Views of teachers regarding medical errors and patient safety education

Dr. Mahmuda sultana[1], Dr. Md.Sazzad Hossain [2], Dr, Kazi khairul Alam[3], Prof. Iffat Ara[4], Prof. Humayan kabir Talukder[5]

Abstract

Background: Recently medical errors and patient safety have become increasingly important in the area of medical research Different international committees have long been demanding the early integration of education about errors and patient safety in undergraduate and graduate medical education .To integrate patient safety education into existing curriculum views of the teachers towards patient safety education is an important issue.

Study objectives: To explore the views of the teachers regarding medical errors and patient safety education.

Study design: Cross-sectional descriptive study.

Place & period of the study: Selected medical colleges in Bangladesh, from July 2014 - June 2015.

Study population: Study population was 32 clinical teachers.

Sampling technique: Convenience sampling.

Data collection instrument: Self administered structured questionnaire

Results: The study revealed that the topic medical error and patient safety were mostly neglected in the curriculum. But the teachers had positive attitude towards patient safety education. All most all the teachers agreed that learning about patient safety before graduation would produce more effective doctors. They did not think that students had good understanding of patient issues (mean score 2.84).   Teachers showed less confidence in error disclosure. Teachers (81.3%) had positive agreement that patients and relatives had important role in reducing error. Most of the respondents (93.7%) agreed that even the most experienced person can make errors.

Key Words: Key words: patient safety, medical error

Introduction

Patient safety is the prevention of errors and adverse effects to patients associated with health care. Health care has evolved greatly over the past 20 years. But one of the greatest challenges of 21st Century is not about keeping up with the latest clinical procedures or the latest high-tech equipment. Instead, it is about delivering safer care in complex, pressurized and fast-moving environments. Since the Harvard study in 1991 first described the extent of harm to patients[1]. Many studies confirm that health-care errors are prevalent in our health systems and that the associated costs are substantial. In Australia, errors result in as many as 18 000 unnecessary deaths and more than 50 000 disabled patients[2]. In the United States, health-care errors result in at least 44 000 (and perhaps as many as 98 000) unnecessary deaths each year, as well as one million excess injuries[3]. In 2002, WHO Member States agreed on a World Health Assembly resolution on patient safety in recognition of the need to reduce the harm and suffering of patients and their families and in acknowledgement of the compelling evidence of the economic benefits of improving patient safety. Studies show that additional hospitalization, litigation costs, infections acquired in hospitals, lost income, disability and medical expenses have cost some countries between US$ 6 billion and US$ 29 billion a year[4].

The extent of patient harm from health care has been exposed by the publication of the international studies of Australia, United States, Canada, England, Denmark and New Zealand[4]. These studies confirm the large numbers of patients involved and show the adverse event. While the rates of injury differ among the countries that publish data, there is unanimous agreement that the harm incurred is of

[1]Junior Consultant, Department of Obstetrics and Gynaecology Shaheed Tajuddin Ahmed Medical College, Gazipur

[2]Assistant Professor, Department of Medicine, Shaheed Tajuddin Ahmed Medical College & Hospital, Gazipur

[3]Professor & Head, Department of Obstetrics and Gynaecology Medical College & Hospital, Dhaka

[4]Assistant Professor, Department of Obstetrics and Gynaecology Shaheed Suhrawardy Medical College & Hospital, Dhaka

[5]Professor, Curriculum Development & Evaluation Centre For Medical Education, Mohakhali , Dhaka

Address of correspondence: Dr. Mahmuda sultana
FCPS, MS(Obs & Gynae), MMEd
Junior Consultant, Department of Obstetrics and Gynaecology, Shaheed Tajuddin Ahmed Medical College & Hospital, Gazipur, Bangladesh.
Cell: 01815004493, E mail: smahmuda777 @ yahoo.com

significant concern. The catastrophic deaths that are reported in the media, while horrific for the families and health professionals involved, not representative of the majority of adverse health-care events. Patients are more likely to suffer less serious, but nevertheless debilitating events, such as wound infections, decubitus ulcers and unsuccessful back operations etc.

Adverse events occur not because people intentionally hurt patients, but rather due to the complexity of health-care systems today, where the successful treatment and outcome for each patient depends on a range of factors, in addition to the competence of each individual health-care provider. When so many and varied types of health-care providers (physicians, midwives, dentists, surgeons, nurses, pharmacists, social workers, dieticians, and others) are involved, it can be very difficult to ensure safe care, unless the system of care is designed to facilitate the timely and complete exchange of information among all the health professionals involved in caring for the patient[4].

