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Association of socio demographic and educational factors on knowledge and attitudes on the role of community pharmacist in healthcare system among the science students of University of Jaffna

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Abstract – Community pharmacists are expanding their services from dispensing practice to various health services to the public. Understanding their role in healthcare system is essential to get their satisfactory services. Study was conducted among university students since they are involving in community education and they have leading role in disseminating knowledge to other people-. The objective of the study was to assess the knowledge and attitudes towards the role of community pharmacist among the science students of University of Jaffna and influence of socio demographic and educational factors. It was an institutional based descriptive cross-sectional study. A self- administered, pretested and validated questionnaire was used to collect the data. SPSS version 23 statistical software was used to analyse the data. Descriptive statistics was used to describe the data and Chi Squared test was performed to determine the level of association. Among the total of 701 participants, 563 participants were responded with the respondent rate of 80.3 %. The mean age of participants was 24.61 ± 0.9 years and 53.8 % (n=303) of participants were males. Of 40.3% (n=227) participants had good knowledge and 42.3% (n=238) of participants had positive attitudes. Age (p=0.004), gender (p=0.036), place of resident (p=0.012) and course of

study (p=0.000) had statistically significant association with knowledge. The course of study (p=0.003) had statistically significant association with attitudes. Study revealed that more than half of the participants had poor knowledge and negative attitudes towards roles of community pharmacist. Awareness programmes should be conducted regarding role of community pharmacists on health care system.

Keywords: community pharmacist, Knowledge, attitudes, health care system

Introduction

Pharmacy services throughout the world play a broad range of activities in provision of health services provided to the general public. In recent years, pharmacy profession has extended its role of product-oriented to consumer oriented with an emphasis on the provision of consumer care services. The consumer's opinion of the benefits of pharmaceutical care is based on the ability of the pharmacist to help them. More frequent interaction with the consumers increases the opportunities to improve outcomes of therapy (Jin *et al.*, 2014) . (Dalgleish *et al.*, 2007).

The pharmaceutical care process assumes the establishment of a meaningful therapeutic relationship between the patient and the pharmacist based on care,

trust, effective communication, and collaboration to promote health, prevent disease, and ensure safe and effective medication therapy. (Awad, Al-Rasheedi and Lemay, 2017) (Helper and Strand, 1990), (Practices, 2003). . (Petkova and Dimitrova, 2003).

Problems in pharmacist consultation can occur when patients and pharmacists have different expectations about the pharmacist's role and pharmacy services. Therefore, the advancement of community pharmacy practice needs understanding of patients' knowledge and attitude of the pharmacist's role as well as of their utilization and views of community pharmacy services. Knowledge and attitude about public utilization and views about community pharmacy service can assist pharmacists in enhancing the quality of their service and improving customer satisfaction. (El Hajj, Salem and Mansoor, 2011). The objective of the study is to assess the knowledge and attitudes towards the role of community pharmacist among the science students of University of Jaffna and influence of socio demographic and educational factors.

Methodology

It is a descriptive institutional based cross-sectional study design. This study was conducted from July 2018 to April 2019 among Undergraduate science students of third & fourth years in the Faculty of Science, University of Jaffna. There are 793 male and 697 female students with the total of 1480 students studying in three different courses such as Physical science, Bio science and computer science respectively 950, 370 and 160 students. These students represent different districts in Sri Lanka. Among them, 701 students represent third year and fourth year.

Study instrument

A self-administered, validated, and pretested questionnaire was used to collect data. A structured questionnaire was designed as sections A, B and C. Section A was designed to collect the socio demographic factors (Age, Gender, Ethnicity, marital status, place of resident) and educational factors (Course of study, Year of study) of students. Section B and Section C are designed to collect knowledge and attitude of students on role of community pharmacist in health care system. The knowledge section contains 18 statements to assess knowledge components related to community pharmacist: working place, dispensing the Over the Counter Medication and prescription only medication, advice need to be given when dispensing medication and other responsibilities. Section C contain 10 statements to collect the data regarding attitude of students on the role of community pharmacist.

Data analysis

The data were entered in the computer and transferred to SPSS 22 (statistical Package for Social Sciences version 22) and were analysed based on research specific objectives. Descriptive statistics were presented as mean, proportion, and percentage and were presented in tables. Data was analysed to assess the knowledge and attitudes among the science students and assess the influence of socio demographic and educational factors on them using chi-square test.

