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Original article:

An assessment of the gap in the health care delivery system in the districts of Nashik and Buldhana, Maharashtra

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Abstract:

Introduction: Currently, India follows the three-tier health care delivery system.[1,2] A sub-center (SC) and primary health center (PHC) provides first contact with the community for providing primary health care services.

Material & Methods: This is an exploratory and observational, cross-sectional study conducted in the selected districts of Maharashtra. This study was conducted between November 2018 and April 2019. This study was conducted in the selected districts of, Maharashtra. The participants would be included from the selected sub-centers, primary health centers and community health centers of Nashik and Buldhana district, Maharashtra.

Result and Conclusion: The physical infrastructure and manpower availability at the PHCs and CHCs needs considerable improvement as per the Indian Public Health Standard (IPHS). Incentives should be given to work at these places and all the post of staff should be filled up as early as possible.

Keywords: primary health center , physical infrastructure

Introduction:

Currently, India follows the three-tier health care delivery system.[1,2] A sub-center (SC) and primary health center (PHC) provides first contact with the community for providing primary health care services. Community health center (CHC) or rural hospital (RH) functions as first referral unit or specialist level of health care in rural areas. In spite of a vast network of health care institutions in India, there exist a wide gap between the rural and urban areas in terms of availability and accessibility of health care infrastructure, as the urban areas are found better equipped with these facilities.[3] Type B sub-center is expected to provide all recommended services including facilities for conducting delivery at the sub-center itself, a service which the Type A sub-center lacks.[4, 5] Study done by Pal et al[6] and Reddy NB et al[7] found that more than 90% of the SCs did not have essential equipment. Better cared health centers with all basic facilities will encourage workers to stay there, and that could improve the services.[8] A lack of resources and manpower leads to unsatisfactory utilization of the services by the beneficiaries. Previous studies have corroborated these observations by observing that a community avails health services with appropriate infrastructure and manpower.[9] A Program Evaluation Organization (PEO) study[10] revealed that about 57 per cent of the beneficiaries were either dissatisfied or partially satisfied with the quality of services delivered through sample

CHCs. The reasons for dissatisfaction stem from the inadequacies of the delivery system. Earlier studies have focused on some of the major reasons for dissatisfaction such as: non-availability of doctors, indifferent and non-sympathetic attitudes of doctors and paramedical staff and non-availability of prescribed medicines.[11] Hence, the present research was undertaken for exploring the infrastructure and manpower resources with respect to IPHS norms of sub-center, primary health center and community health center.

Aims & Objectives:

1. To assess the gap in the healthcare delivery services in selected districts.
2. To analyze lack of infrastructure and resources within the healthcare system in the selected districts
3. To recommend appropriate measures to improve the standards of healthcare delivery system.

Material & Methods

Study design: This is an exploratory and observational, cross-sectional study conducted in the selected districts of Maharashtra.

Study duration: This study was conducted between November 2018 and April 2019.

Study setting: This study was conducted in the selected districts of, Maharashtra. The participants would be included from the selected sub-centers, primary health centers and community health centers of Nashik and Buldhana district, Maharashtra.

Study sampling: Four blocks from each district was selected. From Nashik district Kalwan, Dindori, Chandwad and Devla blocks was included and from Buldhana district Shegaon, Jalgaon (Jamod), Nandura and Sangrampur blocks was included in this research. 100% CHCs, 50% PHCs and 25% SCs from these selected blocks from each district was included as a sample size for this study. There were in total 3 CHCs, 26 PHCs and 120 SCs in Nashik district in four blocks and 2 CHCs, 16 PHCs and 80 SCs in Buldhana district. So, total 3 CHCs, 13 PHCs and 30 SCs from Nashik district while 2 CHCs, 8 PHCs and 20 SCs from Buldhana district was selected by simple random sampling method by applying lucky draw technique.

Data collection technique: A pre-tested, structured and validated proforma adopted from IPHS facility survey of sub-center, primary health center and community health center was used to collect information on infrastructure, manpower resources.

