

## Short Communication

# Innovative teaching learning method-simulation based learning in community medicine

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## ABSTRACT

As per the new competency-based medical education curriculum, teaching and learning methods have been shifted from teacher-centric to student-centric to provide students with opportunities for diverse learning experiences through interactive learning. So, the department introduced innovative teaching in the classroom environment to make students understand the concept of community diagnosis in detail so that it will be beneficial for them while executing an actual visit to their family. A village was simulated in the classroom; students were randomly identified as medical students who were going to interact with villagers for the purpose of community diagnosis, whose roles were played by the remaining students. After that, the student explained the process with input from faculty. Feedback from students was taken through a Google form about the activity. There was a self-driven response from students with their active participation. They felt that it was a very interactive class and it prepared them for the field visit. Such simulation activities can be used as a teaching and learning method for relevant competencies with limited resources.

**Keywords:** Innovative teaching learning, Simulation, Community medicine

## INTRODUCTION

The national medical council amended the graduate medical education regulation (GMER) of 1997 in 2019 and gave a different approach to medical education. The Indian medical graduate (IMG) has to follow different roles like clinician, lifelong learner, leader and team member, communicator, and professional. To achieve these roles, the existing curriculum has been updated to a competency-based medical education (CBME) curriculum where students have to achieve pre-requisite competencies with an increase in level of competence to achieve professional authenticity at the end of each professional year. In the new CBME, the teaching and learning methods have been shifted from teacher-centric to student- or learner-centric to provide opportunities to IMG for diverse learning experiences in a nonthreatening environment.<sup>1-3</sup> The spectrum of teaching and learning methods is also shifted from simple didactic lectures, symposiums, and seminars to interactive learning, small

group learning, guided self-directed learning, and case-based learning, depending upon the level of proficiency required.<sup>4,5</sup> So the department introduced innovative teaching in the classroom environment to make students understand the concept of community diagnosis in detail so that it will be beneficial for them while executing an actual visit to their family.

## METHODS

After a dialogue among faculty members in the department while setting the timetable for newly admitted first-year M.B.B.S. students, competency CM 17.2 (Community Diagnosis) was selected for an innovative teaching and learning method with a simulation of a village in the lecture hall.

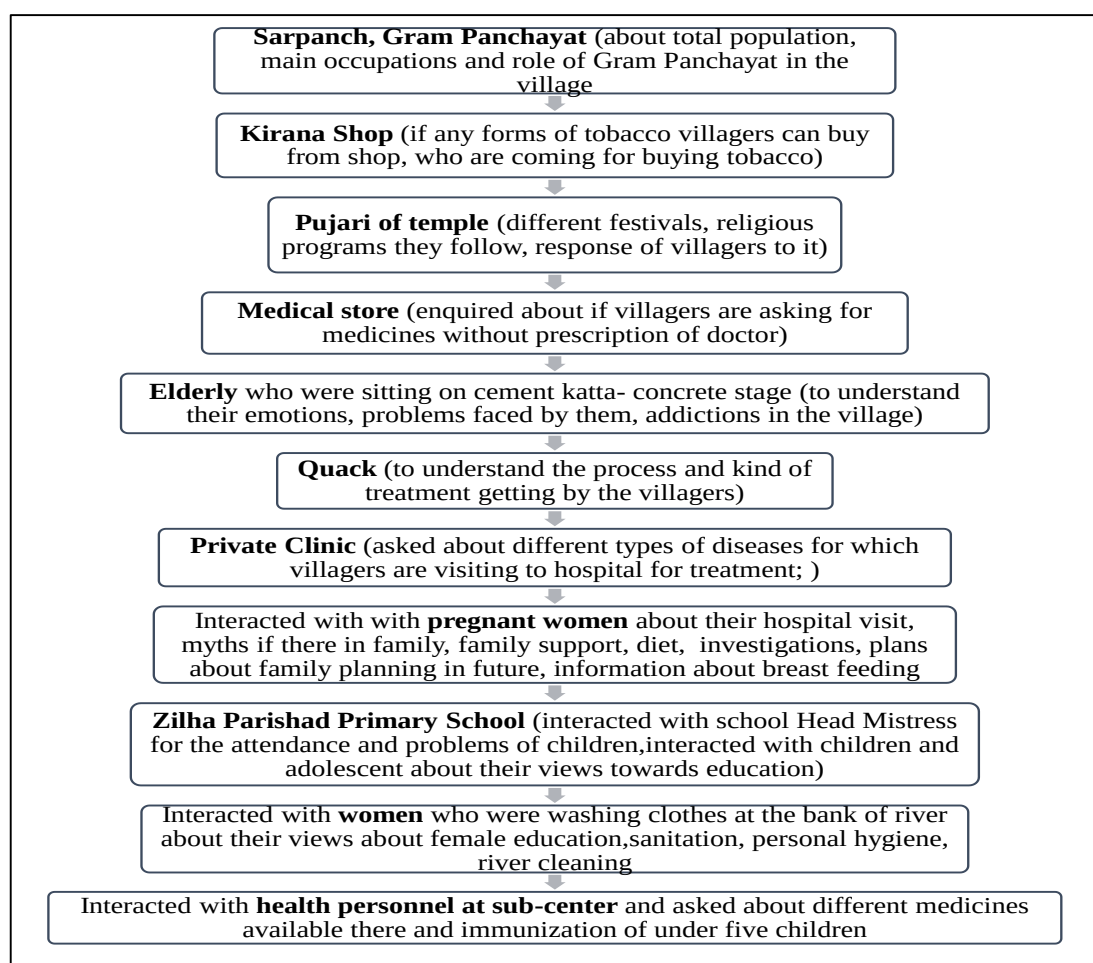
The given study was a descriptive study that was planned to be conducted on the scheduled day of the 'community

