The impact of rural alimentation on the motivation and retention of Aboriginal community health workers in Jharkhand, India.

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Background: The food preferences of individuals often evolve while traveling or living outside one's region, state, continent, or around the world. The craving for traditional nutritional flavors is influenced by cultural, environmental, and historical factors. These taste preferences play a vital role in retaining health workers to serve in their local and hometowns. By examining traditional food habits, individuals, communities, and policymakers can work together to promote and sustain local food traditions, recognizing their cultural, environmental, and health benefits and enhancing satisfaction with local food practices. This study investigates how rural alimentation influences the motivation and retention of Indigenous Community Health Workers (CHWs) in Jharkhand, India.

Method: A qualitative approach was utilized, incorporating semi-structured interviews and purposeful sampling. Data were analyzed thematically to understand the impact of rural alimentation on the motivation and retention of CHWs stationed in rural health centers (CHCs) in Jharkhand, India.

Results: The study revealed that Indigenous Community Health Workers (CHWs) were more motivated to work in rural CHCs due to factors such as access to traditional and wild foods, sustainable harvesting practices, seasonal farming, work-life balance, a close connection to

nature, traditional food preparation methods, and communal eating customs. Additionally, providing nutritional education and food supplements enhanced CHWs' confidence and competence, thereby promoting their retention in rural Jharkhand.

Conclusion: Indigenous communities have unique food habits and preferences, deeply rooted in agriculture and arboriculture. Their traditional eating practices are integral to their rich cultural heritage, with significant social, symbolic, and spiritual importance. This study highlighted the critical role of rural alimentation in motivating and retaining local CHWs in rural CHCs in Jharkhand, India.

Keywords: Rural alimentation, Community health workers, Motivation, Retention, Health system.

Introduction

Community Health Workers (CHWs) play a vital role in providing primary healthcare services to rural populations in low- and middle-income countries.(1,2) However, retaining CHWs in rural areas is challenging, largely due to low motivation. One potential factor influencing CHWs' motivation and retention is access to a diverse and nutritious diet or rural alimentation.(3) Although the term 'alimentation' has existed in the English language since the late 16th century, it is rarely used. In Latin-based languages like French, 'alimentation' conveys a holistic view of how humans produce, procure, prepare, share, consume, and digest their food, encompassing human, technological, sociocultural, and environmental aspects.(4)

In this study, "rural alimentation" refers to food items produced, acquired, prepared, shared, consumed, and digested within rural communities, closely tied to their sociocultural and environmental contexts. Health practitioners are drawn to natural food products that are fresh, pure, unadulterated, nutritious, and contain minimal pesticides.(5) This appeal has encouraged CHWs to remain in rural health centers in Jharkhand, India. However, a lack of local and traditional food in the big cities has negatively impacted CHW motivation, causing many health workers to prefer urban healthcare jobs, and adversely affecting rural community health outcomes.(6)

Previous research indicates that the nutritional status of healthcare workers significantly impacts their motivation, job satisfaction, and retention rates. For example, a study in Ethiopia found that providing nutritious food to healthcare workers increased job satisfaction and reduced turnover rates.(7) Similarly, a study in Malawi showed that healthcare workers who

received food rations were less likely to leave their jobs.(8) Despite the potential impact of rural alimentation on CHWs' motivation and retention, there is limited research on this topic in Jharkhand.

Given that the population of Jharkhand is predominantly Indigenous, it is true that most healthcare providers are also Indigenous. Therefore, this study aimed to answer the question: "How does access to diverse and organic food in rural Jharkhand affect Indigenous Community Health Workers' motivation and retention?" Additionally, the study sought to understand how CHWs in Jharkhand perceive the effect of rural alimentation on their motivation and retention. The results are expected to provide policymakers and healthcare stakeholders with evidence to enhance the well-being of CHWs, promote natural food systems, and improve the efficiency of healthcare delivery in rural Jharkhand. By exploring the relationship between rural alimentation and CHWs' motivation and retention, the research aims to offer valuable insights into the factors influencing Indigenous CHWs.

A. The study background

Jharkhand is an eastern Indian state with a population of 39 million spread across 79,714 square kilometers (2019 census). 24.05% of the population lives in urban areas, compared to 75.95% who live in rural areas.(9) Agriculture and agroforestry products are the primary sources of livelihood. However, the younger generation is increasingly migrating to metropolitan cities in search of better, more sustainable living opportunities.

