



## Assessment of level of implementation of Kayakalp guidelines in community health centres and sub district hospitals in Gadag district

Manjegowda H P<sup>1</sup>, Gulappa Devagappanavar<sup>2\*</sup>

<sup>1</sup> Public Health Scholar, Department of Environmental Science Public Health and Sanitation Management, Karnataka State Rural Development and Panchayat Raj University Gadag, Karnataka, India

<sup>2</sup> Assistant Professor, Department of Public Health, School of Environmental Science Public Health and Sanitation Management, Karnataka State Rural Development and Panchayat Raj University, Gadag, Karnataka, India

### Abstract

**Background:** Maintaining cleanliness and hygiene holds great importance within healthcare environments. The Swachh Bharat Abhiyaan represents a nationwide initiative launched by the Indian government with the aim of fostering cleanliness in communal areas. The 'KAYAKALP' scheme serves as an effort to advance cleanliness standards and bolster the caliber of public healthcare facilities.

Furthermore, the Ministry of Health and Family Welfare of the Government of India has initiated a National Program aimed at recognizing public health facilities that demonstrate high standards of hygienic practices, infection control, and overall cleanliness. This research aims to assess the extent of implementation of the Kayakalp initiative in Community Health Centers and Sub-District Hospitals within the Gadag District.

**Objectives:** To assess the level of implementation of Kayakalp guidelines at Community Health Centres and Sub district hospitals of Gadag District.

**Methods:** A hospital based cross-sectional study was conducted in Sub district hospitals in Gadag district and universal sampling technique was used to choose the health centres. A kayakalp checklist 2021 was used to obtain the data from December 2023 to January 2024. Data were entered into Microsoft excel and Results were expressed in frequency and percentages.

**Results:** In the current study Ron Sub district hospital scores 523/700 (74.71%), Shirahatti Sub district hospital scores 380/700 (54.28%), Nargund Sub district hospital scores 410/700(58.57%), Mundargi Sub district hospital scores 404/700 (57.71%), Lakshmeshwar Community Health Centre scores 367/700 (52.42%), Gajendragad Community Health Centre Scores 371/700 (53%).

**Conclusion:** The present study was an attempt to assess the level of implementation of Kayakalp guidelines in Sub district hospitals and Community health centres in Gadag district. The findings from this study reveals that 3 sub district hospitals have poor implementation of the Kayakalp guidelines in their centre and 1 sub district hospital has better performance.

**Keywords:** Kayakalp, hospitals, infection control, hygiene, quality assurance

### Introduction

A health care facility is a setting where individuals of all ages, genders, socioeconomic backgrounds, and ethnicities get healthcare services. The Swachh Bharat Abhiyan movement's "Kayakalp" program was introduced on May 15, 2015, by the Ministry of Health and Family Welfare. These standards are divided into six distinct themes: disease prevention, hospital assistance facilities, sanitization and cleanliness, waste disposal, healthcare facility maintenance, and sanitary encouragement. The purpose of this project is to improve public health care institutions' efficiency [1].

Maintaining cleanliness and hygiene within hospital settings plays a crucial role in the prevention of infections, as well as in ensuring a positive experience for patients and visitors. Additionally, it fosters the development of behaviours that promote a hygienic environment. Patients in these environments are inherently susceptible to the transmission of infectious agents. Nosocomial infections encompass a diverse array of pathogens, with the emergence of multidrug-resistant strains posing a pressing obstacle for healthcare practitioners [2].

According to data from various countries, an estimation can be made that annually, numerous patients worldwide suffer from Healthcare-Associated Infections (HAI). The incidence of HAI is significantly greater in low- and middle-income nations compared to high-income ones. A global

agreement has been reached regarding the necessity for immediate measures to be implemented in order to hinder the transmission and manage the proliferation of antibiotic-resistant pathogens. One viable solution lies in the effective implementation of infection prevention and control (IPC) strategies within healthcare settings [3].

The Sanskrit terms "kayas," which meaning "body," and "kalpa," which meaning "transformation," "rebirth," or "rejuvenation," are the source of the phrase "Kayakalp." The Kayakalp encompasses the following seven themes: These are broad aspect of Swachhta, can be termed as 'pillars' of the Kayakalp, namely 'A' - Hospital/Facility Upkeep, 'B' - Sanitation & Hygiene, 'C'- Waste Management, 'D'- Infection Control, 'E' - Support Services, 'F'- Hygiene Promotion, 'G' - Cleanliness beyond Hospital/facility boundary wall and 'H'- Eco-friendly facility Four general headings are used to organize the assessment process for Kayakalp: assessment components (thematic area, criteria, and check point); assessment types (internal, peer, external); assessment methods (observation, staff interview, record review, and patient interview); and scoring system (full compliance, partial compliances, and non-compliances) [4].

