

## **THE EFFECT OF WORK FATIGUE AND SELF-ESTEEM ON ANXIETY LEVELS AMONG MEDICAL PERSONNEL AT KARTINI HOSPITAL, JAKARTA**

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### **Abstract**

Work fatigue refers to feelings of tiredness, reduced attention, and a person's response to psychosocial stress over a period of time. Self-esteem is a person's feelings about themselves. Anxiety is a condition that reflects a state of worry, anxiety, and fear. A preliminary survey at Kartini General Hospital, Jakarta, showed that the majority of medical personnel had mild anxiety, average self-esteem, and mild work fatigue. This study aims to determine the effect of work fatigue and self-esteem on the anxiety of medical personnel at Kartini General Hospital, Jakarta. The research method used was quantitative with a cross-sectional study approach using a questionnaire to medical personnel, then analyzed using multiple linear regression. The number of samples was 82 medical personnel according to the established inclusion and exclusion criteria. The results of the study showed a positive and significant relationship between fatigue and anxiety, and a negative but not statistically significant relationship between self-esteem and anxiety. There was a simultaneous relationship between fatigue and self-esteem on anxiety. Work fatigue has been shown to increase medical personnel's anxiety, and conversely, strong self-esteem is a factor that can suppress anxiety. These findings explain that work fatigue and self-esteem play an important role in anxiety.

**Keywords:** *fatigue, self-esteem, anxiety, medical personnel.*

### **INTRODUCTION**

In any job, especially those requiring a high level of focus and physical activity, work fatigue is a common occurrence. Work fatigue can range from mild and only impacting the individual worker to severe, potentially endangering the work environment and/or service users. The level of fatigue experienced by each person varies depending on the individual's personality. Furthermore, the level of work fatigue is also influenced by the workload, which varies across units within an institution. Work fatigue is a matter of concern for workers, especially for the company's HR department, and should be addressed promptly to prevent workplace accidents, which can be detrimental to both the company and the worker. (Hasibuan, 2020) Work-related fatigue is a condition that affects workers and can lead to reduced vitality and work productivity. Work fatigue refers to a general feeling of fatigue experienced by workers, characterized by slow reactions and feelings of tiredness (Wibowo, 2024). High levels of fatigue can make it difficult for workers to carry out their activities and ultimately lead to workers quitting. This is because physiological fatigue can cause workers who perform physical work to tire quickly, stop working, and even fall. (Nurhayati, 2021). According to Pramono (2025), physical symptoms and signs of fatigue typically include drowsiness (including falling asleep while working or microsleep), irritability, depression, dizziness, loss of appetite, and digestive problems. This can lead to poor health and increased susceptibility to disease. Work-related fatigue can lead to workplace injuries.

Anxiety is a subjective feeling of psychological tension experienced as a general reaction to the inability to cope with problems or a lack of security. This feeling of uncertainty is generally unpleasant and can cause or accompany later physiological and psychological changes. Anxiety is a subjective, unpleasant, frightening, and disturbing experience about the possibility or threat of danger, often accompanied by specific symptoms and physical responses due to increased autonomic activity (Elvira, 2021). Anxiety can be categorized into different levels, from mild, moderate, to severe. Mild anxiety can cause increased alertness, increased awareness of the surrounding environment, increased motivation, potential creative output, increased physical reactions such as tachycardia and tachypnea, and increased tension and tension. (Kaligis, 2021) According to Kaplan & Sadock (2021), anxiety

symptoms have been identified based on three components: The first is the cognitive component. Individuals perceive situations in a way that makes them believe there are frightening possibilities lurking, which causes doubt, worry, and excessive fear when these things happen. They also lack self-confidence because they believe they are incompetent and perceive the situation as a significant threat they can barely handle. Second is the physical component. The physical component consists of symptoms directly felt by the body, commonly referred to as physiological sensations. Possible symptoms include shortness of breath, heart palpitations, headaches, stomach aches, and muscle tension. These symptoms are the body's natural response when someone feels threatened or in a dangerous situation. Physiological sensations can also cause anxiety. Finally, there is the behavioral component. The behavioral component concerns the actions and behaviors of overly controlling people.

*Self-esteem* It relates to how you judge yourself, how much you believe in your worth in the eyes of others. Self-esteem is more of a perspective on social evaluation of yourself. Internal messages about yourself related to self-esteem significantly direct how you feel about yourself in interactions with others. Self-esteem involves assessment, estimation, and also about feelings of self-worth. (Ghufron, 2020). Self-esteem is a person's view based on their perception of how they value and evaluate themselves as a whole, which can be a positive or negative attitude towards themselves. Self-esteem is a series of personal attitudes about what they think about themselves based on emotional perceptions, including feelings of value and self-satisfaction. (Adisti, 2020). Self-esteem is an indicator used to assess how highly you value yourself and whether you see yourself as an important and valuable person. (Gayatri, 2020) One of the studies conducted by Tin Murtini (2023) entitled "The Relationship Between Nurses' Anxiety and Work Fatigue During the COVID-19 Pandemic at Grha Permata Ibu Hospital, Depok" used a cross-sectional study method. It was found in the analysis of the relationship between anxiety and fatigue, as many as 23 respondents (52.3%) indicated being tired but not anxious, while 21 respondents (47.7%) reported being neither tired nor anxious. Through statistical testing using the chi-square method, the p-value obtained was 0.035, which indicates a relationship between work anxiety and work fatigue. In addition, this study also found an OR value of 2.578, which means that nurses who experience work fatigue without feeling anxious are 2.578 times more likely to experience work fatigue when compared to those who are tired.

