Effectiveness Of A Program Designed To Expose Medical Student To The Rural Community And Support System In Healthcare, In A Medical college

Dr.Singh Uday Shankar*,Mukherjee S,Bhanderi D***, Chaudhuri N****,Sharma D*****, Patel T*****,Nanawati N*****

*Professor, ** Former Professor, *** Professor, **** Former Asso. Professor, *****Asso. Professor, ******Former Tutor, Department of Community Medicine, P.S.Medical College, Karamsad, Anand, Gujarat-388325

Abstracts: **Background**: It is felt that medical training should largely be made in close proximity of public health & social environment compared to a tertiary care hospital. The package of training could include an exposure to the rural community because a fresh graduate doctor does not have concept of broad community healthcare needs. **Aims & Objectives:** The aim of the study was to assess the effectiveness of a program designed to expose medical student to the rural community and support system in health. **Methods:** The study was conducted in December 2008 among 96 medical student of 7th semester. This was a quasi- experimental design with before and after intervention assessment. Assessment was made based on presentations on comparisons of mock village scenario Vs real village experience. A structured questionnaire was used to assess change in knowledge. **Results:** The mean of the test scores in communication skill and knowledge (based on presentations) in average mock village scenario were 45.94 and improved to 53.56 after real village stay. There was an improvement of 7.62(16.6 %, p<0.001).The mean pre and post village stay score in knowledge based on questionnaire was 56.02 and 67.12 respectively with an improvement of 11.1 (19.81%, p<0.001). The programme was also found to be interesting to the students and villagers. **Conclusions:** A village stay programme to teach undergraduate student in a field setting to expose them to various parameters of practice of primary health care can help them understand the contextual needs of the society. [Singh U NJIRM 2014; 5(1) : 22-26]

Key Words: Rural Community, Medical Student, Medical College

Author for correspondence: Dr. Uday Shankar Singh, Department of Community Medicine, Pramukhswami Medical College, Karamsad-388325. E- mail: drudayss@gmail.com

Introduction: According to a report by task force on medical education for the National Rural Health Mission, most of the medical graduate carries the value of the urban middle class and even those belonging from rural areas are unwittingly co-opted into the urban milieu and discarding their social roots[1]. It has been observed that fresh medical graduates have no concept of broad community and their health care needs[1]. In the professional world-view, regardless of whether a student pursue a career in the public or private sector, is of providing curative services with considerable high-tech backup[1].

From the era of Sushruta and Charaka, where our devout disciples learnt the art and science of healing in ancient Gurukuls, we now in the modern age of medical teaching get it along a conveyor belt of subjects taught in medical school[2]. Empathy and sympathy for the less fortunate may be qualities lacking in doctors who are not exposed to rural life. Their impression of the community's health status may be lopsided. In their future practice, students may not consider the patient's economic status while prescribing treatment[3].It is felt that medical training should largely be made in close proximity of public health & social environment compared to a tertiary care hospital. The package of training could include an exposure to the rural community in context of various occupations including agriculture, local-self-government institutions, health & education facilities, family structure, cultural and religious traditions, local maternity and child health practices, etc. The students should also undergo training on the roles of the various public healthcare functionaries.[1]

Several US medical schools introduced early community-based training models for longitudinal clinical experiences and outcome indicates that community experiences contribute positively to student's education, critical thinking and problem-solving skills[2]. Few institutes in India like Christian Medical College, Vellore and Mahatma Gandhi Institute of

Medical Sciences, Sewagram, Wardha also have rural residential training programme for undergraduates. This article discusses the effectiveness and acceptability of a program which exposed students to the rural community with an objectives to understand the importance of effective communication, study the Indian Primary Health Care system in practice and administrative pattern in village, understand socio-environmental issues that influence on rural health, know the family health needs and understand about awareness generation and its importance in the community.

Material and Methods: The study was conducted in December 2008 among all 7th semester (III MBBS, part 1) medical students of a self financed medical college in Gujarat. It was a Quasi- experimental study with before and after intervention assessment.

We have utilized two method of assessment as

1. A self administered questionnaire based on importance of communication skills, primary health care set up, administrative pattern of village, socio-environmental issues and their impact on life and health education with importance was also used. A mean score calculated and presented in tables.
2. The students were divided into 20 groups of 5 each. A written mock scenario of village created to understand village life was given to the students. They were expected to make presentation on eight identified areas of public health importance. Detailed instructions about the learning objectives of the scenario and related area of public health being tested were provided to the students, facilitators and the evaluators.

