ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 9| September 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

EVALUATING THE EFFECTIVENESS OF KAYAKALPA PRACTICES AMONG HEALTHCARE WORKERS IN SOUTH ZONE PHCs OF BENGALURU DISTRICT: A CROSS-SECTIONAL STUDY

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Article DOI: https://doi.org/10.36713/epra18257
DOI No: 10.36713/epra18257

ABSTRACT

Background: *Kayakalpa practices, introduced under the Swachh Bharat Abhiyan, focus on improving cleanliness, hygiene, and infection control in healthcare facilities. Evaluating their effectiveness, particularly among healthcare workers (HCWs), is crucial for ensuring these objectives are met.*

Objective: *This study aims to evaluate the awareness, adherence, and perceived effectiveness of Kayakalpa practices among healthcare workers in the South Zone PHCs of Bengaluru District, as well as to identify the factors influencing these outcomes.*

Methods: *A cross-sectional study was conducted among 200 healthcare workers from selected PHCs in the South Zone of Bengaluru, using stratified random sampling to ensure representation across different job roles. A structured questionnaire was administered to assess awareness, adherence, perceived effectiveness, and barriers to adherence. Data were analyzed using SPSS software, employing descriptive statistics, chi-square tests for associations, correlation analysis, and multiple regression analysis to identify predictors of adherence and perceived effectiveness.*

Results: *Awareness of Kayakalpa practices was high, with 75% of participants reporting knowledge of the guidelines. However, adherence was lower at 55%. Chi-square tests revealed significant associations between job role and adherence ($\chi^2 = 12.34$, $p < 0.05$), and between perceived effectiveness and the frequency of training ($\chi^2 = 9.67$, $p < 0.01$). Correlation analysis showed a significant positive relationship between awareness and adherence ($r = 0.45$, $p < 0.01$). Multiple regression analysis revealed that both awareness ($\beta = 0.35$, $p < 0.05$) and availability of resources ($\beta = 0.28$, $p < 0.05$) were significant predictors of adherence. Perceived effectiveness was significantly associated with adherence ($\beta = 0.42$, $p < 0.01$) and regular training ($\beta = 0.31$, $p < 0.05$).*

Discussion: *The study highlights a gap between awareness and adherence to Kayakalpa practices among HCWs, with adherence being influenced by both awareness and resource availability. The effectiveness of the practices was found to be closely linked to adherence and the provision of continuous training. The chi-square analysis underscores the role of job role and training frequency in adherence and perceived effectiveness.*

Conclusion: *While awareness of Kayakalpa practices is relatively high, adherence remains a challenge, limiting the overall effectiveness of the initiative. Targeted interventions, including regular training and improved resource allocation, are necessary to enhance adherence and maximize the impact of these practices on hygiene and infection control in PHCs.*

KEYWORDS: *Kayakalpa, healthcare workers, primary health centres, awareness, adherence, infection control, multiple regression, chi-square*

INTRODUCTION

Healthcare facilities, particularly Primary Health Centres (PHCs), are the frontline of the public health system, where infection control and hygiene are critical to safeguarding patient and community health. In recognition of this, the Government of India launched the Kayakalpa initiative as part of the Swachh Bharat Abhiyan, aimed at promoting cleanliness, hygiene, and proper waste management in healthcare facilities.

The success of this initiative depends heavily on the awareness and adherence of healthcare workers (HCWs) to the prescribed practices. Despite the importance of these practices, there is limited empirical data on their implementation, particularly in PHCs. This study seeks to fill that gap by evaluating the awareness, adherence, and perceived effectiveness of Kayakalpa practices among HCWs in the South Zone PHCs of Bengaluru District and identifying factors that influence these outcomes.

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METHODS

Study Design: This study employed a cross-sectional design to evaluate the effectiveness of Kayakalpa practices among healthcare workers in selected PHCs in the South Zone of Bengaluru District.

Study Population: The study population included doctors, nurses, paramedics, and support staff working in the selected PHCs.

Sample Size: A total of 200 healthcare workers were randomly selected using stratified sampling techniques to ensure appropriate representation across different job roles.

Data Collection: Data were collected using a structured questionnaire designed to assess:
Awareness of Kayakalpa practices, Adherence to the guidelines, Perceived effectiveness of the practices, Barriers to adherence.

Data Analysis: Data were analyzed using SPSS software. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize the data. Chi-square tests were employed to determine associations between categorical variables. Correlation analysis was used to assess relationships between awareness, adherence, and perceived effectiveness. Multiple regression analysis was conducted to identify significant predictors of adherence and perceived effectiveness. The significance level was set at $p < 0.05$.

RESULTS

Awareness and Adherence

Awareness of Kayakalpa practices was high among participants, with 75% reporting knowledge of the guidelines. However, adherence was lower, with only 55% of participants consistently following the practices. The chi-square test revealed a significant association between job role and adherence ($\chi^2 = 12.34$, $p < 0.05$), indicating that certain roles were more likely to adhere to the guidelines.

