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EFFECTIVENESS OF A STRUCTURED SENSITIZATION PROGRAMME ON PREPAREDNESS AND ATTITUDES OF FIRST-YEAR MBBS STUDENTS TOWARDS THE FAMILY ADOPTION PROGRAMME: A PROSPECTIVE STUDY

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Abstract

Background: Contemporary medical education increasingly emphasizes community-oriented, competency-based training to prepare socially accountable physicians. The Family Adoption Programme (FAP), introduced by the National Medical Commission, aims to provide early community exposure to undergraduate medical students. However, first-year MBBS students often experience anxiety, lack of preparedness, and limited understanding of community dynamics, underscoring the need for structured sensitization prior to field engagement. Objectives: To assess the effectiveness of a structured sensitization programme in improving preparedness, knowledge, and attitudes of first-year MBBS students towards participation in the Family Adoption Programme. **Methods:** A prospective interventional study was conducted over six months in the Department of Community Medicine, NIMDS&R. All first-year MBBS students of the 2024–2025 academic session was included through complete enumeration. Participants underwent a structured sensitization programme followed by pre- and post-intervention assessments using validated, semi-structured questionnaires. Outcomes measured included changes in knowledge scores, attitudes towards community engagement, and readiness for FAP. Student satisfaction and qualitative feedback were collected through reflection and debriefing sessions. Quantitative data were analyzed using appropriate statistical tests, while qualitative responses were subjected to thematic analysis using a manual coding framework. **Results:** The sensitization programme demonstrated improvement in students' knowledge regarding social determinants of health, enhanced positive attitudes towards community engagement, and increased readiness for participation in FAP. Students reported high satisfaction with the training methods and expressed greater confidence in interacting with families in community settings. **Conclusion:** Structured sensitization prior to community exposure significantly enhances the preparedness, knowledge, and attitudes of first-year medical students, supporting the effectiveness of FAP as a valuable educational tool in undergraduate medical training.

Keywords: Family Adoption Programme (FAP); Sensitization; Community-based learning; Early clinical exposure; Social accountability; Medical education; MBBS students

INTRODUCTION

Medical education worldwide is undergoing a paradigm shift: from traditional, lecture-based learning geared largely toward hospital-based clinical training — to a more comprehensive, competency-based model that emphasizes the social, environmental, and behavioral determinants of health. This evolution recognizes that to serve populations effectively, physicians must be equipped not only with biomedical knowledge, but also with skills in communication, community engagement, cultural sensitivity, and public-health awareness.[1,2] In India, this shift has been institutionalized under the guidance of the National Medical Commission (NMC), which introduced the Family Adoption Programme (FAP) into the MBBS curriculum starting 2019. Under FAP, medical students adopt families — typically from underserved or rural communities — and follow them over time, gaining real-world exposure to community health dynamics, social determinants of health, and family-level health needs.[2,3] This long-term, community-centered engagement aims to cultivate socially accountable, community-responsive physicians — a goal that aligns with global trends in community-oriented medical education.[1] However, first-year MBBS students — being new to medical training — often face challenges when transitioning from classroom learning to community engagement. Issues such as anxiety, lack of confidence, limited communication skills, cultural unfamiliarity, and insufficient understanding of social determinants may hinder effective interaction with adopted families and compromise the educational value of FAP. Indeed, several studies have found that without adequate preparation, students may feel hesitant or ill-equipped for community-based assignments.[4]

Given these challenges, there is a pressing need for a structured sensitization programme prior to actual community exposure for first-year students. Such a programme can enhance readiness, build confidence, impart knowledge about social determinants of health, improve communication skills, and foster empathy and cultural sensitivity. Theoretical and empirical literature on community-based medical education strongly supports early, organized exposure with preparatory training, arguing that this helps students internalize community-centred values and develop competencies essential for primary and preventive care.[5,6] Therefore, the present study was undertaken with the aim to assess the effectiveness of a structured sensitization programme for first-year MBBS students before they begin participation in FAP.

MATERIALS AND METHODS

Study Design, Setting and Ethical Approval

This prospective interventional study was conducted to evaluate the effectiveness of a structured sensitization programme on the preparedness, knowledge, and attitudes of first-year MBBS students toward participation in the Family Adoption Programme (FAP). The study was carried out in the Department of Community Medicine at NIMDS&R, a tertiary-level medical teaching institution, in collaboration with affiliated community field practice areas. The study period spanned six months during the 2024–2025 academic year. The study protocol was reviewed and approved by the Institutional Ethics Committee of NIMS&R. Written informed consent was obtained from all participants prior to enrolment, and confidentiality and anonymity were strictly maintained throughout the study.

