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Research Article

Study on role of rural health training centre (RHTC) as a supporting component to a primary health care system for NRHM programme in district Muzaffarnagar (UP)

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ABSTRACT

Background: The role of RHTC set up under MCI requirement of medical colleges is rising in implementation of NRHM phase 2 programme (2012 onwards); as private medical colleges are expanding in India and they can be an important supporter in public-private partnership for national health programmes. Objective of current study was to assess the role of rural health training centre as a supporting component to a primary health care system for NRHM programme.
Methods: The present study was carried out by comparative evaluation of the rural health and training centre of a private medical college with a sub-centre (Muzaffarnagar) on key RCH services of NRHM: a) Family planning materials distribution, b) ANC services and c) Immunization services. Inclusion criteria: Proper ethical approval from both primary health care system and private medical college authorities were obtained for the study. Study design: Prospective evaluation based study on ANM in SC & SN in RHTC in NRHM programme for 1 year duration from 1st January 2013 to 31st December 2013. Data analysis: The statistical data was analysed by Epi-info version 7.1.3.
Results: The ANC services, family planning services and immunization services delivered under NRHM programme was found to statistically significantly contributed ($P < 0.05$) by SN of RHTC as compared to ANM of SC in area of Bilaspur, Muzaffarnagar (Uttar Pradesh).
Conclusion: RHTC of a private medical college in Muzaffarnagar (UP) is significantly contributing and supporting in RCH services of NRHM programme for primary health care system. RHTC of medical colleges can be an asset for public private partnership in NRHM programme.

Keywords: Sub-centre, Rural health training centre, Reproductive and child health, National rural health mission, Public private partnership, Reorientation of medical education

INTRODUCTION

Rural health is an important commodity not only at the individual level, but also at the micro and macroeconomic aspect of a country such as India. India is presently facing unique public health challenges in rural health as the maternal and child health related indicators are appearing to distant from their goals. The Ministry of Health and Family Welfare currently in 2014 has proposed for relaxation in infrastructure requirements for establishment of new medical colleges, formulating guidelines for allowing district hospitals to be used for

establishing medical colleges on the PPP mode and compulsory posting of one year for medical graduates at primary health centers and postgraduates at community health centers as part of their internship periods, but can they an effective solution in long run is a questionable issue. Strengthening health systems through reforms and improving capacities of health workforce by involving medical colleges - Rural Health Training Centres (RHTC) can be one option in addressing such challenges.

Reorientation of medical education: role of medical colleges in primary health care

The ROME Program advised by World Health Organization and Government of India focuses on making the medical education program relevant to the professional competencies. Under Rural health scheme which was started in year 1977; role of medical colleges in primary health care system is still under question mark, despite nearly 4 decades of its inception and implementation. The scheme for re-orientation of medical education (ROME) was introduced with aims of: (a) reorientation of the role of medical colleges, so that they became an integral part of the primary health- care system and did not continue to function in isolation. (b) The development of effective referral linkages between PHCs, District Hospitals and Medical Colleges.

Medical colleges in India can support primary health care system by setup of a RHTC under department of community medicine in providing RCH services as advocated also by Nandan D et al. (2013) in their all India study, in which they found that 60% of District level committee members, 56% of joint NRHM monitoring members, 35% of district health planning members and 84% active participation in MCH activities under NRHM were from private medical colleges.[1]

It is important to place medical education in the context of multidisciplinary education and to provide primary health care in a multidisciplinary way. The Forty-eighth World Health Assembly (WHO-WHA), considering the need to achieve relevance, quality, cost-effectiveness and equity in health care throughout the world gave importance to an adequate number and mix of health care providers to achieve optimal health care delivery, of the reorientation of the education and practice of all health care providers for health for all, and of the need to begin systematic consideration of each.

