



QUALITY ASSESSMENT OF HEALTH SERVICES PROVIDED BY SUB-CENTRES OF AJMER DISTRICT: A CROSS SECTIONAL STUDY

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ABSTRACT Sub-centres are expected to provide promotive, preventive and few curative primary health care services. All minimum assured services at the sub-centre should be available so we should aspire to achieve the target of national programs and provide the level of facility as per Indian Public Health Standard (IPHS). The study aim is to assess quality of health services provided by sub-centres of Ajmer in terms of manpower, availability of essential resources, equipment and drug supply, reviewing records etc. This is a cross sectional study conducted at sub-centres of Ajmer district during the period from September 2019 to March 2020. A total of 63 Sub-centres out of 372 sub-centres was included based on simple random sampling method. Study concluded that most of the essential facilities were satisfactory, availability of furniture, equipments, drugs and consumables were good. The major improvement in performance was seen in ANC care in 56 out of 63 SCs. The reasons for not conducting deliveries at sub-centres were non availability of the labour room, staff not staying, non-availability of staff nurse during delivery, so they referred patients to nearby PHC/CHC.

KEYWORDS : Sub-centres, Quality of service, Indian public health standards

INTRODUCTION

A sub-centre is the most peripheral and first contact point between the primary health care system and the community. A sub-centre provides all the primary health care services at grass root level. It is the base of a referral pyramid of health facilities consisting of the sub-centres, primary health centres, community health centres. Sub-centre is largely deal with preventive and promotive aspects, but it also provides a basic level of curative care¹. In the revised guidelines of IPHS for sub-centre in 2012, feedback through interactions with health worker females was taken regarding the wide spectrum of services that they are expected to provide, which revealed that most of the essential services enumerated are already being delivered by the sub-centres staff. However, the outcomes of health indicators do not match with services that is said to be provided. Therefore it is desirable that manpower as mentioned under IPHS should be provided also proper and timely monitoring of services may be strengthened for better outcomes².

All Essential Services at the sub-centre should be available, which include preventive, promotive, few curative and referral services and all the national health programs. The services which are desirable are for the purpose that we should aspire to achieve for this level of facility. The launching of NRHM has provided the opportunity for framing Indian Public Health Standard (IPHS) and in order to provide quality care in these sub-centres. IPHS are being used to provide basic primary health care services to the community. IPHS guidelines provide the population norms, human resource, infrastructure, equipment and supplies that would needed to deliver these services. It's a fact that setting standards is an ongoing process. These standards are being prescribed in the context of current health priorities and available resources. The objective of the study is to assess sub-centres of Ajmer, providing health services in terms of manpower, physical infrastructure, furniture, services, equipment and drug supply and to measure processes by reviewing records.

MATERIAL AND METHODS

The Ajmer district is divided into 8 blocks namely Arain, Bhinai, Jawaja, Kekri, Kishangarh, Masuda, Pisangan and Srinagar. The block wise list of the total 63 PHCs and 372 sub-centres for the year 2015 was obtained from the CM&HO Office, Ajmer. One sub-centre from each PHC was randomly selected by simple random sampling method for the study purpose. Hence a total of 63 sub-centres were included in this cross-sectional study from September 2019 to March 2020.

Study tool used was the IPHS model for quality assessment which was

divided into 3 parts: Structure (Input), Process and Output. Input and process assessment was done at the facility where services are provided, whereas output assessment was done by assessing utilization of services in terms of patient satisfaction. Assessment of the overall infrastructure of the sub-centre was done as per proforma by visiting various sections of buildings. The availability of equipments and essential guidelines was assessed for individual service components. Following this the availability of the drugs was assessed.

Data collection was done by administering checklist based on IPHS (Indian Public Health Standard) for assessing selected components of quality of health care provided by sub-centres. The medical officer in-charge of PHC was informed telephonically in advance about the visit to sub-centre for data collection. The data for quality of services was generated by using checklist. The same was entered and analyzed in Microsoft Office Excel Worksheet 2007. The client's interviews in the study were explained about the purpose of the study and written consent will be taken before starting the interview. Recommendation of departmental research committee, approval of institutional ethical committee, JLN Medical College, Ajmer and written permission from Chief Medical and Health Officer was taken before starting the data collection. This study did not involve any kind of intervention; it did not pose any risk to the patient.

