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Original Research

A qualitative study exploring medicines use pattern and practice among general public in Malaysia

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ABSTRACT*

Objective: The objective of this study is to explore the pattern and practice of medicine use among the general public; and to explore the key factors influencing medicine use among medicine users.

Methods: A qualitative approach using focus group discussions was conducted to get in-depth information about medicines use pattern and practice from the general public. Adult people who reported using medicines at the time of study or in the previous month were approached. Two focus group discussions were audio-recorded and transcribed verbatim. The obtained data were analysed using thematic content analysis.

Results: This study found that there are some misunderstanding about the appropriate use of medicines. The majority of the participants reported that they were complying with their medication regimen. However, forgetting to take medicines was stated by 4 participants while 2 participants stopped taking medicines when they felt better. In addition, 10 participants reporting using medicines according to their own knowledge and past experience. Whereas 4 participants took medicines according to other informal resources such as family, friends or the media. Seven participants have experienced side effects with using medicines, 4 of them informed their doctor while 3 participants stopped taking medicines without informing their doctor.

Conclusion: There was a misunderstanding about medicines use in terms of medication compliance, self-management of the illness and the resources of information about using medicines. Many efforts are still needed from health care professionals to provide sufficient information about medicines use in order to decrease the risk of inappropriate use of medicines and to achieve better therapeutic outcome.

Keywords: Drug Utilization; Medication Adherence; Health Knowledge, Attitudes, Practice; Qualitative Research; Malaysia

INTRODUCTION

Medicines are essential needs for many people as a first aid and treating chronic and acute diseases.¹ Many efforts have been made by health policymakers to ensure the rational use of medicines by people.² The rational use of medicines is defined as "patients receive the appropriate medicines, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost both to them and the community".³ Irrational use of medicines is a serious problem that can affect patients' health negatively.⁴ The availability of medicines does not mean that patients will use them appropriately.⁵ If patients obtain medicines without sufficient information about how to use them, they will not gain the expected therapeutic benefits of the medicines or may suffer negative outcomes.⁶ In Malaysia, medicine use is monitoring based on the data sources from the National Pharmacy Services Statistics, National Medicines Use Survey (NMUS) and the National Medicines Price Survey.⁷ The aim of the NMUS is to provide information on medicine use at the household, community, institutional and national level. The evaluation of medicine use is used to understand medicine utilization and prescribing patterns, and to help in the assessment of the quality of the use of medicines.⁸ The quality of the use of medicines is assessed according to patients' demographics and their prevalence of clinical conditions.⁷ The NMUS reported in 2012 that around 40% of Malaysian consumers used some kinds of medicine including pharmaceuticals, traditional compounds and beauty products to manage their health and general appearance.⁹ Among the participants of this survey, 28.4% used medicines for chronic disease; around 37% used vitamins, minerals and supplements; and around 17% used traditional medicines such as herbal beverages and processed and non-processed herbs. It was found that 43.5% of them did not know how to use their medicines appropriately and around 36% were not aware of the side effects of their medicines.⁹ Therefore, this study was conducted to get in depth understanding how medicines are being used among people. The objective of this study is to explore the pattern and practice of medicine use; and to identify the key factors that may influence medicine use among people. This study will be helpful for the health care providers to understand the current situation of medicines use among their patients. It's hoped that this study will give an insight into the practice of

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medicine use in order to achieve better health outcomes.

METHODS

Study design and ethical approval

An exploratory study was conducted using a qualitative technique to enable understanding of how medicines are being used among the general public. Qualitative method can help to get more details about people's ideas and exploring the reasons of such problems occurred related to medicines use and its possible solutions and constraints. In addition, qualitative data may explain what have been found in quantitative studies and elaborate broad answers to questions. Ethical approval was obtained from the "Joint Ethics Committee of the School of Pharmaceutical Sciences, USM – Hospital Lam Wah Ee on Clinical Studies". [HLWE/IEC/2015 (0001)].

