

Impact Assessment of a Programme on Medication-taking Behaviour and Health Awareness Among Low-income Community in the State of Penang, Malaysia

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Abstract

The study was conducted by using a validated questionnaire and the respondents chosen are those from low-income status and relatively low level of education in the State of Penang, Malaysia. A total of 65 respondents were interviewed based on participatory approach with an attempt to capture qualitative information with regards to income status, personal living condition and medication-taking behaviour. Majority of the respondents have a good background on drug information. This is given by the number of patients that understand the importance of drug treatment, although in term of application, problems do arise due to forgetfulness, worries of medication side effects and confusions due to multiple medications. This warrants further education from local pharmacists and a subsequent drug awareness program could be organized to overcome these problems faced by the respondents. The respondents also represented common chronic disease pattern among Malaysian, in which around 30% suffers from cardiovascular-related diseases and more than 20% has diabetes. Indeed, more health-awareness campaign is needed to educate the public on the importance of health and disease prevention. This survey found that the specific community in Penang, Malaysia has benefited from the multiple health-awareness programs organized in their area through improved medication-taking behaviour and health-related knowledge. They are aware on the importance of the medications, although there are some respondents that do not have similar view. However, incompliance is still a problem. Incompliance will lead to medication wastage which will subsequently affect the overall government cost, the environment and most importantly the patients' health outcome.

Key words: Low-income community, Health promotion, Awareness of health.

INTRODUCTION

Multiple studies conducted around the world have depicted that socioeconomic status will have influence on health status – for the better or the worse. Some researchers have the opinion that this relation between socioeconomic and health is due to lack of access to material resources and they pointed that health is more affected by the status of income as compared to educational or occupational status of the people. Through further observations and analysis, it was apparent that the health-related challenges faced by low-income earners are more than just cost of healthcare and medications – in fact they are also facing problems of language barriers and lack of understanding on illnesses and their associated symptoms.^[1] Studies have found that understanding of illnesses is an important factor which will influence patient's compliance towards medications and hence the outcome of therapy.^[2]

The poor suffers from more illnesses as compared to non-poor in which it was reported that a higher number of poor people suffer from more than one chronic illnesses as compared to the non-poor.^[3] The researchers also reported that the poor suffers from more chronic ambulatory illnesses as compared to the non-poor and indirectly, this means that the medication-taking behaviour among this group of people is indeed very important.^[3]

Low-income people in the Third-World countries may be classified into

absolute poverty or relative deprivation. Absolute poverty means the situation whereby someone has too little money to afford the basic needs of life such as food, water and medical care.^[4] Deprivation on the other hand is defined as those living under disadvantaged circumstances and lack the type of household facilities, clothing and diet that are enjoyed by other groups in the society. Although low income may lead to deprivation, this is not always the case. People with low-income are not necessarily deprived, but the lack of resources due to low income may clearly indicate deprivation. Deprivation will affect health in a way through reduce ability to adhere to their medications due to inability to purchase necessary medications, lack of resources and low quality information obtained or reduced ability to understand health-related information due to reasons such as low educational status, which will subsequently lead to reduction in compliance behaviour towards medication.^[2]

Hence, continuous education is nevertheless very important in ensuring good outcome in their health status, and the education could come through either informal or formal methods. Education should ideally be multifactorial, individualized and delivered in different methods and settings apart from the consultation room.^[2] Thus, home counselling and off-site counselling could be a good way of delivering information to patients. It is believed that through such effort, the understanding of this group of people will be significantly improved and subsequently will affect their perception and behaviour towards health and medication. Pharmacy practice has long realized this important

element in ensuring correct information is disseminated to every patient especially the poor. Previous evidence was described in which was previously described in which it was reported that pharmacists gave more drug-related information to the poor people as compared to the non-poor, emphasizing the need to educate this group of people for good treatment outcome.^[3]

This study was designed to evaluate the understanding and the medication-taking behaviour of a relatively deprived group of people in the society of Penang, Malaysia. The community chosen is low-income socially and involve a local flat and the area surrounding. The flat is a low-cost housing area, with a general built-up area of 550-660 square feet and three bedrooms.^[5] One interesting point of this community is that since five years ago, they have received continuous education on the importance of health and good medication-taking behaviour through community-outreach programs and seminars conducted by pharmacists and pharmacy students from Universiti Sains Malaysia. So, the aim of this study is to evaluate and determine the effect of continuous education on the behaviour of people towards medications among the low income (B40) community.