RESULTS

The median distance from PHC was 5.1 Km (IQR = 5.15). It was found that 62(98.41%) SCs were located within village and were easily assessable. 40 (63.49%) SCs were catering 4000-5999 population which is acceptable, 17 (26.98%) SCs had less than 3999 population which is too less and 6 (9.52%) SCs had more than 6000 population which is too much. The average population covered by the SCs was 4500 (median 4545 and range 1967-8879). All 63(100%) SCs had available 1 Female Health Worker and 26 (41.26%) SCs had contractual Safai Karamchhari available. MPH (Male) and Staff Nurse were not available at any of the SCs. 55(87.30%) FHWs are working for more than 1 year, only 8(12.70%) are working for less 1 years. 48(76.19%) SCs had a designated government building while 14 (22.22%) SCs were running at Anganwadi and 1 (1.59%) SC was running in rented building. 31 (49.21%) of SCs had residential facility for FHWs but only 16(51.61%) were staying at Scs.

From Table 1, 31(49.21%) SCs had building existed in good condition. All around compound wall was present in 29(46.03%) of the SCs. Good flooring was present only in 6(9.52%) SCs while good cleanliness was found only in 5(7.94%) SCs. Prominent display boards

were present in all 63(100%) SC, but suggestion box was not available at any SCs. Labour room was available at 49(77.78%) of the SCs but deliveries were carried out at only 26(41.27%) of the SCs.

Table 1: Present Condition Of Physical Infrastructure (n=63)

Name of Type of Premises	SC(%)
Designated government building for SC	48 (76.19%)
Sc at rented premises	1 (1.59%)
SC at Anganwadi	14 (22.22%)
Residential facility at FHW at SC	31 (49.21%)
Existing building in good condition	31 (49.21%)
All around compound wall	29(46.03%)
Good flooring	6 (9.52%)
Good cleanliness	5 (7.94%)
Prominent display boards	63 (100%)
Suggestion box	0(0%)
Labour room	49(77.78%)
Deliveries carried out	26 (41.27%)
Clinic room	60(95.23%)
Examination room	57 (90.47%)

Table 2 describe that medical waste disposed done in all 63(100%) SCs properly. Electricity was available in 54(85.71%) SCs and none of the SC had backup generator. Communication facilities like CUG mobile SIM was available at 59(93.65%) of the SCs. Toilet facility was available at 56(88.89%) of the SCs and of these at 52(82.54%) it was functional.

Table 2: Availability Of Essential Facilities

Particulars	SC (%)
Availability of water	63 (100%)
Piped 20	(31.75%)
Overhead tank available	27 (42.86%)
Disposing medical waste	63 (100%)
Toilet facility available at SC	56 (88.89%)
Working condition of the toilet facility	52 (82.54%)
Electricity available	54 (85.71%)
Backup generator available at Sc	0 (0%)
Communication facilities like CUG available	59 (93.65%)

Examination table were available at 59(93.65%) and fans were available at 60(95.24%) of SCs. Labour table was available at 57(90.48%) of the SCs. Tube lights 59(93.65%), buckets 60(95.24%), Rubber/Plastic sheet 57(90.48%), Stools 58(92.06%), Bed side table 56(88.89%), Lamps 51(80.95%), Kerosene Stove 11(17.46%) were available in the SCs (Table 3). Weighing scale Adult/Infant/Children and Sphygmomanometer was present in 62(98.41%) of the SCs, while Hemoglobinometer, Clinical thermometer oral/rectal present at 60(95.24%) of SCs. Foetoscope was available 58(92.06%) SCs and Flashlight/Torch and Sterilizer was available at 56(88.89%) SCs.

Table 3: Furniture And Equipments

Items	SC (N= 63)	
	No.	Percentage (%)
Writing table	62	98.41%
Chairs	62	98.41%
Examination Table	59	93.65%
Fans	60	95.24%
Labour table	57	90.48%
Tube Lights	59	93.65%
Buckets	60	95.24%
Rubber/Plastic Sheet	57	90.48%
Water receptacle	61	96.80%
Stools	58	92.06%
Bed side table	56	88.89%
Lamp	51	80.95%
Kerosene Stove	11	17.46%
Weighing scale (Adult/Infant/Children)	62	98.41%
Sphygmomanometer	62	98.41%
Hemoglobinometer	60	95.24%
Clinical thermometer oral/rectal	60	95.24%
Foetoscope	58	92.06%
Sterilizer	56	88.89%
Vaccine Carrier	0	0.00%

