Self-medication practices among Malaysian consumer: A questionnaire-based study

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Abstract

This study was carried out to assess the prevalence of self-medication practice among Malaysian consumers who visit to community pharmacies. The data was collected using structured questionnaires which were randomly distributed to 500 consumers who visited to 10 conveniently selected community pharmacies in Sungai Petani, Kedah between August to October 2007. Out of the 500 questionnaire distributed, 105 responses were received for a response rate of 21.0%. Approximately 45% of the respondents have practiced self-medication in the preceding six months. The respondents mainly practiced self-medication for fever (35.2%), colds and flu (35.2%) and cough (31.4%). The most popular classes of medicines used by the consumers were analgesic/NSAIDs (32.4%), cold and flu medicines (23.8%) and antacids (18.1%). Only 27.6% of respondents were confident in self-managing medications or dietary supplements. The consumers mostly agreed that more advice on medications should be given by pharmacist (75.2%) and pharmacist has high level of professionalism on medication (65.7%). The study concluded that the practice of self-medication mostly involved management of minor ailments using non-prescription and over-the-counter medicines.

Keywords: self-medication, consumer, community pharmacy, pharmacist, minor ailment

Introduction:

Self-medication is a common practice among the consumers, particularly for those in developing countries (1). It can be considered as the most common form of self-care in health. It is defined as the use of a drug product for the treatment of a disease or symptom or for the disease prevention or promotion of health, without a professional prescription (2) or obtaining and consuming medicines without the advice of a physician or pharmacist either for diagnosis,

prescription or surveillance of a treatment (1).

Over the last decade, the economical, political, and cultural factors have contributed to a constant increase in self-medication worldwide, leading this practice into a major public health concern. The huge amount of medicines currently available in the market does not equate with an improvement in quality of life (2). The main concerns regarding self-medication are the risk of

inadequate use of drugs and the occurrence of side-effects and accidents related to this practice (2). For instance, the use of non-prescription medications and dietary supplements by elderly patients in USA has caused concern (3). This geriatric population uses more prescription medications and has a higher potential risk of developing harmful medication-related problems than the younger adults. Various reports have shown that 40% to 87% of community-dwelling adults older than 65 years were using at least one OTC product regularly and 5.7% were taking five or more non-prescription medications and/or dietary supplements daily (3).

Patients turn to purchase medicines frequently through drugstore sales personnel, in an attempt to save time and money on a medical appointment that fails to meet their expectations (2). Several studies have documented that community pharmacies are not the only sites where medicines are bought and sold, they are also places where information and advice on health problems and treatment is sought (4). Some studies have found that it is fairly routine for the patient to seek the advice of pharmacists and medicine shop attendants for common ailments. Such consultations are convenient; they save

time, money and the opportunity cost of waiting to be seen by a doctor (4).

Since medicines are widely used in the population to reduce morbidity and mortality (3), it is important to ensure that the non-prescription medicines and OTC are used appropriately during self-medication. The patient's self-medication practice must be evaluated to provide the information which enables health care providers to educate the patients on issues around self-medication. In order to maximize the therapeutic outcome and provide safe and quality medical care, a better understanding of the patient demand and factors affecting patient's self-medication practices is required. Nevertheless, currently there is a lack of study on self-medication and factors contributing to consumer's practice of self-medication with community pharmacies services in Malaysia. Thus, a study is warranted to investigate the practices of self-medication with community pharmacies in Malaysia. Consequently, strategies and action plans can be developed to improve the community pharmacy services on the issue around consumer self-medication. Therefore, this study was carried out to obtain baseline data on self-medication practices among the Malaysian consumers and factors influencing self-medication.

Method

This is a cross-sectional descriptive study using a structured questionnaire. The questionnaire was adapted and modified from a survey instrument formulated by Shankar et al. (1). The questionnaire was designed in three different languages (English, Malay and Mandarin) to cater for the language proficiency differences among the Malaysian consumers. The questionnaire was initially examined by an expert for

its face and content validity. Subsequently, internal consistency and reliability were tested by assigning 20 customers to answer the questionnaire. The consumers consisted of Malay, Chinese and Indian who visited a community pharmacy in the state of Penang, Malaysia. A Cronbach's alpha of 0.73 was obtained (value of > 0.70 is considered acceptable reliability).

