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Original Research Article

Facilitating quality improvement by implementing quality accreditation standards at primary health care centre in Panvel taluka of Raigad district Maharashtra

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ABSTRACT

Background: The Indian public health standard and Kayakalp guidelines are the main driver for continuous improvement in quality and bench mark for assessing the functional and cleanliness status of health facilities. Objectives were to assess PHC on IPHS and Kayakalp standard for continuous quality improvement. To conduct baseline and peer assessment of quality parameters using Indian public health standards and Kayakalp standard at primary health centre. To perform gap analysis and suggest quality improvement measures for meeting accreditation standards. To establish public private partnership for strengthening health services at PHC level.
Methods: Descriptive observational study was conducted from September 2022 to June 2023 at Ajiwali PHC-Panvel taluka was selected using simple random sampling technique. Sample size of 83 patients was calculated as per the monthly case load of PHC. IPHS and Kayakalp assessment checklist, patient satisfaction forms were used for the survey. Various statistical tests like frequency, mean, percentage, S.E of difference between two proportions and two means were applied.
Results: Kayakalp checklist baseline assessment score was 52.5% while post assessment score 72.5% showing significant improvement. Patient satisfaction survey pre and post assessment shows significant improvement where p value was <0.001 which was highly significant. IPHS survey shows partial improvement in training and quality parameters while other indicator remained the same.
Conclusions: Regular quality assessment and accreditation leads to continuous quality improvement. Training and capacity building of PHC staff should be undertaken at regular intervals. Public private partnership modelling for various departments or service delivery components should be undertaken.

Keywords: Patient satisfaction, Accreditation, Continues quality improvement, IPHS, Kayakalp, PHC, lPublic private partnership

INTRODUCTION

The Indian public health standard and Kayakalp guidelines are the main driver for continuous improvement in quality and bench mark for assessing the functional and cleanliness status of health facilities.[1] As a foundation towards achieving the sustainable development goal of universal health coverage (UHC) the World Health Organization reoriented the health system towards primary health care.[2] PHC enables universal, integrated access to full range of quality services and products people need for health and well-being. The national health policy 2017 lays the foundation for UHC by 2030 in India. Government provides free health care services at all government facilities, despite this the facilities are availed by only one fourth or one third of the

population, some of the factors responsible for low usage are poor quality of services, lack of good infrastructure, hygiene and sanitation, non-availability of drugs and diagnostics, lack of human resource etc.[2]

National rural health mission launched in 2005 which envisaged the strengthening of rural public health system published Indian public health standard (IPHS) guidelines as a reference point for health care planning and up gradation to provide standardized quality care.[2] IPHS are a set of guidelines which aims towards continuous quality improvement in healthcare delivery system of India so that the usage of government health care facilities improves and community requirements of basic health services are delivered at the primary or local level, thus increasing the physical, financial and social accessibility. IPHS standards give guidance on components of health care like infrastructure, human resource, drugs and diagnostics, equipment, quality and governance requirements for delivering quality healthcare services.[3] Regular quality assessment of healthcare delivery points on standards like IPHS, Kayakalp and NQVAS which are some of the accreditation standards on which continuous monitoring and evaluation of health care services can assure good service delivery to the community. With a vision to ensure full implementation of IPHS standards a new assessment criterion in the form of Kayakalp was launched in the backdrop of Swacchh Bharat Abhiyan in 2015.[2,3] These guidelines promote hygiene and sanitation in health care facilities which meet the IPHS standards. Assessment is done at three levels peer, internal and external assessment.

Panvel being a densely populated geographical area has five primary health care centres which cater to a very diverse population consisting of locals and majority of migrant workers. Assessment of Ajiwali PHC was carried out on the basis of IPHS and Kayakalp guidelines. We intended to get a baseline assessment of the PHC, so as to identify the gaps and initiate interventions to fulfill the service delivery components.

