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Original Research Article

Assessment of infrastructure facilities, manpower and services at health sub-centres from a rural block of Haryana, North India

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ABSTRACT

Background: A sub-centre is the most peripheral and first point of contact between the health care system and the Community. The success of any nationwide programme largely depends on well-functioning sub-centres providing services of acceptable standard to people. Indian Public Health Standards (IPHS) were programmed with an objective to standardize the health care infrastructure and services. Current study was undertaken with the aim to assess the infrastructure facilities, manpower and services of a sample of sub-centers from North India against the IPHS standards.
Methods: A cross sectional study was carried out from February 2014 to October 2014 in 30 of the 32 sub-centres in a rural block of district Ambala in the state of Haryana, North India using a specially designed semi structured questionnaire to compare the existing physical infrastructure, manpower, quality control and service delivery in these sub-centres against the IPHS standards.
Results: Significant gaps existed in available physical infrastructure and availability of manpower (especially male worker). The parameters designed for quality control like citizen's charter, internal and external monitoring were also found to be deficient. Record keeping and reporting was also unsatisfactory. However, availability of the requisite services and service delivery was found to be satisfactory.
Conclusions: There is urgent need to equip the sub-centres with the necessary infrastructure and logistics along with need of regular monitoring and supervision of the sub-centers by internal and external agencies so as to improve the quality of facilities and services provided by them.

Keywords: Sub-centres, Healthcare, Rural, Indian public health standards, Quality, Gaps

INTRODUCTION

The delivery of primary health care services is foundation of rural health care system and forms an integral part of national health care system. A sub-health center (sub-center) is the first contact point for availing health services by the community particularly for primary health care in the rural areas of our country. The sub-centre was planned to serve a population of 5,000 in plains and 3,000 in hilly or tribal areas.[1] The national health programs are designed for implementation at the level of sub-centers utilizing the logistics provided and potential of the health workers. Thus, the success of any National Health Program especially in rural areas largely depends upon the functioning of these sub-centers. The resources in terms of infrastructure, manpower, logistics are key determinants of the quality of services delivered by a particular sub-center. Keeping this background in mind, Government of India under National Rural Health Mission (NRHM) has introduced IPHS norms for various levels of rural health institutions/centers. IPHS for sub-centers was prepared keeping in view the minimum standards required to provide quality and need sensitive health care to the community.[1] Finding out the gaps in facilities existing at the sub-centers in comparison to

IPHS is warranted to assist the authorities to improve the infrastructure and services of sub-centers in timely and effective manner. There are very few studies on assessing the infrastructure and services of Sub-centers as compared to IPHS norms. The present study reflected the existing state of health infrastructure and quality of care being provided at the sub-centers in a rural block of district Ambala in Haryana.

METHODS

Study area, study design and sampling

This was a cross-sectional study carried out from February 2014 to October 2014 in the purposefully selected Shahzadpur block in district Ambala of Haryana state. There was one community health centre (CHC), four primary health centers (PHCs) and 32 sub-centers in the block. This block was rural and more or less similar in socio-demographic parameters to others rural blocks of Ambala district of Haryana. The Shahzadpur community development block was purposively selected as it was the field practice area attached to department of community medicine, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh. Because of feasibility of the area for repeated visits and familiarity with the health workers, they were likely to be more cooperative and comparatively it was easier to gather the true and realistic information.

Data collection and analysis

The data were collected from the female multipurpose health workers (MPHWs) by the interview method and through personal observations on some of the parameters on a pre-designed, structured and pre-tested schedule designed as per IPHS norms for the sub-centres.[1] The category used using IPHS included services, manpower, physical infrastructure (building, water supply, electricity, sanitation, labour room and communication) and quality control. Additional information about sanitation, communication and other facilities were assessed using facility survey manual under reproductive and child health project 2007-08 for sub-centre, PHC, CHC and District Hospital.[2] The permission to conduct the study was sought from senior medical officer (SMO) of CHC, Shahzadpur under which all the sub-centers fall. A schedule was prepared for the visit to the sub-centers in which a day was fixed for each sub-center's visit to ensure availability of MPHWs (male and female both) which was then circulated to the selected sub-centers.

Scores of 0 (zero) was awarded if the parameter was absent and a score of 1 (one) was awarded if the parameter was present. In some cases, building, labor room, sanitation and availability of multipurpose health worker (female), scores of zero, one and two was also awarded. Regarding sub-centre building score zero was awarded if it was not available, one if it was under construction and two if the building was as per norms fixed. Similarly if labor room was available but deliveries were not being conducted score of one was awarded whereas if deliveries were being conducted in the Sub-centers score of two was awarded. For sanitation, score of two, one and zero was awarded if it was good, fair or poor respectively. Regarding manpower, presence of additional multi-purpose health worker female was awarded a score of two. Using this scoring methodology the maximum possible scores for the sub-centers as per IPHS norms, as well as the scores of the individual sub-centers were calculated and gaps were identified. The data was entered into the excel sheet and analyzed. The data collected were tabulated, analyzed using percentages, means and proportions (wherever necessary) and interpretations were made accordingly, for identifying gaps for services mean score of all the sub-centers were compared against the possible maximum mean score, otherwise total scores were compared against the possible total scores.

