Patient safety attitudes of clinical Pharmacy Students attending undergraduate program in King Faisal University

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Abstract: Patient safety is considered a critical aspect for the healthcare industry, which is significantly affected by the attitude of the undergraduate healthcare professionals. For this purpose, the current study is focused on analysing the patient safety attitudes of Pharmacy Students attending the undergraduate program at King Faisal University. In order to fulfil the research purpose, primary data has been collected from the 76 undergraduate students of King Faisal University. All the selected respondents have provided a survey questionnaire and the responses have been recorded in the Excel files. The questionnaire included 21-items regarding the patient's safety. The response of participants has been recorded on a 4-point Likert scale. Statistical Package of Sciences (SPSS) have been utilised to analyse the responses of participants collected in the survey process. In addition to this, findings of primary data have been analysed through the descriptive statistics and binomial logistic regression. The response of study participants describes that Pharmacists should report errors to of an affected patient and their family even if it does not harm to the patients. Moreover, it has been identified that good pharmacy workplace and effective training programmes can be used by the universities to develop the understanding of pharmacy students towards patient's safety concern.

Keywords: Patient safety attitude, pharmacy student, Saudi Arabia.

INTRODUCTION

Patient safety is a crucial aspect in the healthcare industry which should be given prime importance by the pharmacy students. The healthcare services are improved to a greater extent in the last few years due to medical advancement. However, medical advancement has not considerably reduced the number of medical errors and the consequences of these errors on the patient's safety errors (Halbach and Sullivan, 2005). In this concern, US Institute of Medicine (IOM) estimated around 44000-99000 deaths in the year 1999 which are resulted due to the avoidable medical errors (Carruthers *et al.*, 2009). Furthermore, in the developed countries, the majority of hospitalised patients are injured due to errors of undergraduate medical students despite the availability of sufficient funds and resources. In this respect, the attitude of students is one of the most crucial factors that help to prevail safety culture for the patients (Ironside, Jeffries and Martin 2009). An effective educational or training programme can be beneficial to induce the positive attitude of students towards patient's safety. Some of the previous studies have identified the role of educational training programmes and students' attitude in enhancing the patient's safety (Abbas *et al.*, 2011). The research is aimed at evaluating attitudes of pharmacy students towards patient safety. For this purpose, primary data has been collected from students of King Faisal University via a survey questionnaire validated by Walpola et al adapted from a survey developed by Madigosky *et al.* The data collected from the respondents have been analysed from the Statistical Package of Social Sciences (SPSS), version 22 (Coakes and Steed, 2009). The opinions and viewpoints of the respondents regarding the patients' safety have been examined by using the descriptive analysis. The demographic profile of the respondents has been evaluated by using frequency, percentage, and cumulative percentage (Cohen, West and Aiken, 2014). Furthermore, the attitude of students towards patients' safety has been evaluated by using the binomial logistic regression technique.

MATERIALS AND METHODS

Study design, Setting and participants

This research is focused on examining the attitude of students towards the patients' safety. For this purpose, a survey questionnaire has been sent to the fourth (n= 14) and fifth year (n=62) female students that are studying clinical pharmacy at King Faisal University of Saudi Arabia. All the research respondents have been selected by using the simple random sampling, which enables the researcher to remove biases from the survey results. The survey questionnaire has been mailed to one hundred of the selected research respondents along with a consent form to gain their willingness and commitment towards active participation in the research study.

All the students that have been selected as research respondents comprise only the female students of the King Faisal University of Saudi Arabia. The response of participants has been collected on the basis of a 21-item questionnaire concerned with patient safety tools. All the items of the survey questionnaire have been graded on a

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4-point Likert scale, which includes the options, namely, strongly agree, agree, disagree, and strongly disagree. Data were collected between June, 2018-October, 2018.

Ethical considerations

The study was conducted after taking permission from the ethics committee of King Faisal University. The study participants have been informed about the study aim and the students were informed that completion of the survey implied their consent for participation.

RESULTS

Out of the 100 selected research participants, 76 students have returned the filled questionnaire. Among these students, 18.4% were studying in the fifth year of their under-graduation program, whereas 81.6% were in the fourth year of the study. Majority of the participants (20%) are 21 years old. The average age of participants is 22.09 with a standard deviation of 1.38 years. Table 1 presented below shows the demographic characteristics of the participants, who have participated in the study.

Furthermore, table 2 describes the attitude of respondents towards the patients' safety. Out of the 76 respondents, 61.8% of the respondents strongly agreed or agreed that the health care professionals do not make errors that may cause harm to patients' health. Moreover, students also think that the Pharmacists should spend more time to improve the care facilities for the patients. However, a majority of the respondents have disagreed with the fact that only medical practitioners are able to examine the causes of medical errors. Moreover, 59.2% of the total respondents have strongly agreed that the culture of pharmacy workplace makes it easier for the students to deal with the medical errors more constructively. Majority of the respondents (89.4%) stated that Pharmacists should immediately report to the patients and their family members if they observe any type of medical error, which may harm the patients. However, (>38%) of the respondents also think that it is not necessary to address the patients if the error has no adverse effect on their health. Most of the respondents (93.4%) believe that pharmacists should spend sufficient time with their patients. In addition to this, it has been observed in the survey findings that the patients' safety education requires university lectures and support of the medical practitioners.