Inj TT, IFA Tablets, Weight checkup, BP Checkup, Referral facility for

complicated cases or delivery for 24 hours, ASHA/ANM accompanying at the time of referral, Facility of Peripheral blood smear, DOTs provided by ASHA and HB Testing were present at all of the SCs. Urine test for pregnancy done at 62(98.41%) of the SCs and doctor visit SC at least once a month found at 62(98.41%) of the SCs. Doctor visit on fixed day and time in 61(96.83%) of the SCs. Urine test for protein and sugar done at 61(96.83%) of the SCs. 54(85.71%) SCs have facility for insertion of Copper-T and LHV visit SC at least once in a week at 50(79.37%) of the SCs. Antenatal, Postnatal Care (Out reach), Childcare including immunization, Family planning and contraception, Adolescent health care, Assistance to school health services, Facilities under Janani Suraksha Yojna and Treatment of minor ailments were available to all the SCs but Intranatal care and Newborn care were present only at 26(41.27%) of the SCs (Table 4).

Table 4: Maternal And Child Health Services

Items	SC (N= 63)	
	No.	Percentage (%)
Antenatal care	63	100.00%
Intranatal Care	26	41.27%
Post natal care (Out reach)	63	100.00%
New born care	26	41.27%
Childcare including immunization	63	100.00%
Family planning and contraception	63	100.00%
Adolescent health care	63	100.00%
Assistance to school health services	63	100.00%
Facilities under Janani Suraksha Yojana	63	100.00%
Treatment of Minor ailments	63	100.00%

Table 5: Availability Of Drugs Stock At SC

Drugs	SC (N=63)							
	< 25		26-50		51-75		>75	
	N	%	N	%	N	%	N	%
ORS	10	15.87%	20	31.75%	18	28.57%	15	23.81%
IFA Tablets	15	23.81%	11	17.46%	19	30.16%	18	28.57%
CO-Tramexazole	19	30.16%	15	23.81%	14	22.22%	15	23.81%
Zinc Tablets	15	23.81%	20	31.75%	15	23.81%	13	20.63%
IFA Syrup	9	14.29%	13	20.63%	24	38.10%	17	26.98%
Vitamin A syrup	17	26.98%	17	26.98%	15	23.81%	14	22.22%
Methylergom etrine Tablets	37	58.73%	4	6.35%	14	22.22%	8	12.70%
Paracetamol Tablets	20	31.75%	17	26.98%	7	11.11%	19	30.16%
Inj. Methylergom etrine	37	58.73%	12	19.05%	9	14.29%	5	7.94%
Albendazole Tablets	12	19.05%	18	28.57%	17	26.98%	16	25.40%
Dicylomine Tablets	11	17.46%	22	34.92%	15	23.81%	15	23.81%
Chloramphen iol Eye Ointments	14	22.22%	14	22.22%	15	23.81%	20	31.75%
Povidine Iodine Ointment	22	34.92%	22	34.92%	7	11.11%	12	19.05%
Cotton Bandage	22	34.92%	13	20.63%	15	23.81%	13	20.63%

Table 5 discusses the availability of drug stock at SC and shows that 10(15.87%) of the SCs had ORS, 15(23.81%) of SCs had IFA, 9(14.29%) of the SCs had IFA syrup, 37(58.73%) of the SCs had Methylergom etrine tablets, 37(58.73%) of the SCs had Methylergom etrine Inj., 11(17.46%) of the SCs had Dicylomine tablets and 22(34.92%) of the SCs had povidine iodine ointment and cotton bandage were below the 25% average. More than 75% availability of ORS was recorded at 15(23.81%) SC, 18(28.57%) of the SCs had IFA tablets, 13(20.63%) SCs had Zinc Tablets, 17(26.98%) of the SCs had IFA syrup, 8 (12.70%) of the SCs had Methylergom etrine tablets, 5(7.94%) of the SCs had Methylergom etrine Inj., 19(30.16%) SCs had Paracetamol tablets, 16(25.40%) of the SCs had Albendazole tablets and 15(23.81%) had Dicylomine tablets.