This final questionnaire comprised of 5 sections. The first section contained questions on demographic and socioeconomic background of respondents. The second section contained questions on distance from residency to nearest pharmacy, type of pharmacy the respondents used to visit and frequency of visit. The third section assesses the consumer self-medication practice for the past 6 months, reason for not consulting doctor, main use of the medicines and main symptoms that being experienced. The forth section was the details of medicine taken and medical conditions that had been suffered. The last section was to assess the consumer's opinion towards self-medication. Respondents were requested to describe the level of agreement on self-medication based on 10 statements which formulated in a 5-point Likert scale (1 = Strongly disagree; 2 = Disagree; 3 = Not sure; 4 = Agree; 5 = Strongly agree).

A convenient sample of 10 community pharmacies in Sungai Petani city, state of Kedah, Malaysia was chosen as the study stations. The study population consisted of consumers who visited to the selected pharmacies. The consumers must be aged over 18 years and literate. A total of 500 questionnaires were sent by personal visit by the researcher (Ooi GS) to the selected pharmacies and detail explanation had been given to the pharmacists-in-charged. The questionnaires were then randomly distributed to the consumers who visited

to the selected pharmacies by the pharmacists-in-charged. The respondents were requested to complete the questionnaire and returned it to the pharmacists before they leave the pharmacy. Participation in this study was strictly voluntary and written informed consent was obtained from the respondents. Once the completed questionnaire was received, all identifying information had been removed to protect anonymity.

Data analysis

Data analysis was performed by using SPSS version 15.0. Chi-square statistic was used to investigate differences in the consumers' tendency to practice self-medication between different groups of consumers (age, gender, race, martial status, educational level, monthly income and insurance coverage), based on their responses to question 3A: "Have you purchased medicines of your own without consulting either a doctor or a pharmacist in the preceding six months?". The sub-groups with less than ten respondents were excluded from the analysis. Odds ratio were calculated for variables which showed significant differences based on Chi-square analysis. Student t-test was used to investigate differences between consumers' monthly health care expenditure between those who practiced self-medication and those who did not practice in this way. A significant level of less than 0.05 was used for all analytical statistic analysis.

Results

Demographic characteristics

Of the 500 questionnaire distributed, 105 responses were received for a response rate of 21.0%. The respondents were mostly female (57.1%) and aged between 20-29 years old

(31.4%). In terms of ethnicity, the majority of the respondents were Chinese (57.1%). Approximately two-third (64.8%) of the respondents were married and around half (51.5%) were either graduated from primary or

secondary school. Most of the respondents were employed (86.7%) with a monthly income within RM1,500-RM5,000 (47.6%). Around six out of ten

(57.0%) of the respondents spent RM0-RM99 per month on health care and only 7.7% spent RM300 and above (Table 1).

Table 1: Demographic characteristics of the responding consumers

<i>Characteristic</i>	<i>n</i>	<i>%</i>	<i>Characteristic</i>	<i>n</i>	<i>%</i>
Age group			Educational level		
20-29	33	31.4	Primary or secondary	54	51.5
30-39	24	22.9	Collage/Technical school	20	19.0
40-49	20	19.0	University	30	28.6
≥ 50	28	26.6	No formal education	1	1.0
Gender			Monthly income (RM)		
Male	45	42.9	< 800	16	15.2
Female	60	57.1	800-1500	20	19.0
Race			1500-3000	25	23.8
Malay	26	24.8	3000-5000	25	23.8
Chinese	60	57.1	> 5000	5	4.8
Indian	18	17.1	Unemployed	4	3.8
Others	1	1.0	Retired	10	9.5
Marital status			Monthly health care expenditure (RM)		
Single	36	34.3	0-99	60	57.0
Married	68	64.8	100-199	24	22.9
Widowed	1	1.0	200-299	13	12.4
			≥300	8	7.7

Details of pharmacy visit

Majority of the respondents (81.0%) were able to assess the nearest pharmacy from residency within 15 minutes (Table 2). The respondents visited independent pharmacy (63.8%) more frequently than chain pharmacy (36.2%). Most of the respondents (51.4%) visit to pharmacies once or twice a month.

