



# A Study on Occupational Stress, Work–Life Balance, and Sustainable Green Hospital Initiatives among Nurses in Private Hospitals of Ernakulam District, Kerala

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**Abstract**— Nurses play a pivotal role in healthcare delivery, particularly in private hospitals where work demands are often intense. Occupational stress and imbalance between work and personal life have emerged as critical issues affecting nurses' well-being, job satisfaction, and quality of patient care. At the same time, private hospitals are increasingly adopting sustainable green hospital initiatives aimed at improving workplace environments and employee health. The present study evaluates the level of work-life balance among nurses and identifies the factors influencing it within private hospital settings in Ernakulam District, Kerala. It also examines the effectiveness of sustainable green hospital initiatives in reducing occupational stress, improving work-life balance, and enhancing the overall well-being of nurses. A descriptive research design using survey methodology was adopted. Primary data were collected from 300 nurses working in selected private hospitals using a structured questionnaire, while secondary data were sourced from journals, reports, and policy documents. Statistical tools such as percentage analysis, mean score analysis, correlation, and regression were employed. The findings indicate that occupational stress significantly affects work-life balance and that sustainable green hospital initiatives contribute positively to reducing stress and improving nurses' overall well-being. The study highlights the need for integrating sustainability practices with human resource policies to promote a healthier and more balanced nursing workforce.

**Keywords**— Green Hospital Initiatives, Nurses, Occupational Stress, Private Hospitals, Work–Life Balance.

## I. INTRODUCTION

Healthcare organizations operate in an environment characterized by rapid technological change, increasing patient expectations, and rising operational pressures. Nurses, as frontline healthcare professionals, are exposed to high levels of physical, emotional, and psychological demands. In private hospitals, these challenges are often intensified due to long working hours, shift duties, inadequate staffing, and performance-based expectations. Occupational stress among nurses has become a major concern as it affects not only individual well-being but also organizational efficiency and patient safety. Work–life balance, which reflects the ability of individuals to manage professional responsibilities alongside personal and family life, is increasingly difficult to maintain in nursing professions.

In recent years, the concept of sustainable green hospitals has gained prominence. Green hospital initiatives include environmentally friendly infrastructure, energy-efficient systems, waste management practices, ergonomic workplace design, improved indoor air quality, and employee wellness programs. While these initiatives primarily focus on environmental sustainability, they also have the potential to reduce occupational stress and improve work-life balance. Despite the growing importance of these issues, limited empirical research has examined the combined influence of occupational stress, work–life balance, and green hospital initiatives among nurses in private hospitals in Ernakulam District. This study seeks to address this research gap.

## II. REVIEW OF LITERATURE

Kumar (2020) studied the levels of occupational stress among nurses working in private hospitals.



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The research revealed that factors such as heavy workload, shift duties, and limited organizational support contribute significantly to stress. High stress was associated with burnout, absenteeism, and lower job satisfaction, indicating the need for effective workplace interventions.

Sharma and Joseph (2021) explored how irregular shifts, overtime, and family responsibilities affect nurses' ability to balance work and personal life. The study found that poor work-life balance can lead to psychological strain, decreased professional commitment, and reduced job satisfaction. The authors emphasized the importance of flexible schedules and supportive organizational policies.

Green and Smith (2022) examined the impact of sustainable hospital practices on employee well-being. Their findings suggested that eco-friendly infrastructure, ergonomic workplace design, and wellness programs help reduce fatigue, lower stress levels, and improve work-life balance among healthcare staff.

World Health Organization (2019) outlined strategies for creating healthy workplaces in healthcare settings. The report highlighted that combining organizational support, stress management initiatives, and environmentally sustainable practices is essential for enhancing employee well-being and overall productivity.

Government of Kerala (2023) presented a report on healthcare workforce management and sustainability in private hospitals. The report noted the implementation of green initiatives aimed at improving employee health but also pointed out gaps in managing occupational stress. It recommended integrating sustainable practices with HR policies to enhance nurses' well-being.

Rajan and Nair (2021) examined occupational stress and coping mechanisms among nurses working in private hospitals in Kerala. The study identified excessive workload, patient overload, and lack of managerial support as major stressors. The findings revealed that prolonged exposure to stress adversely affected nurses' physical health and emotional stability, emphasizing the need for organizational interventions to promote work-life balance and mental well-being.

Thomas et al. (2022) investigated work-life balance and job satisfaction among female nurses in urban private hospitals. The study found that long working hours, rotating shifts, and family responsibilities significantly disrupted work-life balance. The authors concluded that flexible scheduling and supportive workplace policies play a crucial role in improving nurses' satisfaction and retention.

Basu and Chatterjee (2021) studied the relationship between hospital work environments and employee well-being in private healthcare institutions. Their research highlighted that ergonomic design, proper lighting, ventilation, and green spaces within hospital premises positively influenced employee morale and reduced stress levels. The study suggested that green workplace practices contribute to both environmental sustainability and employee health.

