

Ergonomics of the health work environment A literary and theoretical reading

أرغونوميا الوسط الصحي في قراءة أدبية ونظرية

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Abstract :

Through this scholarly exploration, we endeavor to elucidate the facets associated with ergonomics within the healthcare milieu. The integration of ergonomic principles in healthcare settings significantly impacts the efficiency of healthcare practitioners. By reducing the propensity for musculoskeletal disorders, augmenting operational efficacy, enhancing levels of comfort, and promoting job satisfaction, ergonomics plays a vital role in cultivating a more proficient and sustainable healthcare workforce. Entities that prioritize the significance of ergonomics not only advance the welfare of their employees but also enhance the caliber of care provided to patients.

Key words: ergonomics , healthcare workers, Physical Health Benefits, Organizational Impact ,Psychosocial Factors.

JEL classification codes: M120

1. Introduction

The significance of ergonomics in healthcare cannot be overstated, as it plays a crucial role in safeguarding the well-being of health workers. Proper body mechanics and ergonomic practices are essential to reduce the risk of work-related injuries, particularly musculoskeletal disorders that can arise from the physically demanding nature of healthcare roles (Madume et al., 2023). By integrating ergonomic principles into daily tasks, healthcare professionals can enhance their efficiency and productivity, ultimately contributing to better patient care. highlighted one study that many healthcare workers do not adequately practice these techniques, with only an average of 57.7% demonstrating proper body mechanics (Madume et al., 2023). Addressing this gap through training and awareness can lead to improved workplace safety and healthier working conditions for hospital staff.

1.1. Previous studies :

Adélcio, Machado, dos, Santos., Adriana, da, Silva, Skiavan. (2023). Ergonomics at work – Health and well-being of workers.

The paper discusses the impact of ergonomics on workers' health and well-being in various industries, emphasizing the importance of implementing ergonomic practices to enhance worker safety and productivity.

This research utilized a literature review and theoretical discussions among authors as its methodology. The findings indicate that ergonomics positively influences worker health, well-being, and productivity, while companies that embrace effective ergonomic practices gain a competitive edge and thrive.

Soner, Berşe., Ezgi, Dirgar. (2023). Development of the Workplace Work Environment Ergonomics Scale for Nurses.

The article studie the "Workplace Work Environment Ergonomics Scale for Nurses," which evaluates ergonomic risks faced by nurses. It encompasses factors such as the work environment, safety, medical equipment, cognitive aspects, and overall surroundings to improve workplace conditions.

The study's methodology involved gathering expert opinions to establish content validity and conducting a pilot study for surface validity. The findings indicate that this tool is both valid and reliable for assessing ergonomic risks and can assist in enhancing the working conditions for nurses.

Sukainah, S, ALHazim., Sultan, T, Al-Otaibi., Nawal, Hatem, Herzallah. (2022). (4) Knowledge, Attitudes, and Practices Regarding Ergonomic Hazards Among Healthcare Workers in a Saudi Government Hospital.

The present study investigates the competencies of healthcare professionals operating within a hospital in Saudi Arabia, demonstrating that although they exhibit a commendable degree of knowledge and uphold favorable attitudes, their adherence to ergonomic practices is insufficient.

The integration of ergonomics within educational training programs may prove crucial in mitigating the incidence of musculoskeletal disorders among these professionals. Employing a cross-sectional research design, the study acquired data from participants via a validated questionnaire instrument. The results revealed that a majority of the participants displayed moderate levels of knowledge, positive attitudes, and deficient ergonomic practices. Consequently, it is advisable that ergonomics be incorporated into the undergraduate educational framework for individuals pursuing careers in healthcare.

1.2. Problem of the study:

The occupational milieu represents a fundamental cornerstone for the efficacy of operations within the healthcare domain, wherein the human element is regarded as its paramount foundation. What are the determinants influencing ergonomics among healthcare professionals, such that they may mitigate its adverse effects and capitalize on its benefits and efficiencies?

1.3. Methods Used :

To acquire a comprehensive understanding of the topic, we engaged in a theoretical discourse and an extensive literature

analysis of the paramount findings established by earlier investigations.

2. How does ergonomics impact the productivity of healthcare workers

Ergonomics serves a pivotal function in augmenting the efficacy of healthcare professionals by refining their occupational environments and mitigating the likelihood of injuries. The following delineates the principal avenues through which ergonomics influences productivity within healthcare frameworks:

2.1. Reduction of Musculoskeletal Disorders (MSDs)

The application of ergonomic principles aids in alleviating the prevalence of musculoskeletal disorders, which are commonly encountered by healthcare professionals due to the rigorous physical demands inherent to their occupations. By constructing workstations and assigning tasks that correspond with the physical capabilities of personnel, organizations can diminish the risk of injuries, resulting in a reduction of sick leave and an elevation in productivity levels (U.S. Department of Labor) (Albi & Suresh, 2022).

