Human Resource Needs Assessment in the Health Sector Using Workload Analysis Method: A Literature Case Study

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ABSTRACT

Human resource planning is a critical element of healthcare systems, as adequate staffing directly influences service delivery and patient outcomes. The research design employed in this study is a comprehensive literature review that focuses on assessing human resource needs in the health sector through the lens of workload analysis methodologies, particularly the Health Workload Analysis Method (ABK-Kes) and the Workload Indicators of Staffing Need (WISN). Evidence from recent studies demonstrates that workload-based approaches provide more accurate estimations of staffing requirements compared to conventional methods, thereby improving operational efficiency, enhancing service quality, and supporting strategic workforce planning. The integration of technology in human resource management further contributes to optimizing staff allocation and addressing workforce shortages. Overall, the findings underscore the importance of adopting robust analytical methods to strengthen evidence-based decision-making, promote sustainability, and provide actionable insights for policymakers and healthcare administrators in developing effective staffing strategies.

Keywords: Human Resources; Healthcare; Workload Analysis; Staffing Needs; ABK-Kes; WISN

INTRODUCTION

The health sector is a critical component of societal well-being, necessitating a thorough understanding of human resource needs to ensure optimal service delivery. This study focuses on assessing human resource requirements within the health sector using the workload analysis method, a topic that has garnered increasing attention in recent years. The significance of this work lies in its potential to enhance workforce management, improve patient care, and address the pressing challenges faced by healthcare institutions, particularly in developing regions.

Assessing human resource needs is pivotal in aligning workforce capabilities with organizational demands. It enables healthcare facilities to identify gaps in staffing, training, and resource allocation, which are essential for maintaining high standards of care. Previous research has highlighted inadequacies in current staffing models, often resulting in overworked personnel, increased burnout rates, and, ultimately, compromised patient outcomes (Astuti, 2018; Chrismawanti, 2020). The literature indicates that effective workload analysis can provide a robust framework for addressing these issues; however, there remains a notable gap in systematic approaches tailored to specific healthcare contexts.

The workload analysis method offers a structured approach to evaluating the demands placed on healthcare professionals, thereby facilitating a more accurate assessment of human resource needs. This method leverages quantitative data, such as patient-to-staff ratios and service delivery metrics, to inform decision-making processes regarding staffing levels and skill mix (Purwanti *et al.*, 2023). Despite its potential, the application of workload analysis in various healthcare settings is still underexplored, particularly in terms of its integration with strategic human resource planning (Hulu, 2023). This study aims to bridge this gap by providing a comprehensive literature case study that elucidates the efficacy of workload analysis in human resource needs assessment.

Furthermore, the current landscape of healthcare human resources is characterized by rapid changes, including technological advancements and evolving patient expectations. These dynamics necessitate agile strategies that can adapt to new challenges while ensuring the sustainability of healthcare services (Karim & Islam, 2024). By addressing the deficiencies in existing literature and practices, this research aspires to contribute new insights into the effective management of human resources in healthcare, thereby enhancing both operational efficiency and patient satisfaction.

In summary, this study aims to clarify the role of workload analysis in human resource needs assessment within the health sector, highlighting its importance for effective workforce management. The anticipated outcomes include a set of recommendations for implementing workload analysis in healthcare settings, which could serve as a model for future research and practice. By focusing on the intersection of human resources and workload management, this work seeks to provide valuable contributions to the ongoing discourse on healthcare optimization and workforce sustainability.

LITERATURE REVIEW

Theoretical Foundations of Human Resource Needs Assessment

The assessment of human resource needs in the health sector is crucial for ensuring that healthcare organizations can meet the demands of patient care effectively. The theoretical framework surrounding human resource needs assessment often revolves around

workload analysis. This method provides a systematic approach to evaluate the quantity and quality of work performed by healthcare professionals. It is posited that effective workload analysis can lead to improved staffing decisions, ultimately enhancing patient care and organizational efficiency (Purwanti *et al.*, 2023). For instance, the Workload Indicators of Staffing Need (WISN) model has been widely adopted to assess staffing requirements based on actual workload rather than arbitrary ratios, which can lead to either understaffing or overstaffing (Hulu, 2023).

Empirical studies have demonstrated the effectiveness of workload analysis in optimizing human resources in healthcare settings. For example, Chrismawanti (2020) conducted a study in a general hospital that revealed a significant correlation between adequate staffing levels determined by workload analysis and improved patient outcomes. This underscores the importance of aligning human resource capabilities with the actual demands of healthcare services. Moreover, Astuti (2018) highlighted the role of management audits in assessing human resource performance, suggesting that systematic evaluations can lead to enhanced employee productivity and satisfaction.

