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360-Degree Evaluation of a Primary Healthcare Centre Village Stay Programme for Medical Undergraduates

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ABSTRACT

Background: Indian Medical Graduates are expected to work as Medical officersat Primary Health Centres (PHC). However, their current training provides inadequate opportunity for practical understanding of PHC, especially the administrative aspects.

Methods: Medical Undergraduates (3rd MBBS, part 1) were posted at four PHCsfor four days. Orientation sessions and post visit presentation were carried out one day before and after the residential posting. Teaching was by group discussions, informal interactions with the local communities, interview of the PHC staff, observation of the activities, analysis of various PHC records and reports, mainly as self-directed activities. Pre and post-test were conducted to assess the gain in knowledge.

Results: Mean pre-test score was 6.50 (SD=1.93) and post test score was 11.7 (SD=1.41). There was significant improvement in scores [5.20 (SD=2.25), p<0.001, Wilcoxon sign rank test). Programme was appreciated by students, villagers, PHC medical officers and the facilitators. Main problems identified were logistic issues, hectic schedule and expectations from the villagers.

Conclusions: The PHC village stay is an effective and acceptable teaching strategy for better understanding of rural health issues. The local community, PHC staff and Facilitators appreciated the programme.

Key words: 360◦ evaluation, Community Based Learning, Community Medicine Training, Primary Health Centre, Undergraduate Medical education.

INTRODUCTION

Primary Health Centres (PHC) are the final common point for delivery of multitude of healthcare services in many countries including India. Being in charge of this unit the medical officer at PHC is requires considerable managerial and administrative skills. Medial officer is also expected to lead a fairly large team of healthcare workers. Health care delivery system and management is a part of the undergraduate medical curriculum. This is to be delivered through theory sessions and field visits to get the actual picture of the situation [as per Medical Council of India (MCI) guidelines] [1]. As a part of the MCI institutional goals the undergraduate students coming out of a medical institute, should acquire basic management skills in the area of human resources, materials and resource management related to health care delivery [1].The training of undergraduates as a basic doctor and team leader capable of managing basic health care delivery is also emphasized in the MCI-Vision 2015 document [2]. Internationally also community based training of medical students is well accepted [3]. The PHC staff and local communities, though very important stakeholders, have a minimal role in this training.

Studies have shown the PHC related knowledge of the undergraduates to be poor [4,5]. Even though the

undergraduates are posted at PHCs during internship posting the exposure they get regarding management aspects is usually not adequate [6,7].Furthermore the duration of internship in community medicine has been shortened from six months earlier to two months over last three decades [8]. This calls for increased focus on teaching PHC management related aspects in undergraduate training itself. Also such community based teaching postings are usually appreciated by the students [9,10].Our department has introduced a stay programme at PHCs for the Final phase part 1 students about two months before their final exams since 2009. In this study we describe the results and learnings from the process and immediate outcome evaluation of this programme.

METHODS

The study was carried out among all undergraduate medical (3rd phase, part I) students during December 2014 after obtaining permission of the Institutional Human Research Ethics Committee. The study was under taken as part MCI Advanced Course in Medical Education educational research project. Students were posted for field based activities in the nearby PHC villages in 4 groups of 24 each. Permission was obtained from local district health authorities. All the selected PHCs were visited apriori by the concerned team of facilitators. The PHC Medical Officer were briefed and provided objectives and schedule of the posting. Students stayed in the village for three nights and four days and carried out assigned tasks under the guidance of the residents and the faculty as per pre-decided objectives. The stay was in community halls (wadi) or houses offered by the villagers. The posting was preceded by one day of orientation programme. The visit ended with group presentation by the students on various aspects of working of PHC using a standard template. Main emphasis was on understanding the administrative aspects of the PHC .The functioning of PHC was studied in two domains, 1) administration including manpower, material, record keeping, general administration, and finances 2) services provided in areas of various national and state programmes especially in relation to monitoring, supervision and evaluation. The key learning methods used were group discussions, interview of the PHC staff, informal interactions with the villagers, observation of the activities, analysis of various PHC records and reports. Main focus was on self-directed learning in enabling environment. The students carried out family study during the evening hours. Students conducted health education sessions for the community during evening hours on relevant topics identified by them. The outcome evaluation was carried out using multiple choice questions based on these two domains one day prior and one day after the posting. Differences between pre and post-test scores were analysed. Also the perceptions of the students on various aspect of the posting were carried out using a self-administered structured questionnaire. Feedback was also obtained from faculty, residents, Medical Officer of PHC and Community members (from families visited by the students) using structure questionnaire. The questionnaire had 15, 15, 10, and 9 questions each for the students, faculty, medical officers and community members respectively. Only the villagers whose houses were visited by the students were provided questionnaire in Gujarati language. The questions were on a Likert scale[11] of 1-5 (1-least applicable and 5 being most applicable). There were open-ended questions regarding best experience and any suggestions.