METHODS

A descriptive observational study was conducted at Ajiwali PHC from September 2022 to June 2023. Among the five PHC's in Panvel Ajiwali PHC was selected using simple random sampling technique. Institutional ethics committee approval was obtained for the study. Sample size of 80 patients was taken considering the monthly case load of the PHC. IPHS survey checklist, Kayakalp checklist and pre and post assessment patient satisfaction survey forms were used for the data collection. Responses of PHC staff, patients and parents of children who came to avail the OPD and IPD services and gave written voluntary consent to participate in the survey were recorded. The willing participants were given information about the study as well as a description of any foreseeable risks and discomforts. Participants were also informed of their right to opt out of the study at any time without having to give reasons. Patient satisfaction survey per and post of OPD and IPD patients was done on 11 parameters The PHC staff included medical officer, staff nurses, administrative officer, and pharmacist.

The IPHS assessment was done on the following thematic areas- availability of services, functionality of equipment's, availability of drugs, and functionality of staffs. While the Kayakalp guidelines for external assessment of a PHC require PHC to be assessed on hospital upkeep (60 points), sanitation and hygiene (60), waste management (60), infection control (60), hospital support services (30), hygiene promotion (30) with maximum score being 300.[4] Different thematic areas were further divided into different criteria points to reach a consolidated score for that thematic section. Each criterion there upon was further assessed on the basis of checklist For PHC Kayakalp quality accreditation standard.

The assessment methods used were direct observation (OB), staff interview (SI), and records and documents (RR). The scores were applied as compliant (2), partially compliant (1) fully (1) and non- compliant (0) 4. Data was maintained and analysed in Microsoft Excel. Statistics were derived from statistical software's like Excel, SPSS version 21. Descriptive statistics like frequency, mean, percentage and statistical tests like standard error of difference between two proportions and standard error of difference between two means were applied. The baseline evaluation was done in the month of August 2022. Various interventions like formation of committees, trainings and workshops for the staff, setting up of Infection control protocols, CSR support in infrastructure improvement and implementation of processes and protocols for proper maintenance of documents and records were established and a post evaluation was done in the month of January 2023.

RESULTS

Kayakalp checklist baseline assessment score was 52.5% while post assessment score was 72.5% which shows significant improvement as can be seen in Figure 1.

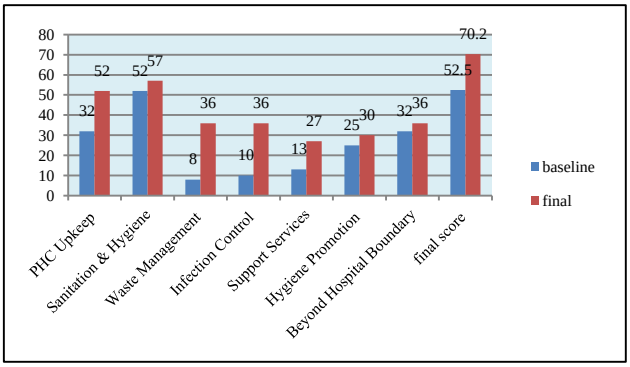

Figure 1: Kayakalp pre and post assessment.
Statistical test used- standard error of difference between two proportions. P value <0.01 (highly significant).

The gaps which were identified in the baseline Kayakalp survey were training of the staff, appointment of various committees like infection control, effective management of bio medical waste, basic hygiene and sanitation of the PHC.

Training and capacity building in identified gap areas was facilitated. The first thematic area of Kayakalp guidelines is hospital upkeep which was 32% in the baseline survey which increased to 52% after implementing processes for branding of the PHC, pest control, mosquito control measures by use of wire mesh on windows, mosquito net for IPD patients, condemnation and replacement of unused things, repairing of plumbing and lighting system. Sanitation and hygiene saw improvement from 52% to 57% after implanting SOPs for cleanliness, hand washing, IEC display for hygiene control and sensitization sessions, this also helped in improving the score for hygiene promotion thematic area.

Ajiwali PHC was short of colour coded dustbins for waste disposal which were facilitated through CSR support resulting in improvement from 8% to 36% in waste management thematic area. Suggestions were given on establishment of sewage treatment plant for effective handling and recycling of waste products in the form of compost and recycled water which can be used in herbal garden of the PHC: in turn helping in increasing the score for hospital upkeep.

The PHC did not have committee for infection control due to which the score of the baseline was 10%. Dedicated infection control committee was formed and is functioning very well ensuring implementation of all SOP's which has led to increase in the score to 36%. Bio medical waste segregation and proper waste management also helps in increasing the score for infection control.