Patient safety is an issue in all countries that deliver health services, whether these services are privately commissioned or funded by the government. Failing to adequately check the identity of a patient or prescribing antibiotics without regard for the patient's underlying condition or administering multiple drugs without paying attention to the potential for adverse drug reactions can lead to patient injury. Patients are not only harmed by the misuse of technology but can also be harmed by poor communication between different health-care providers, or delays in receiving treatment.

Many countries in the world have already recognized that patient safety is important and are building ways and approaches to improve the quality and safety of care. They have also recognized the importance of educating health-care professionals on the principles and concepts of patient safety. A major consequence of this knowledge of adverse events has been the development of patient safety as a specialized discipline to assist health-care professionals, managers, health-care organizations, governments (worldwide) and consumers who must become familiar with patient safety concepts and principles. The tasks ahead of health care professionals are immense and require all those involved in care to understand the extent of harm to patients and why health care must move to adopt a safety culture. Patient safety education and training is only beginning to occur at all levels. Health-care students, as future providers of health care and health-care leaders, must prepare themselves to practice safe care. Patient safety knowledge is different because it applies to all areas of practice and to all professions. Health-care students need to know how systems impact on the quality and safety of health care, how poor communication can lead to adverse events and much more. Students need to learn how to manage these challenges.

As main providers of health care, doctors are not only involved in the generation of errors, near-misses and preventable adverse events but also in the prevention and in the follow-up of errors. On the one hand, they are the ones who have to communicate with patients, relatives and colleagues that an error has occurred and have to deal with the consequences of those errors .On the other hand, the physician himself might also be affected and as a second victim, can also be traumatised and suffering from the error[5]

However, there has been little focus on the education and training of doctors in regard to this topic. Different international committees have long been demanding the early integration of education about errors and patient safety in undergraduate and graduate medical education .The guideline for curriculum development, which has been introduced in 2008 by the WHO World Alliance for Patient Safety has explicitly created as a guideline for medical faculties[6].

Besides this formal process of curricular development, a topic such as patient safety is not only about instruction of knowledge but also about developing an attitude towards the topic. To approach the challenge of establishing contents and teaching methods, which help to develop students' attitudes, it is important to include the teachers and their actual views in the process of curriculum development.

For Bangladesh no data on teachers' attitudes towards medical errors and patient safety education has been published so far. With regard to development of knowledge about patient safety and medical errors, these issues need to be assessed as they are the persons who are involved in implementing the curriculum. For this reason this study is designed to explore the views of teachers regarding medical error and patient safety education.

Methodology

This descriptive type of cross sectional study was carried out to explore the views of teachers regarding medical error and patient safety education in undergraduate medical education of Bangladesh. The study was carried out in seven (three public and four private) medical colleges of Bangladesh over a period from July 2014 to 2015. Study population was clinical teachers of selected medical colleges. Sample size was 32 clinical teachers. Clinical teachers those who are directly involved in patient management and teaching was included in the study. Designation of the teachers' were assistant professor and above (professor, associate professor and assistant professor).Non clinical teachers

and those with teaching experience <3 years was excluded from the study. Convenient sampling method was used for this study. Research instrument was self administered structured questionnaire and In depth interview schedule for the teachers .In the structured questionnaire a five point Likert scale (1-strongly disagree, 5- strongly agree) was used. It was adapted from the original questionnaire prepared by Carruthers S[7] et al 2009.Out of the 9 issues 6 issues were taken in this study which were found to be valid

and reliable in their study. Some modification was done after pretesting to increase the understandability.The pretesting of the questionnaire was done on teachers who comment on the functionality and comprehensibility of the questionnaire outside the study areas. The researcher visited the selected medical colleges personally. Researcher introduced herself to the principal of the medical colleges and directors of hospital and seeks permission to conduct the study. The researcher communicated with the teachers to participate in the study. Teachers were briefed about the questionnaire and they were also informed about WHO patient Safety Curriculum guide in a summary form using a printed copy of this. Teachers were also ensured that findings of the study would be used only for research purpose. Questionnaires were edited after collection and coded manually and were undergone processed and analyzed by using SPSS computer software according to the objective. For each variable frequency distribution and mean score was calculated. Interpretation of the mean score was as follows

5 = strong positive agreement for the statement.

