests; 37 and 28 pharmacy staff reported to provide counselling on symptom-based and product-based requests, respectively, in the last month. Types of information gathered by the participating pharmacy staffs for symptom-based requests were mostly details of 'presenting symptoms' (97.3%), 'actions taken' (51.4%) and 'patient's identity' (46.0%). Whereas for product-based requests, the pharmacy staff mostly asked for information related to 'presenting symptoms' (75.0%), 'patient's identity' (53.6%) and 'details on the product requested' (35.7%). Types of information gathered during non-prescription medicine counselling are reported in Tables 3 and 4.

Information gathering during prescription medicine counselling

Forty-two pharmacists reported to provide prescription medicine counselling in the last month. When managing prescription medication requests, the most frequent information gathered was 'patient identity' and 'presenting symptoms' (76.2% and 52.4%, respectively). Other types of information were only asked by less than half of the participating pharmacy staff. Details of information gathering during prescription medicine requests are shown in Table 5. A summary of the information gathering related to non-prescription and prescription medicine requests is presented in Table 6.

Discussion

This present study has provided an overview on the profile of counselling as well as information gathering performed by pharmacy

Table 4 Information gathering for non-prescription medicine: product-based requests (*N* = 28)

Types of information	Illustrative questions	n (%)
Patient's identity	Who is the patient? Patient's age? Child/adult? Weight? Male/female? Address? Name?	15 (53.6)
Presenting symptoms	How long have you had the symptoms? Details of your symptoms? Any symptoms related with the cough (e.g. fever, colds, flu, inflammation, breathlessness)? Types of cough (dry or productive cough)?	21 (75.0)
Social habit	-	0 (0.0)
History of allergy and adverse drug reactions	Any history of allergywith certain medications? Any side effects after taking certain medications?	2 (7.1)
Concurrent medication use (not for presenting symptoms)	Any other medicines taken? Medication history?	2 (7.1)
Details on the product requested	Have you taken this medicine before? Do you know what is this drug for? Do you know how to take this drug? How many times in a day? Which brand have you ever taken? How long have you been taking the medication?	10 (35.7)
Medical conditions	Any other medical history?	2 (7.1)
Actions taken		
• Action taken, not specific	-	0 (0.0)
• Action taken, medication use for presenting symptoms	Have you taken any medications to treat the cough?	1 (3.6)
• Action taken, complementary and/or alternative medication use for presenting symptoms	-	0 (0.0)
• Action taken, consultation with health professionals regarding presenting symptoms	-	0 (0.0)
Source of information	Where did you get the information topurchase this medicine?	2 (7.1)

staff in a range of community settings in an East Javan district in Indonesia. A total of 66 pharmacy staff representing 66 out of 96 community-based health facilities in this district were involved, thus giving a sound rate of 69%. Most of the participating pharmacy staff were female pharmacists, having work experience of 6 to 10 years. In parallel with this, a study in Temanggung, Central Java, Indonesia reported that most pharmacists in community settings have more than 6 years of work experience (77.8%).[28] Several studies in Indonesia also reported greater than 80% of pharmacists or pharmacy staff in community settings were female.[23, 24, 28, 29]

It is acknowledged that a lack of or inaccurate information gathered relating to counselling can increase the risk of a drug overdose, drug administration errors, harms, or even death.[30] This study explored the information gathering process during prescription as well as non-prescription medicine requests, thus it provided an adequate insight to the process. Overall, this study showed that most pharmacy staff reported they performed counselling. Those in CHCs and hospital outpatient-clinics mostly performed counselling for prescription medicine requests; since these settings have only supplied medications based on prescriptions. Meanwhile, the majority of pharmacy staff in community pharmacies mostly performed counselling for non-prescription medicine requests, especially regarding symptom-based requests (94.9%). Notably, a study from Germany, Berger *et al.* (2005) also reported more frequent counseling was performed for symptom-based requests (95%) compared to product-based requests (47%).[31] Regarding product-based requests, several factors may influence the findings: pharmacists might feel uncomfortable to ask questions since the patient had already requested a specific product; or pharmacists might feel that the patient understands or has used the product previously; or might confuse the patient.[31–33]

This present study has indicated that about half of the pharmacy staff in community pharmacies have not performed prescription medicine counselling. Literature has suggested some contributing factors to low counselling rates, such as pharmacists' lack of time, the limited number of pharmacy staff, patient rejection, no access to medication records, do not want to contradict information given by the physician, no private counselling area, lack of clinical/counselling expertise or pharmacists' professionalism, regulations, patients do not come to collect their medications themselves, and language barriers with the patient.[34, 35] These findings may also indicate the need for pharmacists to improve their competence with regards to major illnesses, as well as to provide supporting facilities and infrastructure in their premises. The use of tools to assist pharmacists in providing counselling could be considered, such as applications/systems to store patient's medication history, and to update drug information. In addition, there is a need for national bodies or professional organisations to establish guidelines or standards of practice to guide pharmacists in providing effectve counselling.[31, 34, 35]