Choosing a health facility in rural area where medical colleges exist: SC or RHTC

The Sub-centre is the most peripheral and first contact point between the primary health care system and the community. Each Sub-Centre is manned by one Auxiliary Nurse Midwife (ANM) and one Male Health Worker MPW(M). Sub-centres are assigned tasks relating to interpersonal communication in order to bring about behavioral change and provide services in relation to maternal and child health, family welfare, nutrition, immunization, diarrhea control and control of communicable diseases programmes. The Sub-centres are provided with basic drugs for minor ailments needed for taking care of essential health needs of men, women and children. ANM positioning in SCs in all the states seems to be satisfactory. In India almost 94 percent of the SCs have ANM in position and around 6 percent of SCs are functioning without an ANM. In UP around 10 percent of SCs are functioning without an ANM like (1929/20521) in UP. SC services need to be strengthened in BIMARU states such as UP, Orissa, Jharkhand and Assam. The choice of curative health care provider depends upon the severity of illness, availability of various health-care facilities, access to services, and economic condition of household and a host of socioeconomic factors.[2]It can be seen that a large number of poor families presently utilize the services provided by private health providers, despite the high costs of care associated with the same and even with availability of Government health facilities.[3]

Role of RHTC of private medical colleges in NRHM: some key examples

Under the national rural health mission, the UP state government is planning to start sick newborn care units in eight medical colleges in Uttar Pradesh. The equipment provided in these units will include ventilators for the neonates, which are still a rarity in medical colleges of the state. The proposal of funds for establishment of these units is being sent to the government of India for approval.[4]

NRHM can provide sufficient funds to medical colleges/MCI for implementation of NRHM residency program so as to provide benefits to field mentors and medical college / institution facilitators (financial incentives for participation in continuing profession education programs).[5] There are a number of other programmes under NRHM which can be implemented by RHTC e.g. Najafgarh Delhi. RHTC Najafgarh in Delhi has implemented the NRHM in its three PHCs and 16 sub-centres in collaboration with chief district medical officers (South-West), govt. of Delhi. Still there is a little data from studies on the technical, operational and administrative feasibility of NRHM implementation by SC and RHTC in high focus states of the country. There is an emerging need to stimulate faculty members to undertake research studies on priority areas of NRHM & RCH programme with increasing importance of medical colleges in Social Landscape. That's why authors selected this research area for study.

Objective

To assess the role of Rural Health Training Centre (RHTC) as a supporting component to a primary health care system for RCH services in NRHM Programme.

METHODS

The present study was carried out by comparative evaluation of the Rural Health and Training Centre (RHTC) of a private medical college with a Sub-centre (health) Muzaffarnagar (UP) for RCH services provided in NRHM programme by RHTC staff. The ANM of SC Bilaspur and SN of RHTC Bilaspur gave ANC services, family planning and immunizations services separately in the same area at their respective centres and data for one year duration was collected from them separately.

Institutional ethical committee approval: Study was approved by the institutional ethical committee.

Data collection tools and variables

Data was collected by the pre-tested structured interview questionnaire. An interview had questions related to antenatal care services, family planning and immunization status from ANM at SC & SN in RHTC. The interview questionnaire was field-tested in RHTC Bilaspur. Questions with ambiguous meaning were restructured.

Inclusion criteria

Proper ethical approval from both primary health care system and private medical college authorities were obtained for the study. Both SC staff (ANM) and RHTC Staff (Staff nurse) gave consent for participation, hence they were included and enrolled in this study as main study subject for RCH services delivered through them in NRHM programme. Key RCH services selected were: Family Planning materials distribution, ANC services and immunization services in NRHM Programme.

Exclusion criteria

Institutional delivery data and rest primary health care services data of both SC and RHTC Bilaspur was excluded due to chosen study parameters.

Study design

Prospective evaluation based study on RCH services given by ANM in SC & SN in RHTC provided in NRHM programme for 1 year duration from 1st January 2013 to 31st December 2013. RHTC support to SC was seen in NRHM programme on RCH services as described above by comparing the RCH services given by ANM and SN in area of RHTC & SC Bilaspur. This study is unique in its methodology as no study in literature with this study design and methodology in specified study area had not been carried out earlier.

Statistical analysis

The statistical data was analyzed by Epi-info version 7.1.3 package. Group comparisons were done by Chi-Square test and Yates correction was applied whenever required and P <0.05 was regarded as statistically significant.

RESULTS

Health infrastructure profile in district Muzaffarnagar

According to the latest statistical abstract of Uttar Pradesh (2013), the district covers an area of 4008 sq. km., in which the rural and urban area containing 3934.64 and 73.36 sq. km., respectively. The district has 5 tehsils, 14 blocks, 5 municipalities, 21 town areas, 1 census towns. There are 893 inhabited villages, 132 uninhabited villages. Medical facilities in district Muzaffarnagar are basically divided into government and private sectors in district.

