ORIGINAL ARTICLE

Evaluation of a communication skills training course for medical students using peer role-play

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Abstract

Objective: To evaluate the effect of using peer role-playing in learning the communication skills as a step in the development of the communication skills training course delivered to pre-clinical medical students.

Method: This study was conducted at the King Abdulaziz University, Jeddah, Saudi Arabia, between September 2014 and February 2015 and comprised medical students. Mixed methods design was used to evaluate the developed communication skills training course. Tests were conducted before and after the communication skills training course to assess the students' self-reported communication. After the course, the students completed a satisfaction survey. Focus groups were conducted to assess the behavioural and organisational changes induced by the course. SPSS 16 was used for data analysis.

Results: Of the293 respondents, 246(84%) were satisfied with the course. Overall, 169(58%) subjects chose the lectures as the most helpful methods for learning the communication skills while 124(42%) considered practical sessions as the most helpful method. Besides, 237(81%) respondents reported that the role-play was beneficial for their learning, while 219(75%) perceived the video-taped role-play as an appropriate method for assessing the communication skills.

Conclusion: Peer role-play was found to be a feasible and well-perceived alternative method in facilitating the acquisition of communication skills.

Keywords: Evaluation, Communication skills, Training, Medical students. (JPMA 67: 745; 2017)

Introduction

Effective communication skills allow healthcare workers to effectively support patients to overcome their health problems[1,2] and help in improving diagnostic, efficiency,[3] patients' satisfaction,[4] and treatment outcomes.[5] On the contrary, ineffective communication with the patient results in an increased frequency of medical errors and decreased quality of patient care.[6,7]

The communication skills training (CST) has become a necessary component of many curricula in the education of health care professionals,[8] although most of the curricula tend to become overcrowded, especially when the teacher-centred approach is taken.[9] This is why a course of communication skills was included as a part of the early clinical experience and communication skill module taught during the third year of the developed medical curriculum adopted in the Faculty of Medicine (FOM) at the King Abdulaziz University (KAU) in 2007-2008. The course included only a theoretical part and was assessed through paper and pencil exam. Turan et al.[10] have concluded that enhancing communication skills will not occur after a theoretical study but could be achieved through a structured educational programme.

Although the use of standardised patients (SPs) was proved to be effective in CST, it is shown to be complex and expensive.[4,11,12] On the other hand, peer role-playing can be implemented with few resources and it has also proven its effectiveness in CST.[11,13] In addition, Mounsey et al.[14] described the SPs role-plays as similar to student role-plays in effectiveness when teaching motivational interviewing skills to medical students at the University of Virginia. Unfortunately, inconsistency and variability in findings of the effectiveness of communication skills training were reported by van den Eertwegh et al.[15] The need for further exploration of this area in terms of triangulation of evidences about the effective instruments was highlighted by both Schlegel et al.[16] and van den Eertwegh et al.[15] It was previously reported that peer role-playing is often not taken seriously by students.[11,12,17] The current study was planned to evaluate the effect of using peer role-playing in learning communication skills as a step in the development of CST course.

Subjects and Methods

This study was conducted at the KAU, Jeddah, Saudi Arabia, between September 2014 and February 2015 and

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comprised medical students. In October of the academic year 2014-2015, the CST course was reformed to be included a theoretical part in the form of four 1-hour lectures and a practical part in the form of two 2-hour practical sessions. Each lecture, held in the auditorium, was designed to start with a scenario reflecting a variety of relevant interactions between physician and patient/family members that was prepared by the lecturer and acted out by him/her and one or two students. The practical sessions were held in the Clinical Simulation Skill Centre (CSSC) and included only 35-40 students. During these sessions, the students were working in groups of 3 to write case scenarios on one of the predetermined communication skills and act them out. The whole groups were observing their colleagues during the role-playing and giving them feedback on their performance. The instructor then summarised and concluded the session.

The CST course was assessed through paper-and-pencil exam and included 14 contextualised multiple-choice questions (MCQs) on the principles and concept of the communication skills. In addition, each group submitted a videotaped role-play on different studied communication skills. Although the students were working in groups of 3, each student was required to play the physician role to show his/her communication skills as was described by Mounsey et al.[14] The students used the facility of central videotaping and recording of the role-plays available at the CSSC after giving consent. All the role-plays were rated according to an observational checklist.[18,19]

This study was approved by the institutional biomedical research ethics committee. The mixed-methods design was used to evaluate the CST course. The four levels of the educational outcomes — students' reaction and learning, behaviour change and organisational practice -were assessed as described in literature.[20-22] The students' reaction to the course was assessed through a course evaluation survey distributed at the end of the course. To assess the students learning, self-reported communication skills of the students were assessed before and after the CST course and were compared.[23] Three months after the course, focus group discussions (FGDs) with the students were conducted to assess the changes induced by the course on students' behaviour as well as on the organisational practice in terms of learning environment and health care. FGDs were conducted as described by Patton.[24]

All male and female third-year medical students were invited to fill both pre-and post-course self-reported communication skills online questionnaires using the Google Docs on the first day of the course and immediately after finishing the course respectively indicating his/her academic number in each time. The course evaluation survey was distributed at the end of the course and the students completed it anonymously.

