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Community Based Monitoring under National Rural Health Mission (NRHM) at Village Level in the State of Maharashtra, India

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Authors' contributions

This work was carried out in collaboration between both the authors. Both the authors contributed to the study conceptualization and design. Author PPD finalized the design and contributed to writing of the article, analysis and interpretation of the data. Author APK conducted field visits.

Short Communication

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ABSTRACT

Background: Government of India, under National Rural Health Mission has established Village Health Sanitation Nutrition Committees (VHSNCs) and appointed Accredited Social Health Activists (ASHAs) in all the villages. Government of India also started Community Based Monitoring (CBM) project through Non-Governmental Organizations (NGOs). State of Maharashtra was one of the nine states selected for implementation of the pilot project**.**
Objectives: To assess the effect of training and implementation of CBM on Knowledge, Attitude and Practices of VHSNC members including ASHAs.
Design: It is a descriptive study using comparison group.
Settings: The study was carried out in 90 villages, 45 each from study and comparison group, in the State of Maharashtra, India.
Interventions: The study was conducted with the help of the Community Medicine Departments from nearby Medical Colleges. From each village one ASHA and three members of VHSNC were interviewed. An assessment instrument was developed having some parameters. Based upon responses to each parameter, a scoring system was also

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developed. Then comprehensive score was calculated for each respondent.
Main Variable: Comprehensive score obtained by the interviewed individual was studied.
Results: Only 41% ASHAs and 28% VHSNC members were trained in CBM by the concerned NGOs. The Mean score of ASHAs' was 7.52. The mean score was 6.55 for trained members of VHSNC and 5.00 for un-trained members.
Discussion: The interviewed members were lacking in core areas. The members are not ready to take ownership and to monitor services.
Conclusions: The training and implementation of CBM did not have any difference in awareness and active participation of ASHAs. This may be due to improper coverage of training. The training helped VHSNC members in improving score but actual implementation of project did not improve the score.

Keywords: Accredited social health activist; community based monitoring; village health committee; un-tied fund.

1. INTRODUCTION

In pursuit of enhanced pace towards achievement of Millennium Development Goals and taking into consideration the state of public health, some concrete mechanisms of enhancing the community partnership and accountability of public sector towards the community have been initiated in the National Rural Health Mission (NRHM) across the India since 12 April 2005 [1]. These mechanisms include decentralization of health planning and monitoring responsibility by constituting committees at village, block and district levels. At institutional level, Rogi Kalyan Samitis (Patient Welfare Committees) have been established for various purposes. At the community level in rural areas dedicated women have been selected and appointed as Accredited Social Health Activists (ASHAs). They specially function for improving health of the women and children. In addition to these mechanisms Community Based Monitoring project with help of Non-Governmental Organizations (NGOs) had been launched in 9 states in first phase, including the State of Maharashtra. Community Based Monitoring (CBM) in the State of Maharashtra started in the year 2007-2008. A total of 5 districts were selected. Then 3 blocks from each district, from each block 3 Primary Health Centers (PHCs) and 5 villages from each PHC were selected by the state level nodal NGO. The nodal NGO selected district and block level NGOs for actual implementation of the project. Village Health, Sanitation and Nutrition Committee (VHSNC) are constituted in all the villages after implementation of NRHM. In the committee one representative each from women's' help group and weaker section like Scheduled Cast/ Schedule Tribe is mandatory [2]. Government of India also recommended inclusion of one member nominated by the block level NGO in the VHSNC in CBM project area. All villages are allotted Rs.10,000 per year for carrying out health related activities. The guidelines about expenditure are very flexible and hence the provision is termed as Un-Tied Fund (UTF). VHSNC is expected to monitor expenditure of UTF. Maharashtra was the first state to include and provide allocation to CBM in Project Implementation Plan of NRHM. Excepting the reports from implementing NGO's, evaluation studies of the project have not been carried out. After 3 years of implementation, expansion of the project was planned in most of the states by state level nodal NGOs and the governments. In Maharashtra, the state government and NRHM desired to carry out appraisal of the first phase of implementation before expansion. NRHM, Maharashtra sought technical help from State Health System Resource Center (SHSRC) where the investigators were then working. Accordingly the investigators decided to conduct an observational study with comparison group to assess effect of CBM on village level functionaries. Investigators selected village level functionaries not only because they