Rural primary health care set-up

In government sector, there are allopathic, homeopathic & Ayurveda and Unani services. The number of allopathic and Ayurveda / Unani / homeopathic hospitals per lakh population are quite low in the district than that of the state. Primary health centres, child/women welfare centres are satisfactory in the district as compared to the state average. Number of beds per lakh population is very less in allopathic hospitals but in Ayurveda / Unani / homeopathic hospitals, it is quite high as shown below in Table 1 as seen from district Sankhyaki Patrika, Muzaffarnagar, 2006.

Table 1: Health infrastructure status in district Muzaffarnagar as compared to UP state.

Sr. No.	Indicators	Uttar Pradesh	Muzaffa-rnagar
1	Number of allopathic hospitals per lakh population (including primary health centres)	2.3	2.0
2	Number of beds in allopathic hospitals per lakh population	38.0	19.2
3	Number of Ayurvedic / Unani / homeopathic hospitals per lakh population	2.0	1.3
4.	Number of Beds in Ayurvedic / Unani / homeopathic hospitals per lakh population	5.4	5.8
5.	Number of primary health centres per lakh population	1.6	2.0
6.	Number of child/women welfare centres per lakh population	11.1	11.9

Source: District Sankhyaki Patrika, Muzaffarnagar, 2006

Sub-centre's scenario

There are 368 sub-centers in district Muzaffarnagar under reproductive child health programme.

Each sub-centre provides services to approximate 5000 population as per norms. One basic health worker (female) is posted on each centre and suppose to provided various facilities covered under R.C.H. programme such as antenatal, natal, postnatal services to mother, infant and children and also family welfare as well as counseling and services under other health programme such as S.T.D. & R.T.I. programme and aid's preventive, national blindness control programme, national iodine deficiency programme, leprosy, tuberculosis etc.

The RHTC Bilaspur area covers (up to 31st Dec 2013) a total population of 43,117 [(Males-17,335; females-15146, Adolescents-958, Children (0-6years)-776], Registered ANCs-290. The RHTC area is supporting to total of 6 ANMs and 27 AWWs. The SC Bilaspur covered 8142 population, with a single ANM, without any HW(M).

RHTC(SN) support to SC(ANM) on RCH services in NRHM programme

The ANM of SC Bilaspur and SN of RHTC Bilaspur gave ANC services, family planning and Immunizations services separately in the same area at their respective centres and data for one year duration was collected on their RCH services under NRHM programme for comparison as given below:

1. Ante-Natal-Care (ANC) services comparison among RHTC and SC Bilaspur

The comparison of annual ANC services of RHTC & SC Bilaspur in year 2013 is shown below in Table 2.

Table 2: Annual ANC services detail of RHTC & SC Bilaspur in 2013.

Total no of registered beneficiaries (N=129)	TT Vaccine administration (in %)	IFA tab distribution
ANM	82 (63.5)	01 (0.8)
SN	47 (36.5)	128 (99.2)
Chi-square test with Yates correction: $x^2 = 113.68$, df = 1, P <0.0001		

The Table 2 and Figure 1 reveals that SN of RHTC was supporting to ANM in IFA distribution (99.2%) and TT vaccine administration (36.5%) out of total registered beneficiaries and this difference between TT vaccine and IFA tab between SN and ANM was highly statistically significant (P <0.0001).

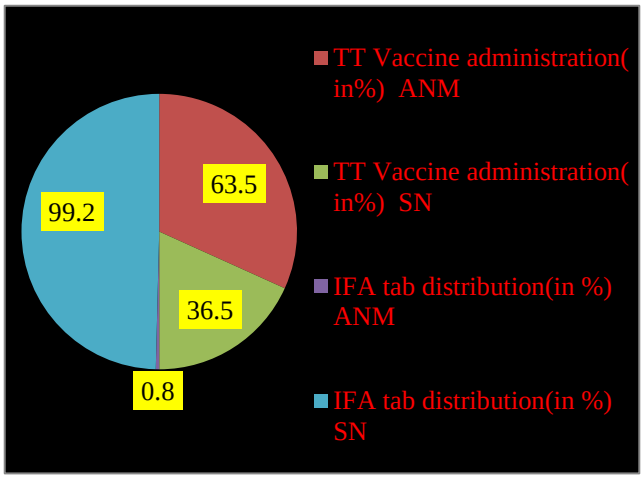

Figure 1: Annual ANC services given by ANM and SN in RHTC Bilaspur area.