Data analysis: The data gathered in the proforma was entered into the SPSS software for the purpose of analysis. A descriptive analysis was done to identify the gaps in the infrastructure, resources, manpower and services provided within the healthcare system of the selected districts.

Ethical approval: The ethical approval was taken from Institutional Ethical Committee of Pravara Institute of Medical sciences loni . The administrative approval was taken from Director of Health Services (DHS) of Maharashtra state.

Inclusion and Exclusion criteria: All those data which were incomplete, missing or were not consistent with the information required was not included in the study.

Results:

There were in total 4 CHCs, 26 PHCs and 120 SCs in Nashik district in four blocks and 3 CHCs, 16 PHCs and 80 SCs in Buldhana district in four blocks.

For the purpose of this study, 4 CHCs, 13 PHCs and 27 SCs from Nashik district while 3 CHCs, 8 PHCs and 18 SCs from Buldhana district were selected. 3 sub-centers in Nashik and 2 sub-centers from Buldhana were not included in this study due to incomplete data and unavailability of sub-center staff.

Table – 1 shows the resources (infrastructure, services and manpower) available in the sub center of the study area. It was seen that the availability was higher in the Nashik district as compared to Buldhana. On comparing the infrastructural availability between the two, facilities like location (88.9%, 83.3%), accessibility (92.6%, 83.3%), durability (51.9%, 22.2%), protection from external elements (77.8%, 44.4%), cleanliness (96.3%, 83.3%) were higher in the sub-centers of Nashik district than in Buldhana. All the sub-centers in Nashik were government designated buildings while in Buldhana 94.4% were the same. The display of information in the local language was approximately the same in both the districts but separate public utilities for males and females were much higher in Nashik than in Buldhana. Other infrastructural facilities such as the presence of a complaint box and availability of the labor room were also more evident in Nashik.

Basic services including water supply (100%, 94.4%), bio – medical waste disposal (96.3%, 88.9%), transport (85.2%, 55.6%), residential facility for staff (92.6%, 55.6%) and availability of the toilet (66.7%, 61.1%) was higher in Nashik as compared to Buldhana district. In the area of regular electrical supply (83.3%, 77.8%), Buldhana district scored higher than Nashik while they were similar in having the telecommunication facility in their premises.

Adequate manpower was available in both the districts, but it was seen that female health workers (94.4%, 88.9%) were more in Buldhana than in Nashik while it was the reverse in case of male health workers (55.6%, 77.8%).

Table - 1

Infrastructural availability in Sub - center	**Nashik (27)**	**Buldhana (18)**
Infrastructure		
Sub-center location (within village locality)	24 (88.9)	15 (83.3)
Designated Government building	27 (100.0)	17 (94.4)
Easily accessible	25 (92.6)	15 (83.3)
Present condition of the existing building (Good condition)	14 (51.9)	4 (22.2)
Compound Wall / Fencing (All around)	21 (77.8)	8 (44.4)

Cleanliness of premises	26 (96.3)	15 (83.3)
Display board in local language	25 (92.6)	17 (94.4)
Separate public utilities for males and females	18(66.7)	9 (50.0)
Suggestion/Complaint box	21 (77.8)	10 (55.6)
Labour room	24 (88.9)	14 (77.8)
Services		
Water Supply	27 (100.0)	17 (94.4)
Waste disposal (Bio-medical)	26 (96.3)	16 (88.9)
Regular electric supply	21 (77.8)	15 (83.3)
Communication (Phone/Mobile)	27 (100.0)	18 (100.0)
Transport facility	23 (85.2)	10 (55.6)
Residential facility for the staff	25 (92.6)	10 (55.6)
Toilet facility	18 (66.7)	11 (61.1)
Manpower		
Health Worker (Female)	24/27 (88.9)	17/18 (94.4)
Health Worker (Male)	21/27 (77.8)	10/18 (55.6)
Staff Nurse (optional)	9	2
Safai Karmachari (optional)	15	10

