

Research Article

Video Impact on Medical Students Communicating with Psychologically Distressed Patients

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ABSTRACT

Background: Psychological distress (PD) is a common problem worldwide and is frequently missed during primary care consultations. Proper communication with psychologically distressed patients (PDP) improves health outcomes. This paper examines the impact of a DVD based training workshop on the way medical students communicate with PDP. **Methods:** Second year medical students at the American University of Beirut Medical Center (AUBMC) were randomly assigned to interview a standardized patient (SP) with PD. They then attended the workshop and three months later, they interviewed a SP with a different PD condition. Each student's pre- and post-intervention results were compared, as well as the sum of grades of all students involved.

Results: Twenty-five students completed the study. Forty eight percent of students were female and 52% were male. A significant improvement was noted in the communication skills of the students ($P= 0.007$). The means of the Pre- and post-tests scores were 6.86 and 12.48 respectively ($P= 0.001$).

Conclusions: The sample size that completed the study was small, but the significant improvement post intervention is promising. We recommend the incorporation of the DVD on communicating with the PDP in training medical students.

Keywords: Communication skills, Psychological distress, Depression, Anxiety, Medical curriculum.

Background

Mental health problems are common in primary care. The WHO 2015 Global Health Observatory estimated that 1 in 10 people in the world suffer from a mental disorder with a rise in the prevalence of these disorders [1]. The same is observed in Lebanon where several studies revealed a high incidence of mental health problems [2-4].

Psychological distress is a state of emotional suffering characterized by symptoms of depression and anxiety [5]. A

gap has been observed in physicians' communication skills (CS) with PD patients and their families resulting in mental health problems being missed by the primary care physician [6-8]. Delay in diagnosing PD leads to significant morbidity, mortality, and higher service utilization [9]. Effective CS help in early detection of mental health disorders and improves the doctor-patient relationship. This translates into better health outcomes, greater satisfaction, more adherence to treatment, and better understanding of the illness and its treatment regimens [10-15].

Training medical students on proper CS with PD patients becomes pivotal given the expected repercussions of delayed diagnosis on health outcomes and patient satisfaction. Communication skills can be taught through different modes of training. Reports on various approaches to CS training for medical students differ in their design, outcomes measured and results [16-21].

In Lebanon, the AUBMC is the only medical school that has a family medicine department with a clerkship for medical students. Medical students complete a bachelor's degree before entering the medical school. First and second year, medical students are exposed early in their training to the concepts of clinical and CS. In this study, we examine whether a video-based training workshop can improve second year medical students' CS with PD patients.

Methods

Design

The study is a randomized pre-post-test design.

Subjects

Second year medical students in their last 3 months of training were randomly selected from a complete alphabetically ordered list of 103 names. Researchers selected every other name from the list until the sample size was reached.

Assessment

To measure the effect of the intervention on CS, students sat for an OSCE examination before and after receiving the workshop. The OSCE involved interviewing 1 standardized patient (SP) suffering from PD. During the assessment, every 5 students interviewed 5 SPs in parallel and in multiple waves until all the group of students has completed the OSCE station. Students who completed the assessment first were asked to stay in a separate room and had no interaction with those who were about to sit for the OSCE.

To standardize the stations, all the recruited SPs were trained by one researcher on the scenarios. The SPs had at least 5 years of experience in role-playing for OSCE. The interview lasted 7 minutes. A medical doctor supervised every interview and graded the encounter on a prepared standard grid.

Intervention

The scenarios for the DVD were written in 2014. The video was produced in 2015 and released after the students completed this study. One scenario showed an elderly with depression and the other a university student with mixed anxiety depression were reviewed. Each scenario had several clips after which the students commented on what they saw. Each scenario was followed by a commentary that stressed the main skills. (Script for scenarios and skills taught- highlighted in bold font, can be reviewed on this link: <http://staff.aub.edu.lb/~webcomm/scenario.pdf>).

Techniques discussed in the intervention included the BATHE technique (B: ask about Background, A: inquire how it Affects patient, T: define what is Troubling patient most, H: explore how patient is Handling the situation, E: health professional shows Empathy) and the use of the SIGE CAPS (S: Sleep problems, I: Interest in activities, G: Guilt feeling, E: Energy, C: Concentration, A: Appetite changes, P: Psychomotor retardation/agitation, S: Suicidal thoughts) to check for symptoms of PD.

Sample size and Statistical analysis

The sample size was calculated using the formula for surveys in finite populations:

$$n \geq \left[\frac{Np(1-p)}{d^2 / Z^2 \alpha} \right] * (N-1) + p * (1-p)$$

Where:

p = Probability of exposure in the population

Z = the value in the normal distribution corresponding to a tolerated α -error $\leq 0.05 = 1.96$

N = total size of the finite population = 103 in this case

Based on these figures, the sample size should have reached a minimum of 43 students. The number intended was inflated to a total of 60, to correct for any potential loss to follow-up.