The principal focus of this campaign was directed towards the promotion of cleanliness within public areas. The Ministry of Health and Family Welfare, under the Government of India, initiated a program called

'KAYAKALP' with the aim of advocating cleanliness and improving the standard of public healthcare facilities. The primary goals of this program include the promotion of infection control measures, raising awareness among healthcare professionals, and implementing continuous evaluation and peer assessment of healthcare facilities. Moreover, the program acknowledges healthcare facilities that demonstrate outstanding performance in implementing infection control measures [5].

**Objectives**

To assess the level of implementation of Kayakalp guidelines at Community Health Centres and Sub district hospitals of Gadag District.

**Methods**

This research was an observational cross-sectional hospital-based study carried out at Government Sub district hospitals and Community health Centres in Gadag, Karnataka state utilizing the Kayakalp tool within the framework of Swachh Bharath Abhiyan. Prior to the initiation of this phase of the study, official authorization was obtained from the pertinent governing bodies. Consent was requested from the District Health Officer, Chief Medical Officers of the healthcare establishment, superintendent, and health administrator. The examination was conducted between December 2023 and January 2024.

The evaluation instrument utilized in this research was the conventional national evaluation tool, known as the scorecard, as outlined in the Kayakalp Guidelines for Public Health Facilities provided by the National Health System Resource Centre (NHSRC, 2021). The evaluation techniques employed in this research encompass direct observation (OB), Staff Interview (SI), and Review of records and documents (RR). The ratings were categorized as Fully Compliant (2), partially compliant (1), and non-compliant (0).

**Results**

The Kayakalp Assessment Checklist audit was carried out under the guidance of the program coordinator. The outcomes of the study are outlined in the tables.

**Socio demographic details**

**Table 1:** Distribution of Socio demographic details of the study participants (n=8)

| Characteristics              | Frequency (%) |
|------------------------------|---------------|
| <b>Gender</b>                |               |
| Male                         | 3(37.5%)      |
| Female                       | 5 (62.5%)     |
| <b>Age group</b>             |               |
| 25-30                        | 2 (25%)       |
| 31-35                        | 4 (25%)       |
| 46-50                        | 2 (25%)       |
| <b>Education level</b>       |               |
| Under graduate               | 3(37.5%)      |
| Diploma                      | 2(25%)        |
| Post graduate                | 2(25%)        |
| Doctorate Degree             | 1(12.5%)      |
| <b>Religion</b>              |               |
| Hindu                        | 5(50%)        |
| Muslims                      | 2 (25%)       |
| Christian                    | 1(12.5%)      |
| <b>Socio Economic Status</b> |               |
| APL                          | 6(75%)        |
| BPL                          | 2(25%)        |
| <b>Marital Status</b>        |               |
| Married                      | 8(100%)       |

In the current study I conduct study on 8 participants in that 5 participants are Female and 3 Participants are Male and more than one fourth respondents are undergraduates and very few of them are Post graduates and Doctorate degree holders and all the participants are married almost all are above poverty line participants.

**Table 2:** Distribution of Ron Sub district Hospital Kayakalp Score

| Thematic Area               | Score   |
|-----------------------------|---------|
| A. Hospital facility Upkeep | 70/100  |
| B. Sanitation & Hygiene     | 70/100  |
| C. Waste Management         | 90/100  |
| D. Infection Control        | 84/100  |
| E. Support Services         | 32/50   |
| F. Hygiene Promotion        | 47/50   |
| G. Beyond Hospital Boundary | 70/100  |
| H. Eco-friendly facility    | 60/100  |
| Total                       | 523/700 |

As per the thematic categorization, superior levels of achievement are observed in Waste Management (90/100), Infection Control (84/100), and Hygiene Promotion (47/50). Areas demonstrating satisfactory performance include Hospital Facility Upkeep (70/100), Sanitation & Hygiene (70/100), Beyond Hospital Boundary (70/100), and Eco-friendly Facility (60/100). The Kayakalp Implementation exhibited commendable performance in the present investigation. The auxiliary services displayed a moderate level of performance (32/50).

**Table 3:** Distribution of Shirahatti Sub district Hospital Kayakalp Score

| Thematic area               | Scores  |
|-----------------------------|---------|
| A. Hospital facility Upkeep | 53/100  |
| B. Sanitation & Hygiene     | 67/100  |
| C. Waste Management         | 67/100  |
| D. Infection Control        | 50/100  |
| E. Support Services         | 11/50   |
| F. Hygiene Promotion        | 21/50   |
| G. Beyond Hospital Boundary | 53/100  |
| H. Eco-friendly facility    | 58/100  |
| Total                       | 380/700 |

The implementation performance of the health facility in adhering to Kayakalp guidelines was deemed mediocre overall; nevertheless, there was an improvement noted based on the specific theme areas. The themes pertaining to Sanitation & Hygiene (67/100) and Waste Management (67/100) exhibited commendable performance levels; whereas Hospital Facility Upkeep (53/100), Beyond Hospital Boundary (53/100), and Eco-friendly Facility (58/100) showcased average performance. On the other hand, Infection Control (50/100), Support Services (11/50), and Hygiene Promotion (21/50) were identified as areas with poor performance.

