

Effectiveness of Foundation Course in Improving the Mental Health of Indian Medical Graduate: A Prospective Observational Study

Rekha Kanagamuthu¹, Jenish Rajma², Priyadarshini Valluvan³, Suriya Karthikeyhan⁴, Sriranganathan Thirunavukkarasu⁵, Arun Arunachalam Chandrasekaran⁶

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ABSTRACT

Introduction: Adolescence is an important phase of life with transition from school to college. Medical education in India is undergoing new changes with the introduction of a foundation course at the beginning of the MBBS course. We studied the effect of the foundation course among newly joined late adolescent medical students in improving their mental health.

Methods: Volunteered students from two medical colleges took a pretest questionnaire consisting of their basic demographic details, and questions about their mental health, which was assessed using the Teenage Screening Questionnaire (TSQ)-Mental (Abridged) version by the Child Development Center (CDC), Trivandrum. A postfoundation course assessment on its role in reducing mental stress and improving awareness about medical education was collected from the students.

Results: About 51.2% of the medical students were found to have increased stress in the past 1 month. The point prevalence of mental health illness in our study was 30.6%. The most common mental illness identified was anxiety (14.7%) and depression (14.7%) in an equal number of students. A small percentage of students (1.4%) had a severe form of depression with suicidal tendencies even before the start of the foundation course. Almost 76% of them opined that the foundation course had increased their fear and anxiety about present college life and future career.

Conclusion: The foundation course has to be planned more meticulously with expert help, focusing more on the mental health aspect of the students, identifying best practices to improve the mental health of medical students who are at risk for mental illness in the future.

Keywords: Foundation course, Late adolescents, Medical students, Mental health.

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INTRODUCTION

Adolescence is an important phase of life where an individual undergoes physical maturation of the brain and body, giving rise to intense psychological and physical change. These heightened emotional experiences can trigger underlying psychiatric illness, anxiety, or suicidal behavior. When an individual's ability to cope with the daily demands of life is exceeded, the pressure created henceforth causes stress. Persistent stress is associated with an elevated risk of cardiovascular disease, diabetes mellitus, and other noncommunicable diseases in adulthood.¹ Additionally, psychological stress can contribute to adverse mental health outcomes such as anxiety, depression, and suicidal thoughts.

Mental health problems are rampant among school and college students. Depression among medical students² remains insufficiently acknowledged, with the prevailing discrimination and stigma acting as significant barriers that dissuade many students from seeking help. Academic stress has been identified as an important predictor of poor mental health.³ Depression among medical students² can be attributed to various factors, including the demanding medical curriculum, insufficient sleep due to overwhelming academic tasks, the transition from familiar to unfamiliar environments, and a lack of communication skills. Compromised mental well-being for medical students is associated with student dropout, poor academic performance, substance experimentation and abuse, compromised patient care, and weakened social support systems.

^{1,3}Department of Physiology, Srinivasan Medical College and Hospital, Dhanalakshmi Srinivasan University, Samayapuram, Tamil Nadu, India

²Department of Pediatrics, AIIMS, Madurai, Tamil Nadu, India

⁴Department of Anatomy, Kallakurichi Medical College and Hospital, Kallakurichi, Tamil Nadu, India

⁵Department of Community Medicine, Srinivasan Medical College and Hospital, Dhanalakshmi Srinivasan University, Samayapuram, Tamil Nadu, India

⁶Lily Mission Hospital, Madurai, Tamil Nadu, India

Corresponding Author: Rekha Kanagamuthu, Department of Physiology, Srinivasan Medical College and Hospital, Dhanalakshmi Srinivasan University, Samayapuram, Tamil Nadu, India, Phone: +91 8870224027, e-mail: drakrekha78@gmail.com

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The foundation course was introduced by the Medical Council of India in 2019 as a part of revised competency-based medical education for a period of 1 month to enable the students to understand the need for a competent doctor of international standards who will meet the basic patient needs when they complete their undergraduate

course.⁴⁻⁶ There is a need for well-structured mental health services for medical students that can identify at-risk students early and give them proper guidance throughout their college life.

METHODS

We did a prospective cross-sectional study at 2 medical colleges in Tamil Nadu among late adolescent first-year medical students (2022–2023 batch) who joined the MBBS course from October to December 2022. Considering around 1 lakh medical students join first-year MBBS every year and the percentage prevalence of mental illness among adolescents is around 7% (National Mental Health Survey 2015–2016),⁷ with a confidence level of 95%, a sample size of 100 students was calculated. We excluded students who had preexisting mental illness and those on long-term medications for chronic diseases.