2. Annual family planning services comparison of RHTC & SC Bilaspur in 2013

The comparison of annual family planning services of RHTC & SC Bilaspur in year 2013 is shown below in Table 3.

Table 3: Annual family planning services detail of RHTC & SC Bilaspur in 2013.

Total no of registered beneficiaries (N=129)	Condoms administration (in %)	Mala-N distribution
ANM	15 (11.3)	09 (6.9)
SN	90 (67.8)	18 (14)
Chi-square test: $x^2 = 5.24$, df = 1, P <0.022		

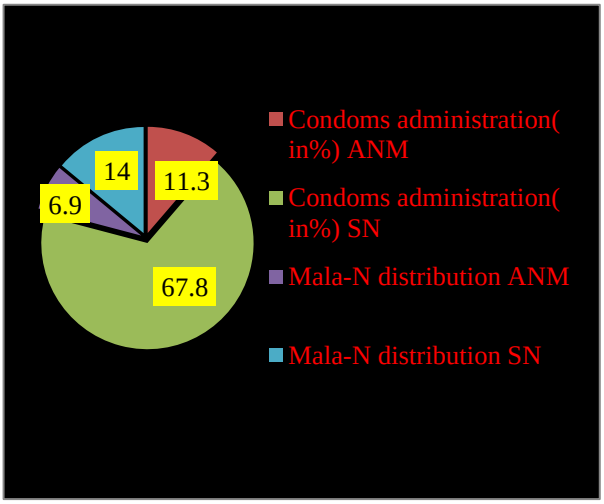

Figure 2: Annual family planning services detail of RHTC & SC Bilaspur in 2013.

The Table 3 and Figure 2 reveals that SN of RHTC was supporting to ANM in condoms distribution (67.8%) and Mala-N administration (14%) out of total registered beneficiaries and this difference between condom and Mala-N distribution was statistically significant (P <0.022).

3. Annual immunization services comparison among RHTC & SC Bilaspur

The comparison of annual immunization services of RHTC & SC Bilaspur in year 2013 is shown below in Table 4.

Table 4: Annual immunization services detail of RHTC & SC Bilaspur in 2013.

Type of vaccines	Total immunizations	ANM (In %)	SN (In %)
BCG	21(13.4)	7(9.8)	14(16.7)
OPV	68(43.6)	38(52.8)	30(35.7)
DPT	35(22.4)	15(20.7)	20(23.8)
Measles	16(10.3)	7(9.8)	9(10.7)
Vit-A	16(10.3)	5(6.9)	11(13.1)
Total	156(100)	72(46.2)	84(53.8)
Chi-square test: $x^2 = 5.60$, df = 4, P <0.0231			

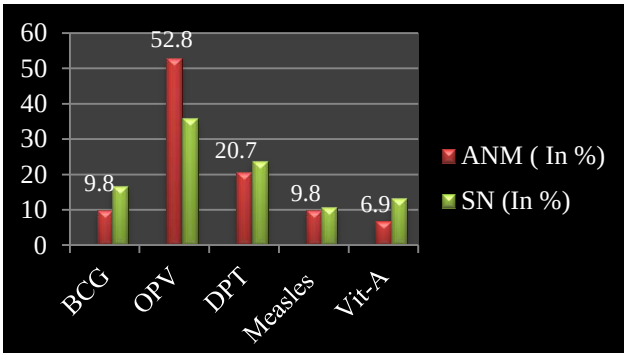

Figure 3: Comparison of annual immunization services data between ANM & SN.

Table 4 & Figure 3 reveals that at RHTC & SC Bilaspur, OPV vaccine in RI was given maximum (43.6%) of which major contribution was done by ANM (52.8%) whereas measles vaccine along with vitamin-A was lowest (10.3% each respectively). The major contribution in vitamin-A was that of SN (13.1%) as compared to ANM (6.9%). The above difference between SN and ANM in types of vaccine distribution was statistically significant (P <0.0231).