RESULTS

A total of 30 functional SCs out of the 32 SCs, under all the 4 PHCS were studied. Two sub-centers were excluded as both of them were non-functional owing to ANMs being on long leave and building under construction. All the 30 sub-centers except two were located in the middle of village and easily accessible to community.

Table 1: Physical infrastructure scorings of the health sub-centers (n=30).

Parameters*	Maximum possible score	Actual scores of the Sub-centres	Percentage scores of the sub-centres (%)
Building+	60	12	20.0
Water supply	30	28	84.6
Electricity	30	30	100
Labor room++	60	23	38.4
Communication	30	29	92.3
Transport	30	00	0.00
Sanitation#	60	30	50.0

*0=absent, 1=present, +designated government building: 0=not available, 1=under construction, 2=available, ++labour room: 0=not available, 1=present but deliveries not being conducted, 2=present and deliveries are carried out, #sanitation: good=2, fair=1, poor=0.

However, only 6 (20%) sub-centres have a designated building available and rest all sub-centers were running in rented or donated buildings and space was not adequate as per standards in any of these rented or donated buildings. The available physical infrastructure in selected sub-centers is shown in Table 1.

The sub-centers scored good in terms of electric supply (100%), mean of communication (92.3%) and piped

water supply (84.6%). Cleanliness/sanitation was good, fair and poor in three, five and four sub-centers respectively. Although labor room was available in 24 sub-centers but only one of them was found to be functional. Communication facilities in form of mobile Sims were available with all the ANMs of the Sub-centers but suggestion box was available only in fifteen (50.0%) sub-centres. Separate public utilities for males and females were available in only 10 of the sub-centers. None of the sub-centers had an independent facility for transport. Residential facility for the female worker was available in 20 of the sub-centers but none of them was being utilized.

Table 2: Availability of general and specific services regarding MCH care including family planning at the health sub-centres (n=30).

Parameters	Actual mean scores of sub-centres	Total (max) mean scores
Service availability	9.6±0.48	10.0
Specific service delivery*	7.5±1.56	9.0
Other functions and services performed+	5.0±0.32	5.0
Monitoring, Supervision and co-ordination of activities++	5.2±0.91	6.0

*Visits of doctors and LHVs, quality of MCH services, services as per schedule, DOTS. +National health programs, field visits, control of local endemic diseases. ++coordination with ASHAs, TBAs, VHSC, PRIs and quality of records.

Table 3: Availability of manpower at the health sub-centres (n=30).

Parameters*	Actual scores (%) of sub-centres	Total (max) scores
Male health worker	10 (33.33)	30
Female health worker+	45 (75.0)++	60
Voluntary worker to clean Sub-centre and assist ANM	16 (53.3)	30

*0=not available, 1=equal to minimum recommended, +2=availability of additional MPHW (F); ++figures in parenthesis are the percentages of sub-centre with additional MPHW (F).

Services regarding ante-natal, natal and post-natal care were provided in all the sub-centers (Table 2). The other facilities like immunization, family planning and contraceptive services, ORS and other drugs for minor ailments, smear preparation for malaria were available at all the sub-centers. All the sub-centers were also functioning as DOTS centers too. Health workers at all these sub-centers also assisted in delivering school health services. Benefits regarding Janani Suraksha Yojana (JSY) were being distributed to the eligible beneficiaries at all the Sub-centers. However, only six of the sub-centres were providing adolescent health care services.

Table 4: Health sub-centre's scores on quality control parameters (n=30).

Parameters*	Actual scores (%) of sub-centres	Total (max) scores
Citizen's charter	10 (33.3)	30
Internal monitoring	24 (75.0)	30
External monitoring	8 (26.4)	30
Availability of standard guidelines	8 (26.4)	30

*0=absent, 1=present.

Regular visit by medical officers once a month was reported in twenty (75%) out of the thirty sub-centers, but the day and time of the visit was not fixed even in a single sub-center and also the community members were not aware of the visits. Regular weekly visit of lady health supervisors (LHVs) were lacking in all the sub-centers as reported by MPHWs (F). None of the health workers was staying at the headquarters and hence the referral facility was available only in day time during routine duty hours. Seven of the sub-centers had an additional female health worker and she used to accompany the woman in labor in case of referral. National health programs, disease surveillance, control of locally endemic diseases, promotion of sanitation and field visits for home care were being carried out at all the sub-centers as reflected from health management and information system (HMIS) and other records available at the sub-centers. But the quality of services could not be ascertained and this needs to be assessed further. Trained birth attendants (TBAs) and ASHAs were not being trained at any of the sub-centers. Training of ASHAs were being held at CHC and district hospitals by medical officers only but there was good co-ordination between ASHAs and ANMs as well as other workers except Panchayati raj institutions (PRIs).