DISCUSSION

Ensuring safety of patients is a crucial issue for the healthcare organisations to improve their service. It has been identified from the literature findings that organisations need to change their work culture in order to provide effective care to the patients. Majority of the researchers have conducted different studies to examine the attitude of the medical students towards patient safety. In addition to this, previous researchers have also examined the students' attitude towards nurse pharmacists (Sorokin, Riggio and Hwang, 2005; Sullivan, Hirst and Cronenwett, 2009; Tegegn *et al.*, 2017; Teigland *et al.*, 2013; Vaismoradi, Salsali and Marck, 2011; Wetzel, Dow and Mazmanian, 2012). Findings of the current study would be beneficial in examining the attitude of pharmacy students towards patients' safety.

It has been analysed from the study findings that a majority of the students (61.7%) have agreed with the fact that health care professionals do not make any medical error that may harm the patients' health and safety. The findings from the study conducted by Nabilou, Feizi and Seyedin (2015) have also supported the fact that the competent physician does not make any kind of error that may have any adverse impact on the patients' safety. In addition to this, the findings from the study have also inferred that the pharmacists regularly report the medical errors, if observed, to their seniors or fellow colleagues.

Furthermore, it has also been analysed from the survey findings that around one-third of study participants (27.7%) think that the reason for most of the error occurrences is that the healthcare professionals cannot do anything about it. This argument of the study respondents is closely associated with the findings of Halbach and Sullivan (2005), who have analysed that most of the time medical professionals are unable to identify or recognise the problem of patients (Halbach and Sullivan, 2005). However, the findings of other studies signify that medical errors occur due to inevitable or random causes. Human factors play an important in providing the best care to the patients; however, they cannot control the unassignable and random causes (Leong *et al*., 2008; Liao *et al*., 2014; Longtin *et al.*, 2010; Madigosky *et al.*, 2006; Manser, 2009; McMullan *et al.*, 2010; Milligan, 2007; Nabilou, Feizi and Seyedin, 2015).

The study findings reflect that a majority of the students (72.4%) believe that Pharmacists should discuss and report any identified medical error to the affected patient and his/her family members regardless that error have any adverse side effects on patients' safety or not. The results of the study a Turkish study also depicts that medical students report the error to the hospital committee if they think that it may harm the patient. However, results of the study conducted by Halbach and Sullivan (2005) have shown that the students do not consider it necessary to report the errors to the medical authorities if they do not adversely affect the patient's condition. It has been recognised from findings of the previous study that the medical students should be able to recognise the conditions that will contribute to the eradication to errors (Halbach and Sullivan, 2005; Ironside, Jeffries and Martin 2009; Kiersma, Plake and Darbishire, 2011).

Table 1: Demographic profile of students

Variable	Category	Frequency	Percent	Cumulative Percent
Sex	Female	76	100.0	100.0
Year of Study	Fifth	14	18.4	
	Fourth	62	81.6	
Age	21.00	38	50.0	50.0
	22.00	14	18.4	68.4
	23.00	10	13.2	81.6
	24.00	9	11.8	93.4
	25.00	4	5.3	98.7
	27.00	1	1.3	100.0

Table 2: Frequency and percentage of the response of consumers

Variable	Category	Overall attitude		COR (95% CI)
		Positive (%)	Negative (%)	
Sex	Female	47 (61.8%)	29 (38.2%)	
Year of Study	Fifth	9 (64.3%)	5(35.7%)	1.137 (.340-3.800)
	Fourth	38 (61.3%)	24 (38.7%)	
Age	21.00	22 (57.9%)	16 (42.1%)	
	22.00	10 (71.4%)	4 (28.6%)	
	23.00	6 (60.0%)	4 (40.0%)	
	24.00	5 (55.6%)	4 (44.4%)	
	25.00	3 (75.0%)	1 (25.0%)	
	27.00	1 (100.0%)	0 (0.0%)	

The results of the current study describe that a majority of the respondents (85.6%) think that the implementation of an effective strategy could be beneficial for the improvement of the services after the occurrence of error. Similar findings have also been examined from the study of Gordon, Darbyshire and Baker (2012), which depicts that if an error occurs, then the students should be more focused and careful towards the patient's safety (Gordon, Darbyshire and Baker, 2012). In this concern, a majority of the study respondents (93.4%) think that effective care should be provided to the patients on a day-to-day basis in order to improve their health conditions.