DISCUSSION

Despite several attempts India has not able to realize comprehensive primary health care as it was promoted in Alma Ata. Partial success has been achieved with some of the programmes implemented like UIP, ICDS or CHV. The multi-sectorial approach was missing in all these programmes. If multi-sectorial programmes were tried out like in the community development programme or the minimum needs programme either health did only play a minor role or the focus was solely on earth issues. NRHM is one such programme which can have a multisectoral approach.

National Rural Health Mission (NRHM 2005-2012) launched by the hon'ble prime minister of India proposed to support the development and effective implementation of regulating mechanism for the private health sector to ensure equity, transparency and accountability in achieving the public health goals. NRHM seeks to provide effective health care to rural poor population especially the disadvantaged groups including women and children, through a range of interventions at various levels - individual, household, community and health system level: a) By improving access b) Enabling community ownership and demand for services, c) Strengthening public health system for efficient service delivery, d) Enhancing equity and accountability and promoting decentralization. NRHM can prepare a specialty-wise list of rural health institutions for residency in family medicine / primary care, community medicine and public health etc. NRHM can work with medical council of India and medical colleges/institutions for planning, implementing, monitoring and evaluation of a residency program of young doctors in rural health programmes.[6,7]

In order to tap the resources available in the private sector and to conceptualize the strategies, government of India has constituted a technical advisory group for this purpose, consisting of officials of GOI, development partners and other stakeholders. To fulfill the requirement of additional manpower in terms of requirement of 3 lakh nurses and 12,000 Specialist doctors under NRHM, it is essential to explore a range of partnership options in terms of private sector support to nursing institutions and medical schools and colleges to make available the human resources required for NRHM.[6,7]

The NRHM has been quite successful in achieving several of its projected targets. NRHM has significantly reduced the incidences of several diseases by increasing the number of health facilities (primary health centres and hospitals), care providers (ASHAs, doctors, nurses and paramedic staff) and community education. However, all of the NRHM's expected outcomes have not materialized and there continues to be a critical shortage of trained medical professionals and access to medications. NRHM evaluation study in 7 major states of India reveals that Children immunization scheme seems to have been working fine and possibly majority of the new born children have been immunized in all the states of India but quality of services is being seriously affected by shortage of staff nurses at all levels of facilities.[8]

The following NRHM activities can be organized/conducted in RHTC of private medical

colleges as a support to this programme as seen in RHTC Nagafgarh, Delhi:[6,7]

1. Village health nutrition days - in different sub-centres under PHC area
2. Maternal Health check-up
3. Check-up of Child Health from infant to children below 5 yrs
4. Family planning
5. RTI/STDs
6. Sanitation
7. Communicable disease
8. Health promotion
9. Nutritional demonstration-diseases due to malnutrition and its precaution
10. Hygienic & correct cooking practice
11. Weighing of infants & child

Public-private partnership in NRHM programme

Today the private sector provides 58% of the hospitals, 29% of the beds in the hospitals and 81% of the doctors. (The Report of the Task Force on Medical Education, MoHFW). The private providers in treatment of illness are 78% in the rural areas and 81% in the urban areas. The use of public health care is lowest in the states of Bihar and Uttar Pradesh. The reliance on the private sector is highest in Bihar. 77% of OPD cases in rural areas and 80% in urban areas are being serviced by the private sector in the country. (60th round of the National Sample Survey Organization (NSSO) Report. Widely perceived to be inequitable, expensive, over indulgent in clinical procedures, and without standards of quality, the private sector is also seen to be easily accessible, better managed and more efficient than its public counterpart. Given the overwhelming presence of private sector in health, there is a need to regulate and involve the private sector in an appropriate public-private mix for providing comprehensive and universal primary health care to all. Public-Private Partnership has emerged as one of the options to influence the growth of private sector with public goals in mind. Under the Tenth Five Year Plan (2002-2007), initiatives were taken to define the role of the government, private and voluntary organizations in meeting the growing needs for health care services including RCH and other national health programmes such as NRHM.