MATERIALS AND METHODS

The community chosen was located in Georgetown, Penang, Malaysia and was focused on the people who are classified as B40. B40 is defined as people with a household income of RM 3,860 and below.^[6] A total of 64 respondents were randomly chosen and were interviewed according to a set of questionnaires prepared. The survey was conducted in one day by 10 enumerators. The questionnaire was designed based on the participatory approach with an attempt to capture qualitative information with regards to income status and personal living condition.

The questionnaire is designed into four parts; Part A consisted of 13 questions which cover the demographic information included gender, age, ethnicity, marital status, highest education level, job, part-time job (if any), household income, household size and health issues of the household (if any). Part B consisted of 6 questions of housing type, area and conditions. The parameters include house location, type and status, length of stay and size of the house. Part C is made up on information on medication, medication-taking behaviour, perception on medicine and supplement. The questions include type of medications or supplements currently being taken by individuals in the household, problems arising from medications, perceptions on the effectiveness of medications and supplements, perceptions on the choice of consuming either supplements or conventional medications in the treatment of chronic diseases and whether they have ever miss taking a necessary medication. Part D on the other hand is a qualitative assessment on the subject opinion on the free medication policy of the Malaysian Government.

Although the study area and community were pre-determined, respondents were sampled through convenient sampling depending on their availability and willingness to be interviewed. Hence, the distribution of the sample by ethnic group may not reflect the real distribution in the community.

RESULT

A total of 64 questionnaires were distributed to 350 residents of flat Taman Nusantara, Jalan Makloom, Jelutong Penang and all the questionnaire forms fulfilled the criteria and have been accepted giving a response rate of 18.3%. The socio-demographic data of respondents such as gender, age, status, race, education level, occupation and income are presented in Table 1. Out of the total respondents, 42% are males and the remaining 58% are females. Respondents also comprise of various races with Malays were 73%, Chinese (5%), India (13%) and others (2%). Majority of the respondents belonged to the age group of 30 to 59 years (80%). Among the respondents, 83% were

Variables		Value (%)
Gender	Male	27 (42)
	Female	37 (58)
Race	Malay	47 (73)
	Chinese	3 (5)
	Indian	13 (20)
	Others	1 (2)
Status	Single	8 (11)
	Married	53 (83)
	Widower	1 (1)
	Widow	2 (5)
Age	20's	5 (8)
	30's	23 (36)
	40's	17 (27)
	50's	11 (17)
	60's	7 (11)
	70's	1 (1)
Education Level	Primary School	7 (11)
	PMR/SRP	15 (23)
	SPM	26 (41)
	Diploma/STPM	12 (19)
	Degree	0 (0)
	None	4 (6)
Occupation	Unemployed	29(45)
	Government	3(5)
	Private Sector	23(36)
	Self-Employed	9(14)
Income	RM 0	14 (21)
	RM 1-499	1 (1)
	RM 500-999	3 (7)
	RM 1000-1499	11 (17)
	RM 1500-1999	16 (25)
	RM 2000-2499	11 (17)
	RM 2500-2900	8 (12)
	RM 3000-3400	0 (0)

Variables	Value (%)
Many side effect	7 (11)
Do not give benefit	4 (7)
Good and effective	52 (82)
Others	4 (7)

Respondents were allowed to choose more than one answers.

married, 11% respondents were single and the remaining 6% were divorced. 64% respondents with secondary education and 45% were unemployed. All respondents have income less than RM2900 per month; 25% with income between RM 1500 – RM 1999 and 21% with no income generation.

As shown in Table 2, respondents were also asked about their perceptions on medicines supplied by the hospital. Majority of respondents (82%) stated that the drugs from government hospitals are good and effective.

