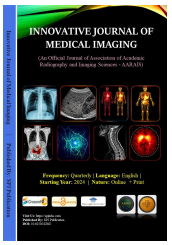
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Original Article

Job Satisfaction Among Radiography Professionals Working in Rural Healthcare Settings: A Cross-Sectional Study

[1]Ashutosh Kumar, [2]Rohit Singh*

[1,2]Symbiosis Institute of Health Sciences, SIU Pune, India

ABSTRACT

Background: Job satisfaction among radiography professionals is important for maintaining workforce stability and quality diagnostic imaging services, particularly in rural healthcare settings.
Objective: To assess job satisfaction among radiography professionals working in rural healthcare facilities and identify factors influencing satisfaction and dissatisfaction.
Materials and Methods: A descriptive cross-sectional survey was conducted among 150 radiography professionals employed in rural healthcare institutions. Data were collected using a structured questionnaire covering demographic characteristics and various job satisfaction domains. Descriptive statistics and Chi-square tests were performed using SPSS version 26.0.
Results: The mean job satisfaction score was 3.34 ± 0.76. Moderate job satisfaction was reported by 54.7% of participants, while 24.0% reported high satisfaction and 21.3% reported low satisfaction. Satisfaction was highest for relationships with colleagues (72.0%) and patient interactions (68.7%). Major sources of dissatisfaction included inadequate salary (61.3%), limited career advancement opportunities (57.3%), staff shortages (52.0%), and excessive workload (49.3%). Significant associations were found between job satisfaction and age ($p = 0.029$), professional experience ($p = 0.014$), educational qualification ($p = 0.041$), and intention to leave rural employment ($p < 0.001$).
Conclusion: Radiography professionals in rural healthcare settings demonstrated moderate job satisfaction. Improving salary structures, career development opportunities, staffing levels, and workplace resources may enhance job satisfaction and support workforce retention.

Keywords: Job satisfaction, Radiography professionals, Rural healthcare, Diagnostic imaging, Workforce retention.

***Corresponding Author:** Rohit Singh, Symbiosis institute of Health Sciences, SIU Pune, India

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INTRODUCTION

Radiography professionals are indispensable members of the healthcare workforce, contributing significantly to disease diagnosis, treatment planning, and patient management through the production of high-quality medical images. Their responsibilities encompass operating imaging equipment, ensuring radiation safety, maintaining image quality, and collaborating with multidisciplinary healthcare teams to facilitate accurate clinical decision-making. [1] As diagnostic imaging continues to expand in scope and complexity, the role of radiography professionals has become increasingly important in both urban and rural healthcare systems. [2] Job satisfaction is a multidimensional concept that reflects an individual's overall attitude toward their profession and workplace environment. It is influenced by various factors, including remuneration, workload, professional recognition, career advancement opportunities, working conditions, interpersonal relationships, and organizational support. [3] In healthcare settings, job satisfaction is particularly important because

it directly affects employee motivation, productivity, quality of patient care, and workforce retention. [4] Healthcare professionals who experience higher levels of job satisfaction are more likely to demonstrate organizational commitment, professional engagement, and positive patient interactions, whereas dissatisfaction may lead to burnout, absenteeism, and staff turnover. [5] Rural healthcare facilities face unique challenges in delivering diagnostic imaging services due to limited resources, inadequate infrastructure, workforce shortages, and geographical isolation. [6] Radiography professionals working in these settings frequently encounter difficulties that differ substantially from those experienced by their urban counterparts. These challenges may include outdated imaging equipment, insufficient staffing levels, increased workload, restricted access to continuing professional development programs, and limited opportunities for career progression. [7] Consequently, such workplace conditions may negatively influence professional satisfaction and contribute to workforce instability within rural healthcare systems. [8] The retention of skilled healthcare professionals in rural areas remains a global concern. Numerous studies have reported that healthcare workers are more likely to seek employment in urban centers due to better salaries, improved working conditions, advanced technologies, and greater opportunities for professional growth. [9] This migration of qualified personnel can create substantial service gaps in rural healthcare facilities, limiting access to essential diagnostic imaging services for underserved populations [10] Understanding factors associated with job satisfaction among rural radiography professionals is therefore crucial for developing effective workforce retention strategies and ensuring equitable healthcare delivery.