Table 2 shows the distribution of the infrastructural availability in the primary health centers of the districts of Nashik and Buldhana. Requirements such as location, designated Government building, accessibility, display board in local language and labor room facility were quite similar between the two districts. Significant differences were seen in the conditions of existing buildings, fencing walls (69.2%, 50%), separate public utilities for males and females (84.6%, 62.5%), and suggestion/complaint box (100, 75%) between Nashik and Buldhana districts except for cleanliness (92.3%, 100%) which was better in Buldhana. Facility for curative services like family welfare clinic (92.3%, 87.5%), waiting room (100%, 87.5%) and OT (100%, 87.5%) was higher in Nashik than Buldhana while the availability of casualty was higher in Buldhana (53.8%, 62.5%).

No difference in the availability of water supply, biomedical waste disposal, regular electric supply and communications was found between the two districts. Transport (100%, 87.5%) and residential facility (100%, 75%) was fully met in the Nashik district as compared to Buldhana. Significant differences were found in the availability of laundry facility (92.3%, 50%) and telecom (76.9%, 62.5%) between both.

It was found that the gap in the availability of manpower in terms of pharmacist (84.6%, 100%), nurse/mid-wife (33.3%, 45.8%), female health worker (76.9%, 87.5%), health assistants (80.8%, 93.8%), clerks (42.3%, 50.0%) and class IV employee (57.7%, 65.6%) was higher in Buldhana than in Nashik. Availability of the lab-technician (100%, 62.5%) was higher in Nashik while that of the health educator and the driver was similar in both the districts.

Table 2

Infrastructural availability in PHC	Nashik (13)	Buldhana (8)
Infrastructure		
PHC location (within village locality)	10 (76.9)	6 (75.0)
Designated Government building	13 (100.0)	8 (100.0)
Easily accessible	13 (100.0)	8 (100.0)
Present condition of the existing building (Good condition)	9 (69.2)	7 (87.5)
Compound Wall / Fencing (All around)	9 (69.2)	4 (50.0)
Cleanliness of premises	12 (92.3)	8 (100.0)
Display board in local language	13 (100.0)	8 (100.0)
Separate public utilities for males and females	11 (84.6)	5 (62.5)
Suggestion/Complaint box	13 (100.0)	6 (75.0)
Labour room	13 (100.0)	8 (100.0)
Family welfare clinic	12 (92.3)	7 (87.5)
Waiting room for patients	13 (100.0)	7 (87.5)
Emergency room / casualty	7 (53.8)	5 (62.5)
Operation Theatre	13 (100.0)	7 (87.5)
Services		
Water Supply	13 (100.0)	8 (100.0)
Waste disposal (Bio-medical)	13 (100.0)	8 (100.0)
Regular electric supply	13 (100.0)	8 (100.0)
Laundry facility	12 (92.3)	4 (50.0)
Communication (Phone)	10 (76.9)	5 (62.5)
Communication (Computer)	13 (100.0)	8 (100.0)
Transport facility (Vehicle PHC)	13 (100.0)	7 (87.5)
Residential facility for the MO	13 (100.0)	6 (75.0)
Manpower		
Medical Officer	19 (73.1)	10 (62.5)
Pharmacist	11 (84.6)	8 (100.0)
Nurse - Midwife (Staff Nurse)	13 (33.3)	11 (45.8)
Health Worker (Female)	10 (76.9)	7 (87.5)
Health Educator	10 (76.9)	6 (75.0)
Health Assistant (One male and One female	21 (80.8)	15 (93.8)
Clerks	11 (42.3)	8 (50.0)
Laboratory Technician	13 (100.0)	5 (62.5)

Driver	13 (100.0)	8 (100)
Class IV	30 (57.7)	21 (65.6)

