Enhancing Organizational Performance through Stress Management: The Role of the My-Stress Application

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Abstract

Background: Employee performance in the health sector is often hindered by mental health issues, particularly stress. High stress levels among hospital employees can negatively impact their job performance and overall organizational effectiveness. Addressing these mental health challenges is essential for maintaining optimal employee performance and ensuring a supportive work environment. Methods: This study employed a mixed-methods approach, incorporating both qualitative and quantitative data collection and analysis. Hospital managers and employees with a minimum tenure of five years participated in the initial questionnaire to identify stress factors and inform the development of the "My Stress Level" application. The application was designed to measure depression, anxiety, and stress using a rating scale from 0 to 4. The implementation process included training and support to ensure accurate data input, with measures in place to maintain data privacy and confidentiality. Results: The My-Stress application facilitated timely assessments and interventions for employee mental health. Key features include displaying the most recent check results and tracking assessment history in a graphical format. The results are color-coded for easy interpretation, with options for accessing additional resources on the MyStress website. The application supports both Indonesian and English, enhancing accessibility for a diverse user base. Conclusion: The My-Stress application significantly improves mental health monitoring and management among hospital employees. By providing comprehensive assessment tools and valuable resources, the application helps reduce stress levels, thereby enhancing individual well-being and overall organizational performance.

Keywords: stress management, employee performance, hospital sector, My-Stress application, DASS-42

Significance | The My-Stress application aids hospitals in proactively managing employee stress, enhancing well-being, and optimizing organizational effectiveness.

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1. Introduction

Employee performance is a critical aspect of organizational success, and its optimization is often challenged by various factors, including mental health issues like stress. Stress among employees is frequently indicative of a less than optimal work environment, which can significantly hinder performance. The manifestation of stress symptoms is often a direct response to a demanding work environment that imposes numerous obligations and burdens on employees. These stressors not only affect mental health but also diminish overall job performance.

A conducive work environment is essential for maintaining optimal employee performance. However, when the work environment is fraught with high demands and pressures, employees tend to experience heightened stress levels. This stress can stem from

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several factors, including the need to adhere to operational standards and the interaction with colleagues in a supportive or unsupportive manner. The resultant stress can severely impact the work process, leading to a decline in performance, decreased interest in work, increased incidence of workplace accidents, and overall reduced effectiveness and quality of work (Aghaei Hashjin et al., 2014; Aini, 2021b, Md Halimuzzaman et al. 2024, Zulfa et al. 2024, Qurratul Aini et al. 2024, Aini et al. 2024, Faris et al. 2024).

Work stress in the workplace environment is a significant problem that can have both positive and negative impacts. While some stress can drive performance and innovation, excessive stress can lead to adverse outcomes such as decreased employee performance and loyalty. The multitude of demands from both the internal and external environment of the workplace contributes to these stress levels. It is crucial for organizations to recognize the negative impacts of stress, which include diminished performance and lack of loyalty among employees, and to take proactive measures to mitigate these effects.

In the health sector, services and facilities play a pivotal role in enhancing employee performance. The quality of organizational performance is often reflected in the performance of its employees, which can be assessed through various performance evaluations. These assessments help in comparing planned strategies with their implementation, examining how well the organization operates, the level of participation, and the competitiveness among employees (Bahadori et al., 2014). Effective communication, specialization, and the availability of facilities within the organization are essential in driving improvements in the quality of health services.

Organizations must provide facilities that support employee performance to foster motivation and align with organizational goals. Leaders play a crucial role in this process by motivating employees and fostering a positive work environment. Effective leadership involves providing direction, reading situations accurately, and resolving problems efficiently, which in turn enhances job satisfaction and performance (Ratnaningsih, 2018; Yafiz et al., 2022).

Work in the health sector is particularly stressful due to the emotionally draining and high-concentration tasks required. Health sector employees frequently interact with patients and their families, adding to the emotional toll. Hospitals that provide comprehensive medical, rehabilitation, and care services must be particularly vigilant about the stress levels of their employees. Stress prevention strategies include maintaining good relationships among colleagues, socialization, and individual stress risk assessments (Grandey, 2014; Aini, 2021a; Jamieson et al., 2020).

Organizations can implement various measures to reduce stress levels, such as fostering good relationships among colleagues and with patients and their families. Utilizing applications to detect early stress levels in employees can also be beneficial. These measures can enhance the coordination of efforts to reduce stress, thereby improving overall employee well-being and performance (Mastutik and Aini, 2022; Wahyuhadi, Hidayah and Aini, 2023).