Empirical Evidence Supporting Workload Analysis

Recent literature has provided substantial empirical evidence supporting the efficacy of workload analysis in health sector human resource planning. For instance, a study by Pangkey *et al.* (2023) explored the strategic management of human resources in a Type C hospital in East Jakarta. The findings indicated that implementing workload analysis significantly improved operational performance and patient care quality. By analyzing workload data, the hospital was able to identify critical staffing shortages and adjust accordingly, resulting in a more balanced distribution of work among healthcare professionals.

Additionally, the research conducted by Fauziah and Mulyanti (2023) identified various factors influencing the quality of human resources in hospital management information systems. Their findings suggest that proper workload assessment can enhance the effectiveness of these systems, thereby improving overall healthcare delivery. This is particularly relevant in the context of modern healthcare challenges, where the integration of technology and human resources is paramount for efficient service delivery (Karim & Islam, 2024).

Case Studies Illustrating Workload Analysis Implementation

Several case studies have illustrated the practical application of workload analysis methods in assessing human resource needs. For example, the implementation of the WISN method in a private hospital's Central Sterile Supply Department (CSSD) revealed that staffing levels were insufficient to meet the operational demands (Purwanti *et al.*, 2023). By utilizing workload data, the hospital was able to justify the recruitment of additional staff, which led to a noticeable improvement in service delivery and reduced turnaround times for sterile supplies.

Furthermore, Agustina *et al.* (2024) examined the implementation of a hospital management information system and its impact on service quality. Their findings indicated that a thorough workload analysis prior to system implementation ensured that the necessary human resources were in place to support the technology, thereby maximizing its effectiveness. This case study exemplifies how integrating workload analysis with strategic planning can lead to enhanced healthcare outcomes.

Challenges and Limitations of Workload Analysis

Despite the benefits of workload analysis, there are challenges and limitations that must be acknowledged. One significant challenge is the variability in patient care demands, which can fluctuate based on seasonal trends, public health crises, or demographic shifts. Such variability complicates the establishment of consistent staffing levels based on workload data alone (Tarhan *et al.*, 2019). Additionally, the reliance on quantitative metrics may overlook qualitative factors such as staff morale and patient satisfaction, which are equally important for effective healthcare delivery.

Moreover, the implementation of workload analysis requires a cultural shift within healthcare organizations, where data-driven decision-making is embraced. Resistance from staff and management can hinder the successful application of workload analysis methods, leading to suboptimal staffing decisions (Shalom *et al.*, 2022). Therefore, it is essential for healthcare leaders to foster an environment that values evidence-based practices and encourages open communication regarding workload assessments.

Future Directions for Research and Practice

Future research should focus on refining workload analysis methodologies to better accommodate the dynamic nature of healthcare environments. Integrating advanced data analytics and machine learning techniques could enhance the predictive capabilities of workload assessments, allowing for more proactive staffing strategies. Furthermore, longitudinal studies examining the long-term impacts of workload analysis on patient outcomes and staff retention would provide valuable insights for healthcare organizations (Karim & Islam, 2024). In practice, healthcare organizations should prioritize the development of comprehensive training programs for managers and staff on the importance of workload analysis. This could facilitate a greater understanding of how effective staffing impacts patient care and employee satisfaction. By embracing a culture of continuous improvement and evidence-based decision-making, the health sector can better meet the challanges of an evolving landscape.

RESEARCH METHOD

Research Design

The research design employed in this study is a comprehensive literature review that focuses on assessing human resource needs in the health sector through the lens of workload analysis methodologies. This approach allows for the synthesis of existing data, theories, and practices related to human resource management in healthcare settings. The literature review encompasses various studies that have utilized workload analysis methods, including the Workload Indicators of Staffing Need (WISN) and other relevant frameworks. For instance, Purwanti *et al.* (2023) conducted a study using WISN to calculate staffing needs in the Central Sterile Supply Department (CSSD) of a private hospital, highlighting the effectiveness of this method in determining the required number of healthcare professionals based on workload demands.

Data Collection

Data collection involved a systematic search of peer-reviewed journals, conference proceedings, and academic articles published between 2018 and 2024. Databases such as PubMed, Scopus, and Google Scholar were utilized to identify relevant literature. The

inclusion criteria focused on studies that specifically addressed human resource needs assessments using workload analysis in healthcare settings. For example, Chrismawanti (2020) examined human resource needs in medical records departments based on workload analysis, providing valuable insights into the application of these methodologies in real-world scenarios. The search yielded a total of 50 articles, of which 20 were selected for detailed analysis based on their relevance and methodological rigor.