Volunteered students took a screening test about their mental health using the Teenage Screening Questionnaire (TSQ)–Mental (Abridged) version by the Child Development Center (CDC), Trivandrum. Their basic knowledge about the need for a medical education orientation program like the foundation course was also collected. After completion of the foundation course by the college faculties, a postfoundation course assessment about the foundation course, its role in reducing mental stress, and improving awareness about medical education was collected from the students. The responses were recorded in a feedback Google Form on the last day of the foundation course. All students were requested to fill out the feedback form.

RESULTS

In our study, the new medical students enrolled were from two different medical colleges of South India, one college from the government sector and another being of private management. Most of them in both medical colleges (102/163) were from an urban background. Only 37.4% students (61/163) were from rural areas. Out of the 163 students who participated in the study, most of them (66.8%) were in their late adolescence (Table 1 and Fig. 1), that is, age range was between 17 and 19 years. The maximum age of the study participant was 22 years, who had repeated the NEET entrance examination 3 times. The sex ratio was significantly female predominant, with 121 females to 42 males.

A total of 43 students (26.3% of the participants) had entered the MBBS course immediately after completing their board exams in

2022. About 66 students had completed 12th standard in 2021 and they had repeated the NEET entrance exam once. About 77 students had done their schooling in the CBSE syllabus, while 86 of them attended the state board syllabus. There was not much difference in the syllabus where they studied between the two genders. Among the late adolescent 109 students who were between 17 and 19 years of age, 81 were girls and 28 were boys. About 67% of the girls had joined the MBBS course after attempting the NEET exam once or twice. Almost one-third of boys (33.3%) had joined the course after 19 years of age. About 54 students (14 boys and 40 girls) who had crossed their adolescent period were included in the study as they also had their college life experience for the first time. A total of 135 students (82.8%) were staying in the college hostel and only a few were day scholars.

On analyzing the mental health of the medical students by administering the simplified TSQ-M developed by CDC, Trivandrum, 51.2% of the students were found to have increased stress and tension in the past 1 month. Around 7.4% of the students were anxious, 6.2% were predominantly angry, and 8.6% were sad. Most of them (63.2%) felt that these above feelings were out of proportion to the cause (Fig. 2). These students had additional symptoms like sleep disturbance (62), excessive sweating (23), appetite changes (14) and palpitations (8). Only 34.4% had no somatic symptoms. Almost 35% felt that these somatic symptoms affected their work. 65% felt that they sometimes lost interest in things which they previously enjoyed. About 11–15% had severe symptoms like feeling good for nothing. About 35% had felt sometimes or often that there is no future for them. About 41% felt that they can do nothing in life. There was a common feeling that they are good for nothing among the students. A total of 77/163 students had this feeling at some point after joining medical school, while 25 of them had this thought often, disturbing their daily life activities. Many students

Table 1: Age distribution of the study participants

Age (in completed years)	Number of students
17 years	9
18 years	38
19 years	62
20 years	32
>20 years	22