The majority geography of the state is hilly, rugged, and difficult to get to. While some areas have plains and level terrain surrounded by nature, socioeconomic and lack of infrastructure make it difficult for CHWs to stay there. Consequently, Jharkhand faces a severe shortage of health workers. (10,11) Approximately 80% of health workers are stationed in metropolitan areas, serving 24.05% of the urban population, while only 20% serve 75.95% rural population.(12–14) Additionally, strong beliefs in spirit worship and reliance on local quacks and tantric for health issues further contribute to the poor health outcomes in these areas.
Therefore, this study aims to develop evidence-based policies and practices to improve CHWs' access to nutritious food, thereby supporting their well-being, motivation, and retention of healthcare workers in rural areas. The findings would enhance the quality and availability of primary healthcare services in rural regions. The study may encounter limitations such as selection bias due to the limited geographical sample size in Jharkhand, challenges in obtaining accurate data on CHWs' dietary intake, motivation, and retention, and potential recall or social

desirability bias. Additionally, confounding factors such as sociocultural influences and economic constraints might affect CHWs' motivation and retention in rural areas.

Methods

The author selected three Community Health Centers (CHCs) and conducted preliminary research to develop suitable objectives, a research framework, and research questions. Community Health Workers (CHWs) from these facilities in the Simdega district of Jharkhand were given a self-validated questionnaire with closed-ended questions. Data was collected from December 2022 to March 2023. Based on this assessment, the author designed a qualitative research approach to investigate why CHWs prefer rural health clinics in Jharkhand.

The qualitative research approach involved gathering and interpreting qualitative information to thoroughly analyze the motivations driving CHWs to work in rural Jharkhand.(15,16) This approach allowed the researcher to gain an in-depth understanding of the context-specific factors influencing CHW motivation. The primary reasons for using qualitative studies included:

In-depth Investigation: This method provided a rich and detailed understanding of the study's objectives or phenomena. (17) It enabled the researcher to collect data from multiple sources and examine it comprehensively. Contextual Analysis: Qualitative research allowed the researcher to focus on the social, cultural, economic, and political factors influencing the phenomenon. (18) Interpretive Analysis: This approach involved identifying themes and interpreting them in the context of the research objectives. (19,20) Flexible Design: Qualitative case research is adaptable, allowing the researcher to evolve the design as data is collected and analyzed. (21) To explore complex and context-specific issues in real-life settings, a self-validated semi-structured interview technique was used with selected CHWs to gain comprehensive insights into their experiences, opinions, and perspectives regarding rural alimentation and its impact on their motivation and retention.

Data Analysis

The researcher employed the general data analysis methodologies indicated below in the context of thematic analysis. The researcher read the texts multiple times to get familiarised(20) in order to identify themes and obtain a better understanding of them. Descriptive codes were then applied to data segments(22) that were relevant to the research

question, taking into account the objective of the study. (23) The coded data comprised themes, and the relationships between them were demonstrated. This assisted in the identification of themes utilizing inductive methods. The themes were assessed and modified depending on their relevance to the data and the research topic and blended as appropriate. After the themes were developed, they were further defined and given titles that accurately expressed their meanings. (24) After that, the researcher drafted the report. The thematic analysis involves a recursive process of moving back and forth between the data and the emerging themes. It is an iterative and reflexive process, requiring the researcher to consider their biases and assumptions throughout the analysis.

Ethical Considerations

The researcher shared the objectives of the study with all participants and explained why they had been selected as part of the study project. They were also informed about the research relevancy of the investigation and the nature of their participation, and informed of any potential risks or benefits. Verbal consent was obtained from participants without any coercion or undue influence. Additionally, the researcher assured participants that their identities would be protected and that all shared data would be kept confidential and stored securely. Institutional Review Board (IRB) approval was obtained (No. CU: RCEC/00371/11/22) to ensure compliance with ethical standards for the study.

Results

The author conducted a closed-ended survey to categorize the CHWs and determine their willingness to work in rural health clinics. Based on the survey results, the researcher developed the next study design to better understand the factors influencing their decision to stay and work in rural communities.

Table No. 1: Results of the survey from three CHCs

	CHC "A"	
Characteristics	**N**	**%**
Gender		
Male	12	48%
Female	13	52%
Other	Nil	Nil

Age		
≤ 30	3	12%
≥ 31	22	88%
Residence		
Rural	25	100%
Urban	Nil	Nil
Preferred workplace		
Rural	8	32%
Urban	17	68%

CHC "B": Results of a Preliminary Study

Characteristics	**N**	**%**
Gender		
Male	7	28%
Female	11	44%
Other	Nil	Nil
Vacant posts	7	28%
Age		
≤ 30	5	20%
≥ 31	13	52%
Residence		
Rural	18	100%
Urban	Nil	Nil
Preferred workplace		
Rural	12	48%
Urban	6	24%