Analytical Framework

An analytical framework was developed to categorize the findings from the selected literature. This framework includes key themes such as the effectiveness of workload analysis methods, the impact of staffing levels on patient outcomes, and the challenges faced in implementing these methodologies in healthcare settings. The framework was informed by previous studies, including those by Astuti (2018) and Hulu (2023), which emphasized the importance of aligning staffing levels with patient care needs. Each theme was further dissected to explore the nuances of human resource management in healthcare, allowing for a comprehensive understanding of the factors influencing staffing decisions.

Data Analysis

Data analysis was conducted using a qualitative synthesis approach, where the findings from the literature were summarized and compared. This involved identifying common patterns, discrepancies, and gaps in the existing research. For instance, while some studies highlighted the positive correlation between adequate staffing and improved patient outcomes (Karim & Islam, 2024), others pointed out barriers to the effective implementation of workload analysis methods, such as organizational resistance and lack of training. The analysis also considered the geographical context of the studies, as healthcare systems vary significantly across different regions.

Ethical considerations were paramount in this research, particularly in ensuring the integrity and credibility of the literature reviewed. All studies included in the analysis were peer-reviewed, ensuring adherence to ethical research standards. Furthermore, the research did not involve direct data collection from human subjects, thus mitigating ethical concerns related to informed consent and confidentiality. Transparency was maintained throughout the study, with clear citations provided for all referenced works, as mandated by academic standards. This commitment to ethical research practices enhances the reliability of the findings and supports the broader goal of improving human resource management in the health sector.

RESEARCH RESULTS

Introduction to Human Resource Needs Assessment

The assessment of human resource needs in the health sector is crucial for ensuring that healthcare facilities are adequately staffed to provide high-quality patient care. The increasing demand for healthcare services, driven by factors such as an ageing population and the rise of chronic diseases, necessitates a systematic approach to assessing workforce requirements. According to the World Health Organization (2021), there is a global shortage of healthcare workers, with an estimated shortfall of 18 million by 2030, particularly in low- and middle-income countries. This highlights the importance of employing effective methodologies, such as workload analysis, to determine the appropriate staffing levels needed to meet patient care demands.

Workload analysis methods, including the Workload Indicators of Staffing Need (WISN) and the Health Workload Analysis (HWA), provide frameworks for evaluating the relationship between patient needs and staff capacity. These methods enable healthcare facilities to identify gaps in staffing and allocate resources more efficiently (Purwanti *et al.*, 2023). For instance, a study conducted in a private hospital's Central Sterile Supply Department revealed that using WISN allowed for a more accurate calculation of human resource needs, resulting in improved service delivery and reduced operational costs (Purwanti *et al.*, 2023).

Overview of Workload Analysis Method

The workload analysis method involves quantifying the tasks performed by healthcare staff and assessing the time required to complete these tasks. This quantitative approach allows for an objective evaluation of staffing needs based on actual workload rather than subjective estimates. For example, Chrismawanti (2020) applied the workload analysis method in a hospital setting, revealing that the existing staffing levels were insufficient to manage patient records efficiently. The analysis indicated a need for additional personnel to handle the increasing volume of patient records, ultimately improving the quality of care provided.

Furthermore, the use of workload analysis can enhance job satisfaction among healthcare workers. When staffing levels are aligned with workload demands, employees are less likely to experience burnout and stress, leading to improved retention rates. According to a study by Hulu (2023), hospitals that implemented workload analysis reported enhanced employee morale and a decrease in turnover rates, which is critical for maintaining a stable workforce in the healthcare sector.

Case Studies and Data Analysis

Several case studies have demonstrated the effectiveness of workload analysis in determining human resource needs in healthcare settings. For instance, a study conducted at Dr. Soedirman Regional General Hospital indicated that a management audit of human resources significantly improved employee performance in inpatient care units (Astuti, 2018). The audit revealed discrepancies between the actual workload and the number of staff, prompting the hospital to adjust its staffing levels accordingly.

Moreover, the application of workload analysis has been supported by statistical evidence. A review of various hospitals showed that those employing workload analysis methods reported a 20% increase in patient satisfaction scores (Karim & Islam, 2024). This correlation underscores the importance of aligning staffing levels with patient care requirements, ultimately leading to better health outcomes.

Challenges in Implementing Workload Analysis

Despite the benefits, implementing workload analysis methods in healthcare settings poses several challenges. One significant barrier is the resistance to change among healthcare administrators and staff. Many institutions are accustomed to traditional staffing models and may be hesitant to adopt new methodologies that require a shift in operational practices. Additionally, the initial investment in training and resources to conduct workload analysis can deter some healthcare facilities, particularly those with limited budgets.

Furthermore, accurate data collection is essential for effective workload analysis. Inaccurate or incomplete data can lead to misinterpretations of staffing needs, potentially exacerbating existing issues. A comprehensive approach to data management, including

regular audits and staff feedback, is crucial for the successful implementation of workload analysis (Fauziah & Mulyanti, 2023).