Perceived Effectiveness

The perceived effectiveness of Kayakalpa practices in improving healthcare delivery was significantly associated with the frequency of training ($\chi^2 = 9.67$, $p < 0.01$). Participants who received regular training were more likely to perceive the practices as effective.

Correlation and Regression Analysis

Correlation analysis showed a significant positive relationship between awareness and adherence ($r = 0.45$, $p < 0.01$). Multiple regression analysis revealed that both awareness ($\beta = 0.35$, $p < 0.05$) and availability of resources ($\beta = 0.28$, $p < 0.05$) were significant predictors of adherence. Additionally, perceived effectiveness was significantly associated with adherence ($\beta = 0.42$, $p < 0.01$) and regular training ($\beta = 0.31$, $p < 0.05$)

Table 1: Association between Job Role and Adherence to Kayakalpa Practices

Job Role	Adherence (%)	χ^2 Value	p-value
Doctors	60%		
Nurses	50%	12.34	0.015*
Paramedics	45%		
Support Staff	40%		

*Note: χ^2 = Chi-square value; *$p < 0.05$ indicates statistical significance.

Table 2: Association between Frequency of Training and Perceived Effectiveness

Frequency of Training	Perceived Effectiveness (%)	χ^2 Value	p-value
Regular Training	70%	9.67	0.008**
Occasional Training	50%		
No Training	30%		

*Note: χ^2 = Chi-square value; **$p < 0.01$ indicates statistical significance.

Table 3: Correlation between Awareness and Adherence to Kayakalpa Practices

Variable	Correlation Coefficient (r)	p-value
Awareness	0.45	0.005**

*Note: **$p < 0.01$ indicates statistical significance.

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Table 4: Multiple Regression Analysis: Predictors of Adherence

Predictor Variable	Regression Coefficient (β)	p-value
Awareness	0.35	0.024*
Availability of Resources	0.28	0.038*

*Note: *p < 0.05 indicates statistical significance.

Table 5: Multiple Regression Analysis: Predictors of Perceived Effectiveness

Predictor Variable	Regression Coefficient (β)	p-value
Adherence	0.42	0.009**
Regular Training	0.31	0.021*

*Note: **p < 0.01 indicates statistical significance for adherence; *p < 0.05 for regular training.

DISCUSSION

The findings suggest that while awareness of Kayakalpa practices is relatively high among healthcare workers, adherence is notably lower, which poses a challenge to the full implementation and effectiveness of these practices. The positive correlation between awareness and adherence underscores the importance of continuous education and reinforcement of these practices.

The multiple regression analysis further highlights that both awareness and resource availability are crucial for improving adherence. Additionally, the perceived effectiveness of the practices is closely linked to adherence and the provision of regular training, indicating that these factors are key to the successful implementation of the Kayakalpa initiative.

CONCLUSION

This study underscores the importance of effective implementation of Kayakalpa practices among healthcare workers in Primary Health Centres (PHCs) in the South Zone of Bengaluru District. While the awareness of these practices is relatively high, the adherence levels are significantly lower, which undermines the overall effectiveness of the program. The study reveals that awareness alone is insufficient to guarantee adherence; additional factors such as regular training, resource availability, and job-specific interventions are critical for improving compliance. Enhancing these elements can lead to better hygiene practices, reduced infection rates, and overall improvement in the quality of healthcare services in PHCs.

Key Findings

1. **High Awareness but Low Adherence:** The study found that 75% of healthcare workers were aware of Kayakalpa practices, yet only 55% adhered to them consistently. This indicates a significant gap between knowledge and practice.
2. **Role-Specific Adherence:** Job role was a significant factor influencing adherence, with chi-square analysis showing a significant association between the two ($\chi^2 = 12.34$, $p < 0.05$). This suggests that tailored interventions may be needed for different categories of healthcare workers.
3. **Training and Perceived Effectiveness:** The frequency of training was significantly associated with the perceived effectiveness of Kayakalpa practices ($\chi^2 = 9.67$, $p < 0.01$). Regular training was a key determinant of how effective healthcare workers felt the practices were in improving healthcare delivery.
4. **Predictors of Adherence:** The study identified awareness ($\beta = 0.35$, $p < 0.05$) and resource availability ($\beta = 0.28$, $p < 0.05$) as significant predictors of adherence. This suggests that improving awareness through education and ensuring the availability of necessary resources could enhance adherence to Kayakalpa practices.
5. **Impact of Adherence on Effectiveness:** There was a significant positive relationship between adherence and perceived effectiveness ($\beta = 0.42$, $p < 0.01$). This highlights that higher adherence to Kayakalpa practices leads to better outcomes in terms of infection control and overall healthcare quality.

Overall, the study provides valuable insights into the factors affecting the implementation of Kayakalpa practices in PHCs and offers evidence-based recommendations for enhancing their effectiveness.

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