**Table 4:** Distribution of Nargund Sub district hospital Kayakalp Score

| Thematic area               | Score   |
|-----------------------------|---------|
| A. Hospital facility Upkeep | 63/100  |
| B. Sanitation & Hygiene     | 63/100  |
| C. Waste Management         | 69/100  |
| D. Infection Control        | 65/100  |
| E. Support Services         | 25/50   |
| F. Hygiene Promotion        | 31/50   |
| G. Beyond Hospital Boundary | 61/100  |
| H. Eco-friendly facility    | 33/100  |
| Total                       | 410/700 |

The overall performance of Kayakalp implementation in the present study can be described as mediocre; nevertheless, improvements were observed in performance based on specific theme areas. Waste Management achieved a score of 69 out of 100, whereas Hospital Facility Upkeep, Sanitation & Hygiene, Infection Control, and Beyond Hospital Boundary received average scores of 63, 100, 65, and 61, respectively. Support Services scored 25 out of 50, Hygiene Promotion received 31 out of 50, and Eco-friendly Facility obtained a score of 33 out of 100, indicating areas with poor performance.

**Table 5:** Distribution of Mundaragi Sub district Hospital Kayakalp Score

| Thematic area               | Score   |
|-----------------------------|---------|
| A. Hospital facility Upkeep | 63/100  |
| B. Sanitation & Hygiene     | 65/100  |
| C. Waste Management         | 60/100  |
| D. Infection Control        | 62/100  |
| E. Support Services         | 29/50   |
| F. Hygiene Promotion        | 30/50   |
| G. Beyond Hospital Boundary | 62/100  |
| H. Eco-friendly facility    | 33/100  |
| Total                       | 404/700 |

The current performance of the health facility in terms of Kayakalp implementation can be deemed as average. Sanitation and hygiene achieved a relatively high score of 65 out of 100, while maintenance of hospital facilities, waste management, infection control, and activities beyond the hospital premises all exhibited average performance levels around 60 to 63 out of 100. However, the categories of Support Services, Hygiene Promotion, and Eco-friendly Facility displayed inadequate performance, with scores of 29 out of 50, 30 out of 50, and 33 out of 100, respectively.

**Table 6:** Distribution of Lakshmeshwar Community Health Centre Kayakalp Score

| Thematic area               | Score   |
|-----------------------------|---------|
| A. Hospital facility Upkeep | 54/100  |
| B. Sanitation & Hygiene     | 59/100  |
| C. Waste Management         | 50/100  |
| D. Infection Control        | 49/100  |
| E. Support Services         | 32/50   |
| F. Hygiene Promotion        | 34/50   |
| G. Beyond Hospital Boundary | 53/100  |
| H. Eco-friendly facility    | 36/100  |
| Total                       | 367/700 |

The overall execution of the Kayakalp program at the present healthcare facility was deemed inadequate, as indicated by the substandard performance in various thematic domains. The performance in certain areas was found to be average, such as Hospital Facility Upkeep (54/100), Sanitation & Hygiene (59/100), Waste Management (50/100), and Beyond Hospital Boundary (53/100). Conversely, areas demonstrating poor performance included Infection Control (49/100), Support Services (32/50), Hygiene Promotion (34/50), and Eco-friendly Facility (36/100).

**Table 7:** Distribution of Gajendragad Community Health Centre Kayakalp score

|                             |         |
|-----------------------------|---------|
| A. Hospital facility Upkeep | 54/100  |
| B. Sanitation & Hygiene     | 49/100  |
| C. Waste Management         | 65/100  |
| D. Infection Control        | 58/100  |
| E. Support Services         | 30/50   |
| F. Hygiene Promotion        | 33/50   |
| G. Beyond Hospital Boundary | 53/100  |
| H. Eco-friendly facility    | 29/100  |
| Total                       | 371/700 |

Based on the theme area, overall Kayakalp implementation performance in the current health facility was poor. Waste management scores 65 out of 100, while the following thematic areas have poor performance: hospital facility upkeep (54 out of 100), sanitation and hygiene (49 out of 100), infection control (58 out of 100), support services (30/50), hygiene promotion (33/50), beyond hospital boundary (53/100), and eco-friendly facility (29/100).