Table 3 shows the distribution of the infrastructural availability in community health centers of Nashik and Buldhana districts. Requirements such as CHC location (within village locality), Designated Government building, Easily accessible, Compound Wall / Fencing, Display board in local language, Separate public utilities for males and females, Labor room, Operation Theatre, Laboratory facility, Cold chain facility were quite similar between the both districts. Significant differences were seen in the conditions of Cleanliness of premises (50%, 33.3%) Suggestion/Complaint box (75%. 67.7%) Family welfare clinic (100%, 66.7%), Waiting room for patients ((100%, 66.7%), Emergency room / casualty ((100%, 66.7%), Blood storage unit (50%, 33.3 %) between Nashik and Buldhana districts for Present condition of the existing building (Good condition)

No difference in the availability of water supply, bio-medical waste disposal, regular electric supply, communication, transport facility, residential Facility for staff, private health sector facility in the area, ECG facility between the two districts. Ancillary Rooms (100%, 66.7%) - Nurses rest room (100%, 66.7%), Accommodation facility for families of admitted patients (100%,66.7%) , Ultrasound facility (100%,66.7%) Septic labor room (100%, 66.7%) was more in Nashik compared to Buldhana district.

It was found that the gap in the availability of manpower in terms of general surgeon (25%, 33.3%), Physician (50%, 100%), Obstetrician / Gynecologists (75%, 100%), Eye Surgeon (25%, 66.7%), General duty officers (Medical Officer) (25%, 66.7%), Public Health Nurse (50%, 66.7%), Dresser (25.0%, 66.7%), Radiographer (75.0%, 100%) Sweeper (58.3%, 77.8%) Registration Clerk (75.0%, 100%) was higher in Nashik than in Buldhana. Conversely, the availability of staff in certain departments were higher in Nashik than in Buldhana such as pediatrics (100%, 66.7%), Anesthesia (50%, 33.3%), Nursing staff (100%, 57.1%), ANM (50%, 33.3%), Pharmacist (100%.33.3%), Ophthalmic assistant (75%, 66.7%), statistical assistant (50%, 33.3%) and the OT attendant (75%, 66.7%) .

Table 3

Resources availability in CHC	**Nashik (4)**	**Buldhana (3)**
Infrastructure		
CHC location (within village locality)	4 (100.0)	3 (100.0)
Designated Government building	4 (100.0)	3 (100.0)
Easily accessible	4 (100.0)	3 (100.0)
Present condition of the existing building (Good condition)	2 (50.0)	2 (66.7)
Compound Wall / Fencing (All around)	4 (100.0)	3 (100.0)
Cleanliness of premises	2 (50.0)	1 (33.3)
Display board in local language	4 (100.0)	3 (100.0)

Separate public utilities for males and females	4 (100.0)	3 (100.0)
Suggestion/Complaint box	3 (75.0)	2 (66.7)
Labour room	4 (100.0)	3 (100.0)
Family welfare clinic	4 (100.0)	2 (66.7)
Waiting room for patients	4 (100.0)	2 (66.7)
Emergency room / casualty	4 (100.0)	2 (66.7)
Operation Theatre	4 (100.0)	3 (100.0)
Separate wards for males and females	4 (100.0)	2 (66.7)
Laboratory facility	4 (100.0)	3 (100.0)
Cold chain facility	4 (100.0)	3 (100.0)
Blood storage unit	2(50.0)	1 (33.3)
Services		
Water Supply	4 (100.0)	3 (100.0)
Waste disposal (Bio-medical)	4 (100.0)	3 (100.0)
Regular electric supply	4 (100.0)	3 (100.0)
Laundry facility	3 (75.0)	2 (66.7)
Communication (Phone)	4 (100.0)	3 (100.0)
Communication (Computer)	4 (100.0)	3 (100.0)
Transport facility (Vehicle PHC)	4 (100.0)	3 (100.0)
Residential facility for the staff	4 (100.0)	3 (100.0)
Private Sector Health Facility in the area	4 (100.0)	3 (100.0)
Ancillary Rooms - Nurses rest room	4 (100.0)	2 (66.7)
Accommodation facility for families of admitted patients	4 (100.0)	2 (66.7)
ECG facility	4 (100.0)	3 (100.0)
Ultrasound facility	4 (100.0)	2 (66.7)
Septic labor room	4 (100.0)	2 (66.7)
Manpower		
General Surgeon	1 (25.0)	1 (33.3)
Physician	2 (50.0)	3 (100.0)
Obstetrician / Gynaecologist	3 (75.0)	3 (100.0)
Paediatrics	4 (100.0)	2 (66.7)
Anaesthetist	2 (50.0)	1 (33.3)
Public Health Programme Manager (NHP)	0 (0.0)	0 (0.0)
Eye Surgeon	1 (25.0)	2 (66.7)
General duty officers (Medical Officer)	3 (75.0)	3 (100.0)