Research linking self-esteem with anxiety in general is still very difficult to find. Most studies link self-esteem with more detailed anxieties such as anxiety in public speaking, anxiety in facing old age and so on. A study in Salatiga by Jonathan (2024) examined the relationship between self-esteem and public speaking anxiety in high school students. The results of the study showed a significant negative relationship between self-esteem and public speaking anxiety in high school students in Salatiga with a correlation coefficient or  $r$  of  $-.0355$  and a significance of  $0.000$  ( $p < 0.01$ ). Through these data, it can be explained that the higher the level of self-esteem of students, the lower the level of public speaking anxiety they have, and conversely, the lower the level of self-esteem of students, the higher the level of public speaking anxiety they have. Work fatigue is related to self-esteem where in several studies it was found that people with high self-esteem have a lower possibility of work fatigue/burnout. In his research, Sesanti (2023) found that nurses experiencing severe stress had low self-esteem (53.9%), while nurses with high self-esteem experienced mild work stress (46.1%). Correlation tests showed a relationship between self-esteem and nurses' work stress, with a p-value of 0.004.

For additional information, the author conducted a preliminary survey regarding the description of work fatigue, self-esteem, and anxiety among medical personnel at Kartini Hospital. The survey was conducted on 15 medical personnel at Kartini Hospital. To assess the level of anxiety, the author used a simple questionnaire instrument called the GAD-7 Anxiety Scale. It was found that 2 people experienced severe anxiety (13%), 3 people experienced moderate anxiety (20%), 3 people experienced moderate anxiety (20%), and 7 people experienced mild anxiety (47%). To assess the degree of work fatigue, the author used the KAUPK2 (Questionnaire for Measuring Feelings of Work Fatigue). It was found that very tired conditions were experienced by 2 people (13%), tired conditions were experienced by 7 people (47%), and less tired conditions were experienced by 6 people (40%). For the self-esteem variable, the author used the Rosenberg Self-Esteem Scale questionnaire. It was found that 8 people (53%) had very high self-esteem indicating high self-confidence, 5 people (34%) had average self-esteem scores, and 2 people (13%) had low self-esteem scores. The focus of the problem in this study is: 1) The high level of work fatigue experienced by health workers in this case focusing on medical personnel caused by several factors, especially excessive working hours and job descriptions which are important points to be considered by hospital management, 2) Low self-esteem in a person in this case medical personnel influences the increase in anxiety in the medical personnel themselves, 3) The high level of anxiety experienced by medical personnel, 4) The anxiety that occurs is caused by the high level of work fatigue that has the potential to cause problems, especially related to Patient Safety Incidents (IKP). Based on the description above, the formulation of the problem in this study is as

follows: 1) How is the level of work fatigue, self-esteem and anxiety levels in general in medical personnel at Kartini Hospital?, 2) How big is the influence of work fatigue on the level of anxiety in medical personnel at Kartini Hospital?, 3) How big is the influence of self-esteem on the level of anxiety in medical personnel at Kartini Hospital?, 4) How big is the influence of work fatigue and self-esteem simultaneously on the level of anxiety in medical personnel at Kartini Hospital? The objectives of this study are as follows: 1) To analyze the level of work fatigue, self-esteem and anxiety levels in medical personnel at Kartini Hospital, 2) To analyze the influence of work fatigue on anxiety levels in medical personnel at Kartini Hospital, 3) To analyze the influence of self-esteem on anxiety levels in medical personnel at Kartini Hospital, 4) To analyze the influence of work fatigue and self-esteem simultaneously on anxiety levels in medical personnel at Kartini Hospital.

## **LITERATURE REVIEW**

### **A) Management Theory Study**

The English term "management" comes from the verb "to manage," which generally means to organize. Specifically, the term "management" is used to describe leaders and leadership, namely individuals involved in the activity of providing direction. In other words, a manager is someone who leads or takes on a leadership role. Management can be defined as both a science and an art. As a science, effective managers generally use scientific methods in decision-making, especially with advances in computer technology (Muslichah, 2020). Meanwhile, management as an art involves various aspects such as leadership, communication, and everything related to the human element. Management encompasses various activities such as leading, organizing, administering, controlling, and developing. Furthermore, management can also be seen as a process carried out to achieve an organization's goals through teamwork. Management has various perspectives and interpretations. This process consists of management activities, namely planning, organizing, directing, and supervising (Hasibuan, 2020). Management has six elements: people, money, raw materials, machine tools, methods, and markets.