This was followed by actual village stay for five days and four nights under supervision of a faculty, a resident and a social worker. At least one female and female supervisor was allotted to each village. 25 students stayed in one village. The students stayed in local community halls or houses of the villagers. Males and females were provided separate accommodation depending upon availability. Transportation, Bedding and food were arranged by the department. Cost of transportation was borne by institute and that of bedding and food by the students. Exposure was provided to the activities and functioning of Primary Health Centre, Subcentre and Anganwadi to observe 'Mamta Divas. They visited Panchayat Bhavan, local co-operative offices, water works, waste disposal sites. Students then participated in family survey based on health status profile; income and housing condition including all other factors lead to bad health. The students visited the traditional healers and faith healers in the villages. They were also taken to places of agricultural fields, tobacco processing units, poultry farms and other places related to occupations of the villagers. To know about practical aspect of health education practices students performed role plays, skits for awareness generation among villagers**.**

Clinics were also conducted separately in low and high income areas of village to demonstrate the difference in disease patterns. Clinics were conducted by faculty and resident. The students helped in motivating people to attend clinic, crowd control, drug dispensing and counselling of patients. Assessment was done based on performance of structured – pre designed questionnaires administered before and after the village stay and the presentations on comparisons of mock village scenario Vs real village experience. Presentations were evaluated by the external and internal evaluators using pre-decided criteria. Paired t-test was used to assess differences between pre assessments and post assessments. The evaluation of presentation was based on group assessment whereas the questionnaire provided the assessment of individual students. Informed consent from the participants and ethical approval from the Institutional "Human Research Ethical Committee" (HREC) was taken.

Result: Of the 100 students 96 attended the programme. 67 (69.8%) were males and 6 (6.3%) were from rural background. The demographic characteristic and scores of the students who participated in this programme are provided in table 1. There was similar

improvement in scores irrespective of the sex, parental education and rural background of the students.

Table1: The demographic characteristic and scores of the students based on questionnaire on knowledge assessment who participated in the programme

		Pre-intervention mean score	Post-intervention mean score	Difference	p value*
Sex	Male (67)	55.87	66.70	10.8358	0.424
	Female (26)	56.41	68.17	11.7586	
Background	Rural (6)	54.67	64.83	10.1667	0.715
	Urban (90)	56.12	67.30	11.1778	
Highest Parental education	2 (2)	50.00	67.00	17.0000	0.277#
	3 (4)	56.75	66.75	10.0000	
	4 (1)	53.00	71.00	18.0000	
	5 (48)	55.88	66.83	10.9583	
	6 (41)	56.51	67.46	10.9512	

*-p value calculated for difference in mean scores by t test; **#** using Kruskal Wallis test

In evaluation of presentations, the mean of the test scores in average mock village scenario were 45.94 and after real village stay, mean test score had improved to 53.56 with improvement of 7.62 (16.58%). The difference were significant for each item assessed as well as for the overall score as shown in table 2.

In the evaluation of knowledge assessed by questionnaire the pre intervention score improved from 56.02 to post intervention score of 67.12 with an increase of 11.1 (19.81%). The difference were significant for each item assessed as well as for the overall score as shown in table 3.

Discussion: In the present study students have been evaluated for increase in knowledge and skills following a village stay programme. We found a significant improvement in the public health knowledge and skills in various domains. This improvement was seen irrespective of the irrespective of the sex, parental education and rural background of the students.

Table 2: Evaluation of presentation based on Mock village scenario and Real village stay intervention.

Area of evaluation	Mean score after mock village scenario	Mean score after real village visit	Difference	% change	p-value
Collective Professional Behavior	5.90(5.67-6.10)	6.33(6.15-6.50)	0.433	7.33	0.002
Group effort	5.78(5.46-6.10)	6.38(6.19-6.56)	0.60	10.3	0.001
Problem solving approach	5.73(5.48-5.99)	6.22(6.00-6.43)	0.48	8.37	0.006
Effective Presentation	5.84(5.51-6.18)	6.71(6.50-6.91)	0.86	14.72	<0.001
Approach to questions	5.45(5.20-5.69)	6.51(6.35-6.68)	1.07	19.63	<0.001
Learning Objective satisfied	5.65(5.25-6.07)	7.18(6.95-7.40)	1.51	26.72	<0.001
Quality of Public Health Information	5.78(5.49-6.07)	7.23(7.02-7.45)	1.45	25.08	<0.001
Approach to Public Health Problem	5.78(5.35-6.22)	6.99(6.77-7.22)	1.20	20.76	<0.001
Total	45.94(43.77-48.10)	53.56(52.36-54.76)	7.62	16.58	<0.001

We received support from all corners of the village. This was a new experience for the villagers and they were willing to participate and discuss health issues with students. In few villages the students actually stayed in houses of the villagers. The students were also involved in various recreational activities like sports, prayer etc with villagers. Though the student feedback was not formally recorded, students were

also happy and enjoyed this method of learning as per informal discussions. Similar community based teaching programmes have received acceptance from communities and students in both the developed and developing countries [4-6].