Table 3 showed 55% respondents were on medication with 31% was cardiovascular related drugs followed by diabetic medication (23%). However, over the counter (OTC) drugs (includes paracetamol, antihistamine, cough medicine and antacid) gave the highest percentage with 37%.

The problem faced during medication intake was shown in Table 4. The result showed 53% respondents do not have any problems during taking the medicines however 50% of the respondents were forgot to take the scheduled medicine.

Table 3: Information on Medicine Intake by Respondents

Medication intake	Value (%)
Subjects with no medication	29 (45)
Subjects on medication	35 (55.0)
Type of medication used	Value (%)
Cardiovascular-related disease	11 (23)
Diabetes	8 (22.9)
OTC drugs	13 (37)
Anti-asthmatic drugs	2 (3)
Antibiotics	1 (2.9%)
Fibroid	1 (3)

Respondents were allowed to choose more than one answers.

Table 4: Problems Faced During Medication Intake.

Problems faced during medication intake	Total (%)
Do not have problems during taking the medicines	34 (53)
Worry of the side effect of medicines	9 (14)
Confuse because there are many medicines	6 (10)
Forget to take scheduled medicine	32 (50)

Respondents were allowed to choose more answers.

The survey result also showed that 59% did not take any supplements and those on supplements (41%) obtained them from pharmacy and drug stores. 52% respondents did not agree that supplements alone can provide beneficial health outcome and about 26% of respondents trusted supplements made from natural sources.

The result also showed that most respondents (97%) agreed on government approach to give free medication to people. With regards to the appropriate action that can be taken to prevent medicine wastage by patients, 37% of the respondents suggested that hospital or clinic should only prescribe the exact quantity of medicine to patient whilst 20% suggested enforcing drug-return policy for unused medicine.

DISCUSSION

The medication-taking profile gave an overview of the health problem experienced by the general public in Malaysia. Three of the highest medications taken are cardiovascular drugs (11 respondents – 7 on anti-hypertensive medications, 1 on anti-cholesterol agent and 3 with heart problems), anti-diabetic drugs (8 respondents) and paracetamol, a common pain-killer medication (7 respondents). As outlined in the 2016 WHO report, cardiovascular disease is the chief cause of death for 36% of Malaysian population, the highest among other causes of death for the population.^[7] Cardiovascular diseases comprised of different heart and circulations related problems such as hypertension, heart problems and cholesterolemia and it summed up a big portion of health problem in the general public. The finding in this study is indeed in accordance with the data reported by WHO.^[7]

With regards to diabetes, the big percentage of residence in the research area (22.6%) on anti-diabetic medications is expected and is representing the general scenario in Malaysia. As recorded in WHO reports, the prevalence of diabetes in Malaysian population in 2016 was 9.8%, much higher than the other South-East Asian countries; Brunei (9.0%), Cambodia (5.9%), Philippines (5.8%), Indonesia (7.0%), Myanmar (6.6%), Singapore (9.1%), Thailand (9.6%), Vietnam (4.9%). This could be attributed to the eating habits of Malaysian whereby rice and other simple carbohydrates are the main daily dish for the general public. In addition, the consumption of sugars is also high and this situation worsened with sedentary lifestyle becoming

more of a norm in the population (51.6% in the population).^[7]

Diabetes Mellitus is a chronic disease which will not only affect the patient himself but also his family, especially when the disease has started to cause complications. Among the common complications is reduced kidney function, affected eye vision and also amputated limbs which will frequently need special care from medical experts and the patient’s family members. Multiple hospital visits and admissions will reduce the working hours for the patient himself and for the family members and hence lowered the overall income for the whole family. As it was already documented that the general income for B40 families is at around RM2, 537 per month in the year 2014,^[8] this economic burden is unnecessarily heavy.

Paracetamol on the other hand is a pain medication which is easily procured in pharmacy and grocery shops around the country, with no prescriptions required. Due to this fact, many respondents tend to use this medication when the need arises, and some take the pills regularly. As this data has been captured in this research, the paracetamol-taking behaviour will need to be addressed to ensure that the general public understand and aware of the real need and related adverse effects of paracetamol.