Previous research has demonstrated that workplace support, professional autonomy, recognition, and opportunities for continuing education are positively associated with job satisfaction among radiographers and other allied health professionals. [11] Conversely, excessive workload, inadequate compensation, occupational stress, and lack of organizational support have been identified as major contributors to professional dissatisfaction. [12] In rural environments, these factors may be further compounded by resource constraints and professional isolation, potentially increasing the likelihood of job-related stress and turnover intentions. [13] Despite the growing importance of diagnostic imaging services in rural healthcare, limited research has specifically examined job satisfaction among radiography professionals working in rural settings, particularly in developing countries. Most available studies have focused on nurses, physicians, or general healthcare workers, leaving a significant gap in understanding the experiences and perceptions of radiography personnel. [14] Given the critical role these professionals play in healthcare delivery, there is a need for empirical evidence regarding their workplace satisfaction and the factors influencing their professional experiences. Therefore, the present study aimed to assess the level of job satisfaction among radiography professionals employed in rural healthcare facilities and to identify key workplace factors associated with satisfaction and dissatisfaction. The findings may assist healthcare administrators and policymakers in designing targeted interventions to improve workforce retention, professional well-being, and the quality of radiology services in rural communities.

MATERIALS AND METHODS

Study Design: This study employed a descriptive cross-sectional survey design to evaluate job satisfaction among radiography professionals working in rural healthcare facilities. The cross-sectional approach was considered appropriate because it allows the assessment of participants' perceptions, attitudes, and workplace experiences at a specific point in time. The study was conducted over a three-month period from January to March 2026 and focused on identifying the level of job satisfaction and factors influencing professional satisfaction in rural radiology practice.

Study Setting: The study was carried out in various rural healthcare institutions, including district hospitals, community health centers, primary health centers, and private diagnostic imaging centers located in rural regions. These facilities provided a range of diagnostic imaging services such as conventional radiography, computed tomography (CT), mobile radiography, and other imaging-related procedures. Rural healthcare facilities were selected because they often face challenges related to workforce shortages, limited resources, and restricted opportunities for professional development.

Study Population: The study population consisted of radiography professionals actively engaged in diagnostic imaging services within rural healthcare settings. Participants included radiographers, radiologic technologists, imaging technologists, and other qualified professionals responsible for performing radiographic examinations and supporting diagnostic imaging procedures. Only individuals directly involved in patient imaging services were considered eligible for participation.

Sample Size and Sampling Technique: A total of 150 radiography professionals participated in the study. Participants were selected using a convenience sampling technique, whereby eligible professionals available during the study period were invited to participate. This sampling approach facilitated the recruitment of respondents from multiple rural healthcare facilities and enabled the collection of data from a diverse group of radiography professionals with varying levels of experience and educational backgrounds.

Inclusion and Exclusion Criteria: The study included qualified radiography professionals who were currently employed in rural healthcare facilities and had a minimum of one year of professional experience in diagnostic imaging. Participants were required to provide informed consent before enrollment. Students, interns, trainees, administrative personnel, and radiography professionals working exclusively in urban healthcare settings were excluded from the study. Incomplete questionnaire responses were also excluded from the final analysis to ensure data quality and accuracy.

Data Collection Instrument: Data were collected using a structured self-administered questionnaire developed after reviewing previous studies on healthcare workforce satisfaction and occupational well-being. The questionnaire consisted of two sections. The first section collected demographic and professional information, including age, gender, educational qualification, years of experience, and type of healthcare institution. The second section assessed job satisfaction across several domains, including salary and benefits, work environment, workload, staffing adequacy, equipment availability, management support, professional recognition, career advancement opportunities, continuing education, and relationships with colleagues. Responses were recorded using a five-point Likert scale ranging from strongly dissatisfied to strongly satisfied.

Data Collection Procedure: Prior to data collection, permission was obtained from the respective healthcare institutions. Eligible participants were informed about the objectives and significance of the study and were invited to participate voluntarily. After obtaining informed consent, questionnaires were distributed either in printed form or electronically through secure online platforms. Participants were given sufficient time to complete the questionnaire independently without external influence. Completed questionnaires were collected, reviewed for completeness, and subsequently entered into a database for analysis. Confidentiality and anonymity were maintained throughout the study process.