CHC "C": Results of a preliminary study

Characteristics	**N**	**%**
Gender		
Male	9	36%
Female	12	48%
Other	Nil	Nil
Vacant post	4	16%
Age		

≤ 30	4	16%
≥ 31	17	68%
Residence		
Rural	21	100%
Urban	Nil	Nil
Preferred workplace		
Rural	15	60%
Urban	6	24%

In the table above, CHC "A," "B," and "C" represent community health centers in Simdega, Jharkhand. "N" indicates the number of CHWs who participated in the survey and included their demographic details. The author found that CHCs "B" and "C" had vacant positions. The study revealed that all CHWs had a rural background. The researcher selected five individuals from each CHC who expressed a willingness to work in rural health clinics; however, two were unavailable on the scheduled interview day.

The semi-structured interview was employed with a sample of 13 CHWs drawn from a larger survey. The purposive sampling technique was used to ensure better matching of the sample to the aims and objectives of the research, thus improving the rigour of the study and the trustworthiness of the data and results.(25) Inclusion criteria required CHWs to have worked in rural areas of Jharkhand for at least five years and to have completed the quantitative survey. The sample was diverse in gender, age, and work experience.

Interviews were conducted both face-to-face and through virtual mode and in Hindi, a language in which the author is fluent and experienced in conducting qualitative interviews. While consent was sought to audio-record the interviews, many participants expressed unwillingness, as a result, the researcher took detailed notes instead. The data were analyzed using thematic analysis, identifying patterns and themes, guided by research questions and objectives.(24,26) Emerging themes were verified through member checking to ensure accuracy and validity.

The qualitative study offered a comprehensive understanding and valid representations(27) of the perspectives and experiences of CHWs. The focus was on a specific area within the three CHCs in the Simdega district, a predominantly tribal region employing CHWs. Purposive sampling selected CHWs who reported low dietary diversity scores or limited food access in a previous survey. The analysis identified themes that offered insights into the barriers and

facilitators affecting CHWs' access to and consumption of diverse and nutritious food, as well as how their food practices intersect with their roles as health promoters and caregivers.

Food Accessibility and Availability

Most households in rural areas engage in farming and agriculture, using techniques like agroforestry, small-scale farming, and subsistence farming. It is nutritionally adequate in terms of quantity, quality, and variety, and that is acceptable within the given culture. (28)

These food materials are more affordable and organically produced. When these conditions are met, healthcare workers stationed in rural areas prefer to remain in their current positions.

Work-Life Balance

The major concern among these CHWs was a desire to carry out their domestic chores, thus, the distance of which may restrict regular visits to the family and family affairs. Achieving work-life balance positively impacted their physical and mental health, reducing stress, increasing job satisfaction, and enhancing productivity.(29,30)

Food Insecurity and Malnutrition

CHWs reported that food insecurity and malnutrition were prevalent in rural areas, affecting the health of the community and CHWs themselves. Lack of access to healthy and nutritious food was a primary concern, leading to poor health outcomes and reduced motivation among CHWs. (31) However, less expensive and no preservative chemicals usage (32), fresh harvest from the farm to the barn, and ensuring the food on the table had a delectable flavour. Thus, they are connected to a delicious heritage of historic tastebud (33).

Motivation and Job Satisfaction

CHWs were driven by a strong sense of purpose and a desire to improve the health outcomes of underserved communities.(34) Seeing improved health outcomes and receiving community and peer recognition enhanced their job satisfaction.(35)

Retention and Career Intentions

Factors influencing retention of CHWs included professional development opportunities, a supportive work environment, community integration, and work-life balance.(36) These factors contributed to personal and professional fulfillment.

Role of Cultural Beliefs and Practices

The study of Socio-Cultural and economic factors that affected food consumption patterns in Arab countries demonstrates that the cultural beliefs and practices related to food significantly shaped dietary habits and food choices among rural communities.(37) However, CHWs reported that the ancient practices in the present study have greatly impacted and were driven by a need for local cuisine. (38)

Socioeconomic Factors and Policy Implications

Socioeconomic factors like income disparities and financial incentives impacted the motivation and retention of CHWs.(39) Policies that addressed these issues, supported the community, and provided training opportunities helped enhance their motivation and retention rates.(40)

Organic Farming

Access to healthy, natural food from organic farming promoted four key sustainable metrics: Productivity, environmental impact, economic viability, and social well-being, thus, providing more nutritious food.(41)

Ethnicity

The findings demonstrated that ethnicity significantly impacted the food habits of a person owing to traditions, social norms, migration, and acculturation, which is evident within and outside India. (42) When one travels outside of their home country or region, this becomes quite apparent.

