

Efficacy of a suicide sensitisation and prevention (SSP) workshop for medical students on their attitudes, beliefs, and factual knowledge on suicide: A pilot study

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ABSTRACT

Context: Myths and stigma about suicide and mental health among doctors are widely prevalent in India. Didactic methods of teaching alone may not be adequate to bridge the knowledge gap.

Methods: Fifty-seven MBBS students participated voluntarily by accepting an invitation. They were examined pre-intervention with the Suicide Opinion Questionnaire (SOQ) for their attitudes and beliefs about suicide. Students then underwent a custom-made extracurricular Suicide Sensitization and Prevention workshop. It consisted of a 120-min session that included a didactic session on the bio-psycho-social model of suicide and two role-plays demonstrating Suicide Prevention Early Intervention Communication (SPEIC). Students were examined again after seven days with SOQ, and with the SPEIC checklist.

Results: Fifty students completed the study protocol. There was a 9.5% increase in SOQ scores post-intervention indicating a change toward positive attitudes/beliefs about suicide. The emotional perturbation subscale showed the highest degree of improvement, whereas the acceptability subscale showed the least improvement. Students were able to recall 40% and 60% from the Do-Checklist and the Do Not Checklist from the SPEIC after seven days from the workshop. There was no difference in SOQ performances pre- and post-intervention in students who knew someone with psychiatric illness, or with a history of an attempt or death by suicide.

Conclusion: Using role-plays and interactive teaching methods can be effective in teaching psychiatry and mental health issues to medical students. The results indicate not only better understanding of subject matter but also recall after a week from the intervention.

Key words: Prevention, role-play, suicide

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INTRODUCTION

India has witnessed a slow yet definite rise in suicide rates over the last few years.^[1] Lack of awareness about

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the bio-psycho-social model of suicide, significant lacunae in the delivery of mental healthcare systems, and cultural and social perceptions of suicide are key factors that need addressing to remedy this situation. Until these needs are met, physician/doctor education in suicide prevention can be highly effective in preventing suicides in a community. A person, irrespective of his or her mental health status, is likely to contact his/her family doctor for other health-related or lifestyle-related matters for advice. It has been observed that, patients with suicidal ideations or attempts had contacted their family physician within a month before their suicide/attempt.^[2,3] Therefore, training doctors in the art and science of suspecting the presence of depression or other psychiatric illness in their patient and screening for depression or suicidal ideation is warranted. Studies around the world have shown that, such programs targeted at training primary care physicians in depression screening and referral are associated with higher detection, reporting, referrals, and treatment for affective disorders.^[4-7] In a systematic review of suicide prevention strategies, physician education in suicide prevention and reducing access to lethal means were the only two strategies that emerged as significant ahead of public and media education and mass screening campaigns.^[8]

There is another reason for training doctors about suicide prevention, and that being a slow yet definite uptrend in doctor's suicides (DSs) globally. Suicide rates among doctors have been found to be nearly double the rates in the general population.^[9,10] As high as 6 to 10% of practicing doctors have reported thoughts of suicide within the past 12 months globally.^[11,12] Compared to other population groups, doctors have a higher exposure to constant trauma, injury, illness, death, loss, and stress, which adds to the stressful life event model of stress and suicide.^[13] Erratic work hours, poor work-life balance, changing societal attitude toward medicine contribute to the work-environment-related factors elevating the risk of suicide further. Doctors often have stigma and myths about suicide and mental illness which may stem from lack of awareness about psychiatry and mental health, fear, and anticipation of public response to a disclosure. This becomes a hurdle for a doctor to objectively screen himself or herself for depression and suicidal ideations and seek help in time.^[13,14]

One of the reasons for such a widely prevalent stigma about mental health among doctors could be the position psychiatry holds in the medical curriculum in India. It is a subject that carries a small weightage in terms of assessment in the final MBBS examination and does not have a separate passing head. A small number of didactic lectures and clinical rotations is often inadequate to truly gauge the gravity and dimensionality of mental health.

Therefore, this study was planned to examine the efficacy of a Suicide Sensitization and Prevention (SSP) workshop on

medical students' attitudes, beliefs, and factual knowledge about suicide. Our secondary outcome measure was the degree of accuracy to which students recalled the DO's and Don'ts of Suicide Prevention Early Intervention Communication (SPEIC).