With regard to information gathering during non-prescription counselling, this present study reported that the most frequently information asked were details of symptoms. For symptoms-based requests, almost all pharmacy staff asked about the 'presenting symptoms' (97.3%); this is in accordance with the findings from previous research showing the most frequent questions for symptoms-based requests were related to the symptoms experienced.[23, 31, 36, 37] Whereas for product-based requests, less staffs asked about 'presenting symptoms' (75.0%); however, this was still the most frequently asked question. The high rates of information gathering about symptoms in the non-prescription requests might be because pharmacy staff could assume that the patient practices self-diagnosis, thus it is necessary for them to ensure that the medication is

Table 5 Information gathering for prescription medicine requests (*N* = 42)

Types of information	Illustrative questions question	n (%)
Patient's identity	Who is the patient? Patient's age? Child/adult? Weight? Male/female? Address? Name? Mobile phone number? Checking patient's information on the prescription, patient's identity? New/establised patient?	32 (76.2)
Presenting symptoms	How long have you had the symptoms? Duration of illness? Confirming patient's illness–what are your complaints? Any symptoms related to the cough (e.g. fever, colds, flu, inflammation, breathlessness)?	22 (52.4)
Social habit	-	0 (0.0)
History of allergy and adverse drug reactions	Any allergy with certain medicines? Any side effects after taking certain medicines?	7 (16.7)
Concurrent medications (not for presenting symptoms)	Any other medicines taken? Medication history	4 (9.5)
Details on the product prescribed	Have you ever taken this medicine before? Any information from the physician about the medicine? Do you know how to take this medicine? How many times in a day? Do you know how to store the medicine? How long have you been taking the medicine? Do you feel any better by taking this medicine? How is that? Do you have any problems while using this medication before?	9 (21.4)
Medical conditions	Do you have other medical conditions? How long have you been suffer the conditions?	1 (2.4)
Actions taken		
• Action taken, not specific	-	0 (0.0)
• Action taken, medication use for presenting symptoms	What medications have you currently taken for the symptoms? How long have you been taking this medicine? Any medications taken?	3 (7.1)
• Action taken, complementary and/or alternative medication use for presenting symptoms	-	0 (0.0)
• Action taken, consultation with health professionals regarding the current symptoms	-	0 (0.0)
Source of information	How do you know about this medicine? Where did you get the information (about this medicine) from? Who did inform you about this medicine? Which doctor?	2 (4.8)

Table 6 Information gathering for prescription and nonprescription medicine requests

Types of information	Non-prescription medicine requests		Prescription medicine requests (*n* = 42) %
	Symptom-based (*n* = 37) %	Product-based (*n* = 28) %	
Patient's identity	46.0	53.6	76.2
Nature of symptoms	97.3	75.0	52.4
Social habit	2.7	0.0	0.0
History of allergy and adverse drug reactions	18.9	7.1	16.7
Conurrent medication use (not for presenting symptoms)	5.4	7.1	9.5
Details on the product requested	0.0	35.7	21.4
Medical conditions	2.7	7.1	2.4
Actions taken			
• Action taken, not specific			0.0
• Action taken, medication use for presenting symptoms	48.7	3.6	7.1
• Action taken, complementary and/or alternative medication use for presenting symptoms	0.00	0.0	0.0
• Action taken, consultation with health professionals regarding presenting symptoms	2.7	0.0	0.0
Source of information	0.0	7.1	4.8

suitable for the patient's symptoms in order to minimise drug-related problems.[31] Prior research has shown that 19.5% of drug-related problems occured on product-based requests, and 12.5% occured on symptoms-based requests.[38]

While handling non-prescription requests, pharmacists should ensure that the medicine recommended is safe and effective for the patient;[11] thus, confirming the patient's identity and symptoms are critical. However, this present study reported only approximately

half of the pharmacist staff asked about patient's identity. In parallel with Langer *et al.* (2018), only 57.1% pharmacists asked for information about the patient's identity.[32] Meanwhile, Horvat *et al.* (2012) reported that only 12% of pharmacy staff asked about the patient's identity for short-term symptoms (1 day), and 29% for long-term symptoms (14 days).[33] Confirming patient's identity is even more important in the case of patients with special conditions, such as pregnant women, breastfeeding, children and elderly patients. Often, these groups of patients casually consult pharmacy staff for a recommendation to treat symptoms they experiencing;[39] if the pharmacy staff fails to identify their special needs, the recommendations given might be inappropriate and even cause harms.