Public-Private Partnership or PPP in the context of the health sector is an instrument for improving the health of the rural population. Universal coverage and equity for primary health care should be the main objective of any PPP mechanism besides: a) Improving quality, accessibility, availability, acceptability and efficiency b) Exchange of skills and expertise between the public and private sector c) Widening the range of services and number of services providers. PPP is to be seen in the context of viewing the whole medical sector as a national asset with health promotion as goal of all health providers, private or public. PPP however would not mean privatization of the health sector. Partnership is not meant to be a substitution for lesser provisioning of government resources nor an abdication of Government responsibility but as a tool for augmenting the public health system. Public private Partnership is low in Uttar Pradesh as seen from DFID study (2002) in Figure 4 given below:[9,10]

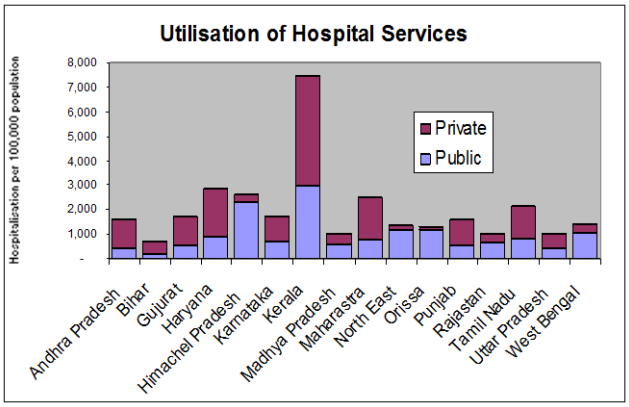

Figure 4: Utilization of health services as per DFID report (2002).

Source: Pearson M, impact and expenditure review, part II policy issues. DFID, 2002

Role of private medical colleges for NRHM programme

Nandan D et al. (2013) recommended in their study that the need of the hour is that medical colleges should realize their social responsibility towards rural India by shifting the teaching & training programmes with increased orientation towards rural community.[1] The different departments of Medical colleges such as community medicine department should play an active role in implementation of the national health programmes such as NRHM and outreach services may be provided to the community in the periphery or vicinity of the Medical colleges around 1 lac population. medical colleges also have an important responsibility of imparting training to the cadre of workers (Health workers and ANMs) and providing them skills in public health.[1] For medical education to serve the community, it would have to best to be socially oriented towards primary healthcare. The pedagogic methodology would have to be problem-based - where the non-clinical principles would have to be meshed with clinical training. In short, it is felt that medical training should largely be in a decentralized setting outside a tertiary care hospital, in close proximity with the public health and social environment and with a different orientation to the curriculum, and a community-centric pedagogy, one can reasonably expect a much more even spread of service providers over the country pedagogy, one can reasonably expect a much more even spread of service providers over the country

Three antenatal care checkups, a sensitive indicator of access to outreach care in pregnancy has improved in

rural areas from 36.7% in 2005 to 63.3% in 2009. Full immunization in rural areas has improved from 47.4% to 58.5%, an increase of 11.1%, over four years. Measles immunization in rural areas improved from 61.8% to 72.4% over the same period. Of the total of 145,920 sub-centres, 95% are functional with at least one ANM. In 2005, one fourth of sub-centers did not have a single ANM or were non-functional for similar reasons.[7]

Rural primary health care scenario of Muzaffarnagar

Human right watch study for UP reveals that quality of NRHM Services have were deficient and poor women were denied good services at primary health care facilities.[11] Although from 2005-09 the bed strength in govt. hospital have increased from 8820 to 32,460; but in government sector in Muzaffarnagar (UP) despite there are Allopathic, Homeopathic & Ayurvedic and Unani services, the number of allopathic and Ayurveda / Unani / homeopathic hospitals per lakh population are quite low in the district than that of the state.[11] This study also found the similar issue of rural primary health care deficiencies in Muzaffarnagar as noted from services given by ANM at SC as also found in DFID study.[9-11]

