

## ORIGINAL ARTICLE

*Effectiveness of Modified Seminars in Teaching-Learning of Community Medicine*Mandar V. Chandrachood<sup>1</sup> and Yogesh A. Bahurupi<sup>2</sup><sup>1,2</sup>Department of Community Medicine,<sup>1</sup>MIMER Medical College, Talegaon Dabhade, Pune-410507, Maharashtra, India<sup>2</sup>All India Institute of Medical Sciences, Nagpur-441108, Maharashtra, India.**Abstract:**

**Introduction:** In medical education, seminars stand out as a small group teaching (SGT) method that promotes active participation. However, a common problem with traditional seminars is that students often remain passive, leading to insufficient participation. Modifying seminars by incorporating elements like role-plays, quizzes, or group discussions can improve learning outcomes. This study was undertaken with objectives of implementing and evaluating the effectiveness of modified seminars, incorporating group discussions, as a small group teaching method in community medicine.

**Material and Methods:** We conducted this educational intervention study in undergraduate medical students and faculty members of Community Medicine. All participants underwent a modified seminar, incorporating a group discussion after the traditional seminar. Data was collected using Google Form questionnaires to assess the gain in knowledge scores and feedback regarding traditional seminar vs. modified seminar. Data was analyzed using SPSS version 23 software.

**Results:** All modified seminars resulted in gain in knowledge scores of participants. A total of 65 students and 3 faculty members provided feedback. Feedback assessment of students highlighted the effectiveness of modified seminars over traditional seminars in all parameters. The results were statistically significant. However; feedback assessment of faculty showed no statistically significant difference.

**Conclusion:** Modified seminars that incorporate group discussions are more effective than traditional seminars in teaching leaning of Community Medicine. However, they require considerable time along with active involvement from both students and faculty.

**Keywords:** Group Discussion, Modified Seminars, Medical Education, Small Group Teaching.

**Introduction:**

Medical education employs a diverse range of teaching

methods, from traditional lectures to interactive small group formats. Inspired by active learning principles, many medical schools have incorporated tutorials, seminars, and group discussions into their curriculum.<sup>[1]</sup> Active participation in small group learning can enhance critical thinking skills, shape attitudes, and foster a more innovative approach to problem-solving.<sup>[2]</sup> Since the time of Socrates, seminar is an appreciated teaching strategy that is well-known for encouraging active learning.<sup>[3]</sup> A seminar is a small group teaching (SGT) and learning session where participants engage in guided discussions under the expert guidance of an instructor. The success of a seminar hinges on factors like instructor quality, student engagement, content relevance, group dynamics, course structure, and facilities.<sup>[1]</sup> Dewey's principles advocate for a student-centered approach, where teachers act as facilitators, guiding students to construct their own knowledge through active engagement and reflection on real-world experiences.<sup>[3,4]</sup> By preparing for seminars, participants develop essential skills such as identifying relevant information, gathering it from various sources, and organizing it effectively for presentation. They also learn to communicate effectively with their peers through concise and time-limited presentations.<sup>[5]</sup> However; a common challenge in seminars is the tendency of students to remain passive, with limited interaction and insufficient motivation to participate actively.<sup>[6]</sup> Seminar discussions continue to be predominantly teacher-centered, with the instructor posing questions and students offering short responses. Student-to-student dialogue remains minimal.<sup>[7]</sup> Student feedback on the impact of SGT in Community Medicine revealed that a majority of students did not find seminars to be beneficial.<sup>[8]</sup> The modified seminars have demonstrated their value in cultivating teamwork, peer collaboration, and a spirit of innovation in the learning process.<sup>[6]</sup> Hence, this study intended to implement and evaluate the effectiveness of modified seminars, incorporating group discussions, as a SGT method in Community Medicine.

**Material and Methods:**

We conducted this educational interventional study among the Phase II & Phase III/Part I MBBS students and faculty members of Community Medicine department of a medical college in Western Gujarat from February to July 2024. Participants were selected using convenient sampling method. The study was approved by the institutional ethics committee and informed consent was obtained from willing participants. Students from different batches attending SGT sessions, as clinical postings participated in a modified seminar, incorporating a group discussion. These group discussions were conducted immediately after the traditional seminar presentations. A total of eight seminars were conducted covering six different topics: Family, Integrated Child Development Services (ICDS), Concept of Health & Disease, Vitamin A, Disaster Management, and Excreta Disposal. Faculty members acted as facilitators for the group discussions, and the number of participants in each group was limited to 12 to ensure effective interaction. The intervention package was validated by faculty members before implementation. All participating students underwent pre-test knowledge evaluation before the seminar and post-test knowledge evaluation after the modified seminar in the form of Google Form multiple-choice questions (MCQs) specific to seminar topics. A score of '1' was assigned for a correct answer and a score of '0' for incorrect answer. These questionnaires underwent content validation and pre-testing by faculty members with a focus on assessing time requirements, clarity of instructions, and appropriateness of questions. To assess participants' perceptions and experiences, structured questionnaires were distributed through Google Forms to collect feedback from students and faculty members after completing all seminar sessions. Responses were coded using 5-point Likert scales. Additionally, open-ended questions were used to gather qualitative feedback on specific aspects of the seminars. SPSS version 23 software was employed for data analysis. Mean scores and standard deviation (SD) were computed, and the Wilcoxon signed-rank test was used for inferential analysis. A p-value <0.05 was considered statistically significant.

**Results:**

All modified seminars covering 6 different topics resulted in gain in knowledge scores of participants, and this gain was statistically significant (Table 1). A total of 65 students and 3 faculty members provided feedback. Feedback assessment of students highlighted the effectiveness of modified seminars over traditional seminars in all parameters. The results were statistically significant (Table 2). The number of faculty members

was too small to conduct a meaningful statistical analysis of feedback assessments.