Study setting and participants

This study was carried out in April 2015 in the north-east of Penang Island. The study was conducted at the public hall in Macallum area where is the low and middle income people are available. Subjects who reported using medicines at the time of the study or in the previous month were invited to participate in this study. Only Malaysians aged 18 years and above were eligible for this study. A convenience sampling method was used to select the participants from different backgrounds including the variety of age group, gender, education level and health status to get more details and experiences with medicines use. The required sample was determined by reaching the saturation point when no more new ideas could be obtained.

Development of the interviews

Focus group discussion (FGD) was used in this study. FGD can help to reflect people's perception about medicines use by giving a greater group of practices than in individual interviews. This method can present more diverse problems of medicines use with lesser time and cost as compared to individual interviews. An interview guide was developed in accordance with the World Health Organization report¹⁰ "How to investigate the use of medicines by consumers" and previous studies¹¹⁻¹³ which provide practical methods for evaluating medicines use by consumers and identifying problems related to medicines use. The interview guide focused on the following domains: the pattern of medicine use, the practice of medicine use, access to medicines, and the efficacy and safety of the medicines. The interview questions were developed and validated by two lecturers who are expert in qualitative researches in the Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia. The credibility and the accuracy were addressed to ensure the measurements of study topic. Then the interview questions were pretested with four consumers to ensure the clarity of the questions and to consider their suggestions. The reliability of the transcripts was checked with the

participants to ensure the trustworthiness of the obtained data.

Conduct of the FGDs

Two FGDs were selected to obtain an in-depth understanding of medicine use pattern and practice. Prior to the appointment of discussion sessions, all participants were clearly informed about the aim of the interview. Written consent form was obtained from all participants before starting the interview. Then the demographic characteristics of the participants were also obtained. The discussion sessions were carried out in the Malay language by a pharmacist that was trained on qualitative research. Each FGD took approximately 80–90 minutes. Both FGDs were audio-recorded. It was expected that a third FGD would be required if contradictory information was obtained in the first two discussion groups; however, this did not happen and so a third group was not required.

Data analysis

All interviews were transcribed verbatim by a research assistant into written transcripts. The transcripts were translated into English by the research assistant and then back translation was carried out by a trained researcher. The final transcripts were checked and verified by the main investigator and other researchers to ensure that the quality of the obtained data was maintained. The transcripts were analysed for thematic content. Thematic content analysis was performed by the main investigator, while the themes and contents were then verified by the co-investigators.

RESULTS

Socio-demographic characteristics of participants

The majority of the participants were from the 50–59 years age group or older than 60. In addition, most of the participants were Malays and had chronic diseases. Table 1 presents the socio-demographic data of the participants.

The pattern of medicine use

The pattern of medicine use was obtained to explore the medicines that are being used among participants. The participants were classified into Chronic Disease (CD) and Non-Chronic Disease (NCD) for the purpose of analysis. During the study period, all CD participants presented their medicines during the discussion sessions and reported using medicines for their chronic disease. The most common chronic diseases were hypertension and diabetes. It was noted during the exploration of the medicines used that most of the participants were found to be aware of the therapeutic benefits of their medicines. In addition, they were aware of when the medicines had to be taken and the dosage as instructed by the doctor. However, most of them did not know the generic name of their medicines but could identify their medicines by the brand names and by the shape or color of the medicines' packaging. Moreover, CD participants and NCD participants were reported as