A supervisor graded the performance according to a standardized list. The scoring sheets for both OSCE stations included the same items. The maximum possible grade in the OSCE was 25. The students were observed for four categories; (i) inquiring about social history; (ii) asking for symptoms of depression/anxiety (SIGE CAPS); (iii) using the BATHE technique; (iv) communication skills. Each student's performance and the sum of grades were compared pre and post-training. The paired t-test was used to assess the statistical significance of differences in the means of test scores for each student before and after the intervention. The audio-visual package was considered effective if scores improved by at least 25% for at least 50% of participating students.

Ethical considerations

The anonymity of the students was maintained by avoiding identifiers. Scores on OSCE stations were not integrated in the final grade of students. Students were informed about the newly added OSCE stations and a verbal informed consent was obtained. Though only 60 medical students were recruited to receive pre and post intervention assessment, all second-year medical students (total of 103) were invited to attend the video-based workshop to ensure they were all offered the same learning opportunity. The Institution Research Board at the AUBMC approved this study.

Results

Of sixty selected students who gave their verbal consent to participate, 39 showed up for the pre intervention OSCE. Of

those, 32 received the intervention. Twenty-five students (42% retention rate) sat for the post intervention OSCE and were included in the final analysis. Forty eight percent of students were female and 52% were male. The scores for the pre and post intervention OSCEs are shown in the Table 1.

Sixty three percent of students who attended the workshop and sat for the post OSCE improved their scores by 50% or more. Eighty five percent of students had at least 25% improvement in their scores after receiving the intervention. The post intervention mean test score was 12.48, almost double the pre intervention mean test score of 6.86 with a significant p-value < 0.001.

Looking at the categories of questions within the OSCE grading sheet, a statistically significant improvement was noted in the questions regarding the BATHE technique, CS, and symptoms of PD. The largest improvement was noted in exploring psychological symptoms. Students scored less on the section regarding patient's social history after receiving the intervention and this decrease was statistically significant.

Overall, males scored better than females in the pre-test, whereas females scored better in the post-test. Females performed better than male's post-intervention in communication skills, adopting the BATHE technique and using the SIGE CAPS. The decrease in scores on social history was statistically significant among male students but not among females ($p = 0.195$) (Figure 1).

Discussion

The improvement in the CS and taking a good psychological history significantly increased after exposure to the educational intervention package. The intervention gave ample opportunities for students to interact. The students' interaction after each clip was considerable; the video material duration was around 24 minutes while the workshop lasted one hour and a half.

Sanders, et al., suggested a model of four points for interventional studies in medical education [22]. Our work explored three of these. In a previous study, eighty-two medical students out of 89 who watched this work rated highly this educational tool and eighty-four percent of them reported that

Table 1: Mean OSCE scores pre and post intervention (N=25).

	Possible full marks	Pre intervention	Post intervention	P value
BATHE technique (SD)	4.5	1.44 (1.08- 1.88)	3.36 (3.00- 3.76)	0.001
SIGE CAPS (SD)	5	0.60 (0.32- 0.94)	3.84 (3.24- 4.50)	0.001
Communication skills (SD)	9	2.14 (1.50- 2.92)	3.74 (3.04- 4.52)	0.007
Social history (SD)	6.5	2.68 (2.34- 3.02)	1.54 (1.02- 2.06)	0.001
Total score (SD)	25	6.86 (5.98- 7.90)	12.48 (11.20- 13.78)	0.001

