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Original Research Article

Quality of reproductive health care provided by community health centers of a district located in western India- a mixed method study

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ABSTRACT

Background: Under National Rural Health Mission in 2007, Indian Public Health Standards (IPHS) were introduced to strengthen health care services. As majority of health infrastructure is in existence before introduction of IPHS, there was scant information available on assessment of these standards. This study was carried out with the objective to assess quality of reproductive health care provided by community health centers (CHC).
Methods: A cross-sectional study was carried out in 2013. All of the 17 community health centers from 12 talukas of the district were studied. Data collection was carried out by administering pilot tested checklist and interviewing clients.
Results: All the CHCs had adequate infrastructure. Highest score was obtained for input (64%). The overall score in process section was 45%. None of the CHCs had a full-time anesthetist, physician, public health programme manager or public health nurse. At only three CHCs, general surgeon was available. Availability of MOs was 85% and Pharmacist was 88% respectively.
Conclusions: Deployment and availability of specialist is the need of the hour. Adequate emphasis needs to be given to processes and outputs as well, apart from inputs. Public private partnership can be explored for better utilization of services. There is a need of up gradation of existing CHCs keeping in the view of IPHS norms.

Keywords: Community health center, Indian public health standards, Quality of services, Reproductive health

INTRODUCTION

Indian public health standards (IPHS) were introduced under National Rural Health Mission (NRHM) in 2007, to strengthen and improve health care with specific focus for rural India and have been used as reference point for public health care infrastructure planning in states and Union Territories. IPHS are set of uniform standards envisaged to improve the quality of health care delivery in the country and these IPHS guidelines act as the main driver for continuous improvement in quality and serve as benchmark for assessing the functional status of health facility. To achieve sustainable developmental goals (SDGs) there is a need to have quality reproductive health care, which is accessible, accountable and affordable.[1-4]

Reproductive health care (RHC) is; the constellation of methods, techniques and services that contribute to reproductive health and well-being through preventing and solving reproductive health problems.[5] As the majority of health infrastructure is in existence before introduction of IPHS and there is scant information available on assessment of these standards in the state studied and India. This study was planned to assess the

quality of reproductive health care provided by community health center (CHC) facilities which is crucial to bring improvement in reproductive health care.

The objectives of the study were to assess community health centers providing reproductive health care in terms of- infrastructure, availability of manpower, equipment and supplies, essential protocol and job aids; to measure processes by reviewing records and; to assess clients' satisfaction on reproductive health care received at the facility.

METHODS

This was a cross sectional study employing quantitative method supplemented by qualitative interview of clients.

Study setting

There were 12 talukas and 17 CHCs in the district during the study period (May 2013 to October 2013). Majority of the CHCs were located in taluka head quarter and all of them were included for studying.

Data collection

Data collection was carried out by administering pretested (pilot tested) checklist for assessing selected components of quality of reproductive health care. For maintaining uniformity, data was collected by single investigator (post-graduate student) after undergoing training for the same. Checklist for data collection was prepared after reviewing IPHS 2012 guidelines for CHC and quality assurance programme assessment (QAP) checklist. The modified checklist thus prepared was used to collect data on; services, manpower, infrastructure, equipment and supply, essential protocol and job aids. For interviewing the clients for satisfaction, a semi-structured questionnaire (in vernacular and English language) was administered. Exit interviews of four clients' (2 new patients and 2 follow-up patients) per facility were decided to be carried out.

Data entry and analysis

The data were entered in MS Excel and analyzed in using the IBM SPSS Statistics for Windows, Version 23 (IBM SPSS Statistics for Windows, IBM Corporation, Armonk, NY). Appropriate descriptive statistical test, mainly percentage were utilized.

Consent

Prior permission to carry out the study was taken from Chief District Health Officer (CDHO). For exit interview informed written consent of individual in local language was taken. For the assessment of various components of study, scoring system was adopted as following:

Table 1: Scores for different elements in input section and process section.