### **B) Human Resource Management Theory Study**

Human resource management (HRM) is a series of organizational activities aimed at attracting, developing, and retaining an effective workforce. Managers play a significant role in guiding the people within the organization to achieve desired goals, including considering how to manage human resources (HRM) effectively and efficiently. According to (Ajabar, 2020), HRM is an activity aimed at stimulating, improving, motivating, and maintaining good performance within an organization. HRM is the process of conveying organizational goals through the use of its people. Individuals or employees are managed to possess the competencies and skills necessary to support their work.

Human resource management can be defined as the utilization of human resources within an organization, which is carried out through the functions of human resource planning, recruitment and selection, human resource development, career planning and development, compensation and welfare, occupational safety and health, and industrial relations. Harianja (2020) argues that Human Resource Management (HRM) is: "The activity of planning, procuring, developing, maintaining, and using human resources to achieve goals both individually and organizationally." According to Hasibuan (2020) human resource management is "the science and art of managing relationships and roles of the workforce to effectively and efficiently help realize the goals of the company, employees, and society." Meanwhile, according to Mutiara (2020), Human Resource Management (HRM) is: "The process of managing people, through planning, recruitment, selection, training, development, compensation, career, safety and health and maintaining industrial relations until termination of employment in order to achieve company goals and improve stakeholder welfare." The main functions of HRM are planning for HR needs, staffing according to organizational needs, performance evaluation, improving the quality of employees and the work environment, achieving effective work relations.

### **C) Hospital Management Theory Study**

Hospital management functions as the organization of various resources through a series of activities such as planning, organizing, and controlling to achieve the goals set by the hospital. There are many aspects that need to be considered in hospital management so that all implemented programs and systems can operate smoothly. Hospital management is a form of coordination that is managed from various resources through planning and organizing steps, as well as the ability to control to achieve certain goals (Adikoesoemo, 2017). The objectives of implementing a hospital management system are to: 1) Be able to prepare resources in a more optimal way, especially in the aspect of Human Resources, 2) Be able to carry out service evaluations in a more efficient way, 3)

Be able to manage various service systems better and in a structured manner, 4) Be able to improve service efficiency better, 5) Be able to improve service quality better. (Sudirman, 2023). The principles of service management in hospitals that target excellent service can be explained as follows (Marselinus, 2024): 1) Managing Critical Moments in Service: Crucial moments in service are interactions that take place between customers and various elements of the organization that will shape the customer's view of the quality of service provided by the organization. To be able to provide quality service, every organization needs to recognize and manage critical service moments effectively. In other words, there is a need for conformity or integration between three elements in managing critical moments in service, namely (Arif, 2024): a. Service context, b. Consumer's frame of reference, c. Employee frame of reference, 2) Empathizing with Customers through Creating a Service Circle: In order to provide optimal service, the perspectives of producers and customers need to be aligned. This is often a challenge because generally organizations have implemented their service systems and procedures. To overcome this problem, Arif (2024) developed the idea of a service circle, which refers to a series of important moments felt by customers when using the services offered, 3) Avoiding the Occurrence of Five Types of Gaps

#### **D) Study of Work Fatigue Theory**

Adhinda (2023) stated that work fatigue is a multidimensional concept. He stated that work fatigue is a psychological syndrome consisting of three dimensions, namely: (i) emotional exhaustion, (ii) depersonalization, and (iii) low personal accomplishment. He explained that work that is oriented towards serving others can form an "asymmetric" relationship between the provider and the recipient of service. Types of fatigue According to (Nurhayati, 2021), fatigue can be grouped into two categories, namely: a. Fatigue according to the process: 1) Muscle fatigue, which is a condition where there is tremor or pain in the muscles. This type of fatigue arises due to decreased muscle capacity during activity caused by repeated contractions, both in static and dynamic movements. This causes the individual to appear to lose the ability to complete tasks. 2) General errors, which are characterized by decreased motivation to work due to regular work, intensity level, work duration, work environment, and factors that influence mental state, nutritional status, and general health. Other research shows that around 60% of transport workers with poor work patterns experience general fatigue.

Fatigue based on duration: 1) Acute fatigue, is a type of fatigue characterized by loss of physical energy when carrying out activities, as well as a result of mental burden experienced during work. This type of fatigue appears suddenly when the body's organs function excessively, 2) Chronic fatigue, also known as clinical fatigue, is fatigue that is felt continuously due to factors or activities that last a long time and often. This type of fatigue can occur throughout the day for a long time, and sometimes appears before starting work, causing complaints such as headaches, difficulty sleeping, to digestive disorders. Descriptions of subjective and objective symptoms of fatigue include (Dengo, 2023): a. Feelings of lethargy, drowsiness and dizziness, b. Inability or lack of ability to concentrate, c. Reduced level of alertness, d. Poor and slow perception, e. No or reduced passion for work, f. Decreased physical and mental performance.