Outcome Measures: The primary outcome of the study was the overall level of job satisfaction among radiography professionals working in rural healthcare settings. Secondary outcomes included the identification of workplace factors contributing to satisfaction and dissatisfaction, assessment of perceptions regarding professional development opportunities, and evaluation of participants' intentions to continue working in rural healthcare facilities or seek employment elsewhere.

Statistical Analysis: Data were entered into Microsoft Excel and analyzed using Statistical Package for the Social Sciences (SPSS) version 26.0. Descriptive statistical methods were used to summarize participant characteristics and questionnaire responses. Continuous variables were expressed as mean and standard deviation, whereas categorical variables were presented as frequencies and percentages. Associations between demographic characteristics and levels of job satisfaction were evaluated using the Chi-square test. Statistical significance was established at a p-value of less than 0.05.

Ethical Considerations: The study was conducted in accordance with established ethical principles governing human research. Ethical approval was obtained from the Institutional Ethics Committee before commencement of the study. Participation was entirely voluntary, and written informed consent was obtained from all respondents. Participants were informed that their responses would remain confidential and would be used solely for research purposes. No personally identifiable information was collected, and all data were stored securely to protect participant privacy.

RESULT

Demographic Characteristics of Participants: A total of 150 radiography professionals working in rural healthcare facilities participated in the study.

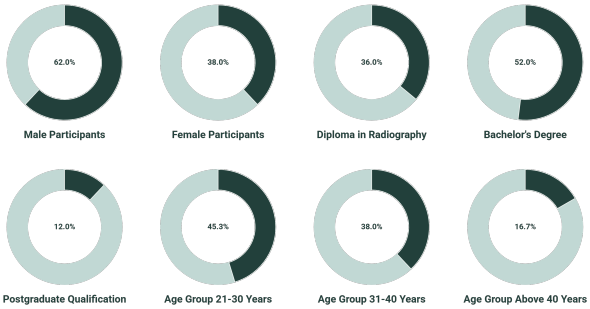


Figure:1. Demographic Characteristics of Radiography Professionals

The mean age of participants was 31.8 ± 6.4 years (range: 22–52 years). Among the respondents, 93 (62.0%) were male and 57 (38.0%) were female. Regarding educational qualifications, 54 (36.0%) possessed a diploma in radiography, 78 (52.0%) held a bachelor's degree, and 18 (12.0%) had a postgraduate qualification. The majority of participants (45.3%) belonged to the 21–30 years age group, followed by 38.0% in the 31–40 years age group and 16.7% above 40 years of age. The average professional experience was 7.2 ± 4.8 years.

Overall Job Satisfaction: The overall mean job satisfaction score was 3.34 ± 0.76 on a five-point Likert scale. Based on cumulative satisfaction scores, 36 participants (24.0%) demonstrated high job satisfaction, 82 participants (54.7%) reported moderate job satisfaction, and 32 participants (21.3%) reported low job satisfaction. Therefore, nearly three-quarters of respondents (78.7%) reported moderate-to-high levels of job satisfaction.

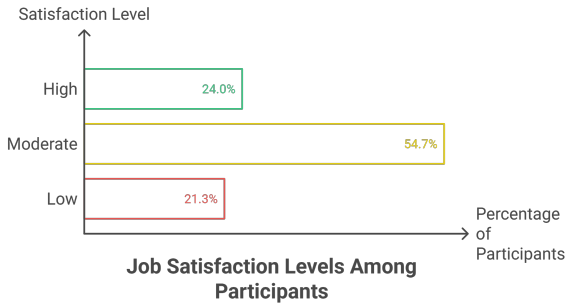


Figure: 2. Job Satisfaction Level Among Participants

Satisfaction Across Different Workplace Domains

Among the various domains evaluated, satisfaction was highest for professional relationships with colleagues, with 108 participants (72.0%) reporting satisfaction or strong satisfaction. Positive patient interaction was reported by 103 participants (68.7%), while satisfaction with the general work environment was reported by 89 participants (59.3%). Management support received positive ratings from 77 participants (51.3%). Lower satisfaction levels were observed regarding professional recognition (46.7%), equipment availability and maintenance (48.7%), career advancement opportunities (42.7%), and salary and financial benefits (38.7%). More than half of respondents expressed dissatisfaction with opportunities for promotion and professional growth.
Factors Contributing to Dissatisfaction: The most commonly reported factor contributing to job dissatisfaction was inadequate salary and financial incentives, identified by 92 participants (61.3%). Limited opportunities for career advancement were reported by 86 participants (57.3%), followed by staff shortages (52.0%), excessive workload (49.3%), equipment maintenance issues (46.0%), and insufficient continuing education opportunities (43.3%).

