ORIGINAL ARTICLE

SELF-MEDICATION PRACTICES AMONG UNDERGRADUATES OF A PUBLIC UNIVERSITY

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ABSTRACT

Inappropriate use of medicine could lead to harmful effects on the user. In some cases it results in unnecessary adverse drug reactions and drug interactions. Knowledge about possible side effect and drug interaction may ensure better self-medication practices. This study aimed to explore the prevalence of self-medication practices among undergraduate students of a public university in Terengganu, Malaysia, and to identify the most common group of medicine used. Knowledge on adverse drug reactions (ADRs) and drug interactions was also explored. A structured questionnaire asking about self-medication, therapeutic classes, knowledge of ADRs and drug interactions was administered to 363 final year students of UniSZA. Statistical analyses were performed using SPSS version 20.0. Nearly half (46.6%) practised self-medication in the previous week and about 84.0% were aware of ADRs and drug interactions. Pain relievers were the most common group of medicines consumed (63.4%). Self-medication practices were moderately common among the undergraduates and they were aware of ADRs and drugs interactions. More awareness should be given to the students for continuous safe self-medication.

Key words: *Self-medication, Medication, Drugs, Students*

INTRODUCTION

The use of medications without prior medical consultations on indication, dosage, and duration of treatment is referred to as self-medication[1]. In most illness episodes, self-medication is the first line of action[2] which makes self-medication a common practice worldwide[3,4,5]. When self-medication is practiced responsibly, it reduces the load on medical services, decreases the time spent in waiting to see the physician, and saves costs especially in economically-deprived countries with limited healthcare resources[6]. However this requires a certain level of knowledge and health orientation[1]. Additionally, self-medication practice is exposed to the risk of increasing the burden and expenses since it may result in adverse health effects that will require medical attention. Although common over-the-counter (OTC) medications are believed to be safe and effective, they are not necessarily always so. Some products mask the underlying disease and may cause several adverse effects[7] or fatalities[8,9]. For example in gastro-oesophageal reflux disease (GERD), antacids can transiently neutralise acid in the oesophagus, but do not significantly affect gastric pH or prevent subsequent heartburn episodes. Histamine-2 receptor antagonists (e.g. ranitidine) also rapidly develop tolerance with repeated dosing, and exhibit an analgesic effect that may provide heartburn relief while leaving the oesophagus exposed to acid[10].

To date, there is still a shortage of information about self-medication pattern and prevalence among consumers in Malaysia particularly among undergraduates. With greater availability of medicines, there is now a greater risk of patients self-medicating without direct provider guidance[11]. The study refers to the fact that such habit is high among the educated segment in the community that primarily includes students. Additionally, the students have some awareness about the nomenclature and use of different drugs which they keep with them and then utilise in situations similar to the previous where they were prescribed or healed by a particular medicine that is then habitually used in future Daraz[12]. It is therefore important to know the current state of self-medication practices among them which would give the insight on how to educate them on safer practices.

Aims of the Study

This study intended to determine self-medication practices among UniSZA undergraduate students. It also identified the common group of medicines used by the students and their awareness on ADRs and drug interactions.

METHODOLOGY

Ethical Approval

The UniSZA Human Resources Ethic Committee

reviewed and approved this study [reference number: UniSZA.N/1/628-(67)]. The students' lists and permission to recruit were obtained from all deans of the chosen faculties upon a formal request. Participation in this study was voluntary and completion of the questionnaire was used as consent. No findings which could identify individual participants were published.

Study Design and Sample Selection

This was a cross-sectional study with a target population of final year students (due to relatively better level of general exposure and academic maturity) of Universiti Sultan ZainalAbidin (UniSZA). For this study, the calculated sample size was 329. Students were then divided into eight strata represented by eight faculties in UniSZA. These faculties were Economy and Business Management (FESP), Islamic Contemporary Studies (FKI), Languages and Communications (FBK), Applied Social Sciences (FSSG), Law, Accountancy and International Relations (FLAIR), Informatics and Computing (FIK), Design Arts and Engineering Technology (FSTK) and Bioresourses and Food Industry (FBIM). Students from the Faculty of Medicine and Faculty of Health Sciences were excluded from the study to avoid sample bias due to their assumingly better knowledge about health and health-related matters compare to students of other programmes. Participants were chosen from each stratum using simple random technique. The number of program in each stratum (faculty) was obtained from the various deans and each programme has at least 50 students which was sufficient for the required sample for the study. Each of these programmes was assigned a unique number and the numbers were then entered into Microsoft Excel and were then chosen according to a computerised random number generated. Deans of all the faculties involved were contacted and facilitators of the selected programmes were later introduced to the investigators by the deans. Arrangements were made between the investigators and the facilitators on the suitable dates for recruiting the students, and subsequent data collection.