Self-medication for the preceding six months

Approximately 45% of the respondents have practiced self-medication in the preceding six months (Table 3). The purchased medicines were

mainly for their own used (84.8%), followed by for their parents (25.7%) and children (24.8%). The respondents mainly experience fever (35.2%), colds and flu (35.2%) and cough (31.4%). Allopathic medicines (73.3%) and supplements (67.6%) were predominantly used by the respondents. Respondents' main reasons for not consulting a doctor including do not think it is necessary to do so (52.4%) and feel expensive (34.3%). Majority (95.2%) of the respondents purchased their medicines from pharmacy. When specifically looking at the main use of the purchased medicines, the respondents mostly used it for treatment (69.5%) and health maintenance (36.2%).

Table 2: Details of pharmacy visit among the responding consumers

<i>Survey question</i>	<i>n</i>	<i>%</i>
2A. Distance from residency to nearest pharmacy		
< 5 min	32	30.5
5-15 min	53	50.5
15-30 min	15	14.3
> 30 min	5	4.8
2B. Which types of pharmacy do you visit most?		
Chain (has 4 or more stores under common ownership)	38	36.2
Independent (has 3 or fewer stores under common ownership)	67	63.8
2C. How frequent do you visit pharmacy?		
More than once a week	6	5.7
Once a week	8	7.6
Twice a month	23	21.9
Once a month	31	29.5
Once every 2-3 months	16	15.2
Once every 6 months	13	12.4
Once a year	8	7.6

Differences in the tendency of self-medication between different demographic groups

Chi-square analysis showed no significant differences ($p > 0.05$) in the tendency of self-medication between consumers with different age, gender, race, marital status, educational level and monthly income. However, consumers with insurance coverage were 3.45 times (Odds ratio) more tend to practice self-medication than those without insurance coverage (chi-square value $X^2(1) = 8.20$, $p = 0.004$).

The mean monthly health care expenditure among consumers who practiced self-medication (RM127.02 $\pm$ 140.45) was slightly higher than those who consulted with doctor or pharmacist when purchasing medicines (RM91.29 $\pm$ 115.23). However, t-test analysis showed that the different was not significant ($p = 0.122$).

Medical condition of the respondents

Around 58% of the responding consumers do not have underlying medical condition (Table 4). For those who have one underlying disease (34.3%), the main conditions were allergy (9.5%), hypertension (5.7%) and diabetes (4.8%). About 8% of the respondents have two underlying medical conditions, which predominantly were hypertension and diabetes (2.9%).

Details of medicines taken during self-medication

The three most popular classes of allopathic drugs used by the respondents during self-medication were analgesic/NSAIDs (32.4%), cold & flu medicines (23.8%) and gastrointestinal medications/antacids (18.1%). When assessing the type of supplements normally used during self-medication, vitamin C (30.5%), multivitamin (25.7%) and fish oil/Omega 3 (10.5%) were the most popular supplements (Table4).

Table 3: Self-medication for the preceding six months among the responding consumers

<i>Survey question</i>	<i>n</i>	<i>%</i>
3A. Have you purchased medicines of your own without consulting either a doctor or a pharmacist in the preceding six months?		
Yes	47	44.8
No	58	55.2
3B. To whom is the medicine meant for?*		
Self	89	84.8
Parents	27	25.7
Children	26	24.8
Spouse	13	12.4
Others	6	5.7
Missing data	1	1.0
3C. What was the main symptoms did you experience?*		
Fever	37	35.2
Colds and flu	37	35.2
Cough	33	31.4
Headache/migraine	30	28.6
Gastric pain	27	25.7
Muscle pain	23	21.9
Sore throat	21	20.0
Stomach discomfort	19	18.1
Allergic	11	10.5
Others	13	12.4
3D. What type of medicine(s) did you use?*		
Allopathic (modern) medicines	77	73.3
Supplements	71	67.6
Cosmetics	48	45.7
Herbal medicines	36	34.3
Nutritional products	8	7.5
Missing data	1	1.0
3E. What was your main reason for not consulting a doctor?*		
Not necessary	55	52.4
Expensive	36	34.3
Inconvenience	14	13.3
Far	7	6.7
Not effective	4	3.8
Others	10	9.5
3F. Which type of premises does you usually go to purchase your medication?*		
Pharmacy	100	95.2
Chinese medical hall	11	10.5
Medical hall	4	3.8
Malay traditional clinic	3	2.9
Others	3	2.9
3G. State the main use of the medicines that you purchased on your own:*		
Treatment	73	69.5
Health maintenance	38	36.2
Prevention	19	18.1
Others	2	1.9
Missing data	2	1.9