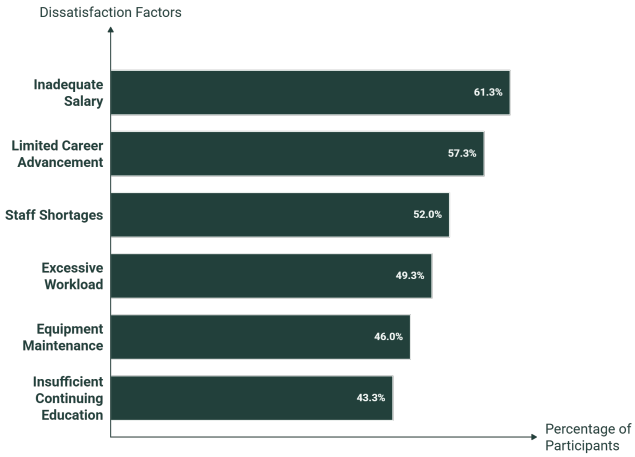


Figure: 3. Factors Contributing to Job Dissatisfaction

Age and Job Satisfaction: A statistically significant association was observed between age group and overall job satisfaction (χ^2 = 10.82, p = 0.029). Participants aged above 40 years demonstrated significantly higher levels of job satisfaction compared with younger professionals. High job satisfaction was reported by 40.0% of respondents above 40 years compared with 19.1% among participants aged 21–30 years.
Professional Experience and Job Satisfaction: Years of professional experience showed a significant relationship with job satisfaction (χ^2 = 12.47, p = 0.014). Participants with more than 10 years of experience reported greater satisfaction levels than those with less than five years of experience. The proportion of highly satisfied professionals increased progressively with years of service.
Gender and Job Satisfaction: No statistically significant association was identified between gender and overall job satisfaction (χ^2 = 1.36, p = 0.507). Male and female participants reported comparable levels of satisfaction across all measured domains.
Educational Qualification and Job Satisfaction: Educational qualification demonstrated a significant association with overall job satisfaction (χ^2 = 8.94, p = 0.041). Participants holding postgraduate qualifications reported higher satisfaction levels than diploma holders, particularly in the domains of professional recognition and career advancement.

Intention to Leave Rural Employment: When asked about future employment preferences, 96 participants (64.0%) indicated that they would consider relocating to an urban healthcare facility if better opportunities became available. The primary reasons cited included higher salaries (74.0%), improved career progression (69.8%), access to advanced imaging technologies (63.5%), and better working conditions (58.3%). A significant association was observed between overall job satisfaction and intention to leave rural employment ($\chi^2 = 16.73$, $p < 0.001$). Participants reporting low job satisfaction were significantly more likely to express intentions to seek employment outside rural healthcare settings.

DISCUSSION

The present study assessed job satisfaction among 150 radiography professionals working in rural healthcare facilities and revealed an overall mean job satisfaction score of 3.34 ± 0.76, indicating a moderate level of satisfaction among the study population. Specifically, 54.7% of participants reported moderate job satisfaction, while 24.0% reported high satisfaction and 21.3% reported low satisfaction. These findings suggest that although rural radiography professionals generally maintain a positive attitude toward their profession, several workplace-related factors continue to influence their overall satisfaction and career outlook. A notable finding of this study was the high level of satisfaction associated with interpersonal relationships within the workplace. Satisfaction with relationships among colleagues was reported by 72.0% of participants, making it the highest-rated domain. Similarly, 68.7% of respondents expressed satisfaction with patient interactions. These findings indicate that professional collaboration and the opportunity to contribute directly to patient care remain important sources of motivation and fulfillment among radiography professionals. Positive workplace relationships may foster teamwork, reduce occupational stress, and improve overall workplace morale, particularly in resource-limited rural settings where staff often rely heavily on mutual support.