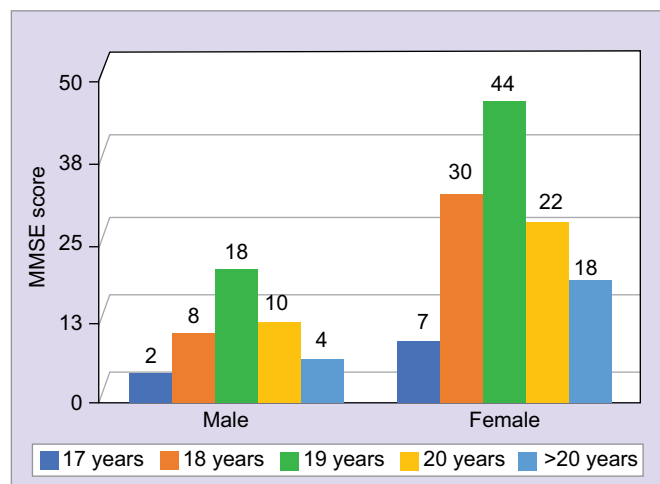


Fig. 1: Age and sex distribution

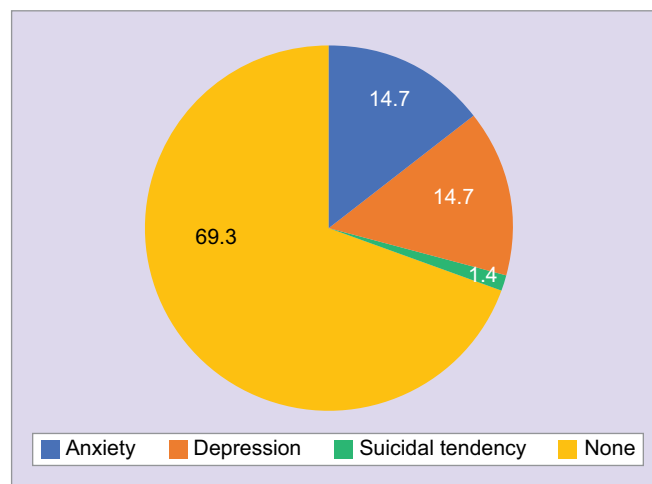


Fig. 2: Clinical impression of TSQ-M

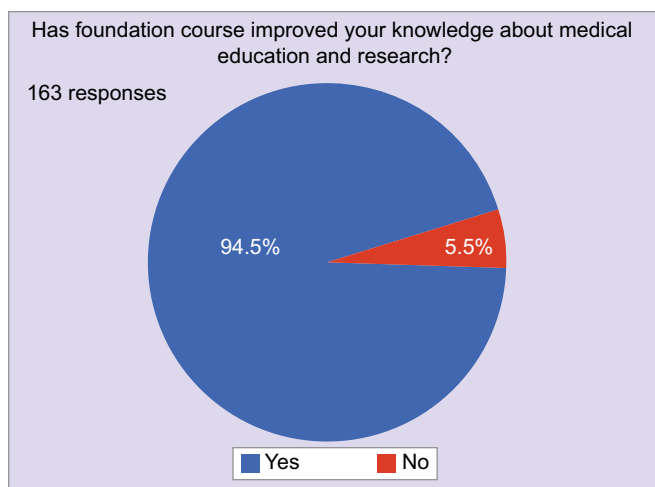


Fig. 3: Postfoundation course feedback on medical education

(48 students sometimes and 8 students often) felt there is no future for them. 59 of the students had felt sometimes or often that life is not worth living. A total of 67 students felt sometimes that they can do nothing in life. 19 of them felt sometimes or often to harm someone out of their frustration. It was shocking to note that 4% of them had clear suicidal tendencies which required medical help. The overall clinical impression on analyzing the TSQ-M questionnaire showed that around two-thirds of students (69.3%) had no significant mental health problem. A total of 50 students had features suggesting mental illness. The point prevalence of mental health illness in our study was 30.6%. The most common mental illness identified was anxiety (14.7%) and depression (14.7%) in an equal number of students. A small percentage of students (1.4%) had a severe form of depression with suicidal tendencies even before the start of the foundation course.

Foundation courses are conducted by universities across the globe to induct newly admitted students to various courses. This helps the students to get comfortable in their new environment, and they can interact with their peers and mentors.

After completing the foundation course for 1 month (Figs 3 and 4), students were asked to give feedback. Almost 94.5% of the medical students opined that the foundation course had increased their awareness about medical education and research. However, most of them (76%) felt that it increased their fear and anxiety also.

Only around 9.8% felt that the foundation course reduced their fear, with some positive impact on their mental health. Around 66.2% felt that the course had not reduced their fear about MBBS significantly. About 29% of the students were also not satisfied with the content of the foundation course. Around 25.8% of students were confused about their career choice and were less confident to face the future. Postfoundation course, 86% had made friends with whom they could share their feelings or experiences, and around 80% had found a mentor in their institute to guide them in the coming years and personal life. The majority of the students had interest in extracurricular activities (96.3%) and sessions to develop their communication skills (86.5%). Fewer students showed interest in statistics and computer skills sessions also (74.2%). The students felt that early clinical exposure (89.6%) will influence clinical practice more than the skill lab (10.4%) during their medical schooling. The effectiveness of the foundation course was assessed using a Likert scale to indicate the percentage of usefulness of this program. About 70% of the students had suggested that the foundation

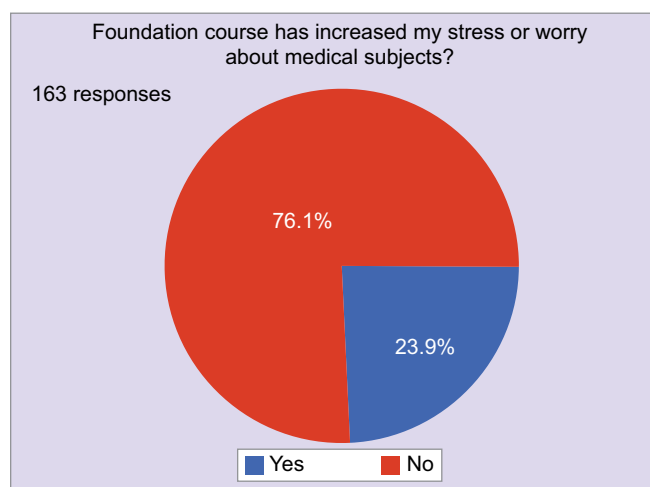


Fig. 4: Postfoundation course feedback on mental health

course improved their awareness about medical education and research by >50%. However, <10% opined that it significantly reduced their fear and anxiety about the MBBS course and future. This shows that the mental health of the students is not well addressed by the foundation course.