MATERIALS AND METHOD

Ethics and approval

This project was part of the mandatory coursework for the Advanced Course in Medical Education (ACME) conducted by Medical Council of India Nodal Center, Mumbai. The protocol was developed and finalized during the deliberations and proceedings at the first contact session of the course in the month of November 2019.

The protocol was then approved by the Institutional Ethics Committee and the Institutional Research Committee.

Study design and site

This was a prospective, longitudinal study designed to test the efficacy of a SSP Workshop on medical students' factual knowledge, attitude, and beliefs about suicide.

The study site comprised a medical college in western Maharashtra. A sample was recruited from students who were in the first year of MBBS at the time of their recruitment. Recruitment was done by an invitation to participate in the study voluntarily.

Session 1: Introduction, first assessment, and SSP

Students on recruitment were briefed about the project, its aims and objectives, and the problem statement it catered to. Students then filled out the following questionnaires as a part of pre-assessment.

Pre-assessment

Case information sheet

This was a self-designed, semi-structured proforma that gathered sociodemographic data from the participants.

Suicide attitude questionnaire

The suicide opinion questionnaire (SOQ) is a 52-item questionnaire that evaluates the raters' attitudes and beliefs and knowledge about suicide across 5 subscales or sub-domains. The subscales include the following:

- Acceptability: The degree to which raters think suicide is the obvious or acceptable choice or alternative.
- Social disintegration: The degree to which raters believe that suicidal ideations are the results of destruction of social bonds or values.
- Perceived factual knowledge: The degree to which raters believe in certain facts related to suicide.
- Personal defect: The degree to which raters believe that suicidal ideations or behavior is a result of a personal or a character weakness.

Psychometric properties of the SOQ have been well proven,^[15,16] and the instrument has been used extensively in literature^[17-20] in the past including some recently published studies from India.^[14,21]

Suicide sensitization and prevention (SSP) workshop

Students then attended a 90-min-blended teaching-learning intervention on SSP workshop prepared by the investigators afterward:

1. Having discussions with the moderators and fellow colleagues at the ACME at the contact session.
2. Deliberating the common misconceptions about suicide and suicidal ideations seen in daily psychiatry practice with members of the department, who between them share a cumulative experience of more than 35 years in undergraduate teaching and of more than 60 years in clinical practice in psychiatry.
3. Discussing the topic with representatives from interns, who have recently completed their psychiatry rotation as well as theory examination, and are preparing for NEET, for inputs about the challenges or hurdles experienced by them during their undergraduate psychiatry training, and
4. Referring to the National Medical Council revised syllabus for undergraduate medical training in India as well as the Competency-Based Medical Education (CBME) and Attitude, Ethics and Communication (AETCOM) handbooks.^[22]

Group discussion and feedback

The workshop, thus designed, was then presented to the Department of Psychiatry including interns, and their feedback was sought independently and anonymously. Not all the suggestions from the feedback could be incorporated due to either 1) logistical factors or 2) matter of relevance. These feedback and brainstorming sessions produced a few novel ideas, for example, 1) using a scene from the movie “3 idiots” (although many movies have depicted suicides, this movie is popular, resonates with the youth and really worked well in the workshop) and 2) comparing deaths due to coronavirus disease 2019 (COVID-19) and suicides for highlighting the mental health scenario in the country. These suggestions did indeed add value to the workshop.

Peer validation

A panel of 10 members, consisting of 3 independent practicing psychiatrists, 1 clinical psychologist, 3 medical practitioners, and 3 patients with a past history of a depressive episode, validated the workshop module. They completed a Likert rating assessment for the workshop for its relevance, quality of content, ability of the speakers, and actors to communicate the message to the audience. The headings with the lowest average rating led to a focused group discussion with the validation team, and their suggestions were incorporated into improving the section in question.