Each correct response on knowledge was scored with one mark while incorrect response was received zero mark. Total of eighteen marks was given for section B. The mean value was taken as cut off value. The score from 10 to 18 considered as good knowledge and score from 0 to 9 considered as poor knowledge. Student's attitudes towards role of community pharmacist was

assessed using 10 statements and answers obtained from students. All statements of attitudes scale were rated on five-point Likert scale: strongly disagree, disagree, undecided, agree, and strongly agree and scores were given 1,2,3,4, and 5 respectively. Total maximum score is 50. The mean value was taken as cut-off value for student's attitudes towards role of community pharmacist. If the total score is 0 to 30 considered as negative attitudes, and if the total score is 31 to 50 considered as positive attitudes.

Ethical considerations

Ethical clearance was obtained from Ethical Review Committee, Faculty of Medicine, University of Jaffna. Purpose of the study was explained and the informed written consent was obtained from the participants prior to data collection.

Results and discussion

This present study was conducted among 563 students. The respondent rate was 80.3 %. More than half of the students (53.8%) were males and nearly half of the students (50.6%) were under age group of 20-24 years and the mean age of participants was 24.61 ± 0.9 years. Majority of the students (97.5%) were unmarried and most of the students (48.3%) were Sinhalese. Around equal number of students came from urban/city as well as village. Majority of the students (67.7%) were following Physical science and more than half of the students (55.1%) were from 3rd year. A similar study was carried out in Pakistan. In their study, majority of participants were female (62.1%), unmarried (99.2%) and the mean age was 23.93 ± 1.3 years (Khaliq *et al.*, 2018).

In this study 59.7% of participants had poor knowledge regarding roles of community pharmacist. 38.2% of students were aware that community pharmacist cannot dispense antibiotics without prescription in this

study. Same awareness was observed in the study carried in Taiwan, where 48% of students were aware that (Hsiao *et al.*, 2006). In the present study 69.8% and 75.7% of students were aware regarding advice about side effects and direction of usage of medication that should be given by community pharmacist when dispensing medication respectively. A study was carried out in United States about "increasing client's knowledge of community pharmacist roles". Their results revealed that 60% and 51% of participants were aware regarding advices about side effects and direction of usage of medication which should be given by community pharmacist respectively. (Chewning and Schommer, 1996).

40.3% of participants in the present study were aware that community pharmacist are dispensers. In contrast a study was conducted in South Carolina where they have compared the knowledge between Pharmacy students and Non-Pharmacy students (dental medicine, graduate studies, medicine, nursing and health professions). 95% of pharmacy students and 93% of Non-Pharmacy students were aware about community pharmacist are dispensing medication. Also 67% of pharmacy students and 64% of Non-Pharmacy students were aware that community pharmacist should tell about direction of usage of medication (Vrontos, Kuhn and Brittain, 2011).

In this present study 57.7% of participants had fewer positive attitudes towards the roles of community pharmacist. A study conducted among public in Iraq showed that majority of the respondents (79.8%) had negative attitudes towards the roles of community pharmacist (Ibrahim, Al Tukmagi and Wayyes, 2013). A pilot study which was done in Qatar among public revealed that the respondents had positive attitudes towards the roles of community pharmacist(El Hajj, Salem and Mansoor,

2011). Another study carried out in Canada among patients, showed that there was a good level of general understanding of the community pharmacists' roles(Kelly *et al.*, 2014).

The present study shows that socio-demographic factors age ($p=0.004$), Gender ($p=0.036$) and Place of resident ($p=0.012$) were associated with the knowledge of

students towards the roles of community pharmacist. In contrast a study which was done on Client's knowledge, revealed that there was no significant difference in knowledge among socio-demographic variables age ($p=0.60$), Gender ($p=0.74$) (Chewning and Schommer, 1996). Also, the present study showed that there was no significant difference in knowledge among other socio-demographic factors Ethnicity

($p=0.244$) and Marital status ($p=0.722$). When considering educational factors, the present study showed that only course of study ($p=0.000$) was influenced on the knowledge of students towards the roles of community pharmacist.