diagnosis' lecture with first-year MBBS students. The study period was from December 2022 to January 2023, which included planning, training, and the actual conduct of the session. Simulation, a technique to produce experience without going through a real event, was used in the study.<sup>2</sup> Two faculties were allocated for the execution of the activity. On the lecture day, 74 students were present in lecture hall 1 of a medical college in western Maharashtra. Informed verbal consent was obtained from the students. All students gave their consent to participate in the study with enthusiasm.

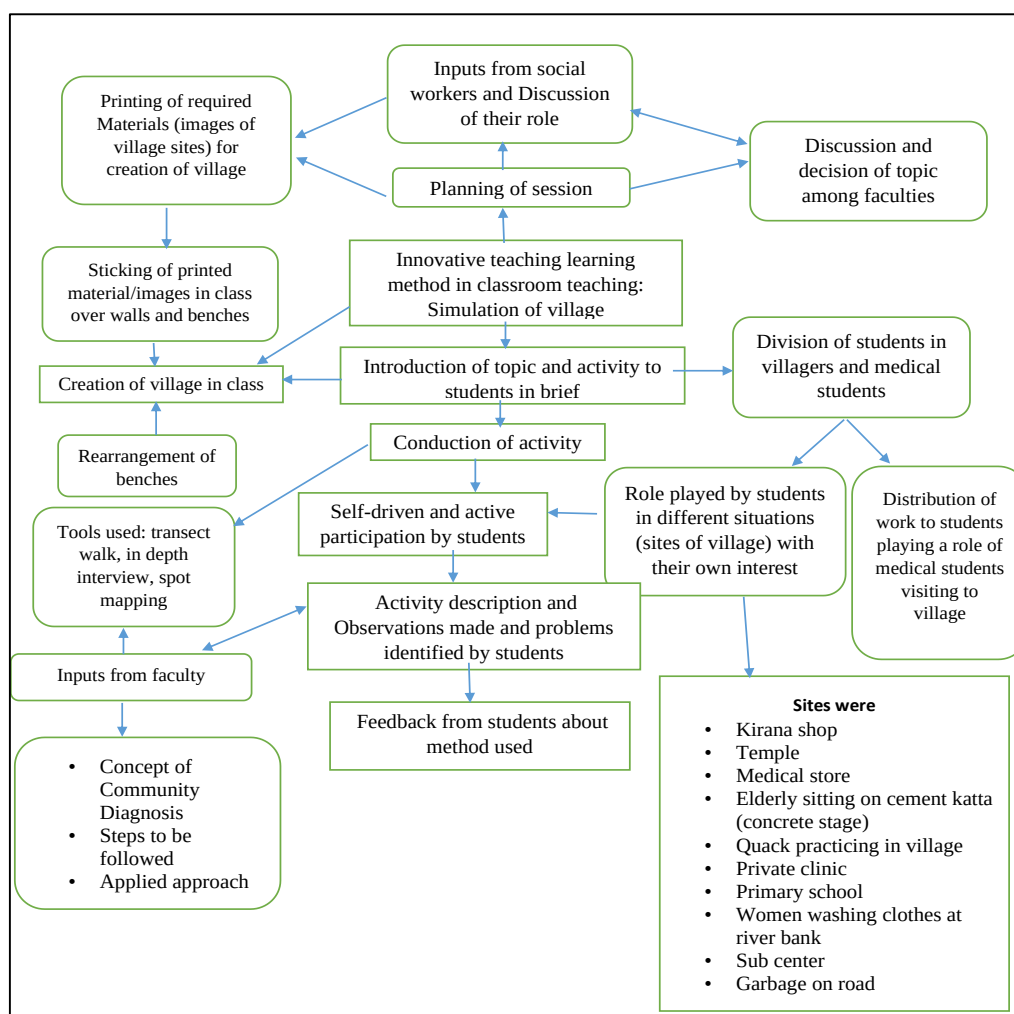
Facilitators found supportive data for the idea after an extensive literature review. They introduced the idea to four social workers and discussed the simulation of a village in the classroom and the process to be followed. Also, their roles in activity were decided, and materials, particularly printed images, were collected for the creation of villages with sites like Gram Panchayat, Sub-Centre, Zilha Parishad (District Council) primary school, temple, well, hand pump, kirana shop, medical store, private clinic, river nearby the village, factory outside the village, garbage thrown on the road, women washing clothes on the bank of the river, quack practising in the village, and a concrete stage around a big tree where villagers sit daily.