The study also demonstrated moderate satisfaction with the general work environment (59.3%) and management support (51.3%). While more than half of participants expressed positive perceptions in these domains, the findings suggest that there remains substantial room for improvement. Effective leadership, supportive supervision, and a safe working environment are recognized factors that contribute to employee engagement and organizational commitment. Strengthening management practices and enhancing workplace communication may therefore further improve job satisfaction among rural radiography professionals. Despite these positive aspects, dissatisfaction with salary and financial benefits emerged as the most prominent concern. Only 38.7% of respondents reported satisfaction with their remuneration, while 61.3% identified inadequate salary as a major source of dissatisfaction. This finding reflects a significant mismatch between professional responsibilities and perceived financial rewards. Radiography professionals in rural healthcare facilities frequently perform multiple duties, including patient care, equipment operation, radiation safety implementation, and quality assurance activities. Consequently, inadequate compensation may negatively affect motivation, professional commitment, and long-term workforce retention.

Career advancement opportunities represented another important challenge identified in the study. Only 42.7% of participants reported satisfaction with promotion and professional growth opportunities, while 57.3% cited limited career progression as a source of dissatisfaction. The absence of structured promotion pathways and limited access to advanced training programs may contribute to reduced professional motivation. As imaging technologies continue to evolve, opportunities for continuing education and skill development become increasingly important for maintaining professional competence and job satisfaction. Workforce-related challenges were also evident in the findings. More than half of participants reported staff shortages (52.0%), while 49.3% identified excessive workload as a contributing factor to dissatisfaction. These findings suggest that many rural imaging departments may be operating with limited human resources. Increased workload and inadequate staffing can result in occupational fatigue, reduced efficiency, and heightened work-related stress, potentially affecting both employee well-being and service quality. Furthermore, 46.0% of respondents expressed concerns regarding equipment maintenance and availability, indicating that infrastructural limitations remain an important issue within rural radiology services.

The statistical analysis revealed significant associations between several demographic variables and overall job satisfaction. Age was significantly associated with satisfaction levels ($\chi^2 = 10.82$, $p = 0.029$), with professionals aged above 40 years reporting higher satisfaction than younger participants. This finding may indicate that

experienced professionals develop greater adaptability to workplace challenges and achieve higher levels of professional stability over time. Similarly, years of professional experience showed a significant relationship with job satisfaction (χ^2 = 12.47, p = 0.014), with highly experienced radiographers demonstrating greater satisfaction than those in the early stages of their careers. Educational qualification was also significantly associated with job satisfaction (χ^2 = 8.94, p = 0.041). Participants possessing postgraduate qualifications reported higher levels of satisfaction, particularly regarding professional recognition and career development. Higher educational attainment may provide access to expanded responsibilities, leadership roles, and enhanced professional opportunities, thereby contributing to greater workplace satisfaction.

Gender did not demonstrate a statistically significant association with overall job satisfaction (χ^2 = 1.36, p = 0.507). Male and female participants reported similar satisfaction patterns across the evaluated domains, suggesting that workplace experiences and professional challenges were relatively consistent regardless of gender. One of the most important findings of the present study was the significant association between overall job satisfaction and intention to leave rural employment (χ^2 = 16.73, p < 0.001). Nearly two-thirds of respondents (64.0%) indicated that they would consider relocating to urban healthcare facilities if better opportunities became available. Higher salaries, improved career progression, advanced imaging technologies, and better working conditions were the most frequently cited reasons for considering relocation. This finding highlights the potential impact of job dissatisfaction on workforce retention and underscores the need for targeted interventions to support radiography professionals in rural healthcare settings.

CONCLUSION

This study found that radiography professionals working in rural healthcare facilities generally experience moderate levels of job satisfaction, with positive workplace relationships and patient interactions serving as key contributors to professional fulfillment. However, inadequate salary, limited career advancement opportunities, staff shortages, heavy workload, and equipment-related challenges were identified as major sources of dissatisfaction. Significant associations were observed between job satisfaction and age, professional experience, educational qualification, and intention to leave rural employment. These findings highlight the need for targeted strategies, including improved compensation, professional development opportunities, and better workplace resources, to enhance job satisfaction and support the retention of skilled radiography professionals in rural healthcare settings.

DECLARATIONS

Ethical Approval and Consent to Participate: The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Ethical approval was obtained from the Institutional Ethics Committee prior to the commencement of the study. Written informed consent was obtained from all participants before data collection.
Consent for Publication: Not applicable.
Availability of Data and Materials: The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.
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Conflict of Interest: The authors declare that there is no conflict of interest regarding the publication of this article.

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