Conclusion and Future Directions

In conclusion, human resource needs assessment using workload analysis methods is vital for improving the efficiency and effectiveness of healthcare delivery. The evidence from various case studies highlights the positive impact of aligning staffing levels with patient needs, leading to enhanced patient care and employee satisfaction. Future research should focus on developing standardized protocols for implementing workload analysis across diverse healthcare settings, ensuring that all facilities can benefit from this approach. As the healthcare landscape continues to evolve, adopting innovative strategies to assess and meet human resource needs will be essential in addressing the challenges faced by the sector.

DISCUSSION

The assessment of human resource needs in the health sector is critical for ensuring that healthcare facilities can meet the demands of patient care effectively. The workload analysis method serves as a valuable tool in this context, enabling healthcare organizations to align their staffing levels with the actual workload experienced by their staff. This approach not only optimizes resource allocation but also enhances the quality of care delivered to patients. As observed in various studies, including those by Chrismawanti (2020) and Purwanti *et al.* (2023), applying workload indicators such as the Workload Indicators of Staffing Need (WISN) can significantly influence staffing decisions and ultimately improve operational efficiency.

The findings from the literature suggest a strong correlation between workload and staffing adequacy. For instance, Astuti (2018) highlighted that inadequate staffing in hospitals can lead to increased workloads for existing employees, resulting in burnout and decreased performance. This situation is particularly evident in nursing departments, where the demand for care often exceeds the available workforce. As such, employing workload analysis allows for a more nuanced understanding of the specific needs of different departments, which can lead to targeted recruitment and retention strategies that are essential for maintaining a competent workforce.

Moreover, the implementation of workload analysis methods can illuminate the impact of external factors on human resource needs. For instance, during the COVID-19 pandemic, healthcare facilities worldwide faced unprecedented challenges that necessitated rapid adjustments to staffing levels. According to Hulu (2023), hospitals in Jakarta had to reassess their strategic human resource plans to accommodate the surge in patient numbers. Such case studies underscore the importance of flexibility and responsiveness in workforce planning, which can be achieved through systematic workload assessments.

However, the application of workload analysis is not without its challenges. The accuracy of the data collected can be influenced by various factors, including the methods of data collection and the subjective nature of workload perceptions among staff. As noted by Fauziah and Mulyanti (2023), discrepancies in how workload is perceived can lead to conflicting assessments of staffing needs. Therefore, it is crucial for healthcare organizations to adopt a comprehensive approach that incorporates both quantitative and qualitative data to ensure a robust analysis of human resource requirements.

In conclusion, the literature indicates that workload analysis methods are instrumental in conducting effective human resource needs assessments in the health

sector. By employing these methods, healthcare facilities can better understand their staffing needs, enhance employee satisfaction, and ultimately improve patient care outcomes. However, it is essential to remain vigilant regarding the limitations of these methods and to continually adapt them to the evolving landscape of healthcare challenges. Future research should focus on refining these analytical techniques and exploring their applicability across different healthcare settings to further enhance their effectiveness.

CONCLUSIONS

The assessment of human resource needs in the health sector through workload analysis methods has proven to be an essential strategy for optimizing workforce allocation and improving overall healthcare delivery. The literature indicates that employing systematic approaches, such as the Workload Indicators of Staffing Need (WISN) and the Health Workload Analysis Method (ABK-Kes), can significantly enhance the accuracy of staffing requirements in various healthcare settings. For instance, studies have shown that hospitals that implement these methodologies can identify discrepancies in staffing levels, leading to better patient care and increased staff satisfaction.

The implications of this research extend beyond mere staffing numbers; they suggest a transformative potential for healthcare management. By aligning human resources with actual service demands, healthcare facilities can ensure that patients receive timely and effective care, thereby improving health outcomes. Furthermore, the strategic management of human resources can lead to a more engaged workforce, as employees are more likely to feel valued and supported when their workloads are manageable and aligned with their capabilities.

Moreover, the integration of technology, such as Management Information Systems (SIMRS), plays a pivotal role in facilitating workload analysis and human resource planning. The data-driven insights gained from these systems enable healthcare managers to make informed decisions regarding staffing and resource allocation, ultimately leading to enhanced operational efficiency. This indicates a clear pathway for healthcare organizations to leverage technological advancements in their human resource strategies.

Looking ahead, further research could explore the long-term effects of implementing workload analysis methods on employee retention and job satisfaction within the health sector. Understanding these dynamics will be crucial for developing sustainable human resource practices that not only meet current demands but also prepare organizations for future challenges in healthcare delivery.

Overall, the findings underscore the necessity for healthcare organizations to adopt comprehensive workload analysis approaches to meet their human resource needs effectively. By doing so, they can create a more resilient and responsive healthcare system that prioritizes both staff welfare and patient care.

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