Input element/section	Score for CHCs
MCH equipments and supplies	39
Essential protocols and job aids	12
Lab equipments and supplies	15
Drugs and consumables	37
Total	103
Process section	**Score for CHCs**
Review of records: general	7
Maternal care	28
Newborn care	4
Total	39

RESULTS

All the 17 CHCs catering to 26 lakh population of rural district were included in this study. The facilities were classified into grade A, B, C or D as shown in Figure 1. All the CHCs fell in grade D for output, 11 CHCs fell in grade D for process and none was graded as D for input. Seven out of 17 CHCs were graded as good as they fell in grade A for input. Thus, quality was not completely structure dependent. The current study observed that the deficit was higher for output and process as compared to inputs.

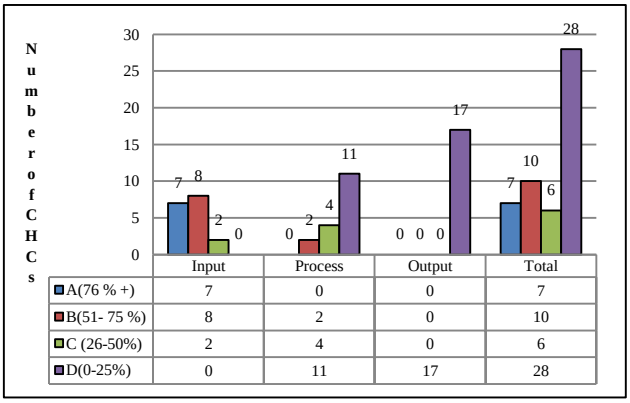

Figure 1: Distribution of CHCs as per grades on quality of care.

Input assessment

As seen in Table 2, majority of the components of infrastructure were fulfilled as per IPHS for CHCs.[6] It was observed that, though the desired number of beds for males and females were 15 each for every CHCs, there were five CHCs with less than 12 beds and three with more than 25 beds for males and four CHCs with less than ten beds and four CHCs with more than 25 beds for females. Operation theatre and x-ray room were not available at two CHCs. All the CHCs had minimum of one telephone line and availability of OPD rooms was very low i.e., 27% in all the CHCs. The essential number of rooms of OPD is 14 for each CHC, but 11 CHCs had

≤3 OPD rooms. Blood storage facility, a lifesaving component, was present in five CHCs (29%) only. Out of these, only two blood storage facilities were in working condition.

Table 2: Infrastructure at the CHCs.

Infrastructure	Essential as per PHS	Available	Available (%)	Deficit (%)
Out patient department rooms	238	64	27	73
Number of beds: male	255	265	104	00
Number of beds: female	255	290	114	00
Operation theatre	17	15	88	12
Labour room	17	17	100	0
Laboratory	17	17	100	0
X-ray room	17	15	88	12
Blood storage	17	5	29	71
Pharmacy	17	17	100	0
Water pump set and overhead tank	17	17	100	0
Telephone	34	26	76	24
E-mail	17	17	100	0
Personal computer	17	17	100	0

Availability of manpower at CHCs (n=17)

It was observed that there was deficiency of specialists at CHCs; inadequate number of general surgeons, anesthetist, dentist, pediatrician, obstetrician/ gynecologist, nursing staff and AYUSH. None of the CHCs had a physician or public health programme manager or public health nurse. It was also observed that distribution of MOs in all the CHCs were not even. Out of 17 only one CHC had four MOs. 85% medical officers were available against the requirement. There was 34% deficit of staff nurses observed in all CHCs. None of the CHCs had a public health nurse (PHN) posted which hampers implementation of national health programmes critical for public health care. Only one CHC had an ANM posted; which is a critical issue jeopardizing quality of public health care as envisaged in IPHS. Obstetrics and gynecology (OBGY) specialists and pediatricians were posted in five CHCs, while three CHCs were having only OBGY specialist and no pediatrician. Deficiency of 53% for OBGY and 71% for pediatric specialist was observed. These two specialties are vital for delivery of quality RCH services. None of the CHC had a full-time anesthetist available. Only three CHCs had made arrangements for "on call" anesthetists. There was 44% deficit of laboratory technicians who are necessary for smooth functioning of CHC and quality laboratory services. Pharmacists were available at 15 CHCs (88%).