Managing employee stress effectively requires a multifaceted approach, including providing consultations and implementing regular stress detection routines. These practices can help create a sense of kinship among employees and enhance individual loyalty to the organization. By reducing stress levels, organizations can significantly improve performance effectiveness (Murty, Murty and Hudiwinarsih, 2012).

The relationship between employee performance and stress is complex and multifaceted. A conducive work environment, effective communication, supportive leadership, and proactive stress management are critical to optimizing employee performance. Organizations, particularly in the health sector, must prioritize these factors to ensure a productive and healthy workforce.

2. Materials and Methods

This study employs a mixed-methods approach, integrating both qualitative and quantitative research methods to comprehensively assess and address employee stress and performance in a hospital setting.

2.1 Data Collection

2.1.1 Initial Questionnaire

The research process commenced with the distribution of an initial questionnaire to hospital managers. This questionnaire was designed to gather essential data to inform the development of the "My Stress Level" application. Managers were asked to provide insights on various aspects of employee performance and stress factors.

2.1.2 Respondent Criteria

Respondents included hospital employees and managers with a minimum tenure of five years. This criterion ensured that participants had sufficient experience and knowledge of the institution's operational environment. By including both employees and managers, the study aimed to capture a holistic view of the workplace dynamics and stressors.

2.2 Data Analysis

2.2.1 Quantitative Analysis

Data from the initial questionnaire were quantitatively analyzed to identify trends and differences in employee performance and stress levels. This analysis helped pinpoint specific areas where performance deviated from expected standards and where stress levels were particularly high.

2.2.2 Qualitative Analysis

In addition to quantitative analysis, qualitative data were collected through open-ended questions and follow-up interviews. These provided deeper insights into the causes of stress and the contextual

factors affecting performance. The qualitative analysis focused on understanding the underlying reasons behind the quantitative findings.

2.3 Development of the My Stress Level Application

2.3.1 Designing the Application

Based on the initial data collection, key parameters and items were identified for inclusion in the "My Stress Level" application. This app was designed to measure emotional states such as depression, anxiety, and stress using a rating scale from 0 to 4 for each statement.

2.3.2 Implementation and Training

A dedicated team was assigned to guide employees through the process of using the application. This team provided step-by-step instructions and support to ensure accurate and consistent data input.

2.3.3 ***Data Privacy and Confidentiality***

To maintain the confidentiality of respondents, all data inputted into the application were anonymized. Only individual respondents and hospital management had access to the final stress level results. Researchers ensured that personal information was protected throughout the study.

2.4 Follow-up and Recommendations

2.4.1 Data Recapitulation and Analysis

The collected data were recapitulated and thoroughly analyzed. Based on this analysis, researchers and experts formulated recommendations aimed at addressing identified stress factors and improving employee performance.

2.4.2 Collaborative Discussions

The results and recommendations were discussed collaboratively with hospital management. These discussions focused on developing actionable strategies to reduce employee stress and enhance institutional performance in alignment with the hospital's vision, mission, and goals.

This mixed-methods research approach enabled a comprehensive assessment of employee stress and performance. By combining quantitative data with qualitative insights, the study provided a nuanced understanding of the workplace environment. The development and implementation of the "My Stress Level" application facilitated ongoing monitoring and management of stress, ultimately contributing to improved employee well-being and organizational effectiveness.

3. Results and Discussion

The development and implementation of the My-Stress application were aimed at enhancing mental health monitoring and management among hospital employees. The application was designed with several key features to address the needs of its users effectively.

The development and implementation of the My-Stress application focused on three key assessment scales: Depression, Anxiety, and Stress. This application is designed to be accessible at any time and place, ensuring that users can quickly and efficiently assess their stress levels. By providing immediate assessments, the application facilitates timely interventions for employee mental health issues.

To enhance user understanding, the application includes shared menu options that simplify the process of comprehending individual mental health status. The history feature allows users to track changes in their stress levels over time, making it easy to see if stress has decreased. Additionally, users can access comprehensive information via the MyStress webpage, which offers resources related to their specific conditions.

The application supports both Indonesian and English, catering to a diverse user base. Its user-friendly interface guides respondents through the assessment process, making it straightforward to fill in various assessment points. The results are displayed in a graphical format, showing trends from the initial assessment up to ten subsequent evaluations. This visual representation helps respondents clearly understand their mental health progression over time.

One of the primary functionalities of the My-Stress application is displaying the respondent's most recent check result. This immediate feedback mechanism is crucial for users to understand their current mental health status. The application incorporates three essential assessment scales: Depression, Anxiety, and Stress, which are fundamental in providing a comprehensive evaluation of the respondents' mental health (Figure 1).