represent the first level contact with the people but also that they are existing in very large number which can influence the performance of the project. CBM revolves around ownership and monitoring of health services. Training and working are the key methods of learning and affecting Knowledge, Attitude and Practices (KAP). Studying KAP status, variations and suggestions for modifications accordingly if needed in the scheme is ought to help better implementation of the process. Given these rationale, we conducted this study with following two objectives: 1) to study the effect of training pertaining to CBM on awareness and active participation of members of VHSNC and 2) to study the effect of implementation of CBM process on awareness and active participation of members of VHSNC.

2. MATERIALS AND METHODS

2.1 Study Location

As per the census 2011 the population of the state is 112.37 million and it is second most populous state after Uttar Pradesh in India [3]. The rural population in the state is 54.67% which resides in 43,663 villages. There are six administrative divisions and 35 districts in the State of Maharashtra. CBM project was implemented in following five districts; Amravati, Nandurbar, Osmanabad, Pune and Thane. One district was selected from each division excepting one division as Government of India insisted maximum five districts for implementation of the project.

2.2 Selection of Villages

CBM- Group: List of villages under each PHC in which the project was implemented, was obtained. The villages were arranged alphabetically and one village was selected from each PHC by random number generated using Open-Epi software. Thus total 45 villages were included in the sample.

Non-CBM Group: In each district, the blocks which were not implementing the CBM project were arranged in alphabetical order. From that list three blocks in the district were selected using the computer generated random number. From each block, three PHCs and from each selected PHC one village was selected adopting the identical method. Thus in control group also 45 villages were included in the sample.

2.3 Survey and Assessment Instruments

Separate questionnaires were prepared by SHSRC and finalized after discussion among the participant coordinators. One questionnaire was prepared to interview the ASHA. Other questionnaire was prepared for interviewing the VHSNC member. The questionnaire assessed awareness and active participation pertaining to key aspects like village health plan, village health calendar, functioning of VHSNC and Un-Tied Fund (UTF) [4]. Based on the information obtained from the interviews, distinct assessment instruments having 12 and 10 parameters for ASHAs and VHSNC members respectively were developed. Scoring system for the possible responses to each parameter was decided. The assessment instrument and the system of scoring based on the information obtained from the personal the interviews of ASHAs are given in Annex 1. The assessment instrument and scoring system based on the information obtained from the interviews of the VHSNC members, is

given in Annex 2. The total was considered as comprehensive score and was calculated for each respondent.

2.4 Process and Analysis

Department of Community Medicine of the nearest medical college was involved as coordinating agency for carrying out the study. Professor and Head of the Department was nominated as District Chief Coordinator for that district. The State Health System Resource Center (SHSRC) is located in Pune; hence study of that district has been undertaken by the team from SHSRC. The design of the study was developed seeking active help from the state level nodal NGO which is also located in Pune. The authors conducted the study with cooperation from the NGOs implementing the project at block, district and state levels. The study was planned and conducted in 2010-2011.

From each selected village following four members from VHSNC were selected for interview; (1) ASHA, (2) Sarpanch (elected peoples' representative heading local self-government), (3) one member representing self-help groups of women and (4) one member from Scheduled Cast/ Schedule Tribe category which are identified communities. These communities are socially segregated and are usually from lower socio-economic class. The district chief coordinators identified suitable team members, based on availability and willingness, if there were more than one eligible member. VHSNC members were interviewed by post graduate students from Community Medicine Department. They were trained prior to data collection. In the field visits they were supervised by their teachers. Each village was visited twice. The persons to be interviewed were given prior intimation through concerned Block Health Officer/Medical Officer of Primary Health Center. The Information collected by the teams was entered in the computer by the trained data entry operators and was checked by SHSRC. Analysis was done using SPSS and Excel statistical package. Investigators used 't' and χ^2 test and considered P=0.05 or less as significant level. The proposal received clearance from Ethical Committee of State Health System Resource Center, NRHM, Government of Maharashtra.

