Thai Journal of Pharmaceutical Sciences (TJPS)

5th International Conference on Pharmaceuticals,
Nutraceuticals and Cosmetic Science (IPNaCS 2017)

Investigation of Health Supplements and Expectations of Pharmacist's Role in Promoting the Safe Use of Health Supplements

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Keywords: Health supplements, types, indications, pharmacist's role

Introduction

The usage of health supplement has become popular among the general public and the selling of these products has increased widely in Malaysia. The estimated market value of herbal products in Malaysia in year 2000 was 0.53 billion U.S. Dollars (USD 0.53 billion) with an estimated annual growth rate of 10% to 15% .[1] Sarawak is one of two Malaysian states on the island of Borneo. Majority of the rural communities in Sarawak still depend on medicinal plants for variety of ailments due to two main factors; price of conventional drugs are higher and distance that they need to travel to the nearest clinic or hospital is inconvenient.[2] However, the data on the usage of health supplements by the public are limited.

Apart from that, pharmacists need to be responsive and recognize their role with respect to this issue. Due to the limited data on the use of health supplement among the general public who live in urban and rural area particularly in Sarawak, there is a need to investigate the types and indications of health supplement used as well as their expectation in the professional role of pharmacist in handling the issue. The objectives of this study was to investigate the types and indications of health supplements among the general public residing in Sarawak as well as their expectations on the professional role of pharmacist with respect to health supplements.

Methods

Study design

This was a cross sectional study and the target population was the public who have consumed health supplements and residing in four selected divisions in Sarawak, namely Kuching, Samarahan, Miri & Sibu. These four divisions were selected to represent different geographical, demographic and socioeconomic conditions within Sarawak. The study was conducted using convenient sampling. The inclusion criteria include respondents who are 18 years old and above, residing in Sarawak and have consumed one or more health supplements. Exclusion criteria were those below 18 years old and have never used any health supplements.

Research instrument

The research instrument was adapted from Kwan *et al.,* 2008 and Kostka-Rokosz *et al.,* 2015 that included amended and validated questions related to the study.[3,4] A self-administered questionnaire consisted of 27 items divided into three parts was used in the study. The first part was demographic characteristics, the second part was types and indications of health supplements and the third part was expectation of professional roles of the pharmacist with respect to health supplements.

Data collection

The questionnaire was distributed to different places in Sarawak including the pedestrian walkways, a post office, shopping malls as well as pharmacies to ensure a broad representation of the people in each place. It was a voluntary participation and they were asked whether they have ever consumed health supplements. Respondents signed an informed consent before filling the survey. It was a self-answered questionnaire and respondents were given sufficient time between 10 to 15 minutes to answer the questionnaire.

Data analysis

Data collected was coded, entered and analyzed by using Statistical Package for the Social Sciences (SPSS) version 21.0 software.

Results

Demographic

A total of 209 respondents participated in this survey with a response rate of 49.5%. The majority of the participants were females (67%), between 18 to 24 years old (60.3%), Malay (69.9%), earning less than RM1000 a month (55.8%), and without health problems (53.6%). Out of 96 respondents having health problems, 26% are consuming medicine as prescribed by the doctor as demonstrated in Table.1

Table 1 Demographic characteristic of respondents

Demographic characteristics		**Frequency N=209**	**Percentage (%)**
Gender (N=209)	Female Male	140 69	67 33
Ethnic group (N=209)	Malay Chinese Melanau Bidayuh Iban Other[1]	147 18 17 10 9 9	69.9 8.6 8.1 4.8 4.3 4.3
Age(N=209)	18 – 24 years old 25 – 44 years old 45 years old and above	126 51 32	60.3 24.4 15.4
Monthly income (n=202)	No income Less than RM 1, 000 RM 1, 000 - RM 3000 RM 3, 001 – RM 5, 000 More than RM 5, 000	84 29 44 30 15	41.6 14.4 21.8 14.9 7.4
Existing health problem (n=207)	No Yes	111 96	53.6 46.4
Type of health problem* (n=96) *More than one answer was applicable	Weight problem Asthma Hypertension Mental health Diabetes Menopause Sexual dysfunction Cancer Other[2]	57 23 12 7 4 4 3 2 12	59.4 24.0 12.5 7.3 4.2 4.2 3.1 2.1 12.5
Consumption of prescribed medicine (n=96)	No Yes	71 25	74.0 26.0

Other[1]: This include Orang Ulu(5), Kadayan (2) and Kenyah (1) Other[2]: This include heart problem (2), hair loss (1), irregular menses (1), secondary oeteoarthritis (1), migrane (1), hypotension (1) and gynecology problem (1)

Usage of health supplements among the general public

The majority of the respondents consumed health supplements in the past 12 months (69.4%) and almost half purchased health supplements from a pharmacy (46.9%). Most of the respondents consumed health supplements for maintenance of health (71.6%), prevention of illness (37.3%) and enhancement of physical capacity (31.9%) and physical appearance (28.9%). The most health supplements consumed were vitamin C (26.6%), collagen (13.3%) and protein powders (11.95) as in Table 2.