Measuring or evaluating the degree of fatigue in the workplace can be done using various methods, both subjective and objective. Objective assessment of work fatigue can use techniques such as reaction timers and brain wave measurements through electroencephalography. Meanwhile, subjective measurements of work fatigue can be done using the Subjective Self-Rating Test questionnaire released by the Industrial Fatigue Research Committee (IFRC), the Work Fatigue and Recovery Scale (OFER), and a questionnaire that measures the level of work fatigue, often abbreviated as (KAUPK2). In this study, the Subjective Self-Rating Test instrument released by the Industrial Fatigue Research Committee (IFRC) will be used as a method to measure work fatigue due to its high ease of use and affordable cost.

#### **E) Anxiety Theory Study**

Anxiety can be described as a mental state filled with fear and worry. It is a feeling of dread and apprehension about things that may or may not happen. The term anxiety comes from Latin (*anxius*) and German (*anst*), which are words used to refer to negative impacts. Anxiety is an emotional response that arises when someone faces stress, characterized by feelings of tension, thoughts that make someone feel worried, and physical reactions such as an increased heart rate, high blood pressure, and others (Collins, 2023). Anxiety is an unpleasant feeling that arises from within an individual. Anxiety is a condition inherent in everyday life that reflects a state of worry, anxiety, and fear. Anxiety also often arises in human life as a response to conflict or certain situations. This state of anxiety can arise or accompany various life conditions and health disorders. A person experiencing anxiety will experience symptoms such as restlessness, worry, anxiety, and confusion.



According to Jeffrey S. Nevid, 2021, there are several recognizable characteristics of anxiety, namely: a) Physical Characteristics of Anxiety. Physical characteristics that indicate anxiety include: restlessness, nervousness, trembling hands or body parts, tension around the forehead, excessive sweating, clammy palms, feeling dizzy or almost faint, dry mouth and throat, difficulty speaking, difficulty breathing, shortness of breath, very fast or pounding heartbeat, trembling voice, cold limbs, dizziness, weakness or tingling, difficulty swallowing, choking sensation, tension in the neck or back, feeling suffocated, cold and clammy hands, digestive problems or nausea, feeling hot and cold, increased frequency of urination, flushing face, diarrhea, and feeling sensitive or irritable. b) Behavioral Characteristics of Anxiety. Behavioral characteristics that define anxiety include: avoidance actions, clinging and dependent behavior, and shaky reactions. c) Cognitive Characteristics of Anxiety. Cognitive characteristics associated with anxiety include: excessive worry, intrusive fears about things that might happen in the future, beliefs that disaster is imminent for no apparent reason, focus on physical sensations, hypervigilance to bodily sensations, feeling threatened by people or situations that are usually harmless.

Factors that cause anxiety are as follows: 1) Age 2) Gender 3) Experience 4) Support. According to Peplau in (Siahaan, 2022), there are four levels of anxiety, namely: 1) Mild Anxiety. This anxiety is related to daily activities. It can encourage the learning process that subsequently results in growth and creativity. Physical and mental symptoms include increased perception and attention, high alertness, awareness of internal and external stimuli, the ability to solve problems well, and the potential for learning. Physical changes may be seen in restlessness, difficulty sleeping, hypersensitivity to sound, with vital signs and pupils remaining normal. 2) Moderate Anxiety. At this level, individuals can focus on significant things and ignore other things, so that the experience of attention becomes more selective, but can still carry out actions more directed. Physiological reactions can include frequent shortness of breath, increased heart rate and blood pressure, dry mouth, discomfort, and constipation. Meanwhile, cognitive reactions are indicated by a narrowing of the perceptual space, an inability to receive external stimuli, and concentration on things that are of primary concern.

3) Severe Anxiety: Severe anxiety severely affects an individual's perspective, which tends to focus on specific aspects and details, preventing them from thinking about other things. All actions are directed toward reducing the tension felt. Symptoms of severe anxiety include a very narrow perception, a focus on details, very limited attention, difficulty concentrating or solving problems, and an inability to learn well. At this stage, individuals may experience headaches, dizziness, nausea, tremors, insomnia, palpitations, tachycardia, hyperventilation, increased frequency of urination or defecation, and diarrhea. Emotionally, individuals experience fear with a complete focus on themselves. 4) Panic: At the panic stage, anxiety becomes very intense, characterized by feelings of shock, fear, and terror. The loss of control makes someone in a panic state unable to do anything even when given directions. Panic triggers a surge in motor activity, as well as a decrease in the ability to interact socially, accompanied by impaired perception and a loss of logical thinking. This anxiety is inconsistent with the norms of life; if it persists too long, it can cause extreme exhaustion and even lead to death. The signs and symptoms of panic levels are the inability to concentrate on one event. (Kusumawardhani, 2017)

*Zung Self-rating Anxiety Scale* (The Zung Self-Rating Anxiety Scale (ZSAS) is a questionnaire used to measure anxiety-related symptoms. It is designed to record the presence of anxiety and assess its quantitative level. Zung has evaluated its validity and reliability, and the results are good. Research shows that its internal consistency in psychiatric and non-psychiatric samples is adequate, with good overall item correlation and good test reliability. The Zung Self-Rating Anxiety Scale (ZSAS) focuses on somatic complaints that represent anxiety symptoms. This questionnaire contains 20 questions, consisting of 5 positive statements and 15 negative statements that describe anxiety symptoms. The total score for each question is a maximum of 80 and a minimum of 20, with a high score indicating a high level of anxiety. The Zung Self-Rating Anxiety Scale (ZSAS) has been widely used as an anxiety screening tool. This questionnaire is also often used to assess anxiety during and after someone receives therapy for their anxiety disorder. (Bektas, 2023)