Distribution of CHCs for input section

The denominator score for CHCs was calculated to be 103. Out of all the CHCs assessed 41% obtained "A" grade, 47% fell in "B" grade and 12% in "C" grade as shown in Figure 1. None of the CHCs fell in "D" grade. The input section that scored low was availability of protocols and job aids as shown in Figure 2. This clearly indicates the need for development and implementation of protocols for management of patients in order to standardize provision of RCH services. Given the situation of optimum quality standards not made available at the point of use, one can hardly expect the providers to observe the same during the process of service provision. As evident from Figure 2, majority of the CHCs had good supply and availability of MCH equipments in functional state which is a good step towards quality MCH service delivery. It was also noted that delivery kit was not there in 53% CHCs, which is of great concern for clean delivery service and quality of care. It was also observed that, the supply of instrument and kits other than those related to RTI/STI services were regular in more than 88% CHCs which is good. Whereas, availability of RTI/STI related laboratory supply was consistently short which can lead to poor RTI/STI related laboratory services delivery.

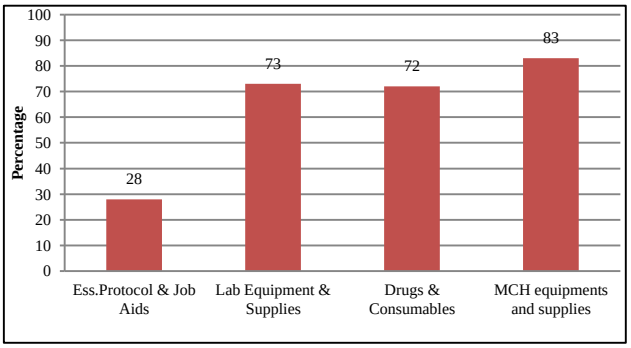

Figure 2: Distribution of various elements of input section.

Process assessment

This component describes maintenance of records in general, review of records for maternal care as well as observations of new born care practices at the selected facilities. The denominator score for CHCs was calculated to be 39. Records kept at the facility for the past one month were reviewed to know if the facility was providing these services and whether clients were coming to receive these services.

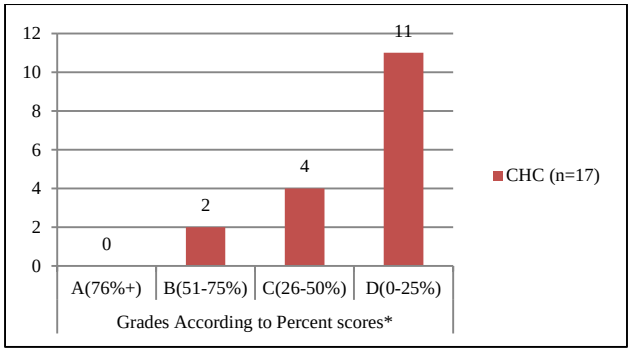

Figure 3: Distribution of scores for process.

Figure 3 shows that none of the CHCs could be scored as having grade 'A'. Majority of CHCs i.e. 11 (65%) were in grade 'D' while four (24%) and two (12%) scored grades 'C' and 'B' respectively. In majority of the facilities maintenance of records was found to be good for delivery services so they scored better while all of them scored poorly in the rest of the components. This reflects poor quality of maintenance of records.

Maternity services

Only selected indicators like number of live births, number of deliveries and number of women with BP>130/90 and those registered were used for assessment based on review of records of maternity services. The method of assessment included comparison of utilization of services for the last quarter of the year with same quarter of previous year. Scores were given based on percent change in service utilization over the period. Majority of CHCs did not show any improvement in their performance when compared to same quarter of previous year, so they have scored poorly in these parameters.