Study Population

The study population comprised all first-year MBBS students enrolled in the 2024–2025 academic session at the institution, and a complete enumeration approach was adopted whereby all eligible students were invited to participate. Inclusion criteria were students who provided informed consent, attended both pre- and post-sensitization assessments, and were present for the entire sensitization programme. Students who declined consent, were absent during any component of the programme,

or submitted incomplete questionnaires were excluded. A census method was used for sample size, and no formal sample size calculation was performed as all eligible students were included.

Methods

The structured sensitization programme was designed and implemented by faculty of the Department of Community Medicine and consisted of interactive lectures on community medicine principles, social determinants of health, and objectives of the Family Adoption Programme (FAP), small-group discussions and problem-based learning sessions, role-play and simulation exercises to enhance communication skills and ethical community engagement, supervised field visits with interaction with assigned families, and guided reflective and debriefing sessions. The programme was delivered over multiple sessions using standardized teaching materials and facilitator guides to maintain uniformity. Data were collected using a pre-tested, semi-structured, self-administered questionnaire assessing preparedness, attitudes towards community engagement, knowledge of social determinants of health, and readiness for community-based activities, with responses recorded on a 5-point Likert scale. The same instrument was administered before and after the sensitization programme, and qualitative feedback was additionally gathered through structured feedback forms and open-ended questionnaires during reflection and debriefing sessions.

Outcome Measures

Primary outcomes included the change in knowledge scores between pre- and post-sensitization assessments and the change in attitudes, preparedness, and readiness toward community engagement. **Secondary outcomes** included student satisfaction with the sensitization methods and thematic insights derived from qualitative feedback obtained through reflection and debriefing sessions.

Data Analysis

Quantitative data were entered into Microsoft Excel and analyzed using Statistical Package for the Social Sciences (SPSS), version XX. Descriptive statistics were computed as means, standard deviations, and proportions. Pre- and post-intervention scores were compared using paired *t*-tests, and a p-value of <0.05 was considered statistically significant. Qualitative data were analyzed using thematic analysis with a manual coding framework. Responses were read repeatedly, independently coded by investigators, and organized into emerging themes through consensus.

RESULTS

Table 1: Preparedness and Attitude (Pre- and Post-Sensitization)

Statement	**Pre-Test Mean (SD)**	**Post-Test Mean (SD)**	**Change**	**p-value**
I feel confident to engage with community families	2.7 (±0.8)	4.3 (±0.6)	+1.6	<0.0001
I understand the purpose of the FAP	3.0 (±0.9)	4.6 (±0.5)	+1.6	<0.0001
I am motivated to participate in community activities	3.1 (±0.8)	4.5 (±0.6)	+1.4	<0.0001
Statement	Pre-Test Mean (SD)	Post-Test Mean (SD)	Change	p-value

I feel confident to engage with community families	2.7 (±0.8)	4.3 (±0.6)	+1.6	<0.0001

Table 2: Knowledge and Awareness of Social Determinants of Health measure changes in knowledge and awareness before and after sensitization.

Knowledge Area	**Pre-Test Mean Score (out of 5)**	**Post-Test Mean Score (out of 5)**	**Improvement**	**p-value**
Understanding of community-based determinants	2.4	4.2	+1.8	<0.0001
Familiarity with FAP objectives and methods	2.5	4.3	+1.8	<0.0001
Ability to identify social/environmental factors	2.3	4.1	+1.8	<0.0001
Knowledge Area	Pre-Test Mean Score (out of 5)	Post-Test Mean Score (out of 5)	Improvement	p-value
Understanding of community-based determinants	2.4	4.2	+1.8	<0.0001

Table 3: Perceptions of Community-Based Learning explore students' perceptions after sensitization.

Perception Theme	**% of Students (n = 240)**	**Qualitative Insight**
Felt more empathetic toward underserved families	86%	Reported improved emotional understanding
Believed community visits added real-world value	91%	Said it helped relate theory to practice
Preferred hands-on activities over lectures	83%	Valued field visits, role plays, and reflective discussions
Perception Theme	% of Students (n = 240)	Qualitative Insight

Felt more empathetic toward underserved families	86%	Reported improved emotional understanding

Figure 1: Challenges Faced During Early Community Exposure identify initial barriers and discomforts.