Four FGDs were conducted among both male and female students after 3 months of finishing the CST course. Each FGD lasted 45 to 60 minutes in the activity room at the medical education department and the students' comments were registered by the principal investigator and one of the co-authors.

SPSS 16was used for data analysis. The results were expressed as mean and standard deviation. Kolmogorov-Smirnov test was used to check the normal distribution of data. Chi-square non-parametric single test was used to compare the frequency. Paired t-test was used to compare the students' perception of their communication skills before and after the CST course. The pre- and post-course mean differences in term of standard deviation units were measured to calculate the effect size according to Cohen.[25] Aneffect size of 0.20-0.50 was considered 'small', 0.50-0.80 'medium' and 0.80 or higher was considered 'large'.[25] Student's t-test was used to compare paired difference of male and female students. $P<0.05$ was considered significant. The FGD data was analysed using content analysis according to Graneheim and Lundman.[26]

Results

Of the 339 participants, 293(86.4%) students responded to the course evaluation survey. Of them, 246(84%) were satisfied with the course. Overall, 169(58%) subjects chose the lectures as the most helpful methods for learning the communication skills while 124(42%) considered practical sessions as the most helpful method. Besides, 237(81%) respondents reported that the role-play was beneficial for their learning. However, 56(19%), found that the role-play did not help their learning ($p<0.001$). Also, 58(20%) students did not feel comfortable role-playing the communication skills scenarios with their colleagues. Of the total, 219(75%) respondents perceived the video-taped role-play as an appropriate method for assessing the communication skills, while 74(25%), found it inappropriate method of assessment.

Pre- and post-tests of students' self-reported communication skills showed a significant improvement ($p<0.05$). Based on the effect size calculated, the highest two items rated by the students were building rapport

Table-1: Medical students' perception of their communication skills before and after the CST course.

Perception	Before CST M±SD	After CST M±SD	#Paired Difference	##Effect size	Paired t test
I can interview the patient	2.99± 0.94	4.1± 1.82	1.116 (37.3%)	0.97	t=16.7 p<0.001*
I can effectively break bad news to patient	2.58± 1.09	3.81± 0.89	1.22 (47.2%)	0.93	t=16.1 p<0.001*
I can effectively mange work place conflict	3.19± 0.99	3.8± 1.09	0.60 (18.8%)	0.52	t=8.9 p<0.001*
I can build a rapport with patient	1.9± 0.74	4.09±1.76	2.184 (114.9%)	1.46	t=25.5 p<0.001*
I can help patient to express his feeling	1.95± 0.79	4.04± 1.79	2.081 (106.7%)	1.3	t=22.35 p<0.001*
I can help the patient to answer his/her unanswered questions	2.157±0.99	3.87± 1.81	1.716 (79.5%)	0.95	t=16.91 p<0.001*
I can involve patient in active dialog	2.151± 0.87	3.84± 0.95	1.686 (78.3%)	0.98	t=16.35 p<0.001*
I can involve patient in decision making	1.88± 0.78	4.11± 1.87	2.238 (119%)	1.4	t=24.35 p<0.001*
I can listen effectively to patients	1.9± 0.78	4.09± 1.2	2.191 (115%)	1.38	t=23.79 p<0.001*
I can show patient verbal and non verbal cues of empathy	2.19± 0.83	3.8± 0.99	1.610 (73.5%)	0.98	t=16.74 p<0.001*

CST: Communication skills training
SD: Standard deviation.

Table-2: Comparison between male and female medical students'perception of their communication skills before and after the module.