Nursing staff	28 (100.0)	12 (57.1)
Public Health Nurse	2 (50.0)	2 (66.7)
ANM	2 (50.0)	1 (33.3)
Dresser	1 (25.0)	2 (66.7)
Pharmacist / compounder	4 (100.0)	1 (33.3)
Lab. Technician	4 (100.0)	3 (100.0)
Radiographer	3 (75.0)	3 (100.0)
Ophthalmic Assistant	3 (75.0)	2 (66.7)
Ward boys / nursing orderly	8 (100.0)	6 (100.0)
Sweeper	7 (58.3)	7 (77.8)
Chowkidar	4 (100.0)	3 (100.0)
OPD Attendant	4 (100.0)	3 (100.0)
Statistical Assistant / Data entry operator	2 (50.0)	1 (33.3)
OT Attendant	3 (75.0)	2 (66.7)
Registration Clerk	3 (75.0)	3 (100.0)

Table 4 shows in detail the availability of the healthcare services provided from subcenter onwards. It is seen that Reproductive and Child Healthcare services provided across all the centers (Subcenter, PHC and CHC) ranged between 87.5% and 100% (Natal & Newborn care, Childcare including immunization, Family Planning Services, Adolescent Health Care, School Health Program and Janani Suraksha Yojana)

Almost all of the curative services being provided in all the Centers were close to 100% (Treatment of minor ailments, First Aid, OPD Services, Emergency Services (24 hour), Referral Services, In-patient Services and Treatment of specific cases)

Services provided under the family planning program showed that facilities for conducting MTP services were quite low in both the districts (46.2%, 37.5%). Facilities for normal delivery in the PHC were close to 100% in Nashik and 87.5% in Buldhana. This study found that the availability of sterilization services (males and females) was much lower in Buldhana (PHC 50%, CHC 66%) compared to Nashik (PHC 100%, CHC 75%). Both the districts showed consistency in maintaining a good record in conducting disease surveillance and control and also collection and reporting of vital statistics. This also included a firm commitment to fulfilling the Government health programs by both the districts.

The laboratory services across the PHC and CHC showed good functioning with a 100% fulfillment of requirements in terms of essential laboratory services, sterilization of instruments and VCTC services. The facility of blood storage was found to be below average (Nashik 50%, Buldhana 33.3%). The health centers across both the districts showed full commitment towards emergency care of sick children, 24-hour delivery services and referral transport services. The CHCs of the district ensured compliance in display of boards/name plates to guide the clients.