Table 3 shows the availability of manpower in the selected sub-centers. At least one MPHW (F) was available in all the sub-centers. There was no MPHW (M) available at twenty of the sub-centers and no additional MPHW (F) was available in fifteen (66.6%) of the twelve selected sub-centers. No voluntary worker for carrying out the duty of cleanliness and other supportive services was available in fourteen sub-centers.

Status of quality control criterions for selected sub-centres is mentioned in Table 4. Citizen's charter was available in only 10 (33.3%) sub-centres while guidelines

for provision of services were available in only 8 (26.4%) sub-centres. Internal monitoring was being carried out regularly in twenty four of the thirty sub-centers whereas only eight sub-centers reported to have external monitoring by independent agencies.

DISCUSSION

Government of India laid down various health-related goals, sustainable developmental goals (SDGs), National health policy goals, and various goals under NRHM; achievement of which would be far from reality in light of the present situation of the infrastructure and facilities available at the sub-centers. Our study revealed that there were significant gaps in all the parameters related to IPHS at the level of sub-centers.

Regarding physical infrastructure, only ten SCs (33.3%) had their own government designated building as per the IPHS norms. There were eight sub-centers which were running in a single room building. Similar studies done by Reddy et al in Chitoor district of AP and Nair et al in Kerala reported only 41.2% and 54.4% of the SCs were having designated government buildings respectively.[3,4] Electricity and water supply at the sub-centres were found to be satisfactory in our study whereas residential and sanitation facilities were poor. These facilities were important for delivering quality services and building up faith among the beneficiaries for utilization of these services. Adequate sanitation and good transport and communication facilities were also very important which were lacking in these sub-centers. The similar picture was observed in the facility survey reports of many states.[5-8] Most of the ANMs were provided with free mobile sims for communication purposes but reimbursement of the mobile bills was a major problem faced by them. Free mobile phone services should be available to all health workers as it might be helpful in taking advice regarding management of patients or arranging for transport and referral. No funds have been allocated for infrastructure of the sub-centers in Haryana after 2005-06.[9] Similar scenario was observed in many of the other states too.[5-8]

Significant gaps in the manpower, specifically in relation to availability of male and additional female health worker, existed as also seen in many of the other states.[5-8] Concerned state governments might look in the matter urgently and should recruit the required staff on regular or contractual (with reasonable wages) basis as early as possible.

Regarding availability of services, the performance of sub-centers was satisfactory in most of the areas except for the component of adolescent health. Regular monitoring and supervision were not being carried out by LHVs and also by the concerned medical officers (MOs) as evident from the unsatisfactory quality of sub-centre records. Against the satisfactory availability of services, the delivery of specific services like MCH and family planning were not satisfactory as field visits of medical officers were not planned and there was no schedule of such visits. 24 hours referral facilities were not available in any of the sub-centers as none of the health workers were staying at the sub-centre.

Importance of citizen's charter and standard guidelines was not understood properly by the concerned medical officers and other health officials. Citizen's charter and standard guidelines might help in improving community awareness and utilization of the services at Sub-center level. These issues could be managed by motivating the health officials regarding importance of citizen's charter and also ensuring that the concerned medical officer should submit his/her tour program in advance to the higher authorities. Good coordination with PRI members was also not observed. We must try to involve PRI members as they are one of the key links.

Limitations

As the study was conducted in a single block of only one district, it may not be representing the scenario of the whole state and thus further research with bigger representative sample was warranted to bring out the true situation of the sub-centers in the state and in the country.

CONCLUSION

Significant gaps, as identified above, existed in the infrastructure, facilities and services at the studied sub-centers. One of the key factors responsible for non-utilization of health services of the sub-centres was the lack of adequate infrastructure and logistics at the sub-centers. Active community participation in health activities in rural areas would remain a dream to be fulfilled till these sub-centers are upgraded as per IPHS norms. Investing in infrastructure will go a long way not only in providing quality health services but also in achieving laid down health related goals as per National Health Policy, Millennium Developmental Goals and National Rural Health Mission.

Recommendations

It is recommended that the identified gaps, particularly those in basic physical infrastructure, logistics and manpower be addressed on priority basis. Moreover, involvement of PRI members for mobilization of funds for improvement of infrastructure of sub-centers must be encouraged. Likewise, frequent planned joint meetings of health officials with Zila Parishad and block samities must be encouraged. In addition, to improve supervision of sub-centers, medical officers must be impressed upon to submit their monthly tour programs in advance and thence respective tour notes to their superior officers. The tour notes submitted by the medical officers must also be audited and necessary steps might be taken for ensuring high quality of performance of sub-centers.

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