3. RESULTS

In all the 45 villages in both the groups VHSNCs were established and one member nominated by CBM implementing NGO was included in the respective VHSNC. Monthly meetings of the VHSNCs were expected but were never conducted as per schedule. Quarterly reports were almost never sent to PHCs. Interviews were planned for 90 ASHAs, however in four villages (1 in CBM category and three in non-CBM category) ASHAs could not be contacted due to various reasons like vacancy, illness etc. Only 18 out of 44 (i.e.40.9%) ASHAs from CBM category of villages acknowledged that they had received some training in CBM. The duration of training varied from 1-3 days. The summary of marks scored by the ASHAs as per the scoring system is shown in Table 1. The average marks obtained by an ASHA were 62.67%. The difference between the average marks scored by the ASHAs in CBM and non-CBM category of villages was marginal and was not statistically significant. (t= 1.377, P= 0.17). Similarly, the difference in the average marks scored by trained and untrained ASHAs was also marginal and not statistically significant (t= 0.0849, P =0.40). A total of 54 members of VHSNC were expected to be interviewed from each district. However this target could not be achieved in three districts namely Osmanabad, Pune and Thane. Overall 95.18% VHSNC members were interviewed. There was no significant difference (χ^2= 9.326, P=0.053) in the district wise training status of the VHSNC members.

No member from Scheduled Caste and Scheduled Tribe category was available for interview in Nadurbar and Osmanabad district respectively. Coverage of "Sarpanch" (excepting Pune) and "female members of self-help group" was 100% in all districts. In Pune district "Sarpanch" and SC/ST category members could not be contacted and interviewed leading to lowest coverage of 81.48% in that district. Out of the 128 VHSNC members interviewed from selected CBM villages, only 28.1 % had received any training of CBM. The district wise details are given in Table 2. The duration of training varied from 1-7 days. The marks scored by the member of VHSNCs are given in Table 3. The average marks of obtained by VHSNC member were 52.10%. The difference between the average marks scored by the VHSNC members from CBM implementing and CBM-non implementing villages is statistically not significant (t = 0.433, *P*=0.67). However, the difference between the average marks scored by the trained and untrained VHSNC members is statistically significant (t = 3.408, $P < 0.001$). For identifying the areas which need more attention analysis of scoring in various aspects was carried out. The points emerged after analyses of the forms were as follows:

1. Village health plan and role of VHSNC members in it.
2. Village health calendar and its importance.
3. Un-Tied Fund and its utilization.
4. Common agenda points that need be discussed in the VHSNC meetings.

Table 1. Summary of scores of ASHAs as per the scheme

Category	N	Mean	SD	t	DF	P
CBM	44	7.90	2.60	1.377	84	0.172
Non-CBM	42	7.11	2.71			
Total	86	7.52	2.67			
Training						
Trained	18	8.00	2.47	0.849	84	0.398
Un-trained	68	7.39	2.72			
Total	86	7.52	2.67			

Table 2. District wise proportion of trained VHSNC members

District	Total	Received training (%)
Amravati	27	3 (11.1)
Nandurbar	27	7 (25.9)
Osmanabad	26	11 (42.3)
Pune	24	10 (41.7)
Thane	24	5 (20.8)
Total	128	36 (28.1)

Table 3. Summary of marks scored by VHSNC members

Category	N	Mean	SD	t and DF	P
CBM	128	5.28	2.56	0.433, 255	0.665
Non-CBM	129	5.14	2.62		
Total	257	5.21	2.59		
Training					
Trained	36	6.55	2.17	3.408, 255	<0.001
Untrained	221	5.00	2.59		
Total	257	5.21	2.59		