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Table – 4

Healthcare services	Nashik			Buldhana		
	Sub center	PHC	CHC	Subcentre	PHC	CHC
Natal and Newborn care	26 (96.3)	13 (100)	4 (100.0)	17 (94.4)	7 (87.5)	2 (66.7)
Child care including immunization	27 (100.0)	13 (100)		18 (100.0)	8 (100)	
Family planning services	27 (100.0)	13 (100)	4 (100.0)	17 (94.4)	7 (87.5)	3 (100.0)
Adolescent health care	26 (96.3)	*	*	18 (100.0)	*	*
School Health Program	25 (92.6)	13 (100)	*	18 (100.0)	6 (75.0)	*
Facility for Janani Suraksha Yojana (JSY)	26 (96.3)	13 (100)	*	18 (100.0)	8 (100)	*
Treatment of minor ailments	26 (96.3)	*	*	18 (100.0)	*	*
First aid	27 (100.0)	*	*	18 (100.0)	*	*
Medical Officer visit to sub-center (previous 6 months)	02 (7.4)	*	*	05 (27.8)	*	*
Visits of HA (male) or LHV to sub-center during last 3 months	20 (74.1)	*	*	13 (72.2)	*	*
OPD Services	*	13 (100)	4 (100.0)	*	8 (100)	3 (100.0)
Emergency Services (24 hour)	*	13 (100)	4 (100.0)	*	7 (87.5)	3 (100.0)
Referral Services	*	13 (100)	4 (100.0)	*	8 (100)	3 (100.0)
In-patient Services	*	13 (100)	4 (100.0)	*	7 (87.5)	3 (100.0)
Treatment of specific cases	*	13 (100)	*	*	6 (75.0)	*
MTP services	*	6 (46.2)	*	*	3 (37.5)	*
Facility for normal delivery	*	13 (100)	*	*	7 (87.5)	*
Facility for male & female sterilization	*	13 (100)	3 (75.0)	*	4 (50.0)	2 (66.7)
Disease surveillance and control	*	13 (100)	*	*	8 (100)	*
Collection and reporting of vital statistics	*	13 (100)	*	*	8 (100)	*
National Health Programmes including HIV/AIDS control programs	*	13 (100)	4 (100.0)	*	8 (100)	3 (100.0)
Emergency care of sick children	*	*	4 (100.0)	*	*	3 (100.0)
Essential Laboratory Services	*	*	4 (100.0)	*	*	3 (100.0)
Blood storage services	*	*	2 (50.0)	*	*	1 (33.3)
Referral transport service	*	*	4 (100.0)	*	*	3 (100.0)
24 - hour delivery services including normal and assisted deliveries	*	*	4 100.0)	*	*	3 (100.0)
Facility for Sterilizing instruments	*	*	4 (100.0)	*	*	3 (100.0)
Board /Name plates to guide the clients	*	*	4 (100.0)	*	*	3 (100.0)

Voluntary Council and Testing Centre (VCTC)	*	*	4 (100.0)	*	*	3 (100.0)

Discussion:

This study has attempted to identify the gap in the healthcare delivery services in terms of infrastructure, resources, manpower and services provided to the population at the level of sub-center, PHC and CHC. It was seen that the availability of most of the infrastructure at the level of subcenter was in the range of 66% - 96%. Unfortunately, only 40% – 50% of the buildings were in a good condition and even the boundary wall was not maintained well particularly in the Buldhana district (44.4%). There was a dearth in the availability of separate public utility services for males and females (Nashik 66.7%, Buldhana 50.0%). One of the major concerns was found to be the lack of transport facility in Buldhana (55.6%) and toilet facility in both Nashik (66.7%) and Buldhana (61.1%). Manpower availability was adequate in both the districts except for only 55.6% of the subcenters in Buldhana district having met the requirement of a male health worker. A similar study conducted by Shashank Patel et al[12] observed that 80% SCs had designated Government building, only 60% had transport facility and most of the other facilities were available on the lower side as compared to our study.

A cross-sectional study[7] was conducted in Chittoor District of Andhra Pradesh found the availability of health workers male and female 67.7% and 27.5%, respectively while only 26.4% had constructed residences for health workers within the premises. Comparatively, in our study, 92.6% of SCs in Nashik and 55.6% in Buldhana had this facility. Another study done by Mudey A B[13] at al revealed that adequate immunization, ante-natal and family planning services were available at all sub-centers. Also, Sriram S[14] in his study, identified that there were many deficiencies in the infrastructure and manpower in the SCs.

Bashar MA et al[15] observed deficiencies in the availability of health workers male (66.6%) and female (50%) while unutilized residential facility for them was available only in 33.3% of the SCs. Narlawar UW et al[16] study showed that 100% sub-centers had their own designated building with complete construction, but toilet facility was available only in 7.7% sub-center.