NRHM services delivery analysis: role of RHTC

Study by Patel PB et al. (2010) reveals that Large number of poor families presently utilizes the services provided by private health providers for many reasons as utilization of public health care facilities remains low over the years, even by the poorest of the community.[3] The study of Sah PK et al. (2013), reveals that decentralized planning of healthcare delivery through community participation as envisaged under NRHM is lacking.[12] Only 3.26 per cent have immunized in government hospitals in Muzaffarnagar by ANMs whereas in private hospitals, private doctors or nurses also have done 1.56 per cent immunization as per district Sankhyaki Patrika report of Muzaffarnagar (2006).[13] Our study also had similar finding as SN of RHTC was supporting to ANM in IFA distribution (99.2%), TT vaccine administration (36.5%), condoms distribution (67.8%) and Mala-N administration (14%) and vitamin-A was that of SN (13.1%) [as compared to ANM (6.9%)] This NRHM services differences were statistically significant, suggesting that RHTC of a private medical college can play an important role in delivery of NRHM services, which was also seen in study at RHTC, Najafgarh, Delhi.[6,7]

Antenatal care services need to be delivered more practically, as studies have proved that antenatal care is the single most important intervention that can reduce the maternal and infant morbidity and mortality in developing countries. Similar poorly delivered NRHM services to pregnant women by ANM in SC in Deoli, in antenatal services were noted by Khatib N et al. (2009) at RHTC.[14] There is an urgent need to strengthen IEC campaigns and monitoring strategies under NRHM JSY scheme as found in study by Parul S et al. (2012) at RHTC.[15]

Expanding role of private players such as RHTC in healthcare services and health programmes: evidence from studies

If an ailment is treated it could be institutional (hospitalization) or non-institutional (out-patient). These services could be availed of in public or private facilities. NSSO 2004 data reveals that the private sector has become the dominant source of health care services, both institutional or non-institutional for patients in rural and urban areas. Of those seeking treatment, 78 per cent rural and 81 per cent urban patients are availing private non-institutional facilities and 58 per cent rural and 62 percent urban patients are going to private hospitals and the dependence on the private sector is significant across all income ranges from the poorest to the richest, and utilization for public facilities is only very marginally higher among the poorest segments. So RHTC of private medical colleges can play a significant role in health care programmes.[16]

Reorienting medical education to support rural health issues including regulation of medical care and medical ethics is one of the key supplementary strategies of NRHM as per RHS report of 2012.[17] Shortcomings in the delivery of primary health centre services and more dependence on private health care service providers has resulted in lesser utilization rates was also seen in study by Galhotra A et al. (2013) in which they found that overall satisfaction was high from utilization of RHTC services at Chandhigarh.[18] Few state governments such as Karnataka under NRHM programme have started to set up level-3 Neonatal care in Government and private Medical colleges, which shows rising role of medical colleges in NRHM.[19] Study on RHTC by Ray SK et al. (2011) found that RCH services including family planning as well as immunization services (preventive services) were utilized much better from RHTC, indicating their increasing role in RCH services.[20]

Limitations of study: a) Institutional delivery as well as rest primary health care services data of SC and RHTC Bilaspur was excluded due to chosen study parameters, so this can be a limited factor in study for RCH services given under NRHM programmes. b) Unconventional comparison was done between SC (ANM) and RHTC (SN) for one year duration to give generalized recommendation is debatable.

CONCLUSION

There is an increasing demand to identify themselves for the rural needs by private medical colleges. What is required is facilitation of the Medical Colleges to develop partnership with state/district health & FW authorities to strengthen training and improve quality of RCH services under NRHM programmes. There is a need for medical

colleges to improve their contribution to changes in the manner of health care delivery through more appropriate education, research and service delivery, including preventive and promotional activities, in order to respond better to people's needs and improve health status under national health programmes such as NRHM. This study recommends that RHTC of a private medical college can be an asset for public private partnership in NRHM programme as they can significantly contribute and support in RCH services given under NRHM programme for primary health care system. We recommend more in-depth qualitative studies are in this area in future, before this issue gets standardized.

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Abbreviations

- SC-Sub Centre
- ANM-Auxiliary Nurse Midwife
- SN-Staff Nurse
- RHTC- Rural Health Training Centre
- RHS-Rural Health Statistics
- NRHM-National Rural Health Mission
- RCH-Reproductive & Child Health
- PPP-Public Private Partnership
- ROME-Reorientation of Medical Education
- IEC-Institution Ethics Committee or Information Education Communication
- NSSO- National Sample Survey Organization
- JSY- Janani Suraksha Yojna
- DFID- Department for International Development
- UP-Uttar Pradesh
- MCI-Medical Council of India

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Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