New born care

Assessed through- number of new born deaths, number of still birth, baby's cord, zero polio vaccine, babies kept warm and breast feeding. In this element of assessment, all the CHCs performed very well except for two, where services were not available and two CHCs, where on the day of assessment there was no beneficiary available and hence could not be scored.

Output assessment

In this segment, trends in reproductive health services utilization, assessment of elements like RTI/STI, family planning, MTP, number of postnatal visits and number of caesarean sections (CS) were carried out. Output was measured in terms of percent change in usage of particular services. The services were given scores from 0 to 4 as follows: 0 = either no change or minus score, 1 = 1-25% change, 2 = 26-50% change, 3 = 51-75% change, 4 = 75+% change.

Figure 1 shows that none of the facilities scored 'A','B' or 'C' grades. All the CHCs fell under 'D' grade in terms of the output. It reflects poor performance for the quarter of the year assessed when compared to quarter of previous year in terms of utilization of RCH services at all the CHCs. The denominator score for CHCs was calculated to be 48.

Table 3 shows the elements of output assessment for the services provided. It is imperative to mention here that the data of previous year was not available for comparison in a majority of the facilities except for number of deliveries during the past 3 months, post natal visits and condom distribution.

Table 3: Distribution of scores for output for various services*.

Output	0	1,2	3,4	DNA**
Number of RTI/STI lab tests done	2	0	5	10
Number of cases treated for RTI/STI	2	0	4	11
Numbers of partners of primary cases of RTI/STI treated	1	0	1	15
Condom distribution	3	5	2	7
Pill user continued	3	0	3	11
IUD users return after 3 years	1	0	1	15
Female sterilization	4	1	2	10
Male sterilization	0	0	0	17
Number of deliveries in past 3 months	8	5	2	2
No of CS in CHC	1	0	3	13
Postnatal visits	4	5	1	7
Number of MTP conducted	0	2	2	13

*The scores shown here are on the basis of percent change in the usage of a particular service where 0=0 or minus score, 1-50% = (1, 2), 50-100% = (3, 4). **DNA- data not available.

Client satisfaction with the services

It was indeed important to take client satisfaction into consideration and that too from client's perspective. In the current study exit interviews of the clients were conducted to assess their satisfaction on the services availed by them. Providers' perspective regarding the overall satisfaction of the clients with the services was also obtained. In the assessment exit interviews of four clients per CHC were taken and in all 68 exit interviews

were conducted at 17 CHCs. On analysis, the following observations were made: out of 68 clients, 79% perceived that they got the intended services. 13% faced discomfort while waiting at CHCs. 90% of the clients felt that the time allotted to them was adequate. 91% of the clients were given opportunity to ask question. 93% clients perceived that their privacy was maintained. Majority (85%) of the clients were satisfied with overall services provided by CHCs. Clients felt that 62% doctors were polite, 28% were courteous and 3% were rude. It was also observed that the proportion of clients seeking maternal care was about 10%. While the same for contraception is almost negligible. Whereas, 3% of the total clients came to CHCs for treatment of RTI/STIs. Suggestions from the clients for improvement in quality of care; suggestions from the clients are most important because they are the actual beneficiaries. This also gives us an opportunity to provide services as per needs of the clients. Only 28% of the clients interviewed gave suggestions. Apart from the medicines, lab services and indoor facilities, majority of the suggestions were pertaining to the need for services of specialist and adequate staff or manpower