Table 3: Mean Score Changes In Different Areas Based On Questionnaire

Item of Knowledge	Max. Score	Pre-intervention mean score	Post-intervention mean score	Difference	% change	p-value (paired t-test)
Importance of communication	35	28.02 (27.54- 28.50)	29.62 (29.06- 30.19)	1.6	5.71%	<0.001
Administrative and primary health care practices	15	7.53 (7.06- 8.01)	10.53 (10.18- 10.88)	3.0	39.84%	<0.001
Socio-environmental issues	10	5.06 (4.70-5.42)	7.47(7.15- 7.81)	2.41	47.63%	<0.001
Family Health	12	6.83 (6.52-7.15)	9.02(8.76- 9.28)	2.19	32.06%	<0.001
Awareness generation	12	8.58 (8.31- 8.86)	10.48 (10.22- 10.76)	1.90	22.14%	<0.001
Total	84	56.02	67.12	11.1	19.81%	<0.001

Such programmes are also known to promote empathy among students for these communities. The students have more willingness to work with and for such communities. A study at University of Toronto reported about that initiatives which complement and supplement the mandated curricular requirements by community stays, increase student interest within the local community, enabling these students to effectively advocate for the vulnerable populations they will one day serve [7].

In a study conducted by Zaucha et al at Chicago's inner city where a total of 180 students/residents participated, approximately 68% stated that they are considering doing primary care in an underserved area. In addition, 100% of those that responded said that they would recommend the program to other students.[5] The programme however had few limitations. Evaluation of presentation was based on group performance not individual, thus learning by individual students in domain of communication may not have been adequately evaluated. The internal evaluators may have been biased to give higher scores after the visit to justify the village stay. Knowledge gain about the primary health care, administrative pattern of village and family health may have been much emphasized by the teachers to improve the post test results. Impact evaluation on the knowledge, skill and practice by the students, especially on the long term is not possible through this process, which requires much longer term planning and more elaborate evaluation.

Conclusion: This study proposes a practical approach to teach undergraduate student in a field setting to expose them to various parameters of practice of primary health care. It also demonstrates a support system available in villages so that contextual needs of the society could be known to them. Such community stay with well defined objectives and evaluation method are worth being tried by other institutes.

Acknowledgment: We would like to acknowledge Dr.Avinash Supe, Course Director GSMC-FAIMER regional Institute for encouragement at various levels and Dr Dinesh Kumar for helping in writing report. We also acknowledge the service and support extended by our institute, medical officers of PHC, Sarpanchs of villages, staff of our department and our students for their participation.

References:

1. Ministry of Health and Family Welfare, Government of India, Nirman Bhawan, New Delhi- Report (Chapter II & III) -Task Force on Medical education for the National Rural Health Mission.2005; 29-31.
2. Shivaprasad S. Goudar, Kotur P. F. "Trends in Medical education" in Education Forum**:** Indian J Anaesth. 2003; 47(1): 25-29
3. Giri B, Shankar PR (2006) Community-based learning in a time of conflict. PLoS Med 3(2): e115. Available from: URL: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1388064/ accessed on 3rd November 2009.

4. Varsha M Vaidya, Jayashree S Gothankar. Community based project work as a teaching tool: Students' perception. Indian J Community Med. 2009; 34(1): 59-61.
5. Mithra Zaucha, Jamie Gilmore, Marie Lindsey, Rajesh Parikh, Shelly Duncan, Richard Wansley et al. The Illinois Student Experiences and Rotations in Community Health Program: Improving Health in Chicago's Inner City Through Health Professions Education. Journal of Urban Health.2002; 79(Supplement 1):S112-18.
5. Dongre AR, Deshmukh PR, Garg BS. Formative exploration of students' perception about Community Medicine teaching at Mahatma Gandhi Institute of Medical Sciences, Sewagram, India. Online J Health Allied Scs.2008;7(3):2
6. Peter Szasz, Sagar Dugani, Diana Alli. IMAGINE: A Community-Based Education Program Using an Inter-Professional Approach in Current Medical Perspectives. UTMJ. 2009; 86 (3):94-95.

Conflict of interest: None
Funding: None