1. Nandan D. Role of medical colleges in NRHM, 2014. Available at: http://nihfw.org/partnership/Public%20Health%20conclave/role%20of%20medical%20colleges%20in%20NRHM.pdf. Accessed 21 February 2014.
2. P Duraiyasamy. Health status and curative health care in rural India. In: Working paper series No.78. New Delhi: National Council for Applied Economic Research; 2001: 4.
3. Patel PB, Trivedi KN, Nayak SN, Patel Priyanka. Health seeking behaviour of peri-urban community of Chandkheda. National J Community Med. 2010,(1)1;35-6.
4. Express News Service-Lucknow. Under NRHM, eight medical colleges to get new-born care units, 2001. Available at: http://archive.indianexpress.com/news/under-nrhm-eight-medical-colleges-to-get-newborn-care-units/854282/. Accessed February 2014.
5. Kumar R. Involvement of young doctors in the rural health services of India. Indian J Pub Health. 2012;56(1):1-3.
6. Kurugant P. There's still hope: an introduction to India's healthcare initiatives, 2012. Available at: http://health.india.com/diseases-conditions/theres-still-hope-an-introduction-to-indias-healthcare-initiatives. Accessed 25 February 2014.
7. Planning Commission. Report of the working group on National Rural Health Mission (NRHM) for the twelfth five year plan (2012-2017), 2011. Available at: http://planningcommission.gov.in/aboutus/committee/wrkgrp12/health/WG_1NRHM.pdf. Accessed 21 February 2014.
8. Programme Evaluation Organisation, Planning Commission, Government of India. Evaluation study of National Rural Health Mission (NRHM) in 7 states, 2011. Available at: http://planningcommission.nic.in/reports/peoreport/peoevalu/peo_2807.pdf. Accessed February 2014.
9. Planning Commission. Draft report on recommendation of task force on public private partnership for the 11th plan, 2014. Available at: planningcommission.nic.in/aboutus/committee/.../wg11_heasys.doc. Accessed 3 March 2014.
10. Pearson M. Impact and expenditure review, Part II. In: Policy Issues. India: DFID; 2002: 1-44.
11. National Rural Health Mission. Meeting peoples health needs in partnership with States. The Journay so far, 2010. Available at: https://nrhm-mis.nic.in/UI/Reports/Documents/Five%20years%20of%20NRHM%202005-10.pdf. Accessed 3 March 2014.
12. Sah PK, Raut AV, Maliye CH, Gupta SS, Mehendale AM, Garg BS. Performance of village health, nutrition and sanitation committee: A qualitative study from rural Wardha, Maharashtra. The Health Agenda 2013 Oct;1(4):112.
13. ICSSR. Muzaffarnagar final report (baseline): district Sankhyaki Patrika, Muzaffarnagar, 2006. Available at: www.icssr.org/Muzaffarnagar%20Final%20Report%20(Baseline).pdf. Accessed 3 March 2014.
14. Khatib N, Zahiruddin QS, Gaidhane AM, Waghmare L, Srivatsava T, Goyal RC, Zodpey SP, Johrapurkar SR. Predictors for antenatal services and pregnancy outcome in a rural area: a prospective study in Wardha district, India. Indian J Med Sci. 2009 Oct;63(10):436-44.
15. Sharma P, Srivastava K, Vyas S, Kishore S, Semwal J. Is Janani Suraksha Yojana's (JSY) awareness a

reflection of healthy pregnancy outcome? Differences in rural areas and urban slums. National J Community Med. 2012 Apr-June;3(2):187-92.
16. Bhandari L, Dutta S. Health infrastructure in rural India. Indian Infrastructure Report. 2007;11:265-85.
17. MOHFW. Rural health statistics in India. In: Statistics Division. India: MOHFW, GOI; 2012: 1-174.
18. Galhotra A, Sarpal SS, Gupta S, Goel NK. A cross-sectional study on patient satisfaction toward services received at rural health center, Chandigarh, North India. Ann Trop Med Pub Health. 2013;6:240-4.
19. MOU. MOU for empanelment of medical colleges under NRHM for NICU-Level3. In: NRHM for NICU-Level3. India: Govt. of Karnatka; 2010: 1-3.
20. Ray SK, Basu SS, Basu AK. An assessment of rural health care delivery system in some areas of West Bengal-An overview. Indian J Pub Health. 2011;55:70-80.

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