Students were introduced to the competency and the process for carrying it out. Randomly, six students were chosen as medical students, and they were asked to play the role of medical students who were going to visit a village with the purpose of interacting with them and finding out the problems the villagers faced. The remaining students were asked to play the role of villagers to actively participate in the learning process. Four social workers were asked to distribute themselves in the village so that they could answer the questions asked by medical students. Meanwhile, the village was created in the lecture hall using prints of the images. Roads in the village were created through the rearrangement of benches in class.

Medical students were asked to interact with villagers and inquire about different aspects of the village that they felt they should ask. Out of them, two students were asked to pen down their observations and what they noticed while walking through the village, and the remaining two students were asked to draw a map of the village with all the routes and different landmarks that they noticed during the walk. Then the walk was started from Gram Panchayat of the village (Figure 1).



**Figure 1: Route and interaction of medical students with villagers.**



**Figure 2: Concept map: community diagnosis.**

Then, randomly two students, were asked to summarize the whole process they experienced and observations they made. After that, a faculty member explained the whole process in depth and discussed the concept of community diagnosis in detail, including tools like transect walks, observation, in-depth interviews, and village maps used to make community diagnosis in a scientific way, the implications, and its use to do community intervention at the local level. At last, perceptions of students were asked regarding the session by sharing a link to a Google form that had four questions. This session was conducted for two hours by two faculty members with the help of four social workers. Content analysis was done for the sequencing of events, and a concept map was drawn to show the relationship between different events, Figure 2 shows the concept map and results are as follows.

### *Self-driven response by students*

Students played their role spontaneously with their own interest and showed their involvement in the activity just by observing the stick-printed image near them, like girls sitting near the image of primary school. They decided their own roles as school-going girls and played at that

point. When medical students interacted with villagers, one girl introduced herself as head mistress of school, the other two as school teachers, and the remaining two as school children; four to five girls played a role of housewives washing clothes on the bank of the river; six boys played a role of the elderly sitting on a katta (concrete stage) discussing different issues of the village; one girl played a role of quack, and one boy played a role of a patient coming to her for a cure of illness; two boys acted as pujari/priest of temple; one girl acted as owner of medical shop; one boy as owner of kirana/grocery shop; two boys as farmers. Some villagers, played by students, also resisted giving information to medical students.

Thus, student's response was self-driven. The role of social workers got limited to only sticking up prints to create a village in the classroom. Only the role of Sarpanch was played by faculty. Development of skills like communication, being a team member, and being a leader: faculty could see their communication with medical students and their leadership and team member qualities when they were playing the role of villagers on an individual basis and as a part of a group in a primary school, elderly group, or quack place. Village map-was drawn by student as shown in Figure 3.