The results from these assessments are color-coded to indicate the severity of the condition, making it easy for users to interpret their results. The color-coding scheme includes Green for Normal, Yellowish Green for Light, Yellow for Medium, Orange for Severe, and Red for Very Severe. This intuitive visual representation helps users quickly grasp the seriousness of their mental health status and take appropriate actions if necessary.

In addition to displaying the most recent results, the application also tracks the history of past assessments. This historical data is presented in a graphical format, allowing users to observe trends and changes in their mental health over time (Figure 2). The graph displays up to 10 past test data points based on the user's email or phone number, along with the dates the tests were conducted. This feature is particularly valuable for long-term monitoring and identifying patterns in mental health.

The My-Stress application is designed to be user-friendly, with a simple interface that guides users through the assessment process. When users click on the "let's check your current stress" menu, they are prompted to enter general information, such as their email address and cellphone number (Figure 3). The subsequent screens

present the questions and available answer choices for the stress assessment (Figure 4). If there is an incorrect entry, the application

Figure 1. Last Inspection Display

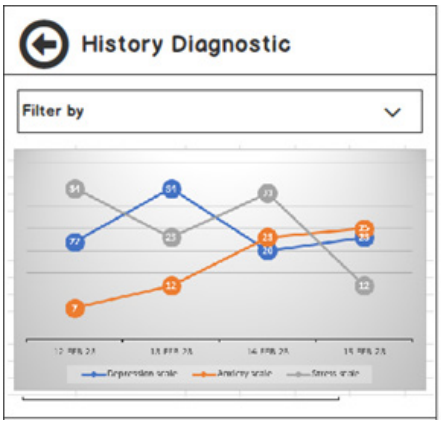

Figure 2. Diagnostic history

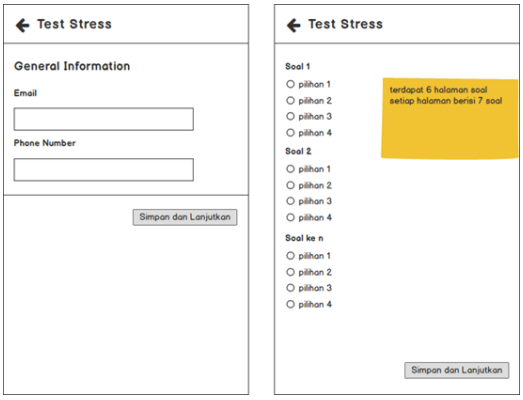

Figure 3. Display of identity and questions

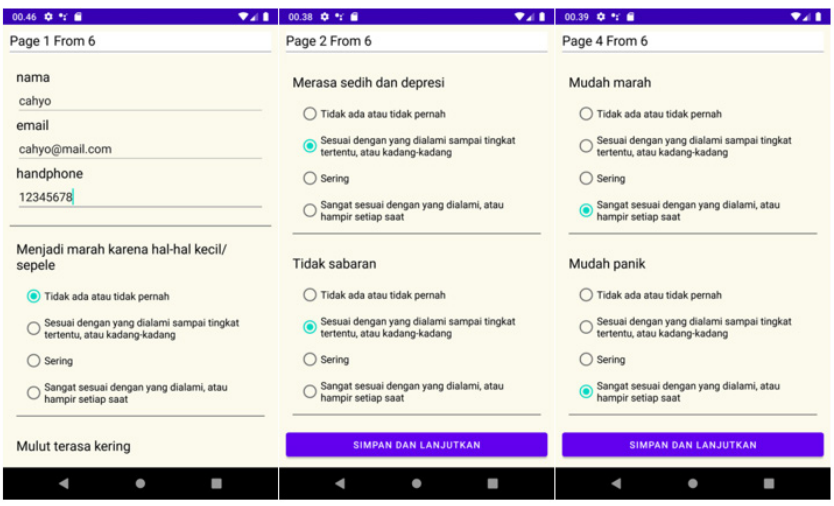

Figure 4. Charging display in the application

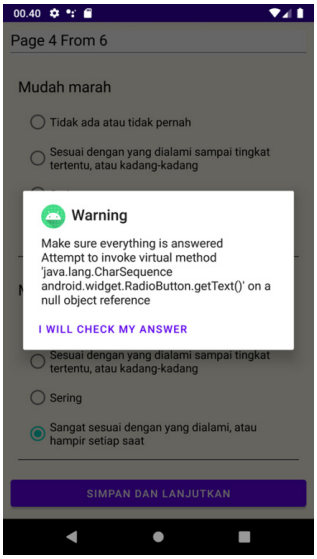

Figure 5. Error warning

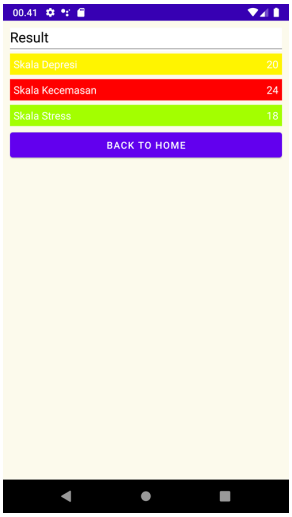

Figure 6. Display of test results

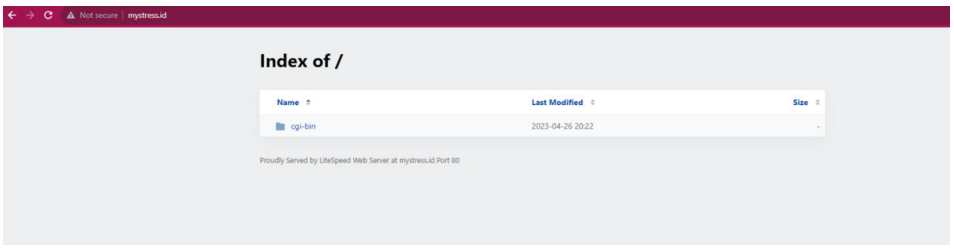

Figure 7. Web Mystress

displays a customizable error message to ensure accurate data input (Figure 5).

After completing the assessment, users receive their results along with further explanations regarding stress management if the results indicate unfavorable conditions. The application provides options to access additional resources and information directly from the My Stress website, offering users valuable support and strategies for managing stress (Figure 6).

Furthermore, the application supports multiple languages, automatically adjusting to the smartphone's language settings. This feature ensures accessibility for a diverse user base, accommodating both Indonesian and English speakers. The availability of the application on the Playstore allows users to access it anytime and anywhere, providing flexibility and convenience.

The My-Stress application represents a significant advancement in mental health management for hospital employees. By integrating comprehensive assessment tools, user-friendly design, and valuable resources, the application helps individuals monitor and manage their stress levels effectively. This approach not only enhances individual well-being but also contributes to improved overall performance and productivity in the workplace.