## **F) Self Esteem Theory Study**

M. Nur Ghufuron and Rini Risnawati (2020) argue that self-esteem reflects the extent to which positive or negative assessments are related to an individual's self-perception. Self-esteem evaluation is a person's view of themselves, both positive and negative, and can include critical assessments. According to Santrok, through Angelina, self-esteem can also be understood as a comprehensive assessment of oneself, whether positive or negative. Therefore, it can be concluded that self-esteem is a vital component of one's personality, which plays an important role in everyday life and is usually closely related to self-esteem, as well as beliefs in one's abilities, success, and self-worth (Angelina, 2021).

*Self-esteem* Self-esteem relates to how a person views themselves, which will influence their daily life, such as positive statements that indicate self-esteem (Destari & Suwandi, 2023). One factor that can increase a person's assertive behavior is self-esteem. Self-evaluation that shows how valuable they are and an understanding of their abilities can encourage someone to more easily express themselves in their environment (Ardaningrum & Savira, 2022). One of the biggest problems people have with self-esteem is how they see themselves, such as being unable to accept or even not knowing who they are and what they think. Therefore, understanding personal self-esteem is the first step. After taking this step, a person can consider various ways to change their life positively (Dharma *et al.*, 2020).

McGregor's theory of self-esteem does not explicitly address the concept of "self-esteem" in the sense commonly used in psychology. However, McGregor's motivational theories, specifically Theory X and Theory Y, have implications for how individuals view themselves and how they are motivated in the workplace. Theory X assumes that individuals are inherently lazy and dislike work, thus requiring close supervision and external incentives. Theory Y, in contrast, assumes that individuals are intrinsically motivated and enjoy work, as well as capable of responsibility and self-direction. Maslow's theory of self-esteem is part of a hierarchy of human needs known as Maslow's Hierarchy of Needs. In this hierarchy, self-esteem is the fourth level of need, emerging after physiological, safety, and love/belongingness needs are met. Maslow divided self-esteem needs into two types: self-respect and respect from others. According to Morris Rosenberg, self-esteem is a person's attitude toward themselves, whether positive or negative. It is a self-evaluation that includes feelings of worth, satisfaction, and self-acceptance. A person with high self-esteem tends to feel valuable and capable, while someone with low self-esteem tends to feel worthless and incapable.

According to Coopersmith in Alfaruqy (2021), there are four dimensions of self-esteem, namely: a. Strength. This refers to the ability to control and regulate one's own behavior and interactions with others. Signs include respect and acceptance of the individual's views and rights by others. b. Significance. This relates to the attention, care, and affection an individual feels from those around them. c. Virtue. An adherence to ethical codes, morals, and religious principles, as evidenced by behavior that avoids prohibitions and carries out those permitted by moral, ethical, and religious norms. d. Ability. This refers to the achievement of meeting achievement demands, as evidenced by an individual's success in completing various tasks or jobs. The Rosenberg Self-Esteem Scale (RSES) is a measuring tool used to assess a person's self-esteem. Interpretation of RSES scores is done by looking at the total score range obtained by the respondent. Low scores (usually below 15) indicate low self-esteem, while high scores (above 25) indicate normal or high self-esteem.

## **G) Empirical Study**

The relationship between anxiety and work fatigue has been widely studied, particularly among workers in the industrial sector, but research on this issue among healthcare workers remains limited. Most existing studies focus on stress or depression that arise from work fatigue. One study examining the relationship between work fatigue and anxiety in the health sector was conducted among students at the Faculty of Medicine, Muhammadiyah University of Semarang in 2019. The study adopted an analytical observational approach and employed a cross-sectional design with purposive sampling. The measurement tool for anxiety was the Beck Anxiety Inventory, while for fatigue, the Subjective Self-Rating Test was used. The data were then analyzed bivariate using Spearman's Rank correlation. Of the 64 respondents, 42 (65.6%) reported experiencing moderate anxiety, 26.6% experiencing severe anxiety, and 7.8% experiencing mild anxiety. Meanwhile, the highest level of fatigue was in the moderate category (46.9%), followed by low fatigue (40.6%), high fatigue (10.9%), and very high fatigue (1.6%). The Spearman Rank correlation test obtained a p-value of 0.000 ( $<0.05$ ) and a correlation coefficient ( $r$ ) of 0.829, indicating a strong relationship between anxiety and fatigue. This indicates a significant relationship between anxiety and fatigue among students of the Faculty of Medicine, Muhammadiyah University of Semarang, class of 2019, with the same p-value of 0.000 ( $<0.05$ ) and a correlation coefficient ( $r$ ) of 0.829. (Madinah, 2023)