4 to <5 = moderate positive agreement for the statement

3 to <4 = mild positive agreement for the statement

2 to <3 = negative agreement for the statement

1 to <2 = strong negative agreement for the statement

Results

Structured questionnaire completed by the teachers were analyzed. Majority of the respondents were Assistant Professor 15(46.9%).Number of Professors were 11(34.4%) and Associate Professors were 6(18.8%).Majority of the respondents were from Gynecology & Obstetrics 13(40.6%).From Medicine & Allied Subjects there were 31.3% and from Surgery & Allied Subjects there were 28.1% respondents. Majority of the respondents were male (56%) and 44% of the respondents were female. Duration of teaching experience was Mean:11.03 SD±:6.916

Table I: Distribution of the teachers by their opinion on patient safety training (n=32)

Patient safety training	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Mean (SD ±)
My teaching/training is preparing my students to understand the causes of medical errors.	1 (3.1)	12 (37.5)	6 (18.8)	9 (28.1)	4 (12.5)	3.09 1.146
My students have a good understanding of patient safety issues as a result of my/our teaching	-	17 (53.1)	4 (12.5)	10 (31.3)	1 (3.1)	2.84 .987
My teaching/training is preparing my students to prevent medical errors.	1 (3.1)	14 (43.8)	6 (18.8)	7 (21.9)	4 (12.5)	2.97 1.150

Table I shows distribution of the teachers' by their opinion on patient safety training. The mean score is <3 which shows negative agreement for the last two statement except for the first statement where the mean score is 3.09 which is mild positive agreement.

Table II: Distribution of the teachers by their opinion on Error reporting confidence (n=32)

Error reporting confidence	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Mean (SD ±)
I would feel comfortable reporting any errors I had made, no matter how serious the outcome had been for the patient.	3 (9.4)	10 (31.3)	5 (15.6)	12 (37.5)	2 (6.3)	3.00 1.164
I would feel comfortable reporting any errors other people had made, no matter how serious the outcome had been for the patient	4 (12.5)	14 (43.8)	6 (18.8)	7 (21.9)	1 (3.1)	2.59 1.073

Table II shows the distribution of the teachers' by their opinion on error reporting confidence .The mean score is 3 for the first statement and 2.59 for the second statement which is a negative agreement. This table indicates teachers are less confident in error reporting.

Table III: Distribution of the teachers' by their opinion on working hours as error cause (n=32)

Working hours as error cause	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Mean (SD ±)
Shorter shifts for doctors will reduce medical errors.	3 (9.4)	18 (56.3)	4 (12.5)	7 (21.9)	-	2.47 .950
By not taking regular breaks during shifts, doctors are at an increased risk of making errors.	-	10 (31.3)	5 (15.6)	15 (46.9)	2 (6.3)	3.28 .991
The number of hours doctors work increases the likelihood of making medical errors.	-	7 (21.9)	3 (9.4)	18 (56.3)	4 (12.5)	3.59 .979

Table III shows distribution of the teachers by their opinion on working hours as error cause. Teachers have a negative agreement (mean 2.47) with the statement that shorter shifts will reduce error. The mean score for the next two statement is >3 which is a mild positive agreement.

Table IV: Distribution of the teachers by their opinion on Error inevitability (n=32)

Error inevitability	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Mean (SD ±)
Even the most experienced and competent doctors make errors	-	1 (3.1)	1 (3.1)	17 (53.1)	13 (40.6)	4.31 .693
Human error is inevitable	-	3 (9.4)	9 (9.4)	18 (56.3)	8 (25)	3.97 .861

Table IV shows the distribution of the teachers by their opinion on Error inevitability. The mean score is 4.31 for the first statement which is moderate positive agreement and 3.97 which is mild positive agreement. Most of the respondents (93.7%) agreed that even the most experienced person can make errors.

Table V: Distribution of the teachers by their opinion on Patient and relatives/carer involvement in reducing error (n==32)

Patient and relatives/carer involvement in reducing error	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Mean (SD ±)
Patients and relatives have an important role in preventing medical errors.	-	2 (6.3)	4 (12.5)	22 (68.8)	4 (12.5)	3.88 .707
Encouraging patients and relatives to be more involved in their care can help to reduce the risk of medical errors occurring.	-	1 (3.1)	3 (9.4)	20 (62.5)	8 (25)	4.09 .689

Table V shows the distribution of the teachers by their opinion on patient and relatives/carer involvement in reducing error. The means score is 3.88 and 4.09 respectively i.e. they have a positive agreement for the statement. Among the teachers 81.3% agreed that patients and relatives had an important role in preventing medical errors.

Table VI: Distribution of the teachers by their opinion on Importance of patient safety in the curriculum (n=32)

Patient involvement in reducing error	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Mean (SD ±)
Teaching students about patient safety should be an important priority in medical students training.	-	-	-	10 (31.3)	22 (68.8)	4.69 .471
Learning about patient safety issues before qualifying will enable my students to become a more effective doctor.	-	-	-	10 (31.3)	22 (68.8)	4.69 .471

Table VI shows the distribution of the teachers by their opinion on Importance of patient safety in the curriculum. The mean score is 4.69 which is moderate positive agreement for the statement.