As for the other medications, they are more of a short-term medications and usage is as necessary (cough, antacid, anti-asthmatic, anti-histamine and anti-inflammation). The respondents that were on these medications may be younger with some common non-chronic illnesses. A third of the respondents were on OTC (over-the-counter) medications which resembles the common behaviour of the populations which commonly opted for self-treatment of minor ailments. As an example, based on a study conducted on 364 respondents of the general public in Malaysia, 43% declared that they were consuming a type of OTC medications.^[9] This is the common trend in the country but nevertheless, subsequent health promotions activities may be beneficial to further improve their understanding and behaviour towards medication consumptions.

In this study, knowledge and the use of medicine could be predicted by certain factors, including the socio-demographic information of the respondents. According to the World Bank, demographic information such as the level of education and household income are closely linked to the tendency of households to use medicine and their effort to maintain their health.^[10] Among the respondents interviewed, most are from the age group of between 30 to 59 years old. This age group has particularly good medication-related knowledge perhaps due to their exposure to the internet and their curiosity, and they may have participated in multiple health awareness programs. Their memory is still intact as compared to the geriatric population. Studies have shown that knowledge of medicines is relatively lower in geriatric population and paediatrics.^[11-12] The elderly is less likely to understand some information about their medications. This can be due to reduced cognitive ability in advanced age and indeed, low cognitive level might lead to inappropriate use of medicines.^[13]

With regard to gender, females are usually more knowledgeable and serious about their medication intake as compared to males.^[14] Other researchers has also reported reported that female were more intent on getting information about medicines and more likely to use medicines such as NSAID during their monthly menstrual pains.^[15]

People with higher education level and higher monthly income have better knowledge about medicine use. The education level was a factor for having a better understanding about medicine because people with high education level may have more resources of medical information and read more about medicines as compared to low or uneducated people. Frequency of clinic visit

may also influence medicine-related knowledge. People with chronic diseases who more frequently visit healthcare services receive more information about medicines.^[16] This study support from other study that revealed that people with good knowledge of medicine use are more likely to have appropriate practice of using medicines.^[14] This is an important factor in ensuring good health outcome and hence, various programs involving experts in multiple disciplines are important in promoting community awareness and health awareness so that healthy populations can be created in every community in the region.^[17]

In this study, 50% of the respondents were forgot to take the scheduled medicine. Patients with chronic diseases commonly have problems to comply to their scheduled medicine.^[18,19] The inconsistent medication intake will affect the blood level of drug and may cause deterioration of patients' health status. In addition, excess of medicines from patients who failed to take them regularly may cause detrimental effect to the environment if not properly disposed. They may contaminate the water and aquatic life, causing instability in the ecosystem, affecting the carbon and nitrogen cycles and adversely affect our daily lives.

The problem of incompliance is indeed serious with more than 70% medications were wasted in Malaysia.^[20] Despite the continuous medication awareness and patients' education programs, incompliance continues to persist in the community. More rigorous education and campaigns may be needed to overcome the problem. As observed from this study, albeit the knowledge that the respondents have, it is still very hard to be fully compliant to the medication schedules. Pharmacists and healthcare providers should come out with more effective plans as how to increase patients' compliance to their medications.

CONCLUSION

This survey has found that this specific community in Penang, Malaysia has benefited from the multiple health-awareness programs organized in their area through improved medication and health-related knowledge. They have shown a satisfactory level of awareness on the importance of health and medicine although there are some respondents that do not have similar view. However, incompliance is still a problem. Incompliance will lead to medication wastage which will subsequently affect the overall government cost, the environment and most importantly the patients' health outcome.

Respondents from this study applauded the government initiatives to provide free medications especially because free medication is able to ease their financial burden as opposed to getting medicines from more expensive non-governmental premises. Hence, they should be educated to appreciate the medications by following the medication schedules properly. However, there are respondents who disregard free prescribed medication and this attitude may result in medication wastage. Despite the multiple programs conducted since the last five years, more should be planned, and the programs should reach further to ensure specific medication-related problems can be countered.

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ABBREVIATIONS

Nil

CONFLICT OF INTEREST

Nil

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