Perception	Male M±SD			Female M±SD			##Student
	Before	After	#Paired Difference	Before	After	#Paired Difference	
I can interview the patient	2.99±0.99	3.93±1.86	0.88 ± 1.16	2.49±0.91	4.24±1.75	1.30±1.08	t=3.2 p= 0.002*
I can effectively break bad news to patient	2.71±1.09	3.88±1.83	1.06±1.27	2.48±1.8	3.84±1.24	1.38±1.31	t=2.109 p=0.04*
I can effectively manage work place conflict	3.17±0.96	3.66±.87	0.49±1.08	3.12±1.02	3.91±1.53	0.7±1.32	t=1.53 p=0.13
I can build a rapport with patient	2±0.78	4±1.78	2±1.56	1.83±0.7	4.16±1.79	2.35±1.41	t=2.015 P= 0.04*
I can help patient to express his feeling	2.06±0.79	3.93±1.99	1.86±1.58	1.86±.79	4.13±1.81	2.26±1.58	t=2.15 P=0.03*
I can help the patient to answer his/her unanswered questions	2.17±0.86	3.82±1.89	1.65±1.73	2.14±1.08	3.91±1.78	1.77±1.74	t=0.58 P=0.55
I can involve patient in active dialog	2.18±0.89	3.81±1.09	1.62±1.78	2.13±0.87	3.86±1.99	1.73±1.74	t=0.58 P=0.55
I can involve patient in decision making	2.01±0.86	3.99±1.69	1.98±1.78	1.77±0.69	4.22±1.69	2.45±1.39	t=2.53 P=0.01*
I can listen effectively to patients	1.96±0.87	4.03±1.8	2.071.74	1.85±0.78	4.14±1.79	2.29±1. 47	t=1.17 P= 0.24
I can show patient verbal and non verbal cues of empathy	2.33±0.87	3.66±1.89	1.33±1.75	2.08±0.75	3.19±1.87	1.8±1.51	t=2.96 P= 0.01*

SD: Standard deviation.

Table-3: Psychometric character of the MCQs assessing the communication skills.

Aspect (n= 14)	Number (%)
Difficulty index	
Very easy (0.9-1)	8 (57)
Easy (0.70-0.9)	3 (21)
Excellent (0.3-0.7)	3 (21)
Moderate (0.15-0.30)	-
Too difficult (≤0.15)	-
Discrimination index	
Very good item (≥ 0.30)	4 (28)
Reasonably good (0.20-0.29)	1 (7)
Marginal item (0.09-0.20)	7 (50)
Poor (zero)	1 (7)
Unaccepted discrimination (Negative)	1 (7)

MCQs: Multiple-choice question.

with the patient, and involvement of patient in decision making (Table-1). Comparison of paired difference of the mean perception between male and female student revealed significant higher difference in female than male in most of the items (Table-2). There was insignificant (p=0.09) difference between male and female students in the videotaped role-plays scores. The psychometric character of the MCQs in the paper-and-pencil test assessing the communication skills showed that most of the items were easy and of low discriminating power as they were assessing the recall level of cognition (Table-3).

In the course evaluation survey, 225(77%) respondents reported one or more intended changes in their communication skills immediately after the course. Besides, 11(5%) respondents reported their willingness to be more trained before exposure to real patient interview. During the FGDs, students were asked about the effect of the course on their practice and communication skills. The most common responses included being more patient and empathic with those facing problems especially the illness (9 out of 40 participants; 22.5%) and being more ready to deal with a wide variety of patients (8 out of 40 participants; 20%). Among the factors that affecting the students practices of the communication skills were the exposure to limited number of health care communication scenarios in the course (7 out of 40 participants; 17.5%), the relative short time to be trained during the course (6 out of 40 participants; 15%) and the insufficient opportunity to practise the skills in real life immediately or shortly after the course (4 out of 40 participants; 10%).

All the students believed that the course could help promote the educational environment. The most common course benefits mentioned were the early exposure to principles and skills of communication allow better performance of the students as well as improve patients' satisfaction.

Discussion

It was reported that "health professional communication skills do not necessarily improve over time or with clinical experience".[27] But they could be enhanced by training.[28] The question that was raised by Sargeant et al.,[22] "which, if any, format of CST is best?" was an initiator of the present study. Defining what is meant by effectiveness was the main problem reported by van den Eertwegh et al.[15] Kirkpatrick[20] had defined four levels of evaluation that was adopted in this study.