To assess the services of maternal care, the records were reviewed. The records (Previous year as well as recent year) were available at all the 63(100%) of the SCs. Records of OC pills uses, Sterilization, ANC cards were available at 63(100%) of the SCs. Table 6 shows that there were 26(41.27%) of the SCs where deliveries were being conducted. No male sterilization was carried out in any of the SC as per record. There was improvement in the performance in majority of the components as compared to previous 2018-2019 year records. The major improvement in performance was seen in ANC services 56(88.89%). Total number of deliveries were improved in 20(31.75%), while it was decreased in 6(9.52%) of the SCs. Total number of condom distribution were improved in 53(84.13%) and decreased in 7(11.11%). The OC Pills distribution were improved in 54(85.11%) of the SCs and decreased in 9(14.29%) of the SCs. Female sterilization improved in 51(80.95%) of the SCs while decreased in 12(19.05%) of the SCs.

Table 6: Review Of The 2019-20 Records And Compare To Previous 2018-2019 Year Records

Services	Improvement				Total
	< 25 (Mild Improvements)	26-50 (Moderate Improvement)	51-75 (Good)	>75 (Very Good)	
ANC Women screened	51 (80.95%)	5 (7.94%)	0 (0.00%)	0 (0.00%)	56 (88.89%)
Total deliveries	4 (6.35%)	6 (9.52%)	10 (15.87%)	0 (0.00%)	20 (31.57%)
Condoms distribution	48 (76.19%)	5 (7.94%)	0 (0.00%)	0 (0.00%)	53 (84.13%)
OCP distribution	48 (76.19%)	5 (7.94%)	1 (1.59%)	0 (0.00%)	54(85.11%)
Female Sterilization	31 (49.21%)	19 (30.16%)	0 (0.00%)	1 (1.59%)	51 (80.95%)
Services	Worsening				Total
	< 25 (worse)	26-50 (Less worse)	51-75 (Medium worse)	>75 (Worst)	
ANC Women screened	5(7.94%)	2 (3.17%)	0 (0.00%)	0 (0.00%)	7 (11.11%)
Total deliveries	0(0.00%)	4 (6.35%)	2(3.17%)	0(0.00%)	6(9.52%)
Condoms distribution	6(9.52%)	1 (1.59%)	0 (0.00%)	0 (0.00%)	7 (11.11%)
OCP distribution	8(12.70%)	1 (1.59%)	0 (0.00%)	0 (0.00%)	9 (14.29%)
Female Sterilization	8(12.70%)	2 (3.17%)	0 (0.00%)	2 (3.17%)	12 (19.05%)

DISCUSSION

In our study it was found that more than half of the SCs were catering to an acceptable norms of the population. 9.52% SCs had too much population, around 26.98% of SCs had too less population. The average population covered by a SC was 4500 (median 4498 and range 1967-8879) whereas in a study conducted by Bayapa et al¹ in Chittoor (Andhra Pradesh) average population covered by a SC was 4833, in another study conducted by Desai et al¹ in Vadodara (Gujarat) the average population covered by SCs was 5205 which is similar to current study. In the current study it was found that almost all of the SCs were located within the village and were easily accessible. The Median distance of SC from PHC was 5.1 Km. While in a study conducted by Bayapa et al¹ in Chittoor district (AP) found that all the SCs were located within village and median distance from PHC was 5.9 Km, which is similar to our study.

It was observed that 1 Female Health Worker was posted at all the SCs while Male Health Worker and Staff nurse were not available at any of the SC. Safai Karamchari were available only in 41% of the SCs on

contractual basis. While a study by Bayapa et al¹ in Chittoor District (AP) had 1 female health worker at each SC but in 67% of the SC there was deficiency of male health worker. In other study conducted by Desai et al¹ in Vadodara (Gujarat) showed that 1 female health worker and 1 male health worker were present at (95%) of the SCs while 60% of the SCs had contractual Safai Karamchari, staff nurse was not available at any of the SCs.

It was found that 76.19% of SCs had a designated government building while around 22.22% of SCs were running in Anganwadi and one SC was running at rented building. Similar study conducted by Bayapa et al¹ in Chittoor district (AP) found that out of the 34 SCs studied, 50% were housed in government building and remaining 50% were being operated in rented buildings. In other studies conducted by Nair et al¹ in Kerala, Pal et al⁶ Mandla found that only in 54.4% and 27.5% of SCs had own building respectively. The above studies shows poor status in term of infrastructure of SC building and residential quarter but in current study government building was available in 76.19% which shows better health of the SCs. In our study it was found that source of water was available at majority of the SCs and in half of the SCs, water is supplied by piped or tube well. Overhead tank was available in 42.86% of the SCs. Disposal on medical waste was done at all the SCs. Electricity was available at 85.71% of the SCs. Communication facility like CUG was available at all the SCs. The study of Pal et al⁶ found the same result accept regular water supply in 35% of SCs.