Table 1. Socio-demographic data of the participants			
Socio-demographic information		FGD1 ^a (N=8)	FGD2 ^a (N=7)
Gender	Male	5	3
	Female	3	4
Age	18 - 29	-	-
	30 - 39	1	2
	40 - 49	1	1
	50 - 59	2	3
	> 60	3	2
Ethnic group	Malay	5	5
	Chinese	-	-
	Indian	3	2
Education level	No formal Education	-	-
	Primary school	3	0
	Secondary school	6	4
	College/University	0	2
Monthly income (MYR) ^b	MYR 1000 & below	4	1
	MYR 1001–2000	3	2
	MYR 2001–3000	2	2
	MYR 3001–4000	0	1
Chronic disease ^c	Yes	7	3
	No	1	4
^a FGD, Focus Group Discussion			
^b 1 MYR = 0.23 USD			
^c Chronic Disease refers to the following diseases: hypertension, heart attack, high blood cholesterol, stroke, diabetes, asthma, arthritis, osteoporosis and peptic ulcer			

using medicines in the last month for different reasons. The most commonly used medications were paracetamol, antibiotics, analgesics, vitamins and minerals (Vitamin C, B-complex, iron and calcium), supplements (omega 3, olive oil, glucosamine) and herbal tea.

Six themes were identified as influencing the pattern and practice of medicine use among the general public. The main themes were: (1) access to medicines, (2) consumption of medicines, (3) practice of medicine use, (4) cost of medicines; (5) efficacy and safety of the medicines; and (6) medicine information resources.

Access to medicines

Participants tend to obtain medicines when they are faced with a health problem. The access to medicines was discussed and found to be influenced by the feeling of illness, the seriousness of the illness and desire to stay healthy.

Feeling of illness:

All participants perceived that they need to take medicines when faced with health problems such as a headache, fever or flu. Participants reported that they turn immediately to using medicines for treating their illnesses. Medicines are usually obtained from the nearest community pharmacy, especially for minor illnesses.

"I take Panadol bought from the nearest pharmacy." [P1, CD]

Seriousness of illness:

In terms of the severity of illness, CD participants preferred to see the doctor when faced with health problems to avoid feeling worse, especially with serious problems. In addition, NCD participants preferred to treat their minor illness such as a headache, fever or flu at home. But if the problem continues they will go to a clinic or hospital.

"If the problem is serious, I go to a clinic, but if more severe, I go to a government hospital." [P10, CD]

"I take home medicines for an emergency and then I will go to hospital if the problem is severe." [P15, NCD]

Desire to stay healthy:

Most of the participants believed that taking medicines can not only treat their conditions but can also keep them healthy. Participants reported using medications such as vitamins, minerals and supplements to prevent symptoms and to stay healthy.

"I took cod liver oil (omega 3) and olive oil to stay young and healthy." [P3, CD]

"Yes, analgesic for body pain because I don't want to feel sick. I use vitamins and minerals for general health." [P15, NCD]

Consumption of medicines:

The consumption of medicines was discussed to explain the participants' ideas about medicines. Medication consumption was found to be influenced by the process of buying, administering and deciding about medicine use. The pattern of medication consumption was influenced by medicine-seeking behavior, the administration of medicines and adherence; and advice from family, friends and media.

Medicine-seeking behavior

Most of the participants reported seeking medicines to treat their minor illnesses. Participants reported that they usually obtain medicines from the community pharmacy or clinic and get information about using medicines from doctors and pharmacists.

"I buy some medications from the community pharmacy when I get a minor problem and ask the pharmacist about the medicine, which one is good for me and how to use it." [CD, P6]

"Yes, when I have flu and fever, I usually go to the clinic or pharmacy to take Panadol and multivitamins." [NCD, P14]

Administering medicines and adherence:

Most of the participants reported taking medicines according to their doctor's advice. They stated that taking medicines without a professional prescription is dangerous and not wise.

"Never, because it is risky to take medicines without professional prescriptions and not

knowing whether the dosage is suitable or not." [P9, CD]

With regard to medication adherence, most of the participants were aware that medicines should be taken according to the doctor's instructions. They reported that if chronic disease patients continue taking medicine, it can make them feel healthy. CD participants showed a low level of medication adherence in terms of missing taking medicines.