**Discussion**

Following the standards of the Kayakalp project, the assessment procedure consists of three stages. The facility conducts the internal assessment as the first stage. employee utilizing the Kayakalp evaluation instrument. Each facility need to receive an average rating of 70%. In order to be qualified for the following evaluation stage, the evaluation by peers (NHRM, 2015). Following peer review is completed, and if the result exceeds 70%, the hospital would fit the criteria for the prize category [6].

In the initial assessment based on the 8 Thematic areas Hospital/ facility upkeep, Sanitation and hygiene, Waste management, Infection control (IC), Supportive services, and Hygiene promotion, Beyond Hospital Boundary and Eco friendly Hospital initiative by using Kayakalp guidelines (Kayakalp checklist 2021) We assessed level of implementation of this guidelines in Gadag district’s, Sub district Hospitals and Community Health Centres, Results shows that in Ron Sub district hospital scores 523/700 (74.71%), Shirahatti Sub district hospital scores 380/700 (54.28%), Nargund Sub district hospital scores 410/700 (58.57%), Mundaragi Sub district hospital scores 404/700 (57.71%), Lakshmeshwar Community Health Centre scores 367/700 (52.42%), Gajendragad Community Health Centre Scores 371/700 (53%). A cross-sectional study was conducted by Mallappa *et al* [2], at District hospital in Madikeri, Karnataka state. In this study they used the standard national assessment tool score card- Swachhta Guidelines for Public Health Facilities provided by the Ministry of Health & Family Welfare Government of India this study result reveals 232/500 (46.4%).

Another observational cross-sectional study was conducted by Singh R *et al* [7], at the Indira Gandhi Medical College Shimla in the month of April 2018 using the Kayakalp assessment checklist for tertiary care hospitals. This study results that 309/650 (47.5%).

An analytical study was conducted by Rattan S *et al* [8], to assess the impact of Kayakalp Yojna in six thematic areas; hospital/ facility upkeep, sanitation and hygiene, waste management, infection control (IC), supportive services, and

hygiene promotion in government hospitals using the Kayakalp assessment tool in the state of Himachal Pradesh in 2017– 2018 revealed that the implementation of the Kayakalp Yojna, an average enhancement of 20% was observed in the overall scores of the healthcare facilities during the transition from internal evaluation to external assessment. Out of the total 12 district hospitals, four establishments, alongside three out of the 89 community health centres, and 26 out of the 475 public health centres achieved a score exceeding 70% in the external evaluation process. Similar findings were observed in this study.

A observational cross-sectional study was conducted by Saurab Rattan *et al* <sup>[9]</sup>, as a peer assessment in August for the fiscal year 2016-17, focusing on the designated primary health centers (PHCs) in Solan district, Himachal Pradesh. The analysis was based on the standardized 'KAYAKALP' checklist for all four PHCs. Among these, PHC 'Domehar' achieved the highest overall score of 66.3%, while PHC 'Bainj Ki Hatti' had the lowest score at 18.6%. The mean score per PHC in the infection control thematic section was calculated to be 26±12 out of a total of 60. The remaining PHCs scored 50% or lower in the sanitation and hygiene subsection.

An analytical census study was done by Tiwari A *et al* <sup>[10]</sup>, To assessing all 27 District hospitals covered under this scheme during year 2015-16 in Chhattisgarh revealed that points towards an advancement in promoting hygienic practices such as handwashing, water conservation, and sanitation among both the staff and the patients frequenting the facilities. Following this, there was notable progress in support services (19.91%), infection control (19.88%), waste management (16%), hospital upkeep (15.87%), and sanitation and hygiene. In our study the results shows that Support services (64%), Infection Control (84%), Waste management (90%) Hospital Facility Upkeep (70%), Sanitation & Hygiene (70%) and rest other thematic areas are Beyond Hospital Boundary (70%) and Eco-friendly Facility (60%) and Hygiene promotion (66%).

### Conclusion

The present study was an attempt to assess the level of implementation of Kayakalp guidelines in Sub district hospitals and Community health centres in Gadag district. The findings from this study reveals that 3 sub district hospitals have poor implementation of the Kayakalp guidelines in their centre and 1 sub district hospital (Ron) has better performance and Two Community health centres are poor in implementation of Kayakalp guidelines in their centres.

### Recommendations

1. There is a need to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources caused due to mismanagement of public facilities.
2. Provide capacity building activities to the healthcare workers to implement the guidelines in the healthcare system
3. Regular monitoring and Evaluation is much more recommended in all the healthcare facilities.

### Limitations

1. This study is limited to Gadag district only.
2. This study is limited to Sub district hospitals and Community health centres in Gadag district only.

**Funding:** No funding sources

**Conflict of interest:** None declared

**Ethical approval:** The study was approved by the Karnataka state Rural Development and Panchayat Raj University Institution Ethics committee. (RDPRU/SEP/MPH/2023/6)

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