DISCUSSION

The current study observed that the deficit was higher for output and process as compared to inputs. Efforts to improve the quality of reproductive health care, provided by CHCs in the study setting, should focus not only on resource-intensive structural improvements, but also on cost-effective measures that address actual delivery of services (output and process), especially the proper use of guidelines for various services and a meaningful supervision to ensure adherence to the same. There was unequal distribution of medical personnel and inadequate staffing observed in the study that leads to impairment of quality of services due to taxing already over-burdened manpower. In a similar study carried out by Sodani et al (as per IPHS 2010 guidelines for CHCs) in Bharatpur district, who observed that 41% of MOs'posts were filled and there was a deficit of 46 MOs out of 78 posts of MOs.[7] Non-availability of specialists adversely impacts provision of emergency obstetric care including surgical interventions like caesarean sections and other medical interventions. Sodani et al had made similar observation in their study.[7] Gaps were most striking in availability of skilled human resources and emergency obstetric services was observed by Sharma et al.[8] Similar result was seen for CHC by Nair et al in 2019, at the national-level, WISN differences, who depicted workforce shortages for all considered HRH cadres.[9] Out of all the CHCs assessed 41% obtained "A" grade, 47% fell in "B" grade and 12% in "C" grade and none fell in "D" grade. A project on assessment of quality assurance programme was carried out by Misra et al in the year 2009.[10] In this project, it was found that 50% of the CHCs fell in 'A' grade and rest 50% were in grade B. In the current study it was also noted that delivery kit was not available in 53% CHCs, which is of great concern for clean delivery service and quality of care. Misra et al in their project found delivery kits in 75% of the CHCs.[10] Whereas, availability of RTI/STI related laboratory supply was consistently short which can lead to poor RTI/STI related laboratory services delivery. This hampers ultimate goal of delivering quality RCH services. Similar findings were observed by Misra et al.[10] Malhotra et al similarly found that no inpatient care was being rendered at the CHCs. Newborn care corners existed within or adjacent to the labour room in all the facilities and were largely unutilized spaces in most of the facilities. Resuscitation bags and masks were available in four out of six facilities, with a predominant lack of masks of both sizes. Two CHCs in Chhatarpur did not have suction device.[11] In majority of the facilities maintenance of records was found to be good for delivery services so they scored better while all of them scored poorly in the rest of the components. This reflects poor quality of maintenance of records whereas Misra et al in their project found better picture for this component.[10]

When new born care was assessed, all the CHCs performed very well except for two, where services were not available and two CHCs, where on the day of assessment there was no beneficiary available and hence could not be scored. Along with ANC care, newborn care in the first few minutes of life is very crucial, but very little priority was given to the newborn care as those services were not as per norms was observed by Patil et al.[12]

Data of previous year was not available for comparison in a majority of the facilities except for number of deliveries during the past 3 months, post-natal visits and condom distribution. Misra et al in their project found similar picture in their study.[10]

Majority (85%) of the clients were satisfied with overall services provided by CHCs. Clients felt that 62% doctors were polite, 28% were courteous and 3% were rude. Misra et al in their project made similar observations.[10] Client satisfaction was good in a study by Rashmi et al.[13]

Few strengths of the study include: chance bias was minimized by studying all CHCs and recall bias was minimized by reviewing all the available records.

CONCLUSION

Seven out of 17 CHCs (41%) fell in grade A. Overall highest score was obtained for input (64%). All the CHCs had adequate infrastructure but depicted deficit in availability of required number of OPD rooms and blood storage facility. The overall score in process section was 45%. This reflects poor utilization of RHC services at all CHCs. There were workforce shortages for all considered human resource for health (HRH) cadres. Inadequacy in specialist service was seen at majority of CHCs. Majority of the clients were satisfied with care received at the CHCs. There was a felt need for full range of specialist services and adequacy of medicine.

Recommendations

Client-friendly services and end-beneficiary centric quality health care services should be provided. Recruitment of HRH as per the required norms to improve quality. Public private partnership models can be fostered through which the potential of private and voluntary sectors may be garnered to achieve the desired objectives of RCH programme. Adequate emphasis needs to be given to process and output as well, apart from Inputs. Essential protocols and job aids should be prepared and made available to all health care facilities and these be implemented in letter and spirit. Blood storage facility should be made available at all CHCs and uninterrupted supply of drugs and consumables and other logistics should be ensured. General public sensitization, education and mobilization towards institutionalized medical treatment by way of widely publicizing health care activities. Similar studies from other districts of the state and more studies are needed to assess the impact of service availability on the IMR, MMR, and perinatal death.

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