"Never stopped taking the medicines. Only forget to take them sometimes. I will never stop taking medicine until I die. Medicines can help me feel healthy." [P1, CD]

However, NCD participants also reported that medicines should be taken as directed by the doctor. But they showed a low level of medication adherence in terms of discontinuation of taking medicines, especially when they are feeling better after taking their medicines.

"I take medicines as directed by the doctor. But I stop taking medicines if I feel better." [P8, NCD]

Medicine use depending on advice from family, friends and media:

Some of the participants were influenced by media to take some medicines while some of them depend on advice from their family and friends. They believed that getting advice from family and friends was effective in treating their illnesses. Furthermore, NCD participants also reported that taking medicines depended on the opinions of family and friends.

"Yes. From social media or television which is glucosamine. At first I took them twice a day. After getting better, I took only one in the morning. I do tell friends and family about the effectiveness of Glucosamine." [P11, CD]

The practice of medicine use

The practice of medicine use was discussed in terms of self-medication depending on an individual's knowledge, past experiences with medicines, reuse of old medications, use of leftover medicines, use of medicines for a long period of time and side effects from medicines.

Self-medication depending on individual's knowledge:

Some participants reported using medicines, depending on their own knowledge, to treat their minor ailments. Some of them reported self-medication of antibiotics and analgesics to treat their illnesses.

"Yes, I took Panadol, cough syrup and antibiotics when I got a minor illness. I felt better after taking them." [P14, NCD]

Past experiences with using medicines:

In terms of past experience, most of the participants reported that they take medicines according to their past experience and they believed that this way was effective for treating their illnesses, especially

among CD participants. In addition, the NCD participants also reported such behaviour depending on their past experience in taking medicines.

"Yes, it was effective, especially if I got better after using them in the past. If not I will ask the pharmacist to get new medicines." [P8, NCD]

Reuse of old medications:

In the case of reuse of old medications, all CD participants reported that they never reuse their old prescription and believed that old prescription medications are not effective like new medications.

"Never, I am always looking for a new medication. I think that taking a new one is much more effective." [P11, CD]

However, NCD participants have reused their old medication according to their previous experience with the same illness.

"Yes, if I have the same problem. I take them as before, it was effective." [P14, NCD]

Use of leftover medicines:

In addition, most of the participants do not use leftover medicines. Participants believed that new medicines are more effective than leftover medicines.

"Never. I return them to hospital as the new medicine is much fresher and more effective." [P9, CD]

However, participants who reported using leftover medicines were aware of checking the expiry date of the leftover medicines before taking them.

"Yes. I have used them. But I check the expiry date before taking them. I take them for 1–2 days; if I feel worse, I will consult the doctor." [P8, NCD]

Using medicines for a long time:

With regard to using medicines for a long period of time, all CD participants adopted this practice but they were worried about the effectiveness of their medications.

"Yes. I feel worried if the medication is not effective despite taking the medicines as directed." [P2, CD]

On the other hand, the NCD participants also reported using medicines for a long period of time.

"Yes, when I feel worse, I continue taking medicines. I think medicines will relieve me; I don't know if that is right or wrong." [P15, NCD]

Side effects of medicines:

With regard to the side effects of medicines, most of the participants were not aware of the side effects of their medicines and they said that they had never experienced any side effects. Meanwhile, some participants who reported side effects with

medicines stopped taking medications without informing their doctors.

"Yes, I got a cough when taking Simvastatin. I stopped the medication without telling the doctor." [P11, CD]

"Yes. Rashes when taking aspirin. I tell the doctor. But if I feel sleepy after taking any medicine, I will stop taking it." [P8, NCD]

The cost of medicines

Most of the participants reported that obtaining medicines from government hospitals and private clinics with a panel. CD participants preferred government hospitals, especially in the case of severe illnesses, because they can be admitted to hospital easily and at a lower cost. Others, however, preferred private clinics with a panel due to the coverage of consultation costs and treatment under their health insurance.