Assessment Instruments

The instrument consisted of two parts; demographic section, and Self-Medication Assessment section. In the demographic section, students were asked to provide their age, gender, sex, ethnicity, and program of study.Self-Medication Assessment section asked about their self-medication practices, the type and amount of medication used, source of information, knowledge on adverse drug effects and interaction, names and label of medication and, storage of medication. Responses were based on binary scale of "Yes" and "No". The questionnaire was based on previous studies that determined the self-medication practices among adult population attending community pharmacies in Malaysia[11]. The questionnaire was pre-tested using 30 graduate students selected at random from different faculties of UniSZA. The over internal consistency expressed as Cronbach's α was 0.88.

Data Collection

The study was conducted for approximately one month, in February 2015. Participants were briefed about the survey and were informed that participation was voluntary. Questionnaires were then distributed to the agreed participants and completion of the questionnaire was used as the consent for participation. This exercise was repeated with all the remaining strata (faculties) and the data obtained was analysed.

Statistical Analysis

Data analysis was conducted using SPSS version 20.0. All demographic variables were presented descriptively as frequencies and percentages. Tests of data normality were initially performed. The Kolmogorov–Smirnov statistics generated values of greater than 0.05, indicating that the assumption of normality test has been complied with. Descriptive statistics were also utilised to determine the prevalence of self-medication practices. Median and range were calculated for all continuous variables while frequencies and percentages were presented for all categorical variables. Statistical significant was set at $p < 0.05$.

RESULTS

Demographic Characteristics of the Respondents

Three hundred and sixty three students participated in the study. The socio-demographic characteristics of the participants were presented in Table 1 Majority of the participants were females (69.7%) with mean age of 22 (SD±1.7). Most were Malay (91.7%), single (97.5%) and from non-science programme (67.5%).

Self-Medication Practices

Of the 363 students who participated in the study, 46.7% were taking at least one medicine daily, 44.1% were taking vitamins and 43% consumed herbal or traditional supplements (see Table 2). However, only 8.3% suffered from any form of chronic medical condition that required daily medicine intake. Most participants obtained their medicine from clinics (59.2%).The three most common groups of drug respondents consumed without consulting healthcare professionals were analgesics (63.4%), anti-tussives (57.6%), and cold remedies (43.0%), while the least common was antacids (19.6%). Majority of the participants (67.5%) in this survey would consult healthcare professionals before purchasing medication while

63.6% would refer to a friend or a family member. More than half sourced information from the internet (53.3%) and 33.8% obtained it from advertisement.

Table 1: Selected characteristics of study participants (n=363).

Variable	Frequency/ Mean±SD	Percentage (%)
Age	22.9 ±1.2 years	-
Gender		
Male	110	30.3
Female	253	69.7
Marital status		
Single	354	97.5
Married	9	2.5
Ethnicity		
Malay	333	91.7
Chinese	17	4.7
India	3	0.8
Others	10	2.8
Programme		
Science	118	32.5
Non-Science	245	67.5

Majority would consult a pharmacist before buying a medication (82.4%) and 62.0% believed that over-the-counter medication (OTC) were as effective as those prescribed by doctors. It was found that 84.0% of the participants were aware that certain medication/supplement could interact with food or other medications and could cause adverse drug reaction(s). Nearly two-third (61.0%) informed their doctor or pharmacist that they were taking other medication of supplements. Additionally, 89.5% read the label that came with their medication and 83.2% checked the expiry date on their medication before and after purchase. For details see Table 3.

DISCUSSION

Overall, the present study has detected moderate self-medication practices among UniSZA students. About 47% reported to have taken medicine in the previous week. This was low compared with a US study[13] where 81% have taken at least one medication in the previous week and that of Hassali et al.,[11] who reported 62.7% of adults attending community pharmacies in Malaysia used medication in the previous week. The prevalence in our study was however higher than other research in Jordan (42.5%)[14] and in southwest Ethiopia (39.3%)[15]. Younger people are usually healthier and are generally free from chronic form of illnesses. This may explain the moderate self-medication practices among our respondents as their average age was only 22.

