



**A PRE & POST-STUDY TO SHOW THE EFFECTIVENESS OF SOCIAL MAPPING AS A
POTENTIAL LEARNING TOOL AMONG MEDICAL STUDENTS IN COMMUNITY. -
AN INTERVENTION STUDY**

**Dr. Sunayana G. Kumthekar¹, Dr. Abhay Srivastava¹, Dr. Shruti R. Gaikwad¹, Dr. Gautam B. Sawase²,
Dr. Rashmi Priya³ and Dr. Mohan K. Doibale***

Dr. Mohan K. Doibale, Professor and HOD, Dept. of Community Medicine, Govt. Medical College, Aurangabad, MH, India, 431001.

***Corresponding Author: Dr. Mohan K. Doibale**

Professor and HOD, Dept. of Community Medicine, Govt. Medical College, Aurangabad, MH, India, 431001.

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ABSTRACT

Background: Social mapping is one of the most popular tools in PRA (Participatory Rural Appraisal) so sometimes it is used in place of PRA itself. As the social map is made by local people & not by experts, it is significantly different from other regular maps. Social map tells us about the overview of community structure & socioeconomic situation also household differences by social factors & we also come to know who lives where in community. **Objective:** 1) To evaluate the feasibility of using social mapping as a teaching tool. 2) To collect useful information which tells us what to study & learn from in the community. **Material and methods:** A study was a community-based intervention study, which was conducted among sixth-semester medical students in the urban field practice area of medical college to show the effectiveness of social mapping as a teaching tool. A study was done by randomly selecting 30 undergraduate students from the sixth semester. Knowledge regarding the selected study area was tested before and after the intervention, and compared between two groups. **Results:** Results show that the average pre & post-test of Group A (control group) is not statistically significant compared to Group B (Intervention Group) which shows a highly statistically significant difference. (p-value < 0.000001). **Conclusion:** Social mapping was found to be an effective way of understanding the infrastructure and social structures in the field or community.

KEYWORDS: Social mapping, Effectiveness, Intervention.

INTRODUCTION

Social mapping is one of the most popular tools in PRA (Participatory Rural Appraisal) so sometimes it is used in place of PRA itself. As the social map is made by local people & not by experts, it is significantly different from other regular maps.^[1]

The social map is an opportunity to build up a rapport with the local community. When researchers are new to community & desire to establish a comfortable forum for discussion & participatory planning of project activities. Also, we must understand how people living in the community are impacted. In social mapping, our main aim is not drawing the community accurately or to scale, but to collect useful information which tells us what to study & learn from in community.^[2,3]

There are two main types of maps, sketch map & scale map. In the sketch map, local residents of the study area are participated in mapping the study area. The advantages are simple, easy & rapid way. Mainly

includes- social map & village resource map. In a scale map, it is not easy rather more complex & sophisticated map which gives more complete & scaled measurement of that study area. It includes- Administration maps, political maps, revenue maps. Social mapping is rapid method to gain knowledge about community includes landmarks, which can be religious places like temples, masjid or health care centres like hospitals, private doctors or social interaction area like marriage halls, market, parks, balwadi, police station or public utility structures like water pumps, dumping grounds & drainage system in an area.^[4]

Social mapping is used to show data in community layout, health patterns, demography, the infrastructure of the community so on. It tells us about the overview of the community structure & socioeconomic situation also household differences by social factors & we also come to know who lives where in community.^[5]

Social mapping gives a broad understanding of various factors of social reality like social infrastructure, social stratification, settlement patterns, demographics, etc. Other includes map used in serving as monitoring & evaluating the tool.

MATERIALS AND METHODS

The mapping was done during the month of May 2018 in Harshnagar, an adopted area under the Urban Health Training Center (UHTC), Department of Community Medicine, Government Medical College, Aurangabad & the population of this area is 11450.

Government medical college Aurangabad established its UHTC in the Shahgunj area in the year 1969. The center is headed by one faculty in-charge (Assistant professor, Community Medicine). 2-3 Junior residents are posted at this center on rotation for a period of 1 year. Along with this 6-7 interns are posted on rotation for 15 days as a part of the internship schedule to deliver health care services & experience community based medical education.

The center provides preventive, promotive & curative services 6 days a week from 8:30 am to 12:30 pm. The resident doctor is expected to learn & practice public health skills including clinical skills as a family physician, communication skills & managerial skills. He/she is expected to develop a holistic approach to health problems in the community with a special focus on the social determinants of health.