Support services were enhanced by streamlining the stock registers of pharmacy, maintaining updated expiry date list of medicines, cold storage for specific medicines, and temperature control of the same increased the score from 13% to 27%. Awareness campaigns, session and sensitization workshops, regular feedback from patients and improvement after the feedback is helping improve the hygiene promotion activities, resulting in increased from 25% percent to 30%.

As Kayakalp was launched in the backdrop of Swacchh Bharat Abhiyan PHC's are directed to engage with local community and arrange various cleanliness and awareness drives, rallies, competitions like poster, drawing and essay. Inter sectoral coordination with various government departments like public works department, forest department and education department is required to achieve the targets of beyond hospital boundary thematic area. Initiatives like rallies, drives, tree plantations, cattle traps, parking space management, reducing hawking zones near PHC are yet to be undertaken by Ajiwali PHC, so the score sees a minor increase from 32% to 36% as a result of few awareness sessions conducted during the study.

Table 1: IPHS pre and post assessment.

IPHS	Pre	Post	Improvement
Physical infrastructure	Yes	Yes	Same
HR	Yes	Yes	Same
Training	Yes	Yes	Partial
Equipment	Yes	Yes	Same
Essential drug and supplies	Yes	Yes	Same
Quality parameter	Yes	Yes	Partial
Ayush services	No	No	No
MTP services	No	No	No
Low birth weight baby management	No	No	No
Male female sterilization services	No	No	No

Data obtained on IPHS norms included physical infrastructure, HR, equipment's, essential drug and supplies. IPHS guidelines state the services of scope in two categories for PHC's Essential and desirable, Ajiwali PHC where the study was conducted fulfilled the IPHS norms for essential services at PHC which include maternal and child health services, implementation of all NHP, 24 × 7 availability of health care staff and drugs. IPHS survey showed partial improvement in training and quality parameters while other indicator remained same. Behaviour and attitudinal change were initiated in the PHC staff to care for the PHC infrastructure, equipment's and drugs, request to be placed with local authorities for fulfilment of vacant posts like Ayush medical officers. PPP model for getting specialist consultants which would help in filling up of deficiencies in services has been established for RMNCH+A components. Other parameters like Ayush services, MTP services, low birth baby managements, male sterilization services are not available at Ajiwali PHC, though they have government referral service in place with ambulance service. Pre and Post Assessments done for the PHC on IPHS parameters shows following results as Table 1.

Patient satisfaction pre survey was done at the baseline assessment and post survey was done in January 2023. The patient satisfaction was measured on eleven parameters mentioned in the Table 2.

After various interventions mentioned above according to IPHS and Kayakalp guidelines the post survey of patient satisfaction shows statistically significant improvement with p value <0.01 except for PHC cleanliness which was found to be not significant.

Table 2: Patient satisfaction survey pre and Post-assessment analysis.

Patient satisfaction indicator	Mean pre assessment score	Mean post assessment score	Average SE	P value	P value <0.01 (highly significance)
Waiting time for register	0.83	1.37	0.1	0.54	highly significant
PHC cleanliness	1.33	1.49	0.33	0.16	not significant
Basic amenities light water etc.	1.00	1.42	0.089	0.42	highly significant
Male and female sperate toilet and cleanliness	0.95	1.27	0.083	0.32	highly significant
Dr behaviour and availability	1.02	1.32	0.07	0.30	highly significant
Nurses availability and behaviour	0.93	1.26	0.1	0.34	highly significant
Staff behaviour with pt	0.82	1.35	0.089	0.53	highly significant
Availability of medicine	0.66	1.36	0.01	0.70	highly significant
Availability of diagnostic services	0.42	1.48	0.079	1.06	highly significant
Visit of ASHA ANM in your home	0.44	1.36	0.089	0.92	highly significant
Satisfy with overall services	0.79	1.27	0.1	0.48	highly significant

Statistical test used- standard error of difference between two means. P value <0.01 for all parameters (highly significant) except for PHC cleanliness.

DISCUSSION

In our study we conducted baseline survey of Ajiwali PHC on IPHS and Kayakalp guidelines and post evaluation was done in the month of January 2023. Not many studies are available where baseline and post assessment of PHC is done after implementation of IPHS and Kayakalp guidelines, our study in that way is unique as we not only did a baseline assessment but helped the PHC in increasing the compliance towards the guidelines by initiating various steps and protocols and assessed the services again by evaluation and conducting patient satisfaction survey. The patient satisfaction post assessment survey showed statistically significant improvement with p value <0.01 for all parameters except for PHC cleanliness.