The findings of the current study describe that students require university lectures to understand the patients' safety concerns. In this regard, 86.9% of the study respondents have agreed to this statement. Moreover, the results of binomial logistic regression technique, as presented in table 3 have also shown that a majority of the respondents have a positive attitude towards the patients' safety concerns with a Crude Odds Ratio lying in the confidence interval of (.340-3.800). This finding is similar to the results of the study conducted by Flin *et al.* (2003), which reflects that effective medical training prepares the students to understand the causes of medical and pharmacy errors (Flin*et al*., 2003). In this respect, the outcome of a US-based study also describes that experimental curriculum and training act as a valuable experience to the patients that would consequently lead to a significant decrease in the medical errors (Nie *et al*., 2011; Patey *et al*., 2007; Sammer *et al*., 2010; Schnall *et al*., 2008). In a study conducted by Dudas *et al.* (2011), researchers have indicated that majority of research respondents have emphasized the necessity of patient safety education, time allocation, and training and development in their medical courses (Dudas *et al.*, 2011). Furthermore, Brock *et al.* (2013) have also described specific voids in regard to the medical training programmes for students in order to understand patient safety concerns (Brock *et al*., 2013). In this concern, Carruthers *et al.* (2009) have found that there is a lack of medical training of students involved in their study (Carruthers *et al.*, 2009). Moreover, Abbas *et al.* (2011) have analysed that there is insignificant or negative knowledge among undergraduate students in regard to the patient safety (Abbas *et al*., 2011).

CONCLUSION

The pharmacy students enrolled in the undergraduate programme of King Faisal University have a positive attitude towards the patient's safety prospects. However, it has been recognised that a good pharmacy workplace is essential to reduce the medical errors done by pharmacy students. In this regard, effective training programmes should be conducted by the universities for undergraduate students to develop their understanding regarding the patient's safety concerns.

Table 3: Binary logistic regression

S. No	Items	Strongly Agree N (%)	Agree N (%)	Disagree N (%)	Strongly Disagree N (%)
1	Competent healthcare professionals do not make errors that lead to patient harm	15 (19.7)	32 (42.1)	25 (32.9)	4 (5.3)
2	Pharmacists should routinely spend part of their professional time working to improve patient care	50 (65.8)	24 (31.6)	2 (2.6)	0
3	Only medical practitioners can determine the causes of a medical error	8 (10.5)	19 (25)	42 (55.3)	7 (9.2)
4	The culture of the pharmacy workplace makes it easy for pharmacy staff to deal constructively with errors	14 (18.4)	45 (59.2)	16 (21.1)	1 (1.3)
5	Learning how to improve patient safety is an appropriate use of time in pharmacy programs at the university	31 (40.8)	39 (51.3)	6 (7.9)	0
6	Health care professionals, including pharmacy staff, routinely share information about errors and what caused them	18 (23.7)	40 (52.6)	17 (22.4)	1 (1.3)
7	In my experience, faculty and staff communicate to me that patient safety is a high priority	25 (32.9)	43 (56.6)	8 (10.5)	0
8	Pharmacists should report errors to an affected patient and their family if harm to the patient has occurred	22 (28.9)	46 (60.5)	7 (9.2)	1 (1.3)
9	Pharmacists should discuss and report errors to an affected patient and their family even if the patient is NOT harmed	24 (31.6)	31 (40.8)	13 (17.1)	8 (10.5)
10	Effective responses to errors in the delivery of healthcare focus primarily on the healthcare professional involved	12 (15.8)	52 (68.4)	10 (13.2)	2 (2.6)
11	Disciplinary action against an individual who made an error is an effective method of preventing future errors	11 (14.5)	42 (55.3)	21 (27.6)	2 (2.6)
12	If there is no harm to a patient, there is no need to address an error	3 (3.9)	26 (34.2)	28 (36.8)	19 (25)
13	If I saw an error that DID cause harm, I would keep it to myself	4 (5.3)	16 (21.1)	23 (30.3)	33 (43.4)
14	If I saw an error that DID NOT cause harm, I would keep it to myself	3 (3.9)	20 (26.3)	29 (38.2)	24 (31.6)
15	Most errors are due to things that health care professionals cannot do anything about	4 (5.3)	17 (22.4)	46 (60.5)	9 (11.8)
16	After an error occurs, an effective strategy is to work hard to be more careful	29 (38.2)	36 (47.4)	9 (11.8)	2 (2.6)
17	The care that we provide on a day-to-day basis could be improved	31 (40.8)	40 (52.6)	1 (1.3)	4 (5.3)
18	It is acceptable for an intern pharmacist to question the actions of a registered pharmacist	18 (23.7)	48 (63.2)	8 (10.5)	2 (2.6)
19	It is acceptable for a registered pharmacist to question the decisions of a prescriber (such as a doctor or nurse practitioner)	20 (26.3)	50 (65.8)	4 (5.3)	2 (2.6)
20	Patient safety education requires university lecturers to teach patient safety concepts	24 (31.6)	42 (55.3)	7 (9.2)	3 (3.9)
21	Peer-led education, such as from pharmacist colleagues or fellow students, can help my understanding of patient safety concepts	30 (39.5)	42 (55.3)	3 (3.9)	1 (1.3)

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