Another study examined the relationship between anxiety levels and adolescent self-esteem on mental health at SMAN 7 South Bengkulu. From this study, the influence of anxiety levels and adolescent self-esteem on mental health was stated to be weak, namely 0.71%. The results of the data obtained from 100 adolescents in the Kampung Melayu sub-district of Bengkulu City, the aim of which was to determine the influence of anxiety levels and adolescent self-esteem on mental health at SMAN 7 South Bengkulu. Furthermore, the results of the study above showed that the influence of anxiety levels and adolescent self-esteem on mental health at SMAN 7 South Bengkulu was in the weak category, namely only around 0.71% of the influence (Elnita, 2021). Another study conducted by Rosyidah (2024) found that the influence of self-esteem on burnout in teachers at SMPN 52 Bandung,

namely the self-esteem variable had a significant effect on the onset of burnout in teachers. This can be seen from the results of the t test showing that the calculated t is  $5,340 > t \text{ table } 1,697$  and the significance value is below 0.05. meaning  $0.000 < 0.05$  it can be said that self-esteem plays a significant role in the emergence of burnout in teachers at SMPN 52 Bandung. Teachers at SMPN 52 Bandung feel fatigue in working or the emergence of burnout in teachers due to the number of working hours that are too long at school, and the number of students who must be served is too much, making teachers feel physically and emotionally exhausted during working hours.

#### **H) Research Hypothesis**

The hypothesis in this study is that there is an influence of work fatigue on the level of anxiety in medical personnel at Kartini Hospital: 1) There is an influence of self-esteem on the level of anxiety in medical personnel at Kartini Hospital, 2) There is an influence of self-esteem on the level of anxiety in medical personnel at Kartini Hospital, 3) There is an influence of work fatigue and self-esteem simultaneously on the level of anxiety in medical personnel at Kartini Hospital.

#### **RESEARCH METHODS**

This study uses a quantitative correlational approach. According to Sugiyono (2022), quantitative research techniques are positivist-based research methods used to examine specific populations or samples. According to Sugiyono (2022), primary sources are data sources that directly provide data to data collectors. In this study, the primary data used were several questionnaires on fatigue levels, self-esteem, and anxiety levels among medical personnel at Kartini Hospital. The independent variable is the variable that influences or causes changes in the dependent variable or variable Y, which is the problem in this study (Ansori, 2020). The independent variables in this study are work fatigue and self-esteem among medical personnel at Kartini Hospital. The dependent variable is the dependent variable influenced by variable X or the independent variable. The dependent variable in this study is anxiety experienced by medical personnel at Kartini Hospital. The data collection method used was a questionnaire or questionnaire list of questions given to respondents with the intention of being willing to provide responses according to the researcher's request. Prior to this, a meeting was held with management regarding the implementation of this research, which was then disseminated to all medical personnel at Kartini Hospital. The questionnaires were completed simultaneously and included three types: work fatigue, self-esteem, and anxiety. A questionnaire is a tool used to collect data through a series of questions designed to measure research variables (Hamzah, 2021).

The population in this study was all medical personnel at Kartini Hospital, consisting of 4 dentists, 27 doctorsspecialists, 6 general practitioners, 55 midwives divided into polyclinic midwives, midwives in the delivery room, midwives in the treatment room and midwives in the operating room, 20 nurses, 11 pharmacists, 6 laboratory analysts, 4 radiographers and 1 nutritionist. The sample in this study was medical personnel at Kartini Hospital who worked with a shift system, namely 6 general practitioners, 55 midwives divided into polyclinic midwives, midwives in the delivery room, midwives in the treatment room and midwives in the operating room, 20 nurses, 11 pharmacists, 6 laboratory analysts, 3 radiographers and 1 nutritionist. With the following sample criteria: a) Inclusion Criteria: 1) Medical Personnel who have a SIP at Kartini Hospital, 2) Medical Personnel who have permanent employee status at Kartini Hospital, 3) Medical Personnel with a minimum of 5 shifts per week (shift system: 1 shift = 8 working hours for morning and afternoon and 10 working hours for night work hours). b) Exclusion Criteria: 1) Medical Personnel who are still interns / in a probationary period who practice at Kartini Hospital, 2) Medical Personnel with a number of shifts less than 5 shifts per week, 3) Medical Personnel who do not work with a shift system. Based on the calculation of the number of samples using the Slovin formula, 82 samples were obtained.

In testing the research questionnaire instrument, validity tests, measuring instrument reliability tests, normality tests, and data conversion were carried out. The classical assumption test is a series of statistical tests conducted on linear regression models, especially those based on Ordinary Least Squares (OLS), to ensure that the model meets the basic assumptions required for valid and reliable regression results. The main objective is to ensure that the resulting regression model is the best model (Best Linear Unbiased Estimator or BLUE) in terms of estimation accuracy, unbiasedness, and consistency (Mintarti, 2024). The research instruments used in this study were a questionnaire to assess work fatigue, namely the IFRC Questionnaire, the Zung Self-Rating Anxiety Scale questionnaire to assess anxiety, and the RSES to assess self-esteem. Verification analysis used Multiple Linear Regression Analysis which was used to determine the effect of independent variables (work fatigue and self-esteem) on the dependent variable (anxiety) both partially and simultaneously. Partial hypothesis testing is also carried out which includes: A. Partial Hypothesis Test: (t-Test) Partial test or also called t-test in multiple linear regression

analysis aims to find out whether the independent variable (X) partially (alone/each variable) has a significant effect on the dependent variable or called (Y), B. Simultaneous Hypothesis Test (F-Test). The F test aims to find out whether the independent variables together (simultaneously) affect the dependent variable. The F test is carried out to see the effect of all independent variables together on the dependent variable. The level used is 0.5 or 5%, if the significance value of  $F < 0.05$  then it can be interpreted that the independent variables simultaneously affect the dependent variable or vice versa (Ansori, 2020).