Joseph and Mathew (2023) analyzed the effectiveness of wellness and sustainability initiatives in reducing burnout among healthcare workers. The study found that hospitals implementing green practices along with wellness programs such as yoga, counselling, and stress management workshops experienced lower levels of emotional exhaustion among nurses. The authors emphasized integrating sustainability initiatives with human resource management strategies.

### III. RESEARCH GAP

Despite extensive research on occupational stress and work-life balance in the nursing profession, existing studies have predominantly emphasized individual and job-related stressors without adequately examining organizational sustainability practices as influencing factors. In particular, the impact of sustainable green hospital initiatives on nurses' occupational stress, work-life balance, and overall well-being remains underexplored, especially in the context of private healthcare institutions. Furthermore, much of the available literature is either generalized or focused on public hospitals, offering limited empirical evidence from private hospitals in Ernakulam District, Kerala, where operational pressures and competitive healthcare delivery are distinct. This lack of integrated, context-specific research using primary data highlights a clear gap in understanding how environmental sustainability initiatives can function as strategic tools for improving nurse well-being, which the present study aims to address.

### IV. OBJECTIVES OF THE STUDY

1. To evaluate the level of work-life balance among nurses working in private hospitals in Ernakulam District.
2. To identify the factors influencing work-life balance among nurses.

3. To assess the level of occupational stress experienced by nurses in private hospitals.
4. To examine the sustainable green hospital initiatives implemented by private hospitals.
5. To evaluate the effectiveness of green hospital initiatives in reducing occupational stress, improving work-life balance, and enhancing the overall well-being of nurses.

#### V. CONCEPTUAL FRAMEWORK OF THE STUDY

The conceptual framework of the study is based on the relationship between occupational stress, work-life balance, and the overall well-being of nurses working in private hospitals. Occupational stress is considered the key independent variable and is influenced by several work-related factors such as workload, long working hours, role conflict, role ambiguity, inadequate staffing, work environment, interpersonal relationships, and organizational support. Work-life balance acts as a mediating variable that reflects the ability of nurses to effectively manage professional and personal responsibilities. Sustainable green hospital initiatives and supportive hospital practices are viewed as moderating variables that can reduce occupational stress and enhance work-life balance by creating a healthier, safer, and more supportive working environment. The dependent variables of the study include job satisfaction, physical and psychological well-being, and overall quality of work life of nurses. The framework assumes that high levels of occupational stress negatively affect work-life balance and well-being, whereas effective organizational support and sustainable hospital initiatives help in reducing stress, improving work-life balance, and enhancing nurses' overall well-being. In addition, the conceptual framework acknowledges the dynamic and reciprocal nature of the relationships among occupational stress, work-life balance, and nurses' well-being. Prolonged exposure to occupational stress not only affects immediate job outcomes but may also lead to long-term physical health problems, emotional exhaustion, reduced motivation, and increased turnover intentions among nurses. Poor work-life balance can further intensify these effects by limiting recovery time and reducing personal and social support. However, when private hospitals implement sustainable green initiatives and supportive organizational policies, these negative outcomes can be minimized.

Such practices encourage a culture of care, safety, and sustainability that enhances employee engagement, resilience, and coping capacity. Consequently, improved work-life balance and reduced stress contribute to higher retention rates, better patient care quality, and the overall sustainability of healthcare organizations, highlighting the importance of integrated stress management and organizational support systems within private hospital settings.

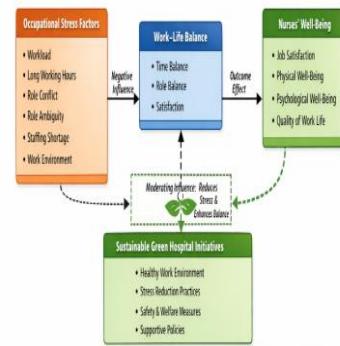


Figure 1: Conceptual Framework Showing the Relationship between Occupational Stress, Work-Life Balance, and Well-Being of Nurses in Private Hospitals

**FIGURE 1 CONCEPTUAL MODEL OF THE STUDY**

#### VI. RESEARCH METHODOLOGY

The study employs a descriptive research design, utilizing the survey method, to investigate occupational stress and work-life balance among nurses working in private hospitals. The study was conducted in Ernakulam District, Kerala, which was selected due to its high concentration of private hospitals. The study population consists of nurses employed in private hospitals in Ernakulam District, and a sample of 300 nurses was selected using a random sampling technique to ensure adequate representation. Both primary and secondary sources of data were used for the study. Primary data were collected through a structured questionnaire administered to the respondents, while secondary data were obtained from journals, books, hospital reports, and government publications. The collected data were analyzed using statistical tools such as percentage analysis, mean score analysis, correlation analysis, and regression analysis to achieve the objectives of the study.

