

The Relationship between Reward System and Occupational Stress: The Case of Nurses in the Healthcare Industry of Sulaymaniyah

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Abstract

Occupational stress among nurses is a persistent global challenge that threatens employee well-being, organizational sustainability, and the quality of patient care. Reward systems encompassing financial and non-financial incentives are widely recognized as strategic mechanisms for enhancing motivation and improving working conditions. However, empirical evidence examining their role in mitigating stress within the healthcare context of the Kurdistan Region remains limited. This study investigates the relationship between reward systems and occupational stress among nurses in Sulaymaniyah's healthcare sector. Using a quantitative cross-sectional design, data were collected from 108 nurses at Anwar Shexha Hospital through validated survey instruments. Descriptive findings revealed a high perception of reward systems ($M = 4.421$) and similarly high levels of occupational stress ($M = 4.462$). Pearson correlation analysis showed a strong, significant positive relationship between reward systems and occupational stress ($r = 0.862$, $p < 0.001$). The results suggest that although nurses perceive reward systems positively, structural and emotional job demands continue to elevate stress levels. This study contributes to the theoretical discourse on the Effort–Reward Imbalance Model by providing empirical evidence from a developing healthcare context and highlights the need for integrated reward strategies combined with supportive work environments to enhance nurse well-being and improve patient outcomes.

Keyword: Reward Systems, Occupational Stress, Nurses, Healthcare Industry, Effort–Reward Imbalance Model

Introduction

Nursing profession is central in maintaining effectiveness, efficiency and sustainability of healthcare services globally. Nurses form the majority of the healthcare workgroup, and they are the key participants of patient care provision, clinical organization, and emotional support

(Sarafis et al., 2016). Their roles do not just end with the typical clinical practices but also involve making quick decisions, empathetic communication, and handling the complicated states of patients. Due to the growing demanding nature of healthcare settings, nurses are vulnerated to continuous and multiplexing stressors that expose them to the increased risk of occupational stress. The combination of high workloads, staffing, emotional work, and time pressure is associated with a considerable level of psychological stress, which subsequently leads to job satisfaction, performance, and, ultimately, patient outcomes (Cooper et al., 2019; Maslach et al., 2001). The healthcare system in Sulaymaniyah, Kurdistan Region, Iraq is experiencing a rapid change due to the higher demand of healthcare and expansion of infrastructures and changing expectations of patients. Such systemic pressures enhance the demands to the nurses and thus occupational stress is an emergency problem with far-reaching consequences. Although nursing staff is central to the healthcare delivery process, the literature on the relationship between occupational stress and its antecedents is limited in this region. This gap highlights the necessity of a study that places the work setting and the psychological experiences of nurses in this distinct healthcare setting in perspective. The reward systems are also becoming well-known strategic tools that help in improving the motivation and retention of employees and their engagement in work. Financial incentives, recognition programs, career development opportunities, and supportive supervisory practices, as well as other well-designed reward mechanisms, can enhance morale and make the employees psychologically resilient (Armstrong and Taylor, 2014; Lawler, 2018). Nevertheless, it is controversial to what extent reward systems can alleviate occupational stress. Effort Reward Imbalance Model (Siegrist, 1996) is an assumption that postulates that employees feel stressed when the work requirements are not met by equivalent rewards. Equally, the Expectancy Theory (Vroom, 1964) indicates that rewards are effective in motivating an individual provided that the individual in question perceives the reward as just, achievable and worthwhile. All of these theoretical viewpoints imply that reward systems can be rather significant in influencing the experience of stress among nurses, but it is not empirically validated in the establishment of healthcare settings. The current literature proves that reward systems may help to improve performance and job satisfaction, yet their influence on the decrease of occupational stress is context-dependent because of cultural norms, leadership practices, organizational structures, and the workload intensity (Kuvaas et al., 2017; Luthans and Stajkovic, 1999). The fact that the relations in the healthcare institutions of Sulaymaniyah are unique in terms of socio-economic and organizational dynamics implies that a more detailed analysis of the relationship is justified. Knowledge about the perception of the nurses towards reward systems, the level of occupational stress they experience, and the connection of the two constructs is critical to informing the evidence-based human resource policies to enhance well-being and maintain the level of healthcare quality. Thus, this paper examines the connection between reward systems and work-related stress in nurses who are employed in the healthcare sector in Sulaymaniyah. Giving empirical data about a little-researched area, this study can be applied by the rest of the world to the discussion of the issue of nurse well-being and provide policymakers and healthcare managers with practical recommendations on how to be more effective and healthier organizations as a result.