"Government hospitals are less expensive and it is easy to be admitted directly to the ward if the problem is severe." [P1, CD]

However, NCD participants preferred the nearest pharmacy for simple problems, and government clinics and private clinics if the medicines are costly.

"If not serious, from the nearest pharmacy to save time. But if the medicines are expensive I will go to a government clinic or private clinic (panel clinic)." [P15, NCD]

The efficacy and safety of medicines

With regard to the efficacy of medicines, participants found they were influenced by the pharmaceutical efficacy of popular medications. Participants usually kept medicines at home in case of an emergency. The medicines most commonly taken among the participants were analgesics, Panadol for fever, medications for flu and cough, antibiotics and ointments for external use (joint pain, wound, etc).

"I always buy joint pain medications and Panadol. I take them when required." [P5, CD]

"I buy Panadol, analgesic, Strepsils and medications for stomach pain. I use them when needed." [P14, NCD]

With regard to the combination of modern and traditional medicines, most of the participants were aware that modern and traditional medicines should not be used together. However, one CD participant reported combining herbal tea with medicines, while another participant reported that sometimes they need to get advice from a traditional health provider, especially with serious problems.

"Yes. Herbal tea bought from the supermarket and I don't feel anything bad. [P2, CD]

"Usually with normal illness like fever, cough, etc. we will go straight to the doctor, but for something serious we will get advice from both the doctor and traditional health providers." [P3, CD]

However, NCD participants reported that modern and traditional medicines should not be taken together and believed that modern medicines are more effective.

"I have never taken them together. I think it is not right to combine them together, maybe because I trust modern medicine; I think it is more effective than traditional medicine." [P8, NCD]

Medicines information resource

Most of the participants reported that they obtain enough information about their medicines from the doctor or pharmacist. However, most of them were interested in knowing more about their medicines. Only one participant referred to books and the Internet to get information about medicines.

"Yes, if I want to know how medicines should be taken, I ask the pharmacist for more information." [P2, CD]

"Yes, I get enough information from my doctor but sometimes I get information from books and the Internet." [P8, NCD]

DISCUSSION

This study showed that most of the participants obtained medicines from the community pharmacy or clinic and got information from the doctor and pharmacist to treat their minor illnesses. Most of the participants reported using medicines according to their doctor's instruction. On the other hand, some of the participants practised self-medication to treat their illnesses depending on their own knowledge, while some of them were influenced by the media, friends and family members in taking medicines. Similar findings were reported by Loyola Filho *et al.* (2004), who stated that taking medicines was influenced by the doctors and pharmacists who recommend the medicine. Sometimes people administering medicines depend on advice from family and friends or neighbours. Some people tended to use self-medication depending on their individual knowledge in taking.¹² Another study reported that consumers referred to friends, books and media as a source of information about medicines. Participants did not refer to other sources of information about medicines.¹⁴ This might be due to the low education level and the low socio-economic status of our sample. It is well recognized that a lot of people do not take their medication according to the instructions, while some literature has explained that taking medicines is influenced by patients' own ideas about medicines.¹⁵

With regard to medication adherence, this study assumes a low level of medication adherence occurred in terms of missing doses among CD participants, while NCD participants showed a low level of medication adherence in terms of stopping taking medicines when they felt better. Some previous studies found that many patients do not mind missing a few doses of a medicine, while other studies reported that many consumers follow their doctor's advice in taking medicines but they tend to

stop taking medicines when they feel that the symptoms have disappeared.^{11,16} Medication adherence is closely associated with patients' perception of the need for medicines. It has been found that some consumers knew that they needed to take medicines to treat a disease but were unwilling to take them.¹⁷