4. DISCUSSION

The project of community based monitoring identified broadly two approaches of monitoring. The first approach is monitoring at administrative geographical units like village, block, district and state and the second is monitoring at institution particularly Primary Health Center. In both the approaches separate committees have been advocated. The project functions on triangulation process between community, Non-Government Organizations/Community Based Organizations and Panchayati Raj Institutions (local self-governments). Enormous importance is placed on involvement of village level functionaries to ensure assured health services under NRHM. The reasons are obvious. The health indicators are poor in rural area and the rural population is substantially higher (68.84%) than the urban population as per 2011 census. While describing the status of public health in NRHM initial document, it has been pointed that lack of community ownership of public health programs influences levels of efficiency, accountability and effectiveness [1]. Adequate emphasis is given to monitoring and evaluation. Apart from routine monitoring from the health department, the additional component in the form of CBM as a project has been introduced. It was expected that it would serve at least two purposes; firstly it would enhance community ownership and secondly would establish a good monitoring system with accountability. Investigators developed simple and comprehensive tools to assess effect of CBM. The assessment instrument incorporated the core aspects mentioned in the managers' manual developed for CBM [4]. The implementing NGOs carried out the all expected steps including training [4,5]. The trainees included ASHAs and VHSNC members. The poor training response from VHSNC members was also observed by the implementing nodal agency [6]. There were many interactive sessions between implementing NGOs and VHSNC members. The response for inclusion in VHSNC improved only when they felt that the process may offer them some political benefit. There was no uniformity in the duration of the training in both the categories. After inquiry with the NGOs about the poor performance in the training process of the ASHAs, investigators learnt that it was largely because of the recent elections held for Gram-Panchayat (local self-government) and subsequent election of new members to the VHSNCs. Most of the ASHAs were involved directly or indirectly in the election process. It appears that absence of statistically significant difference in the average marks in the CBM and non-CBM categories of villages is due to the presence of large number of untrained personnel in the CBM category. It may however be noted that even in CBM category, the trained VHSNC members the mean score was 6.55 (maximum score = 10) which is lesser than mean score obtained by ASHAs. This difference is possibly due to formal training in health, a person has to undergo before appointment as ASHA. The rise in score due to training among ASHAs (0.61) and among VHSNC members (0.55) was almost similar, but the difference was significant among later because of their large number.

For the first time some amount of money in the form of UTF for carrying out health related activities has been kept at the disposal of the committee. But even the members were not aware and do not utilize as desired. It was perceived by many VHSNC members that the UTF was primarily meant for management of malnutrition in children in Anganwadi since the UTF accounts at village are maintained by the Anganwadi worker. Similar problems pertaining to utilization of UTF were observed in exactly 45 villages from three districts in Jharkhand [7]. The state nodal agencies in their published reports [6,8] have shown some positive changes. Investigators believe they are basically because of before- after design. All these members of the committee are non-technical persons are not exposed earlier to health related trainings. All the points identified as lacking areas are core components of CBM process and all the village level functionaries were deficient in the core aspects. The members are not sure about their role. The opportunity of monitoring as well planning health of the village is not utilized to full extent. We suggest that before expansion of the scheme, modifications in content of training material, standardization of duration of training and more emphasis on the identified aspects may be carried out. There can be interaction meetings between excellently functioning VHSNCs and poorly functioning VHSNCS.

4.1 Limitations

Investigators did not include outcome variables including the availability and status of village report card in the study.

5. CONCLUSIONS

There was no difference in comprehensive score about knowledge, attitude and practices among all the groups except between trained and untrained VHSNC members. It indicates that synergistic effect is absent between institutions established under NRHM and additional institution of CBM. The comprehensive score was low in VHSNC members. The village level functionaries are not playing expected role which may have direct effects on the health outcome variables. Probably the reason is the large number of untrained persons in both the categories. Absence of uniformity of duration of training and adequate emphasis on core aspects are also contributory factors. Many NGOs are involved in the CBM project and hence may not deliver the expected result at every place.

CONSENT

Not applicable.

ETHICAL APPROVAL

Not applicable.