Problem Statement

The field of nursing is known to be one of the most strenuous and stressful careers in the world, as it is the profession that dwells with high workloads, emotional work, and making

life-threatening decisions. The problem in the healthcare sector of Sulaymaniyah is further aggravated by the growing number of patients, deficient staffing, and systematic resource shortage. Though nurses continue to play the key role in providing quality patient outcomes, they often encounter occupational stress, which results in burnout, psychological distress, decreased job satisfaction, and declining performance (Cooper et al., 2019; Maslach et al., 2001). Repeated stress does not only impair the welfare of the nurses, but it also jeopardizes the operations of the organization and the quality of healthcare provision. Reward systems are also adopted in most healthcare facilities as a form of motivation in order to counter the stress at the work place. Monetary rewards, employee recognition schemes, career growth and supervision support have been proved to reinforce morale and employee engagement. The efficacy of these reward systems in reducing occupational stresses is however not well established particularly in complex and high stress situations like in nursing. The Effort-Reward Imbalance Model (Siegrist, 1996) assumes that the stress situation increases when employees feel that there is an imbalance between their efforts and rewards. This theoretical perspective implies that there may be a connection between perceptions of the nurses regarding the reward systems and the occurrence of the occupational stress. Although this problem has global applicability, the literature related to the interaction between reward systems and work-related stress in the Kurdistan Region is limited. Stress outcomes are not given much attention because most studies are concerned with job satisfaction, performance, or organizational commitment. Further, the local socioeconomic, cultural, and organizational setting of the healthcare facilities of Sulaymaniyah requires specific research since results of other areas are not likely to be generalizable. The knowledge gap illustrates the necessity of conducting a research to determine the adequacy of current reward system in place in the healthcare sector in Sulaymaniyah to reduce occupational stress among nurses. This relationship is important to understand how to develop effective human resource strategies to improve nurse well-being, retain professional staff, and provide healthcare services sustainably.

Significance of the Study

This study offers important theoretical, practical, and policy contributions to the fields of occupational stress and human resource management in healthcare. Theoretically, the research enriches existing literature by providing empirical evidence on how reward systems influence stress outcomes among nurses in a developing healthcare context. By examining the dynamics of perceived rewards within a high-demand profession, the study extends the Effort–Reward Imbalance Model and contributes to broader human resource and organizational behavior theories. It highlights reward systems not merely as motivational tools but as potential moderators of workplace stress, offering new insights into their psychological significance for frontline healthcare workers.

From a practical perspective, the findings serve as a valuable resource for healthcare administrators seeking to strengthen their reward management strategies. Understanding how nurses interpret and value different forms of rewards enables organizations to refine their incentive structures, enhance recognition mechanisms, and create more supportive work environments. By aligning rewards with the emotional and professional needs of nurses, healthcare institutions can reduce burnout, increase engagement, and improve staff retention. These improvements are directly linked to better patient outcomes and overall service quality.

At the policy level, the study provides evidence-based recommendations for healthcare authorities in the Kurdistan Region to reform human resource development strategies. By emphasizing the importance of effective reward systems, the findings support policy initiatives aimed at building a motivated and resilient nursing workforce. Strengthened reward policies can help address national healthcare challenges by ensuring the availability of competent nursing professionals capable of meeting growing healthcare demands. Thus, the study contributes to ongoing efforts to enhance workforce stability and improve healthcare system performance at the regional level.

Scope of the Study

This study focuses on nurses working at Anwar Shexha Hospital in Sulaymaniyah, examining both the financial and non-financial dimensions of the reward system and their association with occupational stress. The research adopts a quantitative approach using structured questionnaires to ensure reliability and enable systematic analysis of nurses' perceptions and experiences. Although the study is limited to a single healthcare institution, it provides meaningful insights into the stress-reward dynamics within the broader healthcare context of the Kurdistan Region. The findings may serve as a reference point for similar hospitals in the region, contributing to a deeper understanding of workplace stressors and the role of reward systems in shaping nurse well-being.