DISCUSSION

Almost one third of the students in our study had minor mental health issues like stress, fear of the future, and sleep disturbances even before the beginning of the MBBS course. Medical students are at a higher risk of developing mental health challenges during their course of study as compared with other students.⁶ This vulnerability is hypothesized to be secondary to exposure to a stressful curriculum, which places significant demands on the student in terms of the volume of work, the inherent complexity of learning the practice of patient care, feeling a lack of control over the educational experience, and exposure to death and dying for the first time. On assessing their mental health with the Teen Screen Questionnaire, around 30% of the students had symptoms suggesting anxiety and depression. A meta-analysis⁸ of 69 studies by Quek et al comprising 40,348 medical students showed that the global prevalence rate of anxiety among medical students was 33.8%, and the prevalence was more among Asian and Middle East students. In a study done by MacLean et al.⁹ using the PHQ-2 questionnaire in medical students, 82% ($n = 315$) of students felt an increase in stress in the last 1 year. Students spend many hours in lectures, labs, and studying, and less time in health-promoting activities like exercise and eating healthy. Some students experience increased depression, anxiety, interpersonal difficulties, and suicidal thoughts. 9% of our students reported depression, as compared to 14% in the study by Schwenk et al.¹⁰ Anxiety and depression, if not identified and intervened at the right time, will result in loss of precious lives. The rate of suicidal ideation in 11.7% of students was similar to the study by Dyrbye,⁶ which reported an 11% rate of suicidal ideation.

The foundation course focuses on various aspects of medical education and research. Classes were scheduled for the first-year students to cover a wide range of topics like introduction to medical subjects, ethics and communication, basics of research and its need, yoga and other extracurricular activities, and language and computer skills training. Most of the students liked the classes

involving active participation like extracurricular activities, classes to improve their computer skills, and communication. Around 90% of the students were interested to have early clinical exposure by visiting hospitals and primary health centers. In a study by Raveendra et al.,¹¹ the students liked the topics on ethics and communication skills. The foundation course has a wide range of topics to be covered and it is customized according to the availability of resource persons in each medical college. The mental health problems of the students in our study were not adequately addressed in our foundation course. In fact, some students felt their stress and anxiety got aggravated more in the first 1 month of college life, as is evident in the postfoundation course feedback. This could be not only due to the change in environment like hostel life, food, and friends, but can also be due to too much exposure of young minds to the vast field of medicine within a short span. Students may not be mentally prepared to understand the practical difficulties while attending patients or the intricacies involved in epidemiological research. These adolescent minds may not be fully mature to accept or understand the difficulties in diagnosing or treating some tough cases. The role of medical teachers in molding these young minds is pivotal. Hence, foundation course topics can be modified in a better manner to train the students in the basics of medical education in a staged, simpler, less terrifying manner.

The need for assessing the mental health of medical students is not a primary objective in the foundation course. However, with the increasing incidence of suicides among young doctors and medical students in our country, we need to give more importance to this also. The foundation course, being the first point of contact and interaction among the faculty and students, should promote mentor–mentee relationships.^{12,13} Mentoring plays a crucial role in providing support and guidance to students, contributing to a reduction in stress, anxiety, and depression. The establishment of a strong mentor–mentee relationship is instrumental in promoting emotional stability. The main advantage of our study is that we looked into the mental health aspects of medical students from their first year of admission into medical college. Early identification of students at risk of mental health issues in the future will definitely help us in providing more psychological support or medical help if necessary. This will definitely reduce the incidence of self-harming behaviors or suicidal attempts among college students.¹⁴ The foundation course, being a new armamentarium in our medical education curriculum, should be customized according to the needs of the medical community.

The key objectives for introducing the foundation course in MBBS need to be reidentified, and the topics should be modified accordingly by doing large-scale feedback studies from medical students in both government and private colleges. We need more studies to address the mental health of late adolescents entering colleges, and we also need to study the effect of the foundation course on the mental well-being of medical students. Similar to the Western world, it is time we start proper mental health services in all universities by providing proper assessment using validated tools to confirm mental health issues and also providing clinical services to those who are in need.

Hence, we conclude that first-year medical students, most of them being in the adolescent age, are more prone to have

preexisting or new-onset mental health problems. The foundation course has to be planned more meticulously with expert help, focusing more on the mental health aspect of the students. More innovative ideas, education research, and feedback from students are needed to improve the efficacy of the foundation course, catering uniquely to each student's needs, and identify the best practices to improve the mental health of medical students who are at risk for mental illness in the future.

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