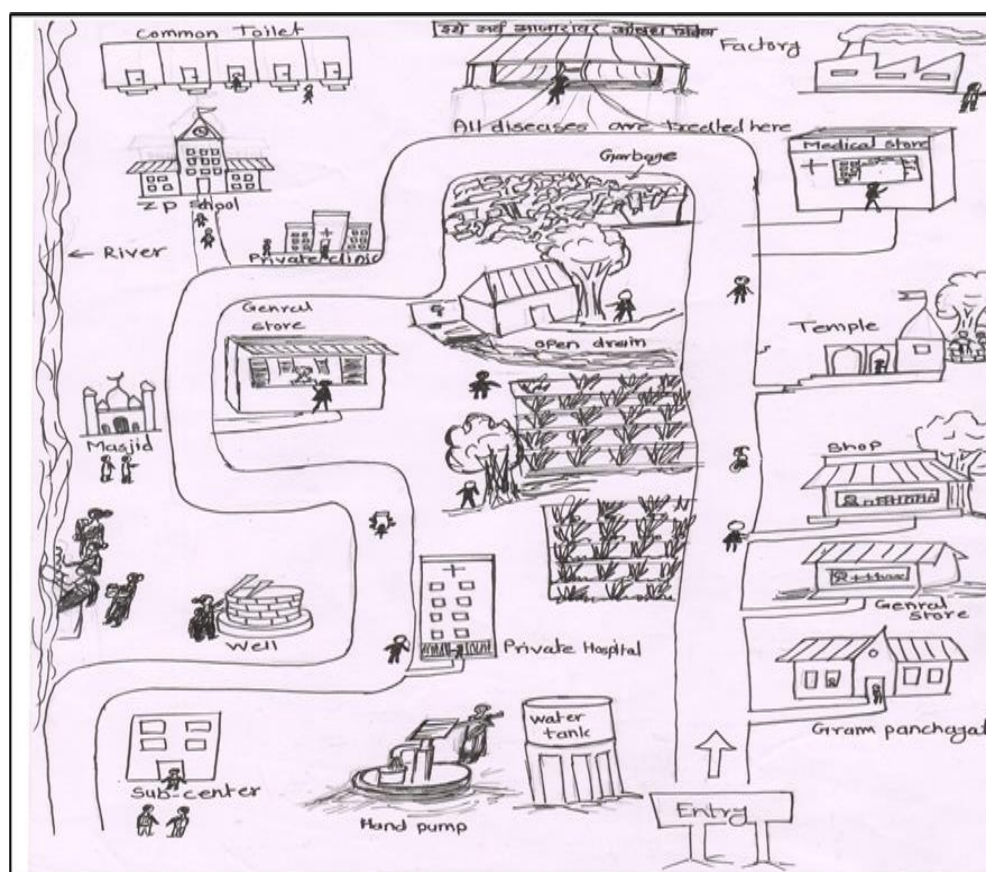


Figure 3: Village map.

Observations made by students and information taken from villagers: Students observed the arrangement of houses, their types, and also identified some problems like alcohol addiction, tobacco addiction, health care taken by villagers from quacks, gender bias, female illiteracy, improper garbage disposal, open drainage, and open-air defecation.

## DISCUSSION

Simulation of a village in the classroom, along with role play of villagers by medical students answering their own questions and learning the concept of community diagnosis, was an innovative learning experience for students as well as a novel teaching experience for faculty. We use many modern learning methodologies, like simulation activity, observational learning, and team-based learning, which facilitate reflective learning and improve logical thinking among medical students as compared to lectures, which are also reflected in other studies.<sup>5-9</sup>

Students quoted their experience about class as “it was great learning experience as we formed community in class and concepts got cleared.” “I was able to understand process of community diagnosis, its meaning and importance.” “It was complete guide to understand about community diagnosis.” “We learned different aspects of it like medical, social, and environmental.” “It

was interactive class different from normal teaching.” “It was realistic and felt as if we have actually come to village and set things into perspective for me.” “We learned about problems of villagers... and tried to understand their mentality.” Thus, simulation helps to understand technical as well as nontechnical skills like attitude and behaviour in a safe and controlled environment, which was also reflected in other studies.<sup>10-15</sup>

Students expressed their thoughts about how teaching was different from traditional teaching, like “it was practical experience with drama representation and different because students themselves performed the characters of village and became visual memory in our mind.” “We created a scene which can be seen at village visit, also let us think on our own and build my concepts.” “As it involved each student’s participation, helps us to remember it in long run, was interactive than regular power point slides.” “It is better to understand, remember and analyze.” “It was two-way process, interactive, observation and communication based rather than sitting at one place and listening.” “It was pre-exposure and will be helpful when we actually visit a village, we were free to give our own inputs. Thus, a teacher’s role got limited to being a facilitator in a friendly environment, even with the large number of medical students’ active involvement as a team.”<sup>9,16,17</sup>



Students also expressed their wish to continue this type of session, saying, *I hope more such sessions are conducted in the future.*" Thus, students gave positive feedback for this type of teaching and wished that it was to be used in many future lectures. It was also reflected in the study done by Weller.<sup>18</sup>

Students also reported the beneficial effects of it, like *"improved our speaking ability with people and social skills." "We get to know lots of things that we do not get in theory class." "We all were attentive in class with high energy, gained confidence in real-life situations, and gained experience at the same time; this class also helped us learn how to spread awareness messages to villagers and realize our duty towards society."* Tamkin Abas and a study done by Yu also reported that simulation provides students with confidence to manage in real-time situations.<sup>19,20</sup>

## CONCLUSION

As medical education is multisite learning with triangulation of knowledge, simulation activities can be used as a teaching method for relevant competencies. This simulation activity can be used under time constraints and with limited resources. It also encourages faculty to apply different innovative teaching and learning methods in the classroom environment to avoid boredom among students and develop interest in the subject on a long-term basis.

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