Hospitals play a critical role in delivering comprehensive healthcare services, ranging from basic medical assistance to urgent interventions. As vital healthcare hubs serving diverse segments of society, hospitals must prioritize factors that enhance employee performance to ensure efficient and optimal service delivery. The diverse array of professions within these institutions collectively sustains the continuum of care, necessitating their seamless integration into the hospital's long-term management strategies and immediate objectives.

Effective service provision hinges on well-qualified human resources, which form the cornerstone of organizational advancement. Active engagement and collaboration among various fields within the hospital are essential for progress. Understanding the communication dynamics within the institution is fundamental to advancing any hospital component. The complexities of communication within hospital activities often contribute to stress among healthcare workers. Such stress not only leads to immediate challenges but also poses long-term psychological risks, which can surpass physical injuries in severity. Hence, prioritizing mental well-being is paramount, necessitating proactive stress management strategies.

Supervisory mechanisms that facilitate stress awareness during service provision can mitigate its adverse effects. Implementing stress management techniques at an early stage can significantly minimize negative impacts. To aid in stress detection and management, a mobile-based stress level detection application utilizing the DASS-42 (Depression Anxiety Stress Scale-42) offers a promising solution. This application empowers employees to assess their stress levels conveniently, fostering self-awareness and enabling timely interventions to mitigate stress-related risks. By leveraging such technology, hospitals can enhance their support systems for employees, ultimately leading to better patient care and improved overall organizational performance.

4. Conclusion

In conclusion, managing employee stress is essential for enhancing organizational performance, particularly in demanding environments like hospitals. The My-Stress application offers a practical solution by providing a mobile-based platform for stress level detection and management using the DASS-42 scale. This tool empowers employees to monitor their mental health, fostering self-awareness and facilitating timely interventions. By integrating such technology, hospitals can better support their staff, reduce stress-related issues, and ultimately improve both employee well-being and overall service delivery, leading to higher quality patient care and increased organizational efficiency.

Author contributions

QA was responsible for the conceptualization, investigation, data curation, methodology, and formal analysis. Additionally, QA contributed to the writing process, including drafting the original manuscript and participating in its review and editing.

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Competing financial interests

The authors have no conflict of interest.

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