Nair VM et al[17] in their study in Kerala noted that sub-centers were utilized by only about a third of the potential beneficiaries due to difficult to reach locations of SCs in remote areas. Sub-centers in India are generally believed to be under-utilized because they are ill-equipped, understaffed and inappropriately supervised.[18]

In our study, three quarters of the PHC are located well within the reach of the designated beneficiaries with well specified government buildings constructed in the premises but again, the maintenance and upkeep of the boundary walls were not up to the desirable level (Nashik 69.2%, Buldhana 50%). Separate public utilities for males and females were on the lower side in Buldhana (62.5%) while there was a distinct lack in the presence of a casualty in both the districts (Nashik (53.8%), Buldhana (62.5%)). Deficiency in manpower was found in such positions like medical officer (73.1%, 62.5%), staff nurse (33.3%, 45.8%), clerks (42.3%, 50.0%), laboratory technicians (Buldhana 62.5%) and class IV employees (57.7%, 65.6%).

Pandian J et al[19] in their study observed that 50% PHCs was located within the village area and 28% was within 1 KM from village. Doctor, Nurse, Lab-technician and Pharmacist were available in 92%, 57%, 100% and 100%

PHCs respectively. Residential facility is available in 21% of PHCs. All PHCs were providing all RCH services but none of the PHC was providing MTP services. We found in our study that the availability of services for OPD, emergency, school health service, treatment of specifics and common cases, disease surveillance, NHP related services etc., it was observed that these services were provided by all of the primary health centers. Other services like surgeries for cataract, primary management of fractures, minor surgeries like draining of abscess etc. were not provided by few PHCs on regular basis.

In our study, the areas of concern in the CHC were the maintenance of the building (50%, 66.7%), cleanliness (50%, 33.3%), and availability of blood storage unit (50%, 33.3%) was abysmally low. Some areas of the infrastructure such as Family welfare clinic, waiting room for patients, nurses rest room, ultrasound room, septic labor room, separate wards for males & females and casualty had deficiencies in Buldhana district only (66.7%). Overall, the availability of manpower was on the lower side with none of the CHCs in the study having a single national health program manager. As per IPHS norm, the essential manpower of community health center had a gap of around 25% for pediatrician, obstetrician/gynecologist and eye surgeon while a gap almost 50% or more in specialist like surgeon, physician and anesthetist was identified. Other supportive staff strength of CHC was as per the norms with very few deficiencies. For the availability of services such as OPD, emergency services (24 hour), referral, in-patient service, newborn care (NBC), emergency obstetrics care, emergency child care, essential laboratory service, referral transport service, safe abortion service and NHP related service etc., it was observed that all these services were provided by all of the community health centers. But blood storage services were given in 41.7% CHCs while full range of family planning services including Laparoscopic Services were given in 70.9% CHCs.

Other studies of CHCs on similar criteria have shown that 91.5% CHCs are in government buildings,[20,21] location of CHCs far away from the beneficiaries,[22] availability of medical professionals (16%), essential medicines (50%), laboratory services (58.3%) and medical equipment (100%).[23,24.]

Conclusion:

The present study was taken up to provide useful inputs regarding the existing level of infrastructural, manpower and essential health services at sub-centers, primary health centers and community health centers. SCs, PHCs and CHCs play a crucial role to decrease the infant mortality rate (IMR) and maternal mortality rate (MMR) in the rural areas, deficient manpower would impair the level of health care provided to the community. The presence of the ANM all 24 hours at the SCs is essential for the people to avail the health services. There needs to be a better control of medical officers and health supervisors visiting the SCs at least once in 2-3 weeks. From the present study it was seen that none of the SCs completely adhered to the IPHS standards, however they fulfilled most criteria for infrastructure.

The physical infrastructure and manpower availability at the PHCs and CHCs needs considerable improvement as per the Indian Public Health Standard (IPHS). Incentives should be given to work at these places and all the post of staff should be filled up as early as possible.

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