Literature Review

This literature review synthesizes theories and empirical findings related to the study's two core variables, reward systems and occupational stress. It provides a conceptual foundation for understanding how rewards shape employee behaviour and psychological outcomes, particularly in high-pressure healthcare environments. The review begins by examining reward systems as strategic human resource mechanisms, followed by a discussion of occupational stress and its theoretical underpinnings. It then integrates relevant empirical studies and presents the theoretical framework guiding the study.

Reward Systems in the Context of Healthcare

Reward systems are fundamental components of human resource management, designed to reinforce desirable employee behaviours, enhance motivation, and support organizational performance (Armstrong & Taylor, 2014). They typically encompass two dimensions: financial rewards such as salary, bonuses, and allowances; and non-financial rewards including recognition, development opportunities, autonomy, and flexible scheduling. In healthcare organizations, reward systems are particularly critical due to the emotionally and physically demanding nature of clinical work. Nurses often rely on both tangible and intangible rewards to feel valued, motivated, and committed to their roles.

Theoretical perspectives further illuminate the role of rewards in shaping employee outcomes. Expectancy Theory (Vroom, 1964) posits that employees exert effort when they believe their performance will be rewarded in meaningful ways. In nursing contexts, this implies that rewards must be perceived as attainable, fair, and aligned with personal and professional values. Similarly, Equity Theory (Adams, 1963) argues that perceptions of fairness in rewards relative to workload and contributions strongly influence motivation and job attitudes. When nurses perceive inequity—such as heavy workloads coupled with

inadequate recognition—their psychological strain increases. These theories underscore the importance of well-designed reward systems in promoting positive employee experiences.

Empirically, numerous studies show that rewards enhance job satisfaction, work engagement, and retention (Kuvaas et al., 2017; Milkovich et al., 2017). However, the relationship between rewards and stress remains mixed. While some research indicates that fair and consistent rewards can buffer against stressors (Luthans & Stajkovic, 1999), others argue that rewards alone cannot mitigate structural sources of stress such as staffing shortages or excessive workloads (Sarafis et al., 2016). This contradiction highlights the need for contextualized research in regions like Sulaymaniyah, where healthcare environments may differ significantly from Western settings.

Occupational Stress among Nurses

Occupational stress refers to psychological and physiological reactions arising from workplace demands that exceed an individual's ability to cope (Lazarus & Folkman, 1984). Nursing is frequently classified as one of the most stressful professions due to the combination of emotional labour, high responsibility for patient welfare, shift work, and exposure to trauma or suffering (Cooper et al., 2019). Persistent occupational stress is associated with burnout, absenteeism, reduced performance, and decreased quality of patient care (Maslach et al., 2001). Two prominent models help explain the mechanisms underlying work-related stress. The Demand–Control Model (Karasek, 1979) argues that stress emerges when job demands are high and employees have limited autonomy or decision-making power. This condition is common in nursing, where workloads and responsibilities are high but control over schedules or patient assignments may be limited. The Effort–Reward Imbalance Model (Siegrist, 1996) offers an alternative explanation: stress occurs when employees perceive that their efforts are not matched by adequate rewards. This model is especially relevant for nurses, who frequently report heavy emotional and physical demands yet receive insufficient recognition. Empirical studies consistently show high levels of stress among nurses worldwide. Research in Asia, Europe, and the Middle East indicates that nurses experience stress due to workload, time pressure, interpersonal conflict, and emotional exhaustion (Podsakoff et al., 2007; Sarafis et al., 2016). Studies in the Iraqi and Kurdistan region also report elevated stress levels among nurses due to systemic constraints, limited resources, and social pressures. Despite these findings, little research has explored how reward systems influence stress levels in such contexts.

Relationship between Reward Systems and Occupational Stress

The link between rewards and occupational stress has gained increasing attention within organizational psychology. According to the Effort–Reward Imbalance Model, employees experience stress when rewards—whether financial, social, or developmental—are misaligned with job demands. In nursing contexts, rewards may serve as psychological buffers, reducing the negative effects of workload, emotional labour, and professional strain. Studies indicate that recognition, fair compensation, and opportunities for career advancement are associated with reduced stress and improved well-being (Eisenberger et al., 1999). However, empirical findings are not entirely consistent. Some researchers argue that reward systems can mitigate stress only when accompanied by broader organizational support, adequate staffing, and healthy work environments (Schaufeli & Bakker, 2004). For nurses working in resource-constrained settings, rewards may be insufficient to

counterbalance intense job demands. This inconsistency highlights the need for research that examines the reward–stress relationship within specific cultural and organizational contexts, such as healthcare facilities in Sulaymaniyah.