Table 2: Types and indications of health supplements among the general public

Consumption of health supplements		**Frequency**	**Percentage (%)**
Consumed health supplements in the past 12 months (N=209)	Yes No	145 64	69.4 30.6
Health supplements prescribed by the doctor (N=204)	No Yes	182 22	87.1 10.5

Buy health supplements at a pharmacy (N=201)	No Yes	103 98	49.3 46.9
Indications of health supplements (N=204) (More than one answer was applicable)			
Maintenance of health		146	71.6
Prevention of illness		76	37.3
Enhancement of physical capacity		65	31.9
Enhancement of physical appearance		59	28.9
Treatment of illness		35	17.2
Enhancement of mental capacity		35	17.2
Types of health supplements (N=143) (More than one answer was applicable)			
Vitamin C		38	26.6
Collagen preparations		19	13.3
Amino acid/ protein powders		17	11.9
Fish oil		14	9.8
Multivitamins		13	9.1
Spirulina		9	6.3
Jamu		9	6.3

Expectation of professional roles of the pharmacist

The majority of the respondents expect that information on health supplements should be given to customer in pharmacies (85.2%) and it is important for pharmacist to be knowledgeable on health supplements (88.5%). However, only 56.4% felt that community pharmacists had enough knowledge on health supplements and 46.9% feel comfortable telling the pharmacist on their usage of health supplement as in Table 3.

Table 3 Expectations on professional role of pharmacist with respect to health supplements, N=209

Statement	1 N (%)	2 N (%)	3 N (%)	4 N (%)	5 N (%)	Mean
It is important for pharmacists to be knowledgeable on health supplements.	3 (1.4)	4 (1.9)	17 (8.1)	75 (35.9)	**110** **(52.6)**	4.40
Information on health supplements should be given to customer in pharmacies.	2 (1.0)	2 (1.0)	27 (12.9)	**93** **(44.5)**	85 (40.7)	4.20
Pharmacist should be responsible for detecting interactions between health supplements and other drugs.	2 (1.0)	5 (2.4)	36 (17.2)	**85** **(40.7)**	81 (38.8)	4.10
I would like to learn more on health supplements from my pharmacist.	5 (2.4)	10 (4.8)	36 (17.2)	**85** **(40.7)**	73 (34.9)	4.00
Pharmacist should sell and recommend health supplements to patients.	4 (1.9)	5 (2.4)	47 (22.5)	**88** **(42.1)**	65 (31.1)	4.00
Community pharmacists have enough knowledge on health supplements.	8 (3.8)	20 (9.6)	63 (30.1)	**68** **(32.5)**	50 (23.9)	3.60
It is safe to buy health supplements in pharmacy.	2 (1.0)	8 (3.8)	53 (25.4)	**102** **(48.8)**	44 (21.1)	3.90
I feel comfortable telling my pharmacist about my use of health supplements.	5 (2.4)	32 (15.3)	**74** **(35.4)**	70 (33.5)	28 (13.4)	3.40

1: Strongly disagree 2: Disagree 3: Neither agree nor disagree 4: Agree 5: Strongly agree

Discussion

In this study, young Malay females were more likely to consume health supplements. Similar to another study, more than half were female,[5,6] above 20 years old and Malay (58.1%;61.9%;61.9% respectively) and consumed vitamin-mineral supplement.[5] In this study, two-third of the respondents were from a low income status which in contrast with another study that stated those with middle or high income group more likely to consume vitamin and mineral supplement than those with low income.[7]

In this study, the most consumed supplement was vitamin C, similar to a study conducted earlier in Malaysia where multivitamins and minerals were the most consumed health supplements.[8] In this study, the least product used was herbal products. On the contrary, a study in Kuching, Sarawak found that massage (36.2%) and herbal medicine (25.1%) was the most common type of alternative medicine used.[9]

The two most common reason of using health supplements was for maintenance of health and prevention of illness. Similarly, a study done in Boston found that more than half of pharmacy and nursing students take supplement for overall health or well-being and the second most common reason was as disease prevention.[4] Another study reported that majority of the respondents use dietary supplements to maintain good health as well as ensure adequate nutrition.[6]

An overall expectation of public on the role of pharmacist with respect to health supplements was high. Not only that, pharmacist should be knowledgeable about the product.[3] In this study, the results shown that majority of the respondent agreed that it is important for the pharmacist to be knowledgeable about health supplements but only half felt that community pharmacists have enough knowledge of the matter. This showed that the level of knowledge of pharmacists with regard to health supplements was not up to par. A study has reported that although pharmacist has statistically significant higher mean knowledge score compared to food store employees, they still has unacceptably low score.[10] Less than half felt comfortable informing the pharmacist on the use of health supplements. This could also raise concern among the health care providers due to the public reluctance to disclose their usage on health supplements to the health care providers. A study done in Malaysia revealed that the disclosure rates on the use of health supplements among patients with chronic diseases was low.[11]

Conclusion

This study has revealed that the usage of health supplements among the general public in Sarawak is common. Regardless of the benefits of the health supplements, the side effect of long term side effect of using of supplements is still being underestimated. These effects are important to ensure the safe use of the health supplements by the public and they can make a better choice out of the products. These findings can provide a baseline data on the usage and indications of health supplements in the general public and also raise some awareness of the community pharmacists to improve the professional role in giving appropriate information on health supplements as well as providing a good recommendation to the consumers based on their expectations. Proper education and counseling need to be given to the consumers to enhance public's knowledge on the proper and safe use of health supplements.

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