## RESULTS AND DISCUSSION

The majority of respondents in this study were women, namely 65 people (79.3%) and men as many as 17 people (20.7%). The majority of respondents in this study were in the age range of 26-35 years, namely 48 people (58.5%) and the fewest respondents were in the age range above 55 years, namely 3 people (3.7%). The majority of respondents had the latest education at the D-III level, namely 59 people (72%) and the fewest were at the S2 level, namely 1 person (1.2%). The majority of respondents came from the Inpatient work unit, namely 23 people (28%) and the fewest came from the Nutrition and Radiology work unit, namely 1 person (1.2%). The majority of respondents had a work period at Kartini Hospital for 4-7 years, namely 39 people (47.6%) and the fewest were in the work period range of 11-15 years, namely 1 person (1.2%). The majority of respondents had 6 shifts, amounting to 48 people (58.3%), and those who worked in 5 shifts were 34 people (41.5%). The majority of respondents were married, amounting to 45 people (54.9%), single status was 34 people (41.5%), and divorced status was 3 people (3.7%).

Data quality testing is a test required in research using questionnaire instruments, the purpose of which is to ensure the accuracy of the data obtained. This test consists of Validity and Reliability tests. From the results of the validity test, it was found that the three variables have valid research instruments. From the results of the reliability test, it was found that the three variables in this study have reliable instruments. Based on the results of the One-Sample Kolmogorov-Smirnov test, it was found that the data distribution was normally distributed. Based on the multicollinearity test, it was found that there were no symptoms of multicollinearity in the regression model. Based on the heteroscedasticity test, it was found that the variables Work Fatigue, Self Esteem and Anxiety had a significance value (Sig.)  $> 0.05$ . So it can be concluded that there were no symptoms of heteroscedasticity in this study. Based on the results of the Autocorrelation test, the Durbin-Watson value (d) was 1.979, greater than the upper limit (dU) of 1.6216 and less than  $(4-dU) = 4-1.6131 = 2.378$ . So it can be concluded that there are no problems or symptoms of autocorrelation.

Based on the results of data processing as stated in the recapitulation of the results of the multiple linear regression analysis, the multiple regression line equation can be formed as follows:

$$Y = 14.355 + 0.503 X_1 - 0.270 X_2$$

(1)

The regression equation above can be explained as follows:

1. The level of anxiety is a constant value of 14.355, if Work Fatigue ( $X_1$ ), Self Esteem ( $X_2$ ), the value is 0.
2. The level of anxiety will increase by 0.503 if Self Esteem ( $X_2$ ) and its value is 0. If Variable  $X_1$  (Work Fatigue) increases, then Variable Y (Anxiety) will also increase.
3. The level of anxiety will decrease by 0.270 if the value of Job Fatigue ( $X_1$ ) is 0. If the variable  $X_2$  (Self Esteem) increases, then the variable Y (Anxiety) will decrease. The multiple correlation value (r) is 0.808. This shows a very strong relationship between Job Fatigue ( $X_1$ ), Self Esteem ( $X_2$ ), and Anxiety (Y) of medical personnel at Kartini Hospital, Jakarta.

### Partial Test (t-statistic test)

The results of partial test calculations using SPSS version 27, with the following results: This test was conducted to partially test whether each independent variable has a significant influence on the dependent variable. Partial statistical hypothesis testing of the research is formulated as follows:

#### 1. Hypothesis 1: Job Fatigue on Anxiety of Medical Personnel

( $H_0 : b_1 = 0$  : There is no positive and significant influence of Work Fatigue on Medical Personnel Anxiety

( $H_a : b_1 > 0$ ): There is a positive and significant influence between Job Fatigue and Anxiety of Medical Personnel

Testing criteria:

- a. If  $t \text{ count} > t \text{ table}$ , then  $H_0$  is rejected and  $H_a$  is accepted, b. If  $t \text{ count} < t \text{ table}$ , then  $H_0$  is accepted and  $H_a$  is rejected



Based on the SPSS calculation results table, the t count of the Work Fatigue variable (X1) is 10.352. Then the t table at a confidence level of 95%,  $\alpha = 5\%$ , t table  $(0.05/2: 82-2-1) = (0.025: 79)$  obtained a t table of 1.993. Because the t count of  $10.352 > t$  table 1.994,  $H_0$  is rejected and  $H_a$  is accepted, meaning that there is a positive and significant influence between Work Fatigue and Medical Personnel Anxiety. The conclusion is proven that work fatigue has a positive and significant influence in increasing Medical Personnel Anxiety.