The major gap areas identified by us were training and capacity building of the PHC staff, infection control and waste management protocols and engagement with local community. Similar study by Veena et al in urban health centres of Bengaluru also identifies training and capacity building of staff as one of the major gaps in quality of the service delivery.[5] Study by Rattan et al stated Kayakalp as the right initiative for hygiene promotion and infection control and peer assessment at primary care level.[6] Gaps identified above were fulfilled by formation of various committees, establishment of SOPs for infection control, waste management and hygiene promotion. Support services were enhanced by updating stock registers, updating expiry date list of medicines and consumables Baseline Kayakalp assessment helps PHC to identify the deficient areas and the interventions suggested by the guidelines are not very difficult to implement with teamwork and efforts of staff efficient and quality service delivery can be ensured. Mechanism for receiving regular feedback from the beneficiaries and local bodies should be established for ensuring continuous quality improvement. Kayakalp has generated a culture of healthy competition among the healthcare facilities.

IPHS guidelines state the services of scope in two categories for PHC's essential and desirable, Ajiwali PHC where the study was conducted fulfilled the IPHS essential norms for a PHC which include maternal and child health services, implementation of all NHP, 24 × 7 availability of health care staff and drugs. A study by Mathur et al in PHCs of Jaipur district recommend PPP model for enhancement of services in PHC, they also identified service delivery gaps like non-availability of drugs and shortage of manpower.[7] Though these gaps were not identified in the Ajiwali PHC, many primary health centres are under staffed. Public private partnership can play a major role in fulfilling the gaps in the scope of services provided at primary level. One of the major criteria to be fulfilled as per IPHS is the availability of Maternal and child health services. In Ajiwali PHC the antenatal care services are provided in association with Sri Sathya Sai Sanjeevani Centre and National institute of Public Health Training and Research. This project enables the PHC staff to screen high risk pregnancies and take necessary steps to avoid complications and manage the mother and the new born effectively with timely referral services. Active Engagement with local community was also identified as a deficient area in our study Massod et al also identified the same deficiency and recommended monitoring of the system by bodies like Rogi Kalyan Samiti.[8]

We made the use of corporate social responsibility in providing the waste management essential consumables which ultimately helped in increasing the score of PHC in thematic areas like infection control, waste management, hospital upkeep, hygiene and sanitation. So, CSR, PPP models and active engagement with local bodies can help increase the quality and efficiency of the health care delivery system. Similar study by population research

centre institute of economic growth also enlists interventions similar to our study.[9] They also found improvement in overall score and service delivery after implementing above mentioned interventions, our study also got the same results. Our study found partial improvement after training in quality parameters of IPHS. IPHS guidelines focus on infrastructure, equipment and human resource. Behavioural and attitudinal change in the PHC staff towards PHC infrastructure, care of equipment's and patient centric care should be initiated. Regular sensitization of medical and paramedical staff, allocation of funds, innovative local body engagements, patient centric approach, will help to improve the quality of care. Accreditation and awards like Kayakalp encourage the staff to perform. Regular appreciation, recognitions, accreditations motivate the staff to work in harmony with the system.

Primary health care forms the pillar of universal health coverage that India intends to attain by 2030, regular assessment of health facilities by processes like IPHS and Kayakalp are playing a major role in continuous quality improvement. Peer assessment of health care facilities can induce a healthy competition leading to achievement of a good score and accreditation of the facility. With increase in population and its need the primary healthcare system needs to keep the pace with changing time enforcement of quality assurance guidelines can help in reduce the burden and streamline processes and protocols required to achieve universal health coverage by 2030.

There are some limitations. Quality improvement and assessment is a long term and continuous process which requires regular monitoring and evaluation. During the course of our study the IPHS and Kayakalp quality assessment parameters were implemented and monitoring and evaluation was done within a short time period so duration of the study was a limitation.

CONCLUSION

Regular quality assessment and accreditation leads to continuous quality improvement. Training and capacity building of PHC staff should be undertaken at regular intervals. Public private partnership modelling for various departments or service delivery components should be undertaken.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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