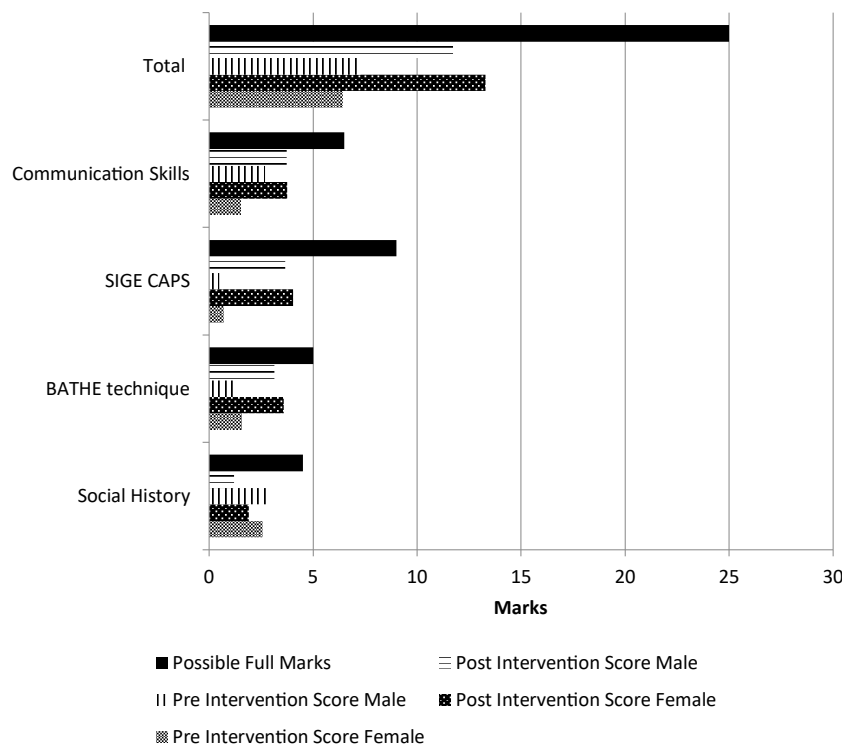


Figure 1: Mean OSCE scores of 25 medical students by gender. The post intervention mean test score was 12.48, almost double the pre intervention mean test score of 6.86 with a significant p-value < 0.001.

they gained four or more ideas that can help in communicating with PDP. Our current work demonstrated a change in the students' skills as a significant number adopted a better biopsychological approach. The impact on producing results in the organization is a topic for future research.

The improvement in CS after watching the video can be partly explained by Mayer's conceptual framework which suggests that the brain processes information using dual channels; visual and auditory, allowing information to be accommodated effectively in short- and long-term memory [23]. People learn better when presented information using both pictures and words and their brains process more information in working memory [24]. In practice, audiovisual training was shown to improve diagnostic and interviewing skills of doctors. This is in agreement with a study by Gask et al conducted on ten general practitioners in the UK, which showed that psychiatric diagnostic and interviewing skills of GP trainees can be significantly improved by audiotape and videotape feedback teaching [25]. One should keep in mind that the intervention carried by Gask was laborious and time consuming as it involved sessions amounting to 36 hours and video/audio taping of 3 ten-minute consultations for each of the 10 GPs involved.

Students improved significantly in using the BATHE technique and were able to transfer their knowledge through the direct application of this psychotherapeutic modality.

Students performed better when enquiring about the symptoms of depression (SIG E CAPS) and reflected a greater confidence when probing for clues for diagnosis. Jack et al., in a UK study, demonstrated that teaching the Simple Skills Secrets (SSS) communication model over 2-3 hours improved nurses' confidence to deal with distressed patients [26]. Another study on the effect of the SAGE and THYME, a model that help caregivers addressing the emotional concerns of patients and caregivers, also reported improvement in communication behaviour of health providers [27].

One may argue that the clinical scenario in the post intervention OSCE was more suggestive of psychological distress (in that case fatigue) compared to the one in the pre intervention OSCE (chest pain). Fatigue has a wider differential diagnosis than chest pain, which makes it more difficult. Moreover, the significant improvement (by more than 6 times) reflects that students felt greater confidence to ask for clinical manifestations of PD and that they considered it as the leading diagnosis.

Students' performance in exploring social history deteriorated after reviewing the video. This may be attributed to the short duration of the interview, which lasted only 7 minutes. This time can be too short for second year medical students who may have focused on what they consider more important, like issues related to the chief complaint. Previous studies have suggested that time can be a limiting factor for social history taking. Reginald et al maintained that failure to effectively incorporate

social history during regular clinical consultations was related to logistic barriers such as time [28]. Another possible limiting factor is the training of medical students itself which commonly overlooks social history. In a study conducted on internal medicine residents, knowledge of patients' social histories was limited, and the authors attributed this to underemphasizing importance of social history during the training [29]. Students end up underscoring clinical reasoning and diagnostic skills while social history is treated as an optional extra [30,31].

Despite the fact that the number of students who participated in the study was small, the great improvement in taking a good psychological history largely endorses the results. The study was performed in a single center, which may limit the generalizability of results to other medical training centers. However, the AUBMC is the only medical school in Lebanon where family medicine faculty provides structured undergraduate training. Including students from other medical schools would not be fair as there is difference in the medical curricula.

The strength of this study is the short time of the intervention that produced a significant positive impact on medical students at an early stage of their medical school. This intervention can be used to train other health professionals at a higher level including primary care physicians.

Conclusions

A one 90-minute workshop to second year medical students, based on commenting on a video with two scenarios dealing with PDP, resulted in significant improvement in CS when faced with a PDP. We recommend introducing this intervention to the medical curriculum at AUBMC and extrapolating it to other teaching institutions. More effort is needed to train students on how to obtain social information.

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