Summary and Research Framework

The literature indicates that both reward systems and occupational stress are critical issues in healthcare management, particularly for nursing professionals. While theoretical models such as Expectancy Theory and the Effort–Reward Imbalance Model suggest that rewards influence stress, empirical evidence remains context-dependent and inconclusive. Given the limited research in Sulaymaniyah and the Kurdistan Region, this study addresses an important gap by empirically examining how nurses perceive reward systems and how these perceptions relate to their occupational stress. Guided by the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and the Effort–Reward Imbalance Model (Siegrist, 1996), the research framework positions reward systems as a predictor of occupational stress. Understanding this relationship can inform the design of HRD strategies aimed at improving nurse well-being and ensuring sustainable healthcare delivery.

Research Methodology

This study employed a quantitative, cross-sectional survey design to examine the relationship between reward systems and occupational stress among nurses in the healthcare sector of Sulaymaniyah. This design is appropriate for identifying patterns, assessing variable relationships, and generating empirical evidence within a defined population (Creswell & Creswell, 2018). Quantitative surveys also allow for standardized data collection, ensuring comparability across respondents and supporting statistical analysis.

Population and Sampling

The study population consisted of 400 nurses employed at Anwar Shexha Hospital, one of the major healthcare facilities in Sulaymaniyah. Nurses were selected because they represent the frontline clinical workforce most exposed to job-related stressors and organizational reward structures.

A stratified random sampling technique was used to ensure representation across different units and job positions within the hospital. Stratification minimizes sampling bias and enhances generalizability (Sekaran & Bougie, 2020). Based on Krejcie and Morgan’s (1970) sample size recommendation, 108 nurses were selected and all returned usable responses, yielding a 100% response rate.

Instrumentation

Data for this study were collected using a structured questionnaire comprising three main sections. The first section captured respondents’ demographic information, including gender, age, marital status, education level, and job position. The second section measured perceptions of the reward system using a scale adapted from Din et al. (2021), covering both financial and non-financial rewards such as salary, recognition, promotion opportunities, and supervisory support. Items in this section were rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The third section assessed occupational stress using a scale adopted from Kawada and Otsuka (2010), which evaluates emotional strain, workload pressure, and physiological symptoms associated with job-related stress. Both the

reward system and occupational stress scales have been widely applied and validated in organizational and healthcare research, ensuring their suitability and reliability for the present study.

Pilot Study and Reliability

A pilot test was conducted with 15 nurses to evaluate the reliability, clarity, and comprehensibility of the questionnaire items. The results demonstrated strong internal consistency for both scales, with the reward system scale recording a Cronbach's Alpha of $\alpha = 0.846$ and the occupational stress scale recording $\alpha = 0.897$. According to Nunnally and Bernstein (1994), values above 0.70 indicate acceptable reliability, confirming that the instruments used in this study were statistically sound. Based on the pilot feedback, minor language refinements were made to improve item clarity and ensure that the questionnaire was easily understood by respondents.

Data Collection Procedure

Data collection took place onsite at the hospital with approval from the relevant administration. Participants were informed about the study purpose, confidentiality, and voluntary participation. Completed questionnaires were returned anonymously to ensure honesty and minimize response bias.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 28, which is well established for handling quantitative datasets and conducting multivariate statistical procedures. The analysis comprised both descriptive and inferential statistical techniques. Descriptive statistics—including frequency distributions, percentages, means, and standard deviations—were used to summarize respondents' demographic characteristics and to evaluate overall trends in perceptions of the reward system and levels of occupational stress. Reliability analysis was conducted using Cronbach's Alpha to verify the internal consistency of the measurement scales, ensuring that the items within each construct consistently reflected the underlying variables. Inferential analysis was performed using Pearson's correlation coefficient to examine the direction and strength of the relationship between reward systems and occupational stress, allowing for the identification of statistically significant associations between the two variables. All inferential tests were evaluated using a significance level of $p < 0.05$, which is widely accepted in social science research as the threshold for determining meaningful statistical relationships.