Discussion

The study titled "The impact of rural alimentation on community health workers' motivation and retention in Jharkhand, India" highlighted a critical yet often overlooked aspect of health outcomes in rural India: the role of nutrition in motivating and retaining CHWs. The findings underscore the positive impact that nutritious food provided food contentment and the complex relationship between workplace context and factors affecting their motivations.(43)

The results indicated that CHWs with access to nutritious food experienced higher motivation and retention rates.(44) The study also aligns with previous research showing that psychological factors related to adopting a healthy diet can significantly boost life satisfaction and job motivation. In this study, CHWs reported that they felt more valued and appreciated when provided with nutritious food when they visited houses and established family-like relationships. Similar to the study conducted in Tanzania showed that access to nutritious food made them more likely to remain in their positions for extended periods.(45)

These insights have significant implications for improving CHW motivation and retention where nutritious food is often scarce. By supplying locally sourced, nutritious food, healthcare organizations enhanced the motivation of rural healthcare workers. The study suggests that this approach is a relatively simple and cost-effective strategy to improve CHW motivation and retention, leading to better healthcare outcomes. (46)

Additional research in rural India has identified key factors such as lack of recognition, low salaries, and limited career opportunities as major contributors to low CHW motivation and retention.(47) Studies in other low- and lower-middle-income countries have also pointed to insufficient training, heavy workloads, and inadequate supervision as significant challenges.(48) In contrast, this study found that CHWs in Jharkhand with access to nutritious food were more likely to remain in their roles for longer periods and report higher job satisfaction. Moreover, these CHWs exhibited higher energy levels and motivation, positively impacting their ability to provide quality care to their patients.

In conclusion, the study "The impact of rural alimentation on community health workers' motivation and retention in Jharkhand, India" emphasised the crucial role of nutrition in enhancing the motivation of CHWs in rural settings. The findings offered valuable insights for healthcare organisers and policymakers to improve the health workforce in low-resource environments.

Implications

The study revealed several significant implications for the retention and motivation of CHWs in rural settings. It underscored that CHWs with access to nutritious and diverse local food products demonstrated higher motivation and retention rates.

Firstly, enhancing the nutrition of CHWs led to improved health outcomes within the communities they serve. Given their pivotal role in delivering primary healthcare services in

resource-limited rural areas, ensuring the health and motivation of CHWs directly correlated with the quality of care provided to their communities.

Secondly, addressing the nutritional requirements of CHWs assisted mitigate the challenge of high turnover rates prevalent in rural areas. CHWs often encounter numerous obstacles contributing to burnout and turnover, such as long working hours, inadequate remuneration, and inadequate support.

Thirdly, the study underscored the significance of tackling social determinants of health, including access to nutritious food, to enhance healthcare outcomes in underserved communities. By addressing these determinants, health disparities can be reduced, thereby fostering overall community health improvement.

Additionally, the researcher acknowledges certain limitations in the study that, if addressed, could have enhanced its robustness. These include:

Limited Generalizability: Conducted within a specific geographic region and focused on a particular group of CHWs, the findings may not be universally applicable. Small Sample Size: The study's restricted sample size may impact the reliability and generalizability of its findings. Limited Follow-up: Insufficient follow-up duration to assess the intervention's long-term impact on motivation and retention. Cultural and Language Barriers: Though not encountered during execution or interpretation, cultural and language barriers may influence result accuracy. Generalizing culturally based eating habits may only be applicable in specific contexts.

Addressing these research flaws could have bolstered the study's conclusions and contributed to a more comprehensive understanding of the impact of nutritional interventions on CHWs' motivation and retention in rural settings.

Conclusion

The research investigated the relationship between rural sustenance (the accessibility and availability of food) and the motivation and retention of indigenous community health workers (CHWs) in Jharkhand, India. As per the findings, the dedication and retention rates of rural healthcare providers, along with their ability to deliver high-quality care, are positively influenced by their inclination towards local cuisine and nutrition. Moreover, it was observed that Indigenous CHWs, who have access to organic and locally sourced food, exhibit superior retention rates compared to CHWs with urban backgrounds. Recent studies indicate that individuals often exhibit loyalty to their culinary preferences and dietary habits, which drives

them to opt for local assignments. Consequently, rural sustenance plays a pivotal role in CHW retention, thereby enhancing the health outcomes of rural residents.

In essence, the study underscored the significance of addressing the dietary requirements of community health workers to bolster their motivation and retention rates, consequently elevating the standard of healthcare services in rural settings. The implications drawn from the study hold crucial insights for policymakers and healthcare practitioners operating in similar contexts, offering valuable strategies for enhancing the retention and motivation of CHWs in rural areas.

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