Table 1: Gain in knowledge scores of participants

Seminar Topic	No. of students	Pre-test		Post-test		Wilcoxon Signed Rank Test
		Mean Score (out of 10)	SD	Mean Score (out of 10)	SD	p value
Family	24	6.38	1.35	7.21	1.56	0.006
ICDS	63	5.24	1.72	6.02	2.02	0.001
Concept of Health & Disease	37	4.08	1.83	5.73	1.69	0.0001
Vitamin A	31	2.74	1.51	4.1	1.92	0.0001
Disaster Management	15	4.27	1.94	6.4	1.96	0.004
Excreta Disposal	81	3.37	1.65	5.1	2.44	0.0001

Table 2: Students' Feedback on Traditional Seminar vs. Modified Seminar (n=65)

Parameters	Traditional Seminar		Modified Seminar		Wilcoxon Signed Rank Test
	Mean Score (out of 5)	SD	Mean Score (out of 5)	SD	p value
Create Interest in Subject	3.54	0.90	4.03	0.80	0.0001
In Depth Learning	3.63	0.93	4.05	0.76	0.004
Inspiration to Learn	3.66	0.96	4.05	0.80	0.003
Communication Skills Development	3.69	1.05	4.25	0.73	0.001
Peer Coordination	3.43	1.02	3.85	0.92	0.002
Teamwork	3.71	1.09	4.11	0.83	0.011
Teacher-Student	3.57	0.88	4.06	0.81	0.001

Interaction					
Students' Active Participation	3.42	1.00	3.92	0.78	0.001
Academic Performance Improvement	3.52	0.99	3.95	0.80	0.001
Self-Directed Learning	3.6	0.95	3.94	0.79	0.012
Development of Reasoning Skills	3.49	0.90	3.95	0.80	0.0001
Overall Satisfaction	3.58	0.90	4.06	0.79	0.0001

Assessment of responses of open ended questions regarding various aspects of modified seminars also identified strengths like active interaction, better understanding & communication, along with issues like difficulty in engaging each and every student in a group discussion and time constraints.

### Discussion:

This study compared the effectiveness of traditional seminars vs. modified seminars, incorporating group discussions, as a SGT method in Community Medicine. In a study done by Gomathi KG, et al. on modified format of seminars, it was observed that; the new seminar format significantly enhanced student self-learning, active participation, and peer interaction. It also effectively fostered teamwork and communication skills.<sup>[5]</sup> Palappallil and Gangadhar reported that in order to increase the interest in the practical sessions, the participants recommended incorporating group discussions.<sup>[9]</sup> Palappallil DS, et al. in their study on modified seminars in Pharmacology concluded that, in medical curricula, concerted efforts are made to encourage student participation in group discussions and seminars, and they observed that modified seminars were beneficial in inculcating the teamwork, coordination with peers and the pursuit of innovative approaches to learning.<sup>[6]</sup> Our study findings were congruent with these observations. Jaarsma AD, et al. in their study assessed feedback on traditional seminars vs. modified seminars and observed a dearth of student-student engagement in interactions.<sup>[7]</sup> Dandavino M, et al. suggested that peer teaching enhances communication and learning among medical students.<sup>[10]</sup> Group composition, student engagement and interactions have been identified as factors that influence the learning outcomes of seminars by Spruijt, et al.<sup>[11]</sup> Learner S, et al. emphasized the role of teamwork in healthcare and essentiality of consideration

of team training in medical education.<sup>[12]</sup> In a study conducted by Palappallil DS, et al. on modified seminars in Pharmacology; participants opined that interaction is the crucial component.<sup>[6]</sup> In our study we sought feedback from students related to traditional seminar vs. modified seminars covering all these ibid aspects and feedback assessment of students highlighted the effectiveness of modified seminars over traditional seminars in all parameters. Different seating arrangements have been shown to influence student achievement as reported by Zomorodian, et al.; however, the same was not part of our study.<sup>[13]</sup> We also sought teacher feedback from 3 faculty members of department of Community Medicine, who were involved in conducting modified seminars to gain a broader perspective on modified seminars and enhance our understanding of their effectiveness. We found that feedback assessment of faculty showed no significant difference between traditional seminar and modified seminar. Faculty brought to our attention issues like difficulty in engaging each and every student in a group discussion and time constraints. Furthermore, they stated that even though there was active learning, it is still the students' job to study. These perceptions were matching with the observations of study done by Gupta K, et al.<sup>[14]</sup> Spruijt A, et al. in their qualitative study opined that seminars can offer a viable alternative to other SGT formats, provided the conditions for active student involvement are met.<sup>[1]</sup> Al'Adawi SS observed that most students found seminars engaging and valuable for critical thinking, questioning literary texts, and improving communication skills.<sup>[15]</sup> We incorporated a group discussion as a modification in seminars to increase the student-student interaction and observed that we, teachers' had to play facilitator role to guide the discussion and stimulate students to take part in group discussion. The same was recommended by Steinert Y.<sup>[2]</sup> Our study has a limitation of a small sample size from a single institution, which restricts the applicability of the results to other settings.

### Conclusion:

Modified seminars that incorporate group discussions as an intervention improve student knowledge and are also more effective than traditional seminars in teaching leaning of Community Medicine. However, they require considerable time along with active involvement from both students and faculty. It is recommended to implement the modified seminars incorporating group discussion in undergraduate teaching with a focus on addressing time constraints and ensuring active student participation to evaluate its full potential and effectiveness.

Sources of supports: Nil

Conflicts of Interest: Nil

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