In the current study, Labour room was available in 77.78% of the SCs but delivery was conducted only in 41.27% of the SCs. Clinic room and examination room was present in majority of the SCs. The reasons behind not conducting of the deliveries are mainly poor condition or non availability of the labour room, staff not staying, availability of nearby PHC/CHC, and non availability of the doctor at SC. In a study conducted in Lucknow by Roy et al⁷ found that examination room was present in 81.2% of the SCs, but clinic room and labour room were present in 62.5% and 50 % of the SCs, respectively. In none of the SCs the deliveries were conducted.

For equipments available at all SCs, a score was given and graded in adequate (75-100), average(51-74), poor(26-50) and very poor (0-25). 54(85.71%) of the SCs were found to score more than 75% and were adequate. 7(11.11%) of the SCs were in 51-75% of the average category, while 2(3.17%) of the SCs were found in 26-50% of the poor category and none of the SC came in 0-25% of the category, i.e. very poor. In the study of Pal et al⁶ at Mandla SCs were graded 10% as good, 42.5% as average and 47.5% as poor. while Bayapa et al¹ in Chittoor (AP) found that only 26.4% were good, 23.5% were average, and 50.1% were poor. In compare to above studies our observation in current study shows good score in term of better availability of basic amenities. Without these facilities the Sustainable Development Goals (SDGs) can't be achieved.

Antenatal care, postnatal care, immunization, family planning and contraception, adolescent health care, school health services, Janani Suraksha Yojana and treatment of minor ailments were available at all of the SCs. While Intranatal care and New born care were present at 26(41.27%) of the SCs. In a study conducted by Kumar et al⁸ in Haryana found that health workers at all these SCs also assisted in delivering school health services. In another similar study by Roy et al⁷ in Lucknow found that 75% and 57.2% in ANC registration and immunization done respectively. In comparison to above study current study found 100%ANC registration and immunization.

In our study it was found that most of the drugs were available at the SCs. In a study in Chittoor AP conducted by Bayapa et al¹ found that all of the SCs had sufficient quantity of drugs to treat minor ailments and anaemia, while none of the SCs had the required quantity of essential obstetric drugs such as methylethergometrine, magnesium sulphate, oxytocin injection and tablet Misoprostol 200 microgram (as per IPHS). In our study most of the essential drugs are available at 100% of the SCs and supplied under Mukhyamantri Nishulka Dava Yojana. In present study it is observed that there was improvement in the performance in majority of the components in compared to previous years records. Majority of the improvement in performance was seen in ANC services which are improved in 88.89% of the SCs, also total number of the deliveries were improved in 36.51% of the SCs.

The present study found an astonishing picture of the infrastructure of the sub-centres, even after almost 74 years of independence. The standards of basic health services expected from them for the rural

population are yet to be met. Although NRHM (later NHM) was launched in 2005 with a holistic approach, many basic issues including availability of sustainable infrastructure and human resource support at peripheral health centres are to be strengthened but such issues are still required to be addressed as per IPHS norms. It provides ray of hope, if implemented throughout the country in its word and spirit.

CONCLUSION

Significant gaps existed between facilities available at the Sub-centres and IPHS norms for the Sub-centres. One major factor responsible for under utilization of health services was the lack of adequate infrastructure at the Sub-centres level. Availability of manpower in terms of FHWs was adequate but MPHWs were not available at any Sub-centres. The availability of physical infrastructure was not satisfactory. Labor room was available at 3/4th of the Sub-centres and deliveries were carried out at only around half of it. The availability of MCH services was good except for intra natal and new born care. There was improvement of the performance in majority of the components as compared to previous year records. The major improvement in performance was seen in ANC care.

Recommendation

Emphasis should be given on basic infrastructure of the Sub-centres for proper delivery of the services designated to be provided by the Sub-centres. The stay of FHWs at Sub-centres round the clock is essential for the people to avail the health services. To improve supervision of the sub-centres, medical officer must be impressed upon to submit their monthly tour programs in advance and respective tour notes to the sub-centres.

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