Contents of the finalized workshop

The SSP lasted 120 min and consisted of:

- 1) Information Communication Technology-based session: This 45-min long session was delivered as a large group classroom lecture. It discussed the bio-psycho-social model of suicide and informed students about:
 - a) The problem statement for suicide and need for suicide prevention: This section presented data about the rising number of suicides in society and in the medical fraternity. This section was designed to convey the message that suicide, is often a symptom, or an outcome of an underlying mental health issue. For a better understanding, we compared deaths due to COVID-19, which till the date of the workshop were around 150000 with deaths due to suicides in India over the past five years, which have risen and have always been above 10000. This allowed students to view suicide deaths as a health metric and understand the gravity of the situation.
 - b) Causes and triggers for suicidal ideations or attempts: It is commonly observed in clinical practice, as well as in media reports of suicides, causes, and triggers for suicides are often interchangeably used terms. We used examples from clippings from newspaper articles on deaths by suicide and discussed how triggers should not be confused with root causes for suicides and a unifactorial causation should never be implicated. Here, the example used was that of a suicide death of a teenager boy which was attributed to his mother scolding him for playing too much on his smartphone.
 - c) Warning signs and protective factors for suicide: This section talked about warning signs of an impending suicide from available resources^[23] and protective factors and mechanisms, such as resilience, delayed gratification, planning and time management, anger management, healthy coping mechanisms, altruism, exercise, among many others. To avoid this section sound like a lecture or a sermon, examples from popular movie scenes were discussed with the students. To elaborate, to discuss about goal planning and delayed gratification, we used the movie “3 idiots” and discussed the scene where a student and the protagonist’s colleague “Joy” die by suicide.
 - d) Interventions and help options for suicide available: Under this heading, students were briefed about different types of resources such as helplines, call-in 24-hour help services, counselling centers, online therapy services, psychiatrists and clinical psychologists, and so on. We also stressed on the University Moral Guidance Scheme that is in place at the university where this study was conducted and briefed students on how that program may help someone in their time of need.

This was followed by a 10-min Q&A session and a 5-min break.

3) Two role-plays depicting the SPEIC.

Suicide Prevention Early Intervention Communication (SPEIC) checklist

This checklist of 10 Do's and 10 Don'ts was prepared after referring to literature and guidelines issued by various organizations and governing bodies across the globe such as the National Institute of Mental Health,^[23] the Mayo Clinic, the World Health Organization,^[24] and the American Psychological Association [Table 1].

Role-play

Two pairs of postgraduate residents in the Department of Psychiatry, who at the time of intervention were in their second and third years of residency, respectively, performed one role-play each. Both the role-plays used common ground, that is, suicidal ideations after a stressor shared by a fellow student and ran for 5 min each. Both the role-plays were scripted by using the SPEIC checklist as a reference. The partner in each role-play intervened after suicidal ideations were reported, although, in one role-play, he followed the Do-Checklist (DC) whereas in the second role-play, the partner followed the Do-Not-Checklist (DNC) from the SPEIC checklist. To make the session more realistic, students rehearsed the script for two weeks and, after were deemed satisfactory by colleagues from within and outside the department, were allowed to take part in the actual study.

To make the session as blended and immersive as possible, participating MBBS students were allowed to question/interact with the grieving/suffering partner, as well as the intervening partner in each role-play, and at the end, comment about what was done better, and what could have been done better in each role-play.

Utilizing the principles of adult learning and de-briefing, at the conclusion of the SSP, students were asked to reflect in brief about what they learned during this session, and representatives were asked to share one-line take-home messages for better learning.

Table 1: SPEIC checklist

Do-Checklist (DC)	Do-Not-Checklist (DNC)
Speak up	Be afraid to ask about suicidal thoughts
Show your concern	Act shocked
Listen patiently	Offer empty advise
Pay attention	Give sermons/life lessons
Take the person seriously	Act casual/distracted
Offer support and hope	Be judgmental
Allow expression of emotions	Argue with the person
Seek help from authorities/experts	Promise confidentiality
Reduce access to lethal means/	Speak with a tone of sermonizing or
Offer safe environment	preaching
Be available/Take action	Dare a person to act on his/her thoughts

Students were informed that a second assessment session would be conducted exactly seven days after the first assessment session. A copy of the DC and DNC was given to students as a home-study material.