In addition to the patient's symptom and identity, 48.7% of the participating pharmacy staff gathered information about 'actions taken-medications use for presenting symptoms' for symptom-based requests. This is similar to Horvat *et al.* (2012) in which more than half of the pharmacy staff asked for any medicines taken for the presenting symptoms, and if any, how long it has been taken and what the result was.[33] It is important for pharmacy staff to have information records of medicines already taken by the patient to prevent duplication and therefore recommend an appropriate medication. This was different from product-based requests where 35.7% of participating pharmacy staff asked 'details on the product requested', such as *"Have you ever taken this medicine before"*, or *"Do you know how to take this medicine"*. Interestingly, a small number of pharmacy staff (7.1%) also asked further on how the patient knows about the product requested.

With regards to prescription medication requests, this study showed that information commonly gathered was the patient's identity (76.2%). This is in line with Nusair *et al.* (2018) where most of the pharmacists dealing with prescriptions would confirm the patient's identity.[40] On the contrary, only approximately half of the pharmacy staff asked about the symptoms (52.4%). Puspitasari *et al.* (2011) reported that less than 10% of pharmacy staff assessed patient symptoms when dealing with antibiotic prescriptions.[24] The low rates of information gathering about symptoms might be due to the assumption that a prescription request is based on the physician's diagnosis (not patient' self-diagnosis), so that less confirmation is needed. In addition, this present study indicated that some pharmacy staff have started asking details about the prescribed medicine, such as *"Any information from the physician about the medicine?"*, or *"Do you feel any better by taking this medication?"*. It should be noted that the current concept of counselling is focused more on the patient and not the product; thus, information gathering would be expected to explore more about patients' expectations towards their treatment, and information provided by pharmacy staff should be followed with feedback to ensure patients' understanding.[33, 37]

For both prescription and non-prescription requests, this study has indicated the low rates of information gathering towards concurrent medication use, and history of allergies and adverse drug reactions. Less than 10% of pharmacy staff asked for concurrent medications with the lowest rate for non-prescription medicine–symptom-based requests. This is similar with Langer *et al.* (2018) who reported only 3.9% of the gathered information was about the medication history or concurrent medication use.[32] It was suggested that asking medication history would help in identifying whether the presenting symptoms were related to the current medication use, such as drug side effects.[32] This present research also reported that less than 20% of pharmacy staff gathered information about the history of side effects and allergies with the lowest rate for non-prescription - product-based requests. Alaqeel *et al.* (2015) reported that only 7.3% of pharmacy staffs asked about the history of allergies;[35] while Puspitasari (2011) reported none

of the pharmacy staff asked about the history of allergies.[24] The lower rates of information gathering towards the history of allergy or adverse effects, especially for product-based requests might be due to pharmacy staffs' assumption that the patients, might have used the product before and have not experienced any adverse reactions; in addition, pharmacy staffs might consider that non-prescription or over-the-counter drugs are generally safe with no serious side effects. However attention needs to be placed on improving these findings and potentially patient safety.

There are some limitations to this study. First, this study involved only pharmacy staffs in an area in Indonesia; hence, some caution should be exercised in generalising the findings. It should be emphasised, however, that this study achieved a sound response rate (69%), thus might provide adequate insight to the practice of counseling in that area. Secondly, counselling data was collected using a questionnaire which might not reflect counselling practices in the real life. Participants, however, were informed and provided a guarantee that their responses would be kept confidential and any personally identifiable information would be protected, this might have encouraged them to provide correct answers. Finally, this study only used one scenario for non-prescription requests (i.e. cough) and one for prescription requests (i.e. hypertension) in which the results might not be able to be applied for different scenarios of illnesses. These study findings, however, provided preliminary data on the process of information gathering during prescription as well as non-prescription counselling in Indonesia.

Conclusions

This study indicated that pharmacy staff in a range of community-based health facilities in this Indonesian setting have practiced counselling to some extent with regards to prescription and/or non-prescription medication requests. Improved pharmacy staff skills for information gathering is of importance in ensuring effective counselling. Further research would be required to confirm these findings in real life with various scenarios of illnesses. Findings in this study should inform the development of strategies or interventions to improve pharmacy staff skills and frequencies of practising effective counselling, thus ensuring quality use of medicines in Indonesian community settings.

Author Contributions

Conceptualization: A.P.S., B.S., data curation: E.S., Y.I.W., formal analysis: G.S., investigation: G.S., methodology: A.P.S., Y.I.W., writing original draft: G.S., writing review and editing: G.S., Y.I.W., A.P.S., E.S., B.S.

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None declared.

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