Note: *The respondent (n = 105) can answer more than one answer

Table 4: Medical condition of the respondents and details of medicines taken during self-medication

<i>Survey item</i>	<i>n</i>	<i>%</i>
4A. Medical condition of the responding consumers		
<i>Consumer without underlying medical condition</i>	61	58.1
<i>Consumer with one underlying medical condition</i>	36	34.3
Allergy	10	9.5
Hypertension	6	5.7
Diabetes	5	4.8
Gastric	3	2.9
Cardiovascular disease	3	2.9
Migraine/headache	2	1.9
Dysmenorrhoea / Period pain	2	1.9
Hyperlipidemia	1	1.0
Others	4	3.8
<i>Consumer with two underlying medical conditions</i>	8	7.6
Hypertension & Diabetes	3	2.9
Hypertension & hyperlipidemia	2	1.9
Allergy & Gastric	1	1.0
Diabetes & cardiovascular disease	1	1.0
Gastric & others	1	1.0
4B. Class of allopathic / modern drug(s) normally used by the responding consumers during self-medication*		
Analgesics or NSAIDs	34	32.4
Cold & flu	25	23.8
Gastrointestinal medications / antacids	19	18.1
Cardiovascular medications	17	16.2
Allergy medications	16	15.2
Diabetes medications	10	9.5
Antibiotics	6	5.7
Others	1	1.0
4C. Class of herbal medicine(s) normally used by the responding consumers during self-medication*		
Chinese herbal medicines	20	19.0
Malay herbal medicines	11	10.5
Indian herbal medicines	5	4.8
4D. Type of supplements normally used by the responding consumers during self-medication*		
Vitamin C	32	30.5
Multivitamin	27	25.7
Fish oil / Omega 3	11	10.5
Vitamin B complex	8	7.6
Calcium	8	7.6
Vitamin A, C & E	7	6.7
Evening primrose oil	6	5.7
Vitamin E	4	3.8
Others	15	14.3

Notes: *The respondent (n = 105) can answer more than one answer

Consumers' opinion towards self-medication

The respondents' responses towards questions assessing their opinion on self-medication were shown in Table 5. Majority of the consumers (69.5%) were either strongly disagreed or disagreed that prescription medication can be purchased without professional's assistance. Only 27.6% of respondents were confident in self-managing medications/dietary supplements. Additionally, approximately one in every three consumers were either strongly agreed or agreed that non-prescription medications/dietary supplements can be purchased without assistance. Most of the respondents (62.9%) held positive opinion that non-prescription medications/dietary supplements help maintain health. The consumers mostly

agreed that more advice on medications/dietary supplements should be given by pharmacists (75.2%) and pharmacist has high level of professionalism on medications (65.7%). However, the responding consumers predominantly held a neutral opinion about whether more prescription medicines should be switched to pharmacy or over-the-counter status (45.7%). Around half of the respondents (53.4%) expressed disagreement upon the sharing of medicines among family members as compared to 16.2% who in favour with this practice. Majority of the consumers disagreed that the leftover medicines stored at home can be used when needed (78.1%). The consumers generally disagreed that originally prescribed dosage can be changed according to their own judgment (80.0%).