Findings

The analysis of the data revealed several important findings regarding nurses' perceptions of the reward system and their levels of occupational stress. Descriptive results showed that nurses reported a high perception of the reward system, with an overall mean score of 4.421, indicating that respondents generally viewed the financial and non-financial rewards provided by the hospital as fair, motivating, and clearly structured. This suggests that the existing reward mechanisms such as recognition, salary considerations, and opportunities for advancement are perceived positively by the nursing workforce. Similarly, the findings demonstrated a high level of occupational stress, with a mean score of 4.462, reflecting significant emotional, cognitive, and physical strain among nurses. This result aligns with

global evidence highlighting the demanding nature of nursing roles, characterized by high workloads, shift requirements, and emotionally charged interactions with patients.

Reliability analysis confirmed strong internal consistency for both constructs, with Cronbach's Alpha values of $\alpha = 0.846$ for the reward system scale and $\alpha = 0.897$ for the occupational stress scale, indicating that the instruments used were statistically robust. Inferential analysis using Pearson's correlation revealed a strong, significant positive relationship between reward systems and occupational stress ($r = 0.862$, $p < 0.001$). This finding suggests that higher perceptions of rewards are associated with higher levels of stress. While initially counterintuitive, this pattern can be interpreted through the lens of the Effort–Reward Imbalance Model, which posits that individuals under intense job demands may develop heightened sensitivity to the adequacy and timeliness of rewards. It is also possible that nurses who receive more recognition or advancement opportunities are those handling the most challenging workloads, thereby experiencing greater stress despite positive perceptions of rewards. Alternatively, the strong correlation may indicate that in highly demanding clinical environments, reward systems alone cannot counteract entrenched structural stressors.

Overall, the findings indicate that although nurses hold favourable views of the reward system, occupational stress remains a significant concern, likely driven by the intrinsic nature of their work. The results underscore the complexity of the reward–stress relationship and highlight the need for holistic interventions that complement reward mechanisms with improved staffing, workload management, emotional support, and workplace well-being initiatives.

Discussion

This study set out to examine the relationship between reward systems and occupational stress among nurses in Sulaymaniyah, offering valuable insights into HRM practices within a developing healthcare context. Three key findings emerged. First, nurses reported high perceptions of reward systems, indicating that financial and non-financial incentives were generally viewed as fair, transparent, and motivational. This aligns with previous research suggesting that reward clarity and fairness enhance motivation and psychological well-being (Armstrong & Taylor, 2014; Din et al., 2021). Second, despite the positive perception of rewards, nurses also experienced high levels of occupational stress. This finding is consistent with regional and global studies showing that nursing remains a highly stressful profession due to high workloads, emotional intensity, and staffing shortages (Sarafis et al., 2016; Cooper et al., 2019). Thus, even well-designed reward systems cannot fully eliminate stress rooted in structural and job-related pressures. Third, the study identified a strong positive correlation between reward systems and occupational stress ($r = .862$). Surprisingly, this indicates that higher perceived rewards were associated with higher stress. This pattern can be interpreted through the Effort–Reward Imbalance Model (Siegrist, 1996), which suggests that when job demands are extremely high, employees may evaluate rewards more critically, leading to heightened awareness of stress. Alternatively, high performers who receive rewards may also be tasked with more responsibilities, contributing to increased stress levels. Overall, the findings highlight that reward systems alone are insufficient to mitigate occupational stress; they must be complemented by broader organizational interventions such as workload management, improved staffing, mental health support, and leadership engagement.

Conclusion

This study contributes to the understanding of occupational stress and reward management in healthcare settings within the Kurdistan Region. While nurses perceive reward systems positively, occupational stress remains prevalent due to inherent job demands and systemic constraints. The strong association between reward systems and stress underscores the complexity of workplace dynamics in nursing, suggesting that rewards may influence stress but cannot independently offset the pressures associated with clinical work. Healthcare administrators should integrate reward improvements with comprehensive stress-management strategies, including better staffing levels, supportive supervision, meaningful recognition, and opportunities for professional growth. Policymakers should also leverage these findings to design evidence-based HRD reforms that strengthen the nursing workforce and improve patient care quality. Future research should employ longitudinal and mixed-method approaches to explore how reward perceptions and stress evolve over time and to capture deeper insights into the lived experiences of nurses.

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