2.2. Improved Work Efficiency

Ergonomically optimized tools and work environments empower healthcare professionals to execute tasks with greater efficiency. For example, modifying the height of equipment, providing ergonomic seating, and utilizing tools designed to minimize strain can facilitate workflow improvements and decrease the duration allocated to tasks. Such efficiency culminates in an increased capacity for patient interactions and treatments, thereby amplifying overall productivity (Chakraborty et al., 2023) (Edwards et al., 2024).

2.3. Enhanced Employee Comfort

When healthcare professionals function within environments that are conducive to their physical requirements, they experience diminished fatigue and discomfort. This enhanced comfort fosters improved concentration and focus, enabling personnel to fulfill their responsibilities with greater efficacy. A supportive work environment can substantially elevate job satisfaction, which is

intrinsically linked to productivity outcomes (Albi & Suresh, 2022) (Chakraborty et al., 2023).

2.4. Increased Job Satisfaction and Retention

An emphasis on ergonomic considerations correlates with heightened job satisfaction among healthcare professionals. When employees perceive that their physical health is being prioritized, they are more inclined to remain in their positions and exhibit greater engagement in their tasks. This increased retention mitigates turnover rates, which can disrupt operational continuity and diminish productivity in healthcare environments (Chakraborty et al., 2023) (Edwards et al., 2024).

2.5. Enhanced Safety and Reduced Absenteeism

By mitigating the risk of injuries through ergonomic strategies, healthcare organizations can effectively diminish absenteeism attributable to work-related injuries. A reduction in absences facilitates the maintenance of stable staffing levels, which is critical for the provision of quality patient care and the sustenance of productivity (U.S. D).

2.6. Support for Mental Well-being

is not restricted solely to physical modifications; it also encompasses cognitive and organizational dimensions. An optimally structured work environment that alleviates stress and fosters mental well-being can significantly bolster overall job performance. Employees who experience lower stress levels and heightened focus are likely to exhibit increased productivity (Albi & Suresh, 2022) (Edwards et al., 2024).

3. How can ergonomics improve patient safety in healthcare settings

Ergonomics plays a crucial role in enhancing patient safety within healthcare environments by refining the design of workspaces, tools, and workflows to align more effectively with the requirements of healthcare professionals.

The following delineates several methodologies through which ergonomic principles contribute to the enhancement of patient safety:

3.1. Reduction of Human Error

Ergonomic interventions serve to mitigate human errors that frequently culminate in patient safety incidents. By devising systems and workflows that are inherently intuitive and user-centered, healthcare personnel can execute their responsibilities with greater precision. For instance, augmenting the usability of electronic health records (EHRs) can significantly diminish data entry inaccuracies, which are paramount for ensuring the integrity of patient information and treatment regimens (Carayon et al., 2014).

3.2. Improved Worker Comfort and Reduced Fatigue

The provision of ergonomic equipment and work environments for healthcare workers results in diminished physical strain and fatigue. Such comfort facilitates sustained concentration and vigilance regarding patient care activities, thereby lowering the probability of errors that could jeopardize patient safety.

For example, ergonomic workstations can assist nurses in avoiding unnatural postures that engender discomfort and distraction during critical interventions (altus) (McClure Ergonomics).

3.3. Enhanced Patient Handling Techniques

Ergonomics is instrumental in ensuring safe patient handling and mobilization practices. The application of ergonomic principles in patient transfer methodologies significantly diminishes the potential for injury to both healthcare providers and patients. For instance, the utilization of assistive devices and adherence to proper body mechanics during patient transfers can avert falls and injuries, thereby fostering a safer milieu for both parties involved (Edwards et al., 2024) (SW, W, 2020).

3.4. Increased Efficiency in Workflow

Workflows that are systematically designed with ergonomic considerations streamline procedural operations and curtail

unnecessary movements, thereby enabling healthcare workers to fulfill their duties with enhanced efficiency.

This heightened efficiency can result in expedited response times during emergencies and improved quality of overall patient care. When tasks are organized in an ergonomic fashion, healthcare personnel can more readily access essential tools and information, thereby augmenting their capacity to deliver timely care (altus) (McClure Ergonomics).

3.5. Promotion of a Safety Culture

The integration of ergonomic practices within healthcare settings cultivates an ethos of safety. When organizations place a premium on ergonomic solutions, they manifest a commitment to the welfare of their workforce, which can subsequently enhance job satisfaction and morale. An engaged workforce is more inclined to comply with safety protocols and engage in practices that prioritize patient safety (Carayon et al., 2014) (SW, W, 2020).