#### VII. DATA ANALYSIS AND INTERPRETATION

The data collected from 300 nurses working in private hospitals of Ernakulam District were analyzed to assess occupational stress, work-life balance, and the impact of sustainable green hospital initiatives. Demographic analysis revealed that most respondents were female nurses aged between 25 and 40 years, with moderate work experience and rotating shifts, indicating a workforce highly susceptible to stress and work-life imbalance. Mean score analysis identified workload, long working hours, and insufficient staffing as the primary contributors to occupational stress. Assessment of work-life balance showed a moderate to low level, particularly among nurses engaged in night shifts or overtime duties, highlighting the difficulty of managing professional and personal responsibilities. Evaluation of green hospital initiatives revealed moderate implementation of eco-friendly infrastructure, ergonomic facilities, waste management, and wellness programs. Correlation and regression analyses indicated a significant negative relationship between green hospital initiatives and occupational stress, suggesting that sustainability practices help reduce stress levels. Additionally, a positive relationship was observed between green initiatives and work-life balance, showing that hospitals with supportive environmental and wellness practices foster better nurse well-being. Overall, the analysis demonstrates that occupational stress adversely affects work-life balance and nurse satisfaction, while sustainable hospital initiatives and organizational support serve as effective moderating factors in improving nurses' overall physical, psychological, and professional well-being.

#### VIII. FINDINGS

1. Moderate to High Occupational Stress: Nurses in private hospitals of Ernakulam District experience moderate to high levels of occupational stress due to heavy workload, long working hours, and insufficient staffing.
2. Work-Life Imbalance: The overall work-life balance among nurses is moderate to low, particularly for those with night shifts, overtime, or rotating schedules.
3. Impact of Shift Duties: Nurses engaged in irregular or rotating shifts report higher stress and lower work-life balance compared to those with fixed schedules.

4. Implementation of Green Initiatives: Sustainable green hospital practices such as eco-friendly infrastructure, ergonomic facilities, waste management, and wellness programs are moderately implemented in private hospitals.
5. Reduction of Occupational Stress: Green hospital initiatives are negatively correlated with occupational stress, suggesting that hospitals with better sustainability practices experience lower nurse stress levels.
6. Improvement in Work-Life Balance: Nurses in hospitals with active green initiatives report a better work-life balance, indicating a positive effect of environmental and wellness practices.
7. Organizational Support Matters: Nurses who receive adequate support from management, peers, and hospital administration experience less stress and improved balance between work and personal life.
8. Correlation with Job Satisfaction: Higher work-life balance and lower stress are associated with increased job satisfaction and motivation among nurses.
9. Age and Gender Factors: Female nurses aged 25–40, who make up most of the workforce, are more affected by work-life imbalance due to combined family and work responsibilities.
10. Need for Integrated Policies: Hospitals that align green initiatives with HR policies, stress management, and wellness programs achieve better outcomes in nurse well-being.

#### IX. SUGGESTIONS

1. Enhance Green Hospital Initiatives: Private hospitals should strengthen sustainability efforts, including eco-friendly infrastructure, ergonomic designs, and wellness programs to reduce stress and improve work-life balance.
2. Implement Flexible Scheduling: Flexible shifts and rotation planning should be provided to help nurses maintain a better balance between professional and personal responsibilities.
3. Provide Stress Management Programs: Hospitals should organize regular stress management workshops, counselling, and relaxation programs for nurses.
4. Improve Staffing Levels: Ensuring adequate staffing can reduce workload, prevent burnout, and improve job satisfaction among nurses.

5. Integrate Sustainability with HR Policies: Green hospital initiatives should be integrated with employee welfare policies and wellness programs to maximize positive outcomes for nurses.

#### X. CONCLUSION

The study concludes that nurses in private hospitals of Ernakulam District face significant occupational stress and challenges in maintaining work-life balance, primarily due to heavy workload, long hours, and irregular shifts. Sustainable green hospital initiatives, including eco-friendly infrastructure, ergonomic facilities, and wellness programs, were found to effectively reduce stress and enhance work-life balance. Furthermore, organizational support, flexible scheduling, and integrated wellness policies play a critical role in improving nurses' physical and psychological well-being, job satisfaction, and overall quality of work life. The findings emphasize that combining environmental sustainability with employee-centered HR practices provides a strategic approach for promoting nurse welfare, enhancing productivity, and improving the quality of healthcare services in private hospitals.

#### XI. SCOPE FOR FUTURE RESEARCH

The present study focuses on occupational stress, work-life balance, and sustainable green hospital initiatives among nurses in private hospitals of Ernakulam District, Kerala. However, several areas remain open for future investigation. Future studies may extend the scope to include public hospitals and government healthcare institutions to enable comparative analysis between public and private sectors. Researchers can also conduct longitudinal studies to examine changes in stress levels and work-life balance over time and assess the long-term impact of green hospital initiatives.

Further research may incorporate additional variables such as leadership style, organizational culture, emotional intelligence, and technological stress to gain deeper insights into nurse well-being. Comparative studies across different districts, states, or countries can help generalize the findings. Moreover, qualitative approaches such as interviews and focus group discussions may be used to capture nurses' personal experiences and perceptions in greater depth. Finally, future research can explore the cost-benefit and policy impact of sustainable green hospital initiatives on employee health, productivity, and quality of patient care, thereby strengthening evidence-based healthcare management practices

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