Session 2

Students were assessed exactly one-week after the first session, and were asked to:

1. Fill the 52-item SOQ for the post-assessment of their attitudes, beliefs, and opinions about suicide after the SSRS.
2. Enlist as many items as they can from the DC and the DNC for effective and timely intervention in cases of suicidal ideations.

Statistical analysis

Data was pooled in an Excel sheet, and analyzed using statistical software. We used descriptive statistics for demographic variables. The differences between pre- and post-intervention assessments of SOQ scores were done with the help of a paired t-test. Statistical significance was assumed at $P < 0.05$.

RESULTS

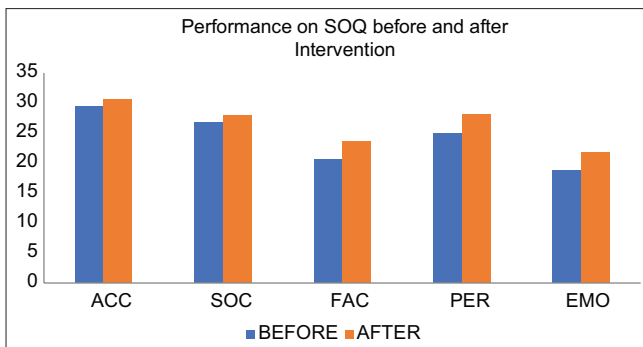
The sample consisted of a total of 57 students, with a mean age of 18.90 (0.76) years and predominantly comprised males (58 vs 42%). A total of 7 students dropped out from study after the first session, and the effective sample size became 50. None of the students reported having a history of psychiatric illness for themselves. More than a quarter of students reported knowing someone who has died by suicide (24%) and more than a third of students reported knowing someone who has a psychiatric disorder (34%).

Performance on SOQ

We found that the performance on the SOQ increased significantly post-intervention in participants (120.26 ± 20.09 [before] vs 131.70 ± 18.54 [after] $t = 4.046, P < 0.001$), indicating an overall improvement in subjective attitudes, opinions, and beliefs about suicide in study participants. There was no significant difference in the pre-intervention SOQ scores between genders ($t = 0.730, P = 0.446$) or between students who did and did not know someone with a history of psychiatric illness or suicidal ideations.

Although all subscale scores did show a statistically significant rise post-intervention, Emotional Perturbation subscale showed the highest growth (15.51%), whereas the acceptability subscale showed the lowest growth (4.05%) post-intervention.

We also compared participants' performance on the checklist and found that students were able to enlist more items from the DNC (6.00 ± 1.66) than the DC (4.66 ± 1.77).



ACC: acceptability subscale, SOC: social disintegration subscale, FAC: perceived fact subscale, PER: personal defect subscale, EMO: emotional perturbation subscale.

DISCUSSION

Teaching undergraduate students about suicide is a challenge in itself, as students before joining MBBS are exposed to the same consensus the general public has on through print and electronic media. This was evident as the pre-assessment SOQ scores did not differ significantly between students who did and did not know someone with a history of a death by suicide or a suicide attempt. This study therefore explores the efficacy of a novel teaching-learning session in not only improvement of factual knowledge but also changing in attitudes and beliefs about suicide.

We found that, after administration of the SSP, there was a significant improvement (9.5%) in students' attitudes and perceptions about suicide. Using novel, integrated or blended teaching methods for undergraduate students has been shown to be fruitful in the past.^[25-29] These studies showed that using interactive modes of teaching can lead to improvement in factual knowledge,^[28] skills,^[29] perceived usefulness of the session.^[26] It has also been shown that interactive T-L methods are not only associated with higher satisfaction in students, but can also be associated with a higher degree of retention and understanding of subject matter. Prakash *et al.*^[30] compared poetic narrative-based videos to teach psychiatry to undergraduate students with traditional teaching of psychiatry and found the former to be better in terms of perceived interest and enjoyment and outcome scores assessed by MCQ's post-intervention.