According to table:2, there was no significant difference ($p>0.05$) in attitudes among socio-demographic variables (Age, Gender, Ethnicity, Marital status and Place of resident) of participants. Similarly a study which was done in Canada on patient's attitudes revealed that there was no significant difference in attitudes among place of resident (Kelly *et al.*, 2014) . Another study conducted in Saudi Arabia on consumer's attitudes revealed that there was no significant difference in attitudes among gender (Bawazir, 2004). When considering the educational factors, the present study showed that only year of study ($p=0.003$) was influenced on attitudes of students towards roles of community pharmacist. A study which was done in Saudi Arabia on consumer's attitudes revealed that there was no significant

difference in attitude on educational level (Bawazir, 2004).

Table 1: Socio Demographic and educational factors association on Knowledge of students

Factors	Level of knowledge on role of community pharmacist				Statistica l test	
	Good knowledge		Poor knowledge			
	f(n)	P (%)	f(n)	P (%)		
Age (years)	20-24	98	34.4	187	$X^2 = 8.445$ Df=1 P value= 0.004	
	25-29	129	46.4	149	53.6	
Gender	Male	110	36.3	193	$X^2 = 4.398$ Df= 1 P value= 0.036	
	Female	117	45.0	143	55.0	
Ethnicity	Sri Lankan Tamil	87	38.8	137	$X^2 = 2.824$ Df= 2 P value= 0.244	
	Sinhalese	118	43.4	154	56.6	
Marital Status	Sri Lankan Moor	22	32.8	45	67.2	
	Married	5	35.7	9	$X^2 = 0.127$ Df= 1 P value= 0.722	
Place of resident	Unmarri ed	222	40.4	327	59.6	
	Urban/ City	97	35.0	180	65.0	
	Village	130	45.5	156	$X^2 = 6.369$ Df= 1 P value= 0.012	
	4 th Year	110	43.5	143	56.5	

Cour se of Stud y	Biologic al Science	73	54.0	61	45.5	$X^2 = 15.396$ Df=2 P value= 0.000
	Physical Science	134	35.2	247	64.8	
	Computer Science	20	19.4	28	58.3	
Year of Stud y	3 rd Year	117	37.7	193	62.3	$X^2 = 1.905$ Df= 1 P value= 0.168
	4 th Year	110	43.5	143	56.5	

Table 2: Socio Demographic and educational factors association on attitude of students

Gender	Male	127	41.9	176	58.1	X ² = 0.035 Df= 1 P value= 0.852
	Female	111	42.7	149	57.3	
Ethnicity	Sri Lanka n Tamil	90	40.2	134	59.8	X ² = 0.788 Df= 2 P value= 0.674
	Sinhale se	120	44.1	152	55.9	
Marital Status	Sri Lanka n Moor	28	41.8	39	58.2	X ² = 0.253 Df= 1 P value= 0.615
	Married	5	35.7	9	64.3	
Place of resident	Unmar ried	233	42.4	316	57.6	X ² = 2.410 Df= 1 P value= 0.121
	Urban/ City	108	39.0	169	61.0	
Course of Study	Village	130	45.5	156	54.5	
	Biologi cal Scienc e	55	41.0	79	59.0	X ² = 4.140 Df=2 P value= 0.126
Year of Study	Physic al Scienc e	169	44.4	212	55.6	
	Compu ter Scienc e	14	29.2	34	70.8	
Year of Study	3 rd Year	114	36.8	196	63.2	X ² = 8.549 Df= 1 P value= 0.003
	4 th Year	124	49.0	129	51.0	

Factors	Level of attitude on role of community pharmacist				Statist ical test	
	Positive attitude		Negative attitude			
	f(n)	P (%)	f(n)	P (%)		
Age (yea rs)	20-24	111	38.9	174	X ² = 2.617 Df=1 P value= 0.106	
	25-29	127	45.7	151		
	Female	111	42.7	149		

Conclusion

According to this study, it shows that more than half of participants have poor knowledge (59.7%) and negative attitudes (57.7%) towards the role of community pharmacists.

Since there were poor knowledge and negative attitudes towards the roles of community pharmacists among university students, educate the students by conducting awareness programs to get the expanded pharmacy services.

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