Additionally, it was not surprising to discover that the most common group of medicine consumed by the respondents was pain relievers as studies have shown that the frequently reported illness that prompted self-medication included headache, cough and cold, fever, generalised weakness, acidity, dysmenorrhoea, and sleep disturbances[16,17]. Students usually feel stressed with their academic works and this may result in headaches and other forms of muscular or joints pain. Such situation could have prompted engagement in self-medication practices as the time consumption for consultation, the consultation fees and frequent visits were reported to be the commonly-mentioned reasons for self-medication[17].

Table 2: Self-medication practices among respondents (n = 363).

Questions	Yes (%)	No (%)
1. Have you taken any medication in the past week by your own decision?	169 (46.6)	194 (53.4)
2. Where do you obtain your medication from?		
Pharmacy	190 (52.3)	173 (47.7)
Hospital	134 (36.9)	229 (63.1)
Clinic	215 (59.2)	148 (40.8)
Others	71 (19.8)	291 (80.2)
3. Do you take any vitamins?	160 (44.1)	203 (55.9)
4. Do you take any herbal/traditional supplements?	156 (43.0)	207 (57.0)
5. How many types of medicine do you take in a day?		
• < 2	235 (64.7)	128 (35.3)
• 2-5	45 (12.4)	318 (87.6)
• 5-10	7 (1.9)	356 (98.1)
• >10	6 (1.7)	357 (98.3)
6. Will you choose to buy your own medication for the following conditions?		
• Pain	230 (63.4)	133 (36.6)
• Cough	209 (57.6)	154(42.4)
• Cold	156 (43.0)	207 (57.0)
• Allergy/rashes	119 (32.8)	244 (67.2)
• Heartburn	71 (19.6)	292 (80.4)
• Diarrhoea	118 (32.5)	245 (67.5)
• Constipation	94 (25.9)	269 (71.4)
• Weight loss	80 (22.0)	283 (78.0)
7. Do you suffer from any medical conditions (i.e. diabetes, high blood pressure, asthma etc.) that require regular medication?	30 (8.3)	333 (91.7)
8. Where do you source information before purchasing any medication?		
Healthcare professional	245 (67.5)	118 (32.5)
Friend/family member	231 (63.6)	132 (36.4)
Internet	195 (53.7)	168 (46.3)
Advertisement	119 (32.8)	244 (67.2)

Table 3: Awareness on adverse drug reactions and drug interactions.

Question	Yes (%)	No (%)
1. Do you believe that over-the-counter medicines are as effective as those prescribed by the doctor?	225 (62.0)	138 (38.0)
2. Would you consult a pharmacist before buying any medication from the pharmacy?	299 (82.4)	64 (17.6)
3. Are you aware that certain medication/supplement may cause an adverse drug reaction?	305 (84.0)	58 (16.0)
4. Are you aware that certain medication/supplement can interact with food or other medication?	306 (84.3)	57 (15.7)
5. Do you inform your doctor/pharmacist you are taking other medications/supplements?	222 (61.2)	141 (38.8)
6. Do you read the label that comes with your medication?	325 (89.5)	38 (10.5)
7. Do you know the name of your medications?	264 (72.7)	99 (27.3)
8. Do you check the expiry date on your medications before and after purchasing?	302 (83.2)	61 (16.8)
9. Do you carry your medications with you regularly?	159 (43.8)	204 (56.2)
10. Do you keep left-over medications?	202 (55.6)	161 (44.4)

The findings further indicated that students generally still need to be educated on the type of illnesses to be self-diagnosed and medicated, dangers of OTC misuse which could possibly lead to delay in detection of more serious underlying ailment and timely medication. Two major problems regarding self-medication with analgesics have been recognised. The first is the possible risk of nephropathy and possible drug-induced gastric ulceration. The second is overuse of analgesics like paracetamol, aspirin or other NSAIDs especially when given in combination since they increase the risk of chronic toxicity among patients[18].

Although the study has large number of respondents, some limitations still exist. The results were slightly biased towards females due to their bigger number compared to males. This was due to the higher proportion of female students which was becoming a common trend in the universities all over Malaysia[19].

CONCLUSION

This survey revealed that self-medication practices were moderately practiced among undergraduate students in a Malaysian public university and they were generally aware of ADRs and drugs interactions. Nonetheless awareness should be constantly provided to the students for continuous safe self-medication.

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CONFLICT OF INTEREST

No conflict of interest.

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