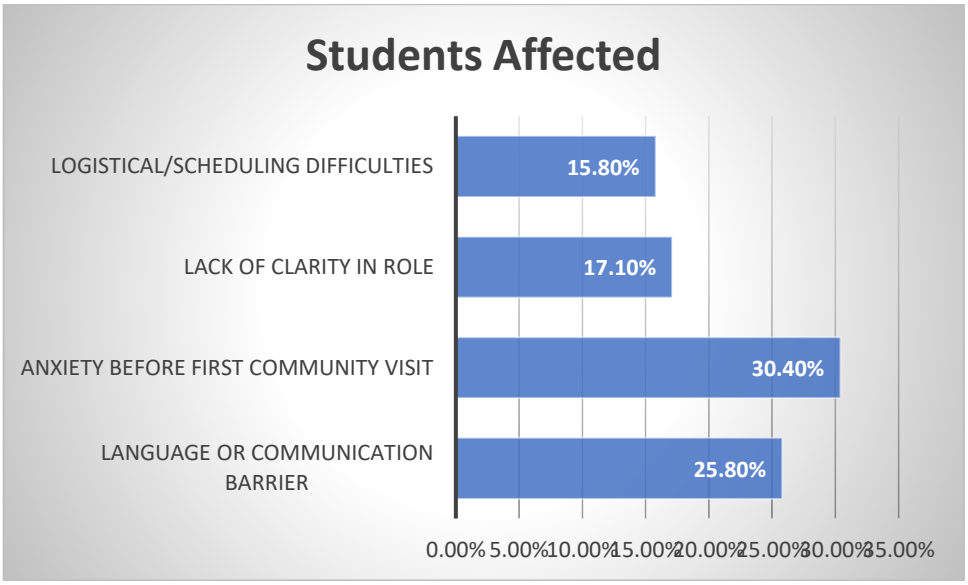
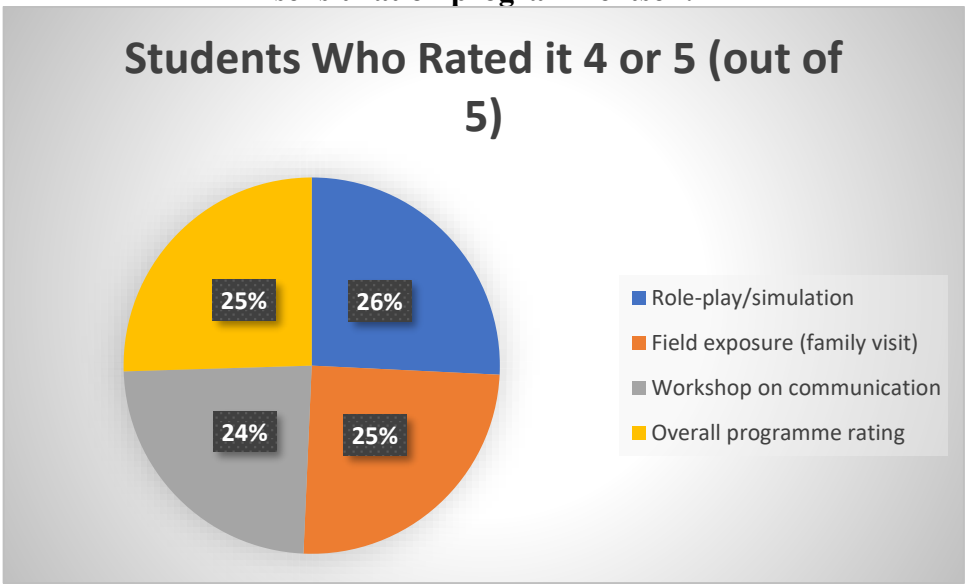


Figure 2: Student Feedback on Sensitization Design and Delivery evaluate feedback on the sensitization programme itself.



DISCUSSION

The present study was designed to assess the impact of a structured sensitization programme on first-year medical students' preparedness, knowledge, attitudes, and perceptions toward community engagement through the Family Adoption Programme (FAP) and early community exposure. The background for this intervention rests on calls for socially accountable medical education that integrates community-based learning from early in the undergraduate curriculum — a shift encouraged in competence-based curricula globally to sensitize future doctors to societal needs, social determinants of health (SDH), and the context of underserved populations. Such experiential and

community-oriented training aims to bridge the gap between classroom learning and real-world health-care delivery, and foster empathy, communication skills, and social responsibility among students.