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COMPETING INTERESTS

Authors declare no competing interests.

REFERENCES

1. National Rural Health Mission. Mission Document. 2005-2012. Accessed 5 August 2013.
   Available: http://www.nird.org.in/brgf/doc/Rural%20HealthMission_Document.pdf.
2. Ministry of Health and Family Welfare, Government of India. Guidelines for Village Health and Sanitation Committees, Sub Centres, PHCs and CHCs. Available: http://nrhm.gov.in/images/pdf/communitisation/vhsnc/order-guidelines/vhsnc_ guidelines. pdf.
3. Office of the Registrar General and Census Commissioner, India. Government of India, Ministry of Home Affairs. Chapter-3; Size, growth rate and distribution of population in Paper 1 of 2011. Accessed 20 August 2013.
   Available:http://www.censusindia.gov.in/2011-prov-results/data_files/india/Final_PPT_2011_chapter3.pdf.
4. Task force on Community Monitoring, of Advisory Group on Community Action. Managers' Manual; Community Monitoring of Health Services under NRHM. 2008. Accessed 25 May 2013.
   Available:http://www.nrhmcommunityaction.org/media/documents/Managers%20Manual.pdf.
5. Garg S, Laskar AR. Community Based Monitoring: Key to Success of National Health Programs. Indian Journal of Community Medicine. 2010;35:214-216.
6. SATHI. State nodal NGO for Community Based Monitoring of Health Services in Maharashtra. Compiled report of Community Based Monitoring of Health Services under NRHM in Maharashtra (2007-2010). Pune; 2010.
7. Child In Need Institute, Nav Bharat Jagriti Kendra, Ekjut Community Based et al. Monitoring Health Services under NRHM in Jharkhand (a pilot initiative): A Report. 2008. Accessed 25 May 2013.
   Available:http://www.nrhmcommunityaction.org/media/reports/JH/CBM_Jharkhand_report%5B1%5D.pdf.
8. Kakade D. Community-based monitoring as an accountability tool: influence on rural health services in Maharashtra, India. Bio-Med Central Proceedings 6(Suppl 1):O9. 2012. Accessed 25 May 2013.
   Available: http://www.biomedcentral.com/1753-6561/6/S1/O9.

ANNEX - 1

Scheme of scoring of ASHAs based on the information obtained in personal interview

S. No.	Item	Marks
1	Is she is aware about the health plan of the village	Y=1, Else 0
2	Mentions at least one element in the health plan	1, Else 0
3	Is she aware of village health calendar	Y=1, Else 0
4	Mentions correctly where the calendar is displayed	1 if correct, Else 0
5	Mentions correct frequency of meetings of VHSNC	1 if correct, Else 0
6	Attended at least one meeting of VHSNC	1 if YES, Else 0
7	Says has raised at least one issue in VHSNC meeting	1 if YES, Else 0
8	Aware of UTF for village	1 if YES, Else 0
9	Mentions correct amount of UTF for the village	1 if correct, Else 0
10	Mentions at least one purpose for which UTF can be used	1 if mentioned, Else 0
11	Mentions financial assistance to needy patient as one of the purposes of UTF	1 if mentioned, Else 0
12	Has recommended at least one item for expenditure from UTF	1 if recommended, Else 0
	Maximum	12

ANNEX – 2

Scheme of marking for VHSNC members

S. No.	Item	Marks
1	Is the member aware about the Village Health Plan? (VHP)	
2	Is the member able to tell at least one element in latest VHP of the village?	
3	Is the member aware about Village Health Calendar? (VHC)	
4	Is the member able to tell where the VHC is displayed?	
5	Is the member able to tell correct frequency of the meeting of VHSNC?	
6	Has the member attended at least one meeting?	
7	Is the member able to tell at least one issue discussed in meeting of VHSNC?	
8	Is the member aware of UTF for village?	
9	Is the member able to tell correct amount of UTF for village?	
10	Has the member recommended at least one item for expenditure from UTF?	
	Maximum	10

For all questions; 1 if yes, Else 0

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