From our sample, participants preferred to see the doctor when faced with health problems to avoid feeling worse. In addition, participants believed that they need to visit the clinic or hospital if the problem is serious. Moreover, most of the participants believed that taking medicines can keep them healthy. Similar findings were reported by Chapchet Chana & Bradley showed that consumers chosen to take medicines as a "first aid" and then go to hospital if the problem continues. Some consumers take painkillers when they are suffering from general body pain, while others believed that medicines can keep them healthy and give them the energy to fight their diseases.¹³ This study showed that most of the participants take medicines according to their past experience with similar illnesses and they believed that this is an effective way to treat their illnesses, especially among CD participants. However, NCD participants reuse their old medication according to their previous experience with the same illness. People usually intend to use medicines according to their past experience with a similar health problem, especially if those medicines were effective in curing their illness. The place where the medicine can be acquired and the ease in obtaining it are also determinants in the choice.¹² In this study, all CD participants reported that they never reuse their old prescription and believed that old prescription medications are not as effective as new medications. However, some participants reported using leftover medicines for emergencies or in specific situations such as at night or on holiday whenever there is no access to medicines. In previous studies, consumers had a tendency to use leftover medicines that are kept at home to treat their sudden symptoms. This practice seems to be an anticipated strategy to get what is needed when access to medical care is not possible.^{12,18}

With regard to medicine use for a long period of time, all CD participants adopted this practice but felt worried about the effectiveness of their medications, while NCD participants believed that using medicines for a long time can help to achieve a better therapeutic outcome from the medicines. One previous study showed that consumers believed that the benefits of modern medicine can be gained by using medicines for a long time.¹¹ Some medicines were perceived as giving a high level of satisfaction among consumers due to its efficacy if taken for a long period of time, while some consumers talked about the effect of medicines in negative terms, saying that medicines are not good for the body and may be harmful.¹¹

With regard to the side effects of medicines, most of the participants were not aware of the side effects of their medicines and stated that they had never experienced any side effects, while CD participants

who reported the side effects of medicines stopped using medications without informing their doctors. Previous studies showed that some diabetic patients dislike taking medicines because of their past experience with the side effects of medicines.¹¹ Additionally, insufficient information provided by health-care professionals about using medicines and its side effects could be an important factor influencing patients' behaviour in using medicines.^{11,19} People usually refer to the unwanted side effects of medicines and they fear taking medicines because of these side effects.¹²

The cost of medicines was a factor that had an impact on obtaining medicines among the general public in this study. The cost of medicines influenced their access to medicines but they purchased medicines from the community pharmacy, especially the inexpensive medicines. A previous study reported that the cost of medicines influenced the access to medicines among consumers. However, consumers believed that the community pharmacy had a better quality of medicines. On the other hand, consumers tended to obtain medicines from other channels where they cost less.¹³ The cost of medication is a factor making some people fail to purchase prescribed medicines if they consider them expensive.¹²

This study is limited to only two FGDs, thus more FGDs and interviews are required more time and funds. Medicines users were approached from low to middle income, thus the practice of medicines use might not reflect the practice among medicines users from high income considering the cost as a factor for obtaining better health information and health services. As a focus group discussion, the participants may not express their opinion regarding medicines use freely and their perception may influence by each other. In addition, the moderator may affect their opinions and decisions through explaining his assumptions and perception regarding medicines use, so this may contribute a bias into the study.

CONCLUSIONS

From this study it was found that there are some inappropriate practices in using medicines among the general public. Some participants misunderstand the use of medicines and have autonomy in using medicines to treat their illnesses. In addition, more quantitative researches are still needed to determine the prevalence of problems with medicine use and to find out the factors that influence medicine use among the population. The findings of this study give an important message to health professionals to be alert about the possibility of such problems when using medicines among their patients. It is important to evaluate medicine use practices among their patients in order to understand people's views and ideas about health problems and medicine use in their treatment regimen. It is important to provide sufficient information during the patient's visit to decrease the risk of inadequate use of medicines and the occurrence of side effects and the outcomes related to such practices. Lastly, health policymakers

should pay more attention to solving the problems of medicine use and take action to disseminate a concrete message concerning the rational use of medicines.

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CONFLICT OF INTEREST

The authors declare no conflict of interests.

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