30 undergraduate medical students (6th semester) were included in the study. On day 1, the pre-test questionnaire of 17 questions were provided to assess knowledge about the study area. Then 30 students divided randomly into two groups. Group A & B. For group A (n=15), the Investigator had a special session for 30 minutes to teach them about social mapping techniques & they were asked to follow the social mapping technique in a survey of the study area. For group B, no special session gave & they were asked to have visited through the same study area. Time allotted for each group through respective methods advised to them was 3 days. Both groups A & B advised taking the help of people residence of that area.

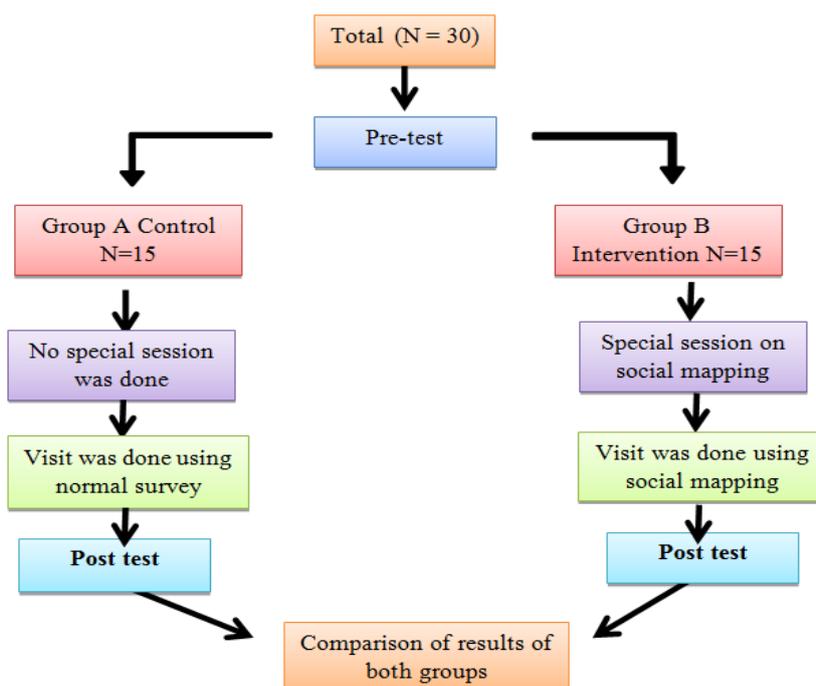


Fig I: Showing Procedure Of Social Mapping.

PROCEDURE

A group of 15 undergraduate students (Group A) visited the study area on the evening of 23rd May 2018. The study was carried out under the guidance of the principal investigator.

The aim was to draw a detailed map of the study area and map out the relevant social structures. So, students were equipped with charting papers and colored pencils to map out different structures they observed in their survey in pre-decided color codes.

On the first day, students of both groups had a walk through the same area at different times. Group A students interacted with residents of that area while doing walk for 2 days and approached to map their houses, smaller lanes, social institutions and resource areas on the ground with the help of a stick. The main road passing through the area branched out in 3 smaller lanes. Houses on both sides of the road were mapped out, Public sources of water such as hand pumps were denoted in blue. An abandoned well was also observed and included in the map using blue. Also, an important

structures from a sanitation point of view such as public toilets, areas of open defecation, places of garbage disposal, ditches and potential mosquito breeding pockets such as clogged and open drains, again social structures like Hospitals and dispensaries, Anganwadis, Schools, places of worship, shops, and flour mills were observed and incorporated in the map.

At the end of the 3rd-day social map on the ground, was cross verified with other peoples living in different small lane and principle investigator. After verification, the whole social map was drawn along with legends on the chart paper with the help of colored pencils to make it user-friendly.

RESULTS

Social environment: Harsh Nagar is a community of approximately 500-600 houses. It is a multilingual and culturally diverse society as evidenced by the presence of two Buddha Viharas and one Majjid in the locality. The houses, mostly pucca houses are clustered close together without much room for ventilation in between. Many households have domestic animals like goats, hens, dogs, and cats, etc. Some even keep parrots as pets.

Water supply: Four water hand pumps in the area were observed which are functional and in use. The residents of locality complain that the personal taps in their houses dispense municipal supply of water only once in six days. An old abandoned well has now been closed off using metal scaffoldings. The water in the well is unclean and ridden with garbage rendering it a possible breeding place for mosquitoes and flies.

Sanitation: A single public toilet with 4 separate blocks for males and females each is present. The toilets being functional and in use lack indoor plumbing. A common open, uncovered water cistern is used as a source of water. Though some houses have toilets built in their homes, the community is not open defecation free. The drainage system of the area to a most degree is underground and covered. Open drains are encountered at a few places and have been marked on the map.