Data was entered in Microsoft Excel and analysed using Epi Info Software (Centre for Disease Control & Prevention, Atlanta, USA) version 16. Proportions were calculated for each perception. Association between various variable and the proportions was also tested. The pre and post-test scores of the students were compared using Wilcoxon Sign Rank test, as scores were not normally distributed. Association between various variables (sex, residence, medium of instruction in 12th grade, category of admission) was also tested.

RESULTS

Total number of students who attended the PHC stay programme were 103. The characteristic of the students is provided in table 1.The distribution of the score for the pre and post-test is presented in table 2.

The mean pre-test score was 6.50 (SD=1.93) and post test score was 11.7 (SD=1.41). There was significant difference 5.20 (SD=2.25) between pre and post-test score ($p<0.001$, Wilcoxon sign rank test).

Table 1: The socio-demographic profile of students participated in the PHC village stay programme

Characteristics	Frequency (%)
Gender (n=81)	
Male	45 (55.5)
Female	36 (45.5)
Medium of instruction in 12th grade (n=82)	
English	31 (37.8)
Gujarati	51 (62.2)
Residence (n=82)	
Corporations	50 (60.9)
Small towns	23 (28.0)
Villages	9 (11.1)

*number of responses for each variable is different as all variable were not available for all the respondents

Table 2: The distribution of the score for the pre and post-test evaluation of the PHC stay programme

	Mean Pre-test score (CI)	Mean Post-test score (CI)	Mean Gain in score (CI)
Males	6.96 (6.37-7.55)	11.59 (11.15-12.02)	4.63 (3.98-5.27)
Females	6.06 (5.60-6.51)	11.83 (11.48-12.18)	5.77 (5.19-6.35)
Total	**6.50 (6.31-6.69)**	**11.70 (11.56-11.84)**	**5.20 (4.76-5.64)**

The improvement in scores (5.77 vs 4.63) was higher among the female students and was found to be statistically significant (p=0.020, Mann Whitney test).

The mean feedback for each question is depicted in figure 1.Mean feedback was least (4.13) for meeting the academic expectations and highest (4.60) for utility in increasing the knowledge about administrative aspects of PHC. However, for most of questions the response ranged from 1through 5. There was no statistically significant difference in the overall feedback for the programme among students based on their gender, medium of instruction in 12th grade, place of residence. 3 students felt that the programme should be discontinued. Several students were not happy with the accommodation and food arrangements. Students also felt that the programme schedule was very tight. Many students felt that the programme had provided them unique opportunity to get a feel of village life and bond with their classmates. Several students felt the need to increase the duration of the programme. Students also felt the post visit presentation were a burden for them.

Table 3: The socio-demographic characteristics of villagers visited during the PHC village stay programme

Socio-demographic variables	Frequency (%)
Gender (n=175)	
Males	95 (16.6)
Females	80 (45.7)
Visit to Our Hospital (n=157)	
Within 1 year	29 (16.6)
Before 1 year	54 (30.9)
Never	74 (42.3)
Age group (n=173)	
15-44 years	77 (44.5)
45-59 years	56 (32.4)
>=60 years	40 (23.1)
Education (n=171)	
Illiterate	16 (9.4)
Primary	52 (30.4)
Secondary	56 (32.7)
Senior Secondary	23 (13.5)
Graduate	20 (11.7)
Post Graduate	4 (2.3)

*number of responses for each variable is different as all variable were not available for all the respondents

175 villagers provided feedback about their experiences with the village stay programme. The socio-demographic characteristic feature of the respondents is provided in table 3.The feedback provided by the villagers regarding their experience with the village stay are presented in figure 2.The least score was for interference in daily life (3.5) and highest score was for satisfactory interaction with the students (4.65).

For all questions the response ranged from 1through 5. 3 villagers suggested that programme should not be continued. Many villagers were happy with interaction with the students and felt that the programme had benefited them. They appreciated the health education activities carried out by the students. Villagers also felt that medical camps and free medications such be provided during the programme. Several people suggested that such programmes should be conducted more frequently.

Four medical officers one from each PHC provided the feedback. They were of the opinion that such programmes can be of help for future medical officers and increase their interest in rural health issues. They felt that 4 days duration was too less and the programme should be of longer duration. They did not experience any additional stress because of presence of students at the PHC. All of them recommended that the programme be continued for future batches.