Discussion

Patient safety is a new concept worldwide. There are different studies in different countries of the world in this topic. WHO Patient Safety Curriculum Guide: Multi-professional Edition seeks to fill the gap in patient safety education by providing a comprehensive curriculum designed to build foundation knowledge and skills for all health-care students that will better prepare them for clinical practice in a range of environments[4].This curriculum guide provides 11 ready to teach patient safety topic.

To educate the students regarding patient safety views and attitude of teachers and students were investigated in different studies. Carruthers[7] et al. 2009, developed an instrument to asses the attitude of students and tutors towards patient safety and tested its validity and reliability[5]. In this study this instrument is used with some modification.

Most of the respondents in this study showed a positive attitude toward patient safety .This is similar to PHCC doctors in Aseer region showed a positive attitude toward patient safety[8].

Regarding their opinion on Patient safety training received. Teachers in this study did not think that students have good understanding of patient safety issues and the mean score was 2.84

Reporting medical errors is an important step in improving the quality of health-care including patient safety. Teachers showed less confidence in error disclosure. Teachers scored (2.59 to3.00) in this area. In other words, about one third of the participants were comfortable with reporting medical errors. This finding is similar to the findings in other studies[8]. These low scores which reflected the negative attitude of some physicians toward reporting adverse events could be due to the lack of a system for reporting medical errors. Also, a culture of safety in health settings, as reported by Alahmadi[9] is yet to be developed. As reported by Hammami et al. (2009) the disclosure of medical errors poses a big dilemma in health settings in Saudi Arabia[10]. In my study 43.8% of teachers agreed to disclose error 40.7% disagreed and 15.6% were neutral. In another study, the trend was similar as 44% agreed that "doctor had the responsibility of disclosing errors to patients only if they resulted in harm to the patient," while 40% disagreed and 16% were neutral[8]. A study of medical trainees (2006) found that 80% would disclose adverse events to patients[11].In a study in Italy 44.5% physicians agreed and 44.1% were uncertain about the disclosure of errors to patient[12].These diversity of attitude could be explained by the lack of training and experience of physician in dealing with medical errors. In addition, there is a lack of established culture of reporting adverse events by the physician

himself in Bangladesh .This finding is similar to the findings in PHC settings in Saudi Arabia.

In the few PHCC with a high number of patients attending and work overload, participants showed that a shorter shift for the doctors and taking breaks would reduce medical error[8] .These findings agree with those reported in 2009 by Carruthers et al.[7] Teachers in this study did not agreed that shorter shift will reduce errors(mean score is 2.47).But they agreed that number of hours doctors work increases the likelihood of medical errors.

In this study the area of error inevitability point, most of the teachers agreed that even the most experienced can make errors. This area scored positively and is similar to other studies. The area of "errors inevitability" scored 3.97-4.31 points. The finding similar to the findings of Al-Khaldi[8] .These findings are also comparable to those reported from UK[7].

Patients play an essential role in their health and safety by active involvement in decision making and self management[13]. In this study teachers (81.3%) have positive agreement that patients and relatives had important role in reducing error. Primary health care centre physicians showed average to high agreement (84%) in this regard (4.9 and 5.9 points)[8] compared to UK study, but less than what was reported by Hammami et al. from Saudi Arabia (44.7%)[10].

The last theme of the study was about the importance of patient safety in the curriculum. Al most all the teachers of with a high average score of 4.69 out of five points agreed that teaching students about patient safety is a priority in medical training while 87.8% with the highest score of all items in the questionnaire agreed that learning about patient safety before graduation from medical colleges would produce more effective doctors. This finding is similar to Al-Khaldi 2013 which showed 90% and 84% positive response for the two items respectively[8]. These important findings are also in agreement with results of two studies conducted among medical students in the Qassim region[14] and Hong Kong by Leung & Patil which emphasized the priority of putting patient safety in the undergraduate curriculum of medical colleges[15].

A study by Almaramhy et al. (2010), mentioned that more than two-thirds of medical students agreed that the teaching of patient safety in medical schools and the continuous training of health staff was necessary[14]. These findings should alert us on the issue of the curriculum of medical colleges in Bangladesh and the importance of making "patient safety and medical errors" a priority particularly in final years.

Conclusion

This study showed that teachers had positive attitude toward patient safety education. Most of the respondents considered patient safety as a priority topic for undergraduate medical education. Teachers thought that student did not have adequate knowledge on this issue. Even the teachers were not much comfortable in error disclosure. Patient and carer/relative involvement were given a priority in the prevention of medical errors and the improvement of patient safety.

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