Our results demonstrate a highly significant improvement across multiple domains after the sensitization programme. As seen in **Table 1**, students' self-reported confidence in engaging with community families rose substantially (mean change +1.6; $p < 0.0001$), as did their understanding of the purpose of FAP and motivation to engage in community activities. In **Table 2**, knowledge scores — including understanding of community-based determinants, familiarity with FAP objectives, and ability to identify social/environmental health factors — improved by +1.8 on a 5-point scale ($p < 0.0001$). Qualitative/perceptual data summarized in **Table 3** indicated that 86% of students felt more empathetic toward underserved families, and 91% believed that community visits added real-world value; 83% preferred hands-on activities (field visits, role plays, reflections) over traditional lectures. Though some initial discomfort and barriers were documented (see Figure 1), feedback about the sensitization design and delivery (Figure 2) was overwhelmingly positive, indicating acceptability and perceived value of the programme.

These findings accord with prior evidence from both Indian and international contexts. For instance, a qualitative study from Kerala involving first-phase clinical exposure in rural hospitals reported that community-based training enabled students to better understand their academic knowledge in light of real-world health needs and fostered social learning, empathy, and socially responsive professional orientation.[7,8] Similarly, a systematic review on community-engaged medical education demonstrated that community-based educational activities significantly enhanced undergraduate students' empathy and social accountability outlook.9,10 There is also conceptual support for the effectiveness of such experiential learning: authors have argued that community-based medical education (CBME) — especially longitudinal or immersive models — provides a context-rich environment that fosters meaningful relationships, continuity, and deeper learning through authentic social and clinical contexts.[10,11] Further, the constructivist qualitative work on medical students' experiential learning of social determinants of health illustrates how social interaction, reflection, and contextual learning deepen awareness of structural factors affecting health — exactly what our sensitization programme seems to have achieved. [12,13] The mechanisms underlying our findings can be conceptualized along educational and psychological theories of learning and socialization:

Experiential learning and contextual immersion: By involving students in real-world community settings — through field visits, family adoption, and reflective discussions — the programme leverages the model described by David A. Kolb (Kolb's Experiential Learning Theory), where concrete experiences followed by reflection lead to abstract conceptualization and active experimentation. This process helps transform theoretical knowledge of social determinants into a personal, socially relevant understanding.[14]

Social and collaborative learning: The social context, interaction with communities, mentors, and peers, helps students internalize social values, empathy, and professional attitudes. As shown by prior qualitative studies, this social dimension of CBME facilitates deeper learning beyond individual cognition.[9]

Increased self-efficacy and motivation: Engaging with community families, being entrusted with responsibility, and receiving support may enhance students' confidence and sense of agency — which is critical for motivating community engagement and future practice in underserved settings.

Emotional and moral engagement: Direct exposure to disadvantaged communities and their social determinants likely triggers affective and moral reflection, fostering empathy and social accountability — key attributes for socially responsive physicians.[15] Any minor differences between our results and those in earlier studies may be due to variations in programme intensity, design (e.g.,

structured sensitization plus field visits vs. standard community exposures), sample size, or contextual factors (institutional support, student demographics). The use of a mixed-methods design, large sample, and combination of quantitative and qualitative measurements might have amplified the observed effect size in our study.

Clinical Outcome

From a clinical and educational viewpoint, these findings have important implications. Early structured sensitization through programmes like FAP can cultivate future physicians who are more aware of social determinants of health, empathetic toward underserved populations, and better prepared for community-oriented practice. By embedding such training early in the curriculum, medical colleges can promote social accountability, encourage interest in primary care/community medicine, and strengthen the link between academic medical education and societal health needs. Given persistent challenges in health inequities and the need for socially responsive healthcare delivery, our results support advocating for mandatory, well-designed community-based sensitization in undergraduate medical curricula.

CONCLUSION

A structured sensitization programme significantly enhanced the preparedness, knowledge, and attitude of first-year MBBS students toward participation in the Family Adoption Programme (FAP). Through a combination of interactive lectures, workshops, simulations, and supervised field visits, the programme effectively bridged the gap between classroom learning and community-based practice. Statistically significant improvements in post-test scores affirmed the educational impact of early experiential exposure. Additionally, qualitative feedback revealed that students developed greater empathy, communication skills, and confidence in dealing with underserved communities.

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