Roads: A tar road leads to Harsh Nagar. There is an intricate network of lanes inside the area which are predominantly concrete, though some kaccha roads are seen.

Health care: A single Aurangabad Municipal Corporation healthcare center is present in the area. It runs during the morning hours and dispenses basic allopathic drugs and vaccines. No AYUSH dispensaries were seen in the area.

Education: There is a single Urdu medium primary school in the locality. An Anganwadi is organized in one of the Buddha Viharas for Harsh Nagar and an adjacent locality called the Labour colony.

The various health issues emerged like mosquito breeding sites, open drainage systems, etc.

Table I: Average of pre-test and post-test in the control and intervention group of students.

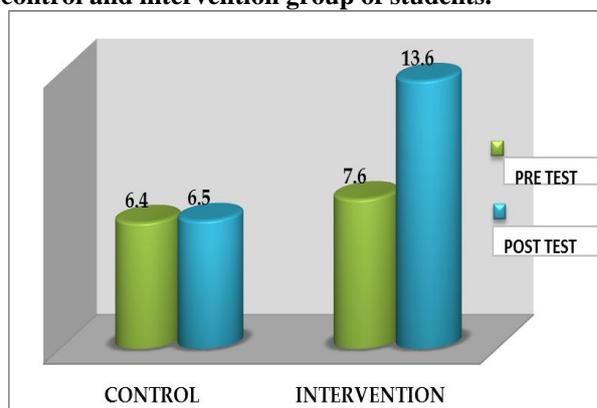


Table 1. depicts the difference between the mean of pre & post-test of control & intervention group. It is clearly visible that the average pre & post-test of Group A i.e. control group is not showing a significant difference in contrast to Group B (Intervention Group) which shows a significant difference. After applying unpaired t-test for unequal variances, it shows statistically highly significant (p-value < 0.000001) which means there is a significant effect of the intervention (session on social mapping) compared to the control group.

Table II: Result of Likert scale including 10 questions as feedback in the post-test.

Sr.No.	Observations	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Is it necessary to introduce yourself to community	24 (80%)	5(16.7%)	1(3.3%)		
2	Improvement in knowledge about community	16(53.3%)	14(46.7%)			
3	Facilitates communication and mutual understanding with the community	15(50%)	15(50%)			
4	Improvement in Self confidence	16(53.3%)	11(36.7%)	3(10%)		
5	Develop interest in Research	14(46.7%)	16(53.3%)			
6	Healthy interaction with faculty	17(56.7%)	13(43.3%)			
7	Does it give the opportunity to build rapport	12(40%)	18(60%)			
8	Opportunities to gain insight into gender, hierarchy, collaboration & consensus	8(26.7%)	19(63.3%)	2(6.7%)	1(3.3%)	
9	Emphasis more on active & experiential learning	14(46.7%)	16(53.3%)			
10	It will generate interest in community medicine as a medical subject	18(60%)	12(40%)			

Coming to the results of the Likert scale, we can see here that the student's response in the post-test after a visit through the selected study area, shows 80% of students strongly agreed to introduce yourself to the community while doing visit or social mapping with them. Again >60% of students are agreed to point numbers 7 & 8 that it gives the opportunity to build rapport and to gain insight into gender, hierarchy, collaboration & consensus. While 60% strongly agreed that it will generate interest in community medicine as a medical subject.

DISCUSSION

An intervention study was done among 30 sixth semester medical students in an urban field practice area of a government medical college at Aurangabad to find out the effectiveness of social mapping as a teaching tool in the understanding community.

The results reveal that there was a significant difference between the average score of two groups, shows that groups were comparable. In the pre-test, the difference in mean knowledge regarding the selected area among the two groups is not significant. This shows that both groups had nearly the same knowledge regarding the same area before the intervention.

Average scores immediately after the intervention of both the groups are highly significant. This gives us the picture that the social mapping technique is superior to the routine visits in the field, for getting knowledge and information retrieval regarding the community. Results are contrasted to study of mind mapping done on undergraduate students in Chennai, in which average marks even after intervention were not significant.⁸

The strength of the present study was that this was a unique study as we could get only one or two literature reviews to compare with our work.

CONCLUSION

Social mapping was found to be an effective way of understanding the infrastructure and social structures in the field. It also helped to build up a rapport with the community.

CONFLICTS OF INTEREST

There are no conflicts of interest.

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