Seven facilitators , 4 faculty and 3 residents provided the feedback. All of them felt that the programme will help students in better understanding of PHC'sfunctioning. All the residents felt that the programme casued extra stress to them. One resident was of the view that it should be converted to visit rather than stay programme. All of them felt that overall learning environment ,co-operation by villagers and PHC staff was good and that the students also had extra curricular learning oppurtunities. They also felt the PHC staff were not very comfortable in teaching medical stsudents. They appreciated the quality of participation by the students. All of them enjoyed the programme.

Table 4: Mean feedback of students regarding various aspects of the PHC village stay programme.

Various aspects of the PHC village stay programme	Mean Response *
Programme improved your knowledge regarding national programmes	4.5
Programme improved your knowledge regarding administration of PHC	4.6
Programme provided you opportunity to have close observation of PHC setup	4.5
Programme improved your Communication skills	4.1
Programme improved your Teamwork skills	4.2
Programme provided you opportunity for informal interaction with villagers.	4.5
Programme helped you develop compassionate attitude towards villagers	4.2
Programme will be of some help in your future practice	4.2
Programme increased your interest in rural health issues	4.2
Overall learning environment was good	4.3
The programme met your academic expectations	4.1
You enjoyed the programme	4.6
Quality of facilitation by faculty /residents was good	4.4
Co-operation from villagers was very good	4.4
Co-operation from PHC staff was very good	4.6

* Mean Score on Likert Scale (1-5)

Table 5: Mean feedback of villagers regarding various aspects of the PHC village stay programme.

Various aspects of the PHC village stay programme	Mean Response*
You liked the students visiting your family	4.5
Such visit can increase students' interest in rural health issues	4.3
Such visit can help students in becoming better doctors	4.5
Overall behaviour of the students was good	4.6
Students talked with you to your satisfaction	4.7
Students also discussed topics other than medical issues with you or your family.	4.2
Students' visit benefited you in anyway.	4.1
Students' visit causes interference in your routine activities	3.5
Students should visit your village in next year also	4.4

* Mean Score on Likert Scale (1-5)

DISCUSSION

The study describes the 360-degree evaluation of a short residential training at PHC for medical undergraduates. There was significant improvement in the knowledge scores in all domains regarding various aspects of PHC. The programme was liked and appreciated by all the stakeholders. In addition to improved knowledge the posting was also perceived to improve communication skill, team work, interest in rural healthcare, compassionate behaviour in an enjoyable way by the students.This is an additional benefit of such programmes which promote self-directed learning real life situations. Similar perceptions have been noted from other settings also [12,13]. The community based teaching are usually liked by the students[9,10]. The training also allowed the students to learn from the experience of the PHC staff in a more realistic way. Several aspects of PHC especially administrative and supervisory issues are best learnt from the field staff rather than theoretical class room sessions. Community based training are also believed to motivate students to practice community health care [14,15]. Villagers felt involved and appreciated the fact that they could contribute to the learning of the future doctors. Though the villagers are initially hesitant and confused about their possible role in training with adequate orientation they become a very enthusiastic and useful resource for community based teaching learning activities. Most of the stakeholders felt that such training should continue for the future batch of students. Several problems were also encountered during the village stay. Most important problems were:

1. Several students were not happy with the accommodation and food arrangements. Finding suitable staying place is a major hindrance especially for the female students. Including student representative in deciding for accommodation and relating it to situation where as health personnel they might be called upon to be involved usually helps.
2. The PHC staff were not comfortable and efficient in teaching the medical students. All the PHC were visited before the visit by concerned faculty and Medical Officers were oriented [written schedule, objectives provided]. Also concurrent support was provided to PHC staff to aid them in teaching the students.
3. Demand from the local community for arranging medical camps and free medication.The camps for the villages can be conducted in the evening hours with collaboration with the PHC staff and medical colleges. The institutes need to be considerate to the needs of the community

and consider these in pursuit of its academic goals ([16]. Most of the logistic sand other issues can be easily overcome easily by appropriate orientation (pre & Concurrent) of the stake holders to the training.

CONCLUSIONS

The PHC village stay is an effective and acceptable teaching strategy to provide the medical graduates opportunity for better understanding of rural health issues. The local community and the PHC staff appreciated the programme. The local community does have expectation in terms of medical camps and free medication. There are some logistic issues. Even though there was a significant immediate improvement in the knowledge, the same may not persist after duration of few years when such knowledge will have to be actually used. This could however be supplemented by refresher courses during internship for long-term effect. We recommend such PHC stay postings with special emphasis on administrative aspects to be adopted by other medical colleges.

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