Table 5: Responding consumers' opinion towards self-medication

Survey question/Statement	Frequency (%)					Missing data
	1	2	3	4	5	
1. Prescription medications can be purchased without professional's assistance.	42 (40.0)	31 (29.5)	23 (21.9)	8 (7.6)	1 (1.0)	0 (0.0)
2. I am confident in self-managing medications/dietary supplements.	7 (6.7)	16 (15.2)	53 (50.5)	19 (18.1)	10 (9.5)	0 (0.0)
3. Non-prescription medications/dietary supplements can be purchased without assistance.	13 (12.4)	24 (22.9)	33 (31.4)	24 (22.9)	11 (10.5)	0 (0.0)
4. More advice on medications/dietary supplements should be given by pharmacist.	2 (1.9)	3 (2.9)	20 (19.0)	40 (38.1)	39 (37.1)	1 (1.0)
5. I think non-prescription medications/dietary supplements help maintain health.	5 (4.8)	8 (7.6)	26 (24.8)	40 (38.1)	26 (24.8)	0 (0.0)
6. I think pharmacist has high level of professionalism on medications.	2 (1.9)	11 (10.5)	23 (21.9)	32 (30.5)	37 (35.2)	0 (0.0)
7. Medicines can be shared among family members	32 (30.5)	24 (22.9)	32 (30.5)	15 (14.3)	2 (1.9)	0 (0.0)
8. The leftover medicines stored at home can be used anytime when needed.	47 (44.8)	35 (33.3)	16 (15.2)	6 (5.7)	1 (1.0)	0 (0.0)
9. Originally prescribed dosage can be changed according to my own judgement.	47 (44.8)	37 (35.2)	15 (14.3)	5 (4.8)	1 (1.0)	0 (0.0)
10. More prescription (doctor) medications should be switched to pharmacy or over-the-counter status.	6 (5.7)	21 (20.0)	48 (45.7)	13 (12.4)	17 (16.2)	0 (0.0)

Note: 1 = Strongly disagree; 2 = Disagree; 3 = Not sure; 4 = Agree; 5 = Strongly agree

Discussion

This study revealed that self-medication practices were prevalent among the Malaysian consumers who visited community pharmacy. About 45% of the surveyed respondents had purchased medicines without consulting either a doctor or pharmacist in the previous six months. This percentage was lower compared with a recent study undertaken among consumers in Kuala Lumpur, the capital city of Malaysia where 62.7% had practiced self-medication in the preceding week (5). However, the prevalence of self-medication in the present study was slightly higher than study findings from Jordan (42.5%) (6) and Southwest Ethiopia (39.2%)(7).

Consumers from different demographic background found to have no significant differences in their tendency of self-medication. The only factor which indicated higher probability for practising self-medication among the consumers was insurance coverage. However, the present study did not evaluate the reasons behind this observation. Around half of the responding consumers expressed “not necessary” as their main reason for not consulting a doctor. This finding may be due to the fact that the respondents mostly performed self-treatment for minor ailments like fever, cold and flu and cough which can be managed by non-prescription medicines. Study from other countries also found similar trend where consumers were confident with self-medication for minor ailments. For instance, a recent study in Canada found adolescents’ self-administration of acetaminophen for pain is common with 50% to 75% of junior high students reporting that they use acetaminophen for pain relief without first checking with any healthcare provider (8). Nevertheless, self-treatment practice without proper information given may

increase risk of misuse or over-consumption of non-prescription medicines. The Malaysian consumers should be educated on the dangers of self-medication and advised doing it only for minor ailments and to seek medical treatment if unsure (5).

The present study highlighted the important role of community pharmacist in providing advice and professional consultation to the consumers who practice self-medication. Majority of the surveyed consumers viewed that more advice on medications should be provided by pharmacists. Further, the respondents generally viewed pharmacists as having high level of professionalism on medication. Therefore, community pharmacists must be equipped themselves with the skills of educating the consumers on the appropriate and quality use of non-prescription and over-the-counter medicinal products. Indeed, educational intervention by pharmacist is needed to correct the inappropriate practices observed among some consumers in the present study, for instance, the sharing of medicines among family members and the keeping of leftover medications. The development of professional standards of practice among the community pharmacists is needed in the area of self-medication (5). This could be achieved via structured training and establishment of guidelines to assist the community pharmacists in providing professional consultation to the consumers with regards to self-medication.

Study limitation

The selection bias cannot be ruled out due to the convenience sampling and self-reported information obtained in the present study. The small sample size and low response rate further reduced the generalisability of the study findings.

Future study should include a larger representative sample size of the Malaysian consumers who visit to community pharmacies.

Conclusion

Self-medication is prevalent in Sungai Petani with approximately 45% of surveyed consumers using some form of self-medication in the past 6 months of

the study. The practice of self-medication mostly involved management of minor ailments using non-prescription and over-the-counter medicinal products. Pharmacist is responsible to limit the potential risks involved in self-medication by educating the consumers regarding the medicines and its appropriate use, and instructions to received medical treatment if they are unsure.

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