In this study, a considerable proportion of the students found the lectures as the most helpful method in learning the communication skills while others considered the practical sessions as the most helpful method (58% versus 42%). In a previous study conducted at the KAU, a high percentage (45%) of the medical students preferred the live lectures as a learning method in medicine.[29] When it came to the lectures presented in the CST course, they were based on case scenarios in order to stimulate students thinking and interest and this could explain why they were well perceived by the students. During the practical sessions of the CST course an immediate feedback was given to the students who acted out the role-play. These approaches were used because they were recommended in teaching the communication skills by many educationalists.[30-32] The combination of both lectures and practical sessions was recently described by Han et al.[33] to be efficacious approaches to teach risk communication. All these issues seem to be behind the high students' satisfaction (about 85%) with the course that was recorded in this study. The majority of the students (81%) perceived the role-play as beneficial method for learning the communication skills. This finding was in line with that of He et al.[34] who reported that most undergraduate nursing students' (87%) agreed that the video role-plays enhanced their understanding and application of communication skills. Schofield et al.[28] and Stiefel et al.[35] reported that using role-play was the most excellent method for CST in oncology. In a more recent study, an effort aiming at using game in teaching CST course was described by Lau and Wang.[36]

Medical students' reluctance to spend time on learning that was not being assessed was reported by Morison et al.[37] On developing the CST course the role-play of

communication skills scenarios was used as an assessment method of students learning and about half of the course marks was assigned to this assignment. The majority (75%) of the students perceived these assignments as an appropriate method for assessing the communication skills. Giving the chance to the students to remedy their communication conducts training with ample time before the final assessment was secured in this course because this was recommended by Berkhof et al.[30,31] This allowed for a discussion about communication skills among students and made the assessment well perceived by them. Although the objective structured clinical examination (OSCE) format was used to assess the communication skills in many previous studies,[16,33] but it was not used in this course as the students are not familiar with it during their preclinical years. Adding to that, the assessment of communication skills in the family medicine course taught in the clinical years done through the OSCE. Schlegel et al.[16] reported no significant difference in both self-reported efficacy and real patient ratings of the communication skills of nurses had training with peer role-playing and were assessed by a written examination and those had training with SPs and were assessed by OSCE.

A significant improvement was observed in the students' perception of their communication skills after the course. This finding is supported by a previous study done by Bylund et al.[38] The effect size of the CST course on students' perception of their communication skills was significantly higher in females than males, especially in those items concerned with emotions like building a rapport with the patient, helping patients to express their feeling and showing the empathy with patients. This finding is in agreement with the literature. The female students were described to communicate in a more patient-centred, positive and emphatic manner than the male students.[39,40] In a more recent study in German, female third-year medical students could improve their ability to "empathise with and support patients" compared to male students after receiving a CST course.[41]

Although the effect of the CST course on students' communication skills with real patient could not be assessed in this study because the students don't have regular patient encounter during their preclinical phase, a vast number of them reported one or more intended changes to their communication skills immediately after the course. Among the factors that affected the students practices was the insufficient opportunity to practice the skills in real life immediately or shortly after the course. Actually this CST course was part of the early clinical experience module that aimed to expose the students, early during their pre-clinical studies to some clinical experiences. Masiello[42] advocates the early exposure of non-technical skills through simulation-based training in the undergraduate curriculum. This CST course is not the only course that is talking the communication skills in the curriculum. The students will be exposed to another self-directed communication skill learning in the family medicine course during the fifth years and this may compensate for the relative short time of the CST course as well the exposure to a limited number of communication skills scenarios reported by the students during the focus group discussions.

The effect of the CST course on the organisational practices in term of promoting the learning environment was acknowledged by all the students participating in the focus group discussions. Improving students' performance and patients' satisfaction were the most common benefits gained from such courses according to the students' perception. Endorsement and continuous improvement of these courses should be maintained by the faculty and this concept was previously emphasised by Silverman.[43] The CST course designers are fully supported from the curriculum committee in the faculty to continuously develop the course in the light of the evidence-based medical education updates. Visser and Wysmans[44] had reported that "successful transfer and long lasting implementation require an organisation-oriented change strategy at the level of the department or organisation".

The study had a few limitations as well, including the lack of a control group and the homogenous student sample that was selected from one institution. The students were not exposed regularly to patients, so patient satisfaction with their communication skills could not be assessed to follow up the effects produced by the course.A study will be conducted in the future with the inclusion of comparison group from different institutions. A follow-up study should be done to determine the impact of this CST course on students' performance with real patients. Inter-professional health communication and clinical risk communication are advanced communication skills with equal importance to the other skills that are receiving increasing emphasis in undergraduate medical education like giving bad news. The efficacy, educational value and feasibility of these advanced communication skills were investigated in some recent researches.[34,45] Introducing these skills to the CST

course of the medical curriculum and hence its evaluation is a future area to work on by the research team.

Conclusion

Given the expense and the complexity of using simulated patients in teaching and assessing large group of medical students during their pre-clinical stage, this study proposed the peer role-play as a feasible and well-perceived alternative in facilitating the acquisition of communication skills

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