3.6. Regular Assessments and Training

The implementation of ergonomic assessments and educational programs is instrumental in identifying potential hazards and informing staff about optimal practices for maintaining ergonomic health. By consistently evaluating work environments and providing instruction on ergonomic principles, healthcare organizations can proactively address factors that may threaten patient safety (McClure Ergonomics) (SW, W, 2020).

4. Strategies for Implementing Ergonomic Solutions in Healthcare Settings

Implementing ergonomic solutions in healthcare settings is essential for promoting worker health and improving patient care. Research indicates that inadequate ergonomic practices not only affect the physical well-being of healthcare professionals but also their psychological health. For instance, pregnant healthcare workers face heightened risks from poor ergonomics, leading to adverse pregnancy outcomes such as low birth weight and preterm deliveries (Frincy et al., 2021).

Moreover, a substantial number of healthcare workers are found to have inadequate awareness and practice of proper body mechanics, resulting in increased occupational hazards (Madume et al., 2023). Addressing these issues through comprehensive ergonomic assessments and training programs can mitigate risks and foster a safer work environment. Employers must prioritize ergonomic interventions, as they directly correlate with enhanced job satisfaction and reduced incidence of musculoskeletal disorders among healthcare staff.

5. Successful Ergonomic Interventions in Healthcare

Enhancing ergonomic practices in healthcare settings can drastically improve the overall work conditions for employees. Ergonomic solutions not only protect physical health but also positively influence mental well-being by reducing stress and fatigue associated with poor working conditions. For example, implementing proper body mechanics during patient handling can significantly lessen the risk of injuries among staff (Madume et al., 2023).

Training healthcare professionals to recognize and apply ergonomic principles can foster greater awareness and adherence to best practices, ultimately leading to fewer occupational hazards. Furthermore, creating adaptable workspaces that accommodate the unique needs of all workers, especially vulnerable populations like pregnant healthcare staff, is crucial for achieving optimal health outcomes and job satisfaction (Frincy et al., 2021). This holistic approach will benefit both healthcare workers and patients alike.

6. Future Trends in Ergonomics for Healthcare Workers

The integration of ergonomic practices is not merely a matter of comfort; it is essential for the health and safety of healthcare workers. Numerous studies indicate that work-related musculoskeletal disorders are prevalent in this field, particularly among surgical staff who are often subjected to strenuous physical activities (AlHarbi et al., 2021).

By prioritizing ergonomics, healthcare organizations can mitigate these risks through strategic interventions that address the unique challenges faced in various clinical settings.

For instance, training programs that emphasize proper body mechanics during patient handling can significantly reduce injury rates (Madume et al., 2023). Furthermore, adapting workspaces to suit the diverse physical needs of all employees, including vulnerable groups, fosters an inclusive environment that enhances overall job satisfaction and productivity (Frincy et al., 2021). Hence, a proactive approach to ergonomics is vital for creating healthier workplaces in the healthcare sector.

7. Common Ergonomic Risks Faced by Healthcare Workers

The integration of ergonomic practices is essential not only for enhancing the well-being of healthcare workers but also for improving overall patient care. Studies show that healthcare professionals are at high risk for musculoskeletal disorders due to the physically demanding nature of their roles (AlHarbi et al., 2021).

Common injuries include those affecting the back, shoulders, and wrists, highlighting the need for effective ergonomic interventions tailored to specific clinical environments. By ensuring proper body mechanics and providing training on ergonomics, healthcare facilities can help reduce the incidence of such injuries. Moreover, fostering a culture that prioritizes ergonomic safety can lead to better job satisfaction among staff, ultimately benefiting the quality of care provided to patients (AlHarbi et al., 2021).

8. Conclusion

In conclusion, the discipline of ergonomics plays an essential role in augmenting patient safety within healthcare environments. Through the minimization of human error, the enhancement of worker comfort, the facilitation of safe patient handling practices, the optimization of workflow efficiency, the cultivation of a safety-oriented culture, and the execution of routine assessments and training, ergonomic interventions hold the potential to significantly improve patient outcomes and overall safety in healthcare settings.

Furthermore, the occupational environment is instrumental in influencing the health outcomes of healthcare professionals. Ineffective ergonomic practices may result in considerable physical and psychological strain, especially among pregnant healthcare professionals, as evidenced by studies that delineate the detrimental

effects on pregnancy outcomes, which include spontaneous miscarriages and preterm births (Frincy et al., 2021). As numerous employees adapted to remote working conditions during the COVID-19 pandemic, challenges such as inappropriate seating arrangements, insufficient desk configurations, and inadequate lighting surfaced as prevalent issues that could intensify musculoskeletal disorders (Yeow et al., 2021). Rectifying these ergonomic issues is imperative not solely for safeguarding the well-being of healthcare practitioners but also for augmenting overall job satisfaction and the quality of patient care, thereby fostering a safer and more efficient working environment.

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