Results indicate that the subscale that showed the highest growth in scores was the emotional perturbation (EMO) subscale. In an earlier study by Nebhinani *et al.*,^[14] majority of the sample (MBBS students) attributed suicide attempts to the result of a weak personality, emotional disturbances, and disturbed relationships. This subscale on the SOQ examines to what degree the raters attribute a person's emotional vulnerability to suicidal thoughts. This may have been the result of the weight given to the bio-psycho-social model of suicide in the TLI. The session discussed in detail

about how suicidal thoughts or ideations emerge after a dynamic interaction between biological and genetic vulnerability to psychiatric illnesses, psychological factors, personality domains, and socio-environmental stressful situations. The session helped students understand these concepts with examples of suicide stories printed in the media, guidelines issued for media coverage of suicide, and a few clips from famous Bollywood movies and TV shows. We noted that during the Q&A session at the end, most questions from students were on the BPS model of suicide, which may have driven the point home more effectively. We also observed that the acceptability subscale showed the lowest improvement (4.5%) in attitudes after the intervention.

We also found that the participants' attitude toward the acceptability of suicide showed the lowest degree of change post-intervention. This subscale explores to what extent the raters feel that suicide is acceptable, or even obvious in certain individuals or situations. Thus, although students learned potential motives or triggers for suicidal ideations, an attitudinal change may not have occurred regarding the acceptability of suicide, which indeed is thought-provoking. This was anticipated at the time of module preparation and the SSP therefore did include warning signs for suicide, healthy and unhealthy coping mechanisms, and early intervention for suicidal ideations. It was also noteworthy that, mean scores on Acceptability subscale pre- and post-intervention were higher than all other subscales indicating the worst attitudinal position of participant among all subscales. This mirrors the existing literature, which shows widely prevalent acceptability across the globe toward suicidal ideations or thoughts.^[31-33]

Acceptability of suicide or suicidal ideation is a big hurdle in the path of suicide prevention. We believe that challenging personal acceptability to certain forms of suicide should be targeted, as acceptability toward suicide has been linked to an elevated risk of suicide, especially in the elderly.^[34] Perhaps that is why most guidelines for print media for reporting suicides mention the need to print stories of those who overcame suicidal ideations by themselves or by seeking help from professional experts.

We also found that students were able to recall 40% and 60%, respectively, from the "Do's" and "Don'ts" of the suicide early intervention checklist even seven days post-intervention. What we noticed in the response forms submitted by students was the fact that students had understood certain nuanced concepts like acceptance, empty advise, and judgmental attitude. What surprised us initially was the difference in performance between the "Do's" and the "Don'ts" checklists. It may have been perhaps due to certain points in the Don'ts checklist which were too easy or obvious to answer. Yet, students answered those questions without having a copy of the checklists as a

ready reckoner at their disposal. Role plays, in person or in virtual/video platforms, have been proven effective teaching methods for medical curricula over time.^[35-37] Role-plays are, in their essence, a simulation technique, which allows spectators to actually visualize certain scenarios, which allows an immersive experience for students who become a part of the scene by themselves. Role-plays are particularly effective in teaching soft skills or communication skills which involve the affective domain of learning and are benefitted by having humans perform the simulation, allowing the audience to have an empathetic approach to the situation and form a connection with the characters.^[38]

To summarize, this study found that using an integrated teaching-learning intervention led to a significant improvement in attitudes and beliefs about suicide in medical students. Students after the intervention were able to recall the knowledge gained at the post-intervention assessment held a week after. Students were also able to recall and enlist the Do's and Don'ts of early intervention in suicide prevention after seven days from intervention without any memory cues. To the best of our knowledge, this study is unique as it goes beyond a cross-sectional assessment of attitudes and beliefs, but evaluates the efficacy of a novel teaching-learning method. This study also had some limitations. This study was conducted at a time when neither the CBME curriculum, nor the AETCOM module had been fully implemented in India. Therefore, this study was an extra-curricular activity for students, and finding enough time in their busy schedule was a challenge. Secondly, to make the sampling more representative, students were invited to participate in this exercise, which led to a limited turnout at the first session and a nearly 13% dropout at the second. Another limitation could have been the limitations our residents had in acting during the role-plays, despite numerous rehearsals and practice runs.

This study was performed before the CBME medical curriculum was widely implemented in India, making it a novelty. The CBME and the AETCOM modules will help reduce the evident gaps in mental health education for budding doctors in India.

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Conflicts of interest

There are no conflicts of interest.

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