## **2. Hypothesis 2: Self-Esteem on Medical Personnel Anxiety**

( $H_0 : b_1 = 0$ ): There is no positive and significant influence of Self Esteem on Anxiety of Medical Personnel

( $H_a : b_1 > 0$ ): There is a positive and significant influence between Self Esteem on Anxiety of Medical Personnel

Testing criteria:

a. If t count  $> t$  table, then  $H_0$  is rejected and  $H_a$  is accepted. b. If t count  $< t$  table, then  $H_0$  is accepted and  $H_a$  is rejected.

Based on the SPSS calculation results table, the t count of the Accessibility variable (X2) is -1.837. Then the t table at a 95% confidence level  $\alpha = 5\%$ , t table  $(0.05/2: 82-2-1) = (0.025: 79)$  obtained a t table of 1.994. Because the t count  $< t$  table, then  $H_0$  is accepted, meaning there is no positive and significant influence between Self Esteem and Anxiety. The conclusion is that Self Esteem does not have a positive and significant influence on Anxiety. So, although it is known that Self Esteem and Anxiety have an inverse relationship (If Self Esteem increases then anxiety decreases and vice versa) but this in this study is not statistically significant, because the t count is lower than the t table (without paying attention to the negative sign).

## **Simultaneous Test (F Test)**

To test the significance or significance of whether the independent variables of Work Fatigue (X1), Self Esteem (X2), simultaneously have a significant effect on the dependent variable of Medical Personnel Anxiety (Y). Statistical hypothesis:  $H_0$ : There is no positive and significant influence between Work Fatigue, Self Esteem on Medical Personnel Anxiety.,  $H_a$ : There is a positive and significant influence between Work Fatigue, Self Esteem on Medical Personnel Anxiety. Based on the SPSS calculation results table, the calculated F is 74.301. Then the F table at a confidence level of 95%,  $\alpha = 5\%$ , df 1 (number of variables-1) = 2, and df 2 (nk-1) or  $82-2-1 = 79$ . So the F table at a significance level of 5% ,2 (79) is obtained for the F table of 3.112. Testing criteria: 1. If the calculated  $F > F$  table, then  $H_0$  is rejected, 2. If the calculated  $F < F$  table, then  $H_0$  is accepted. Because F count  $> F$  table ( $74.301 > 3.112$ ), then  $H_0$  is rejected, meaning there is a positive and significant influence between work fatigue and self-esteem on medical personnel anxiety. So it can be concluded that simultaneously work fatigue and self-esteem have a positive influence on medical personnel anxiety.

Based on the results of the regression equation model, there is a match between the results of the correlation coefficient which indicates a strong relationship and the results of the high coefficient of determination ( $R^2$ ) which indicates the influence of work fatigue and self-esteem simultaneously on anxiety. Based on the partial t-test hypothesis testing, the regression coefficient is positive and significant ( $p < 0.05$ ) on the work fatigue variable. This means that the higher the work fatigue experienced, the higher the level of anxiety experienced by medical personnel at Kartini Hospital. This is in line with the theory of Koutsimani (2019) which states that emotional exhaustion and cynicism are positively related to anxiety symptoms, while professional efficacy is negatively related to anxiety symptoms. This means that the more someone feels emotionally exhausted which is one indicator of work fatigue will cause someone to be less efficient at work and parallelly will increase anxiety in that person. The conclusion of the study states that individuals who are more susceptible to experiencing higher levels of anxiety (trait anxiety) are also more likely to experience work fatigue and this is related and significant.

A similar study by Wong (2019) investigated the impact of long working hours on depressive symptoms in Japanese residents. It found that compared with residents working less than 60 hours per week, those working 80 to 99.9 hours per week and more than 99.9 hours per week had a 2.83- and 6.96-fold greater risk of depression, respectively. Other findings showed significant differences in stressor exposure and emotional symptomatology between shift work groups. The results showed that emotional symptomatology, job stress, and anxiety levels were significantly higher in medical personnel working rotating shifts compared to day shifts. This may be due to the long night shifts and variable work schedules of hospital nurses. Long, variable shifts can disrupt the circadian cycle and lead to sleep disturbances, increased mental stress, persistent fatigue, and behavioral changes such as irritability, poor attitude, decreased communication skills, decreased ability to cope with emotional demands at work, and decreased efficiency (Cuenca, 2021). These findings are in line with the results of previous research as summarized in the empirical study conducted by Tin Murtini (2023) and Madinah (2023) which showed that there is a positive

relationship between work fatigue and anxiety, namely the higher the level of work fatigue, the higher the level of anxiety and the relationship between the two variables is stated to be significant.

*Self Esteem* is important in reducing the risk of anxiety. The theory states that the higher a person's self-esteem, the lower the level of anxiety that may occur in that individual (Gayatri, 2020). However, in this study, the results of the partial t-test hypothesis testing on the self-esteem variable did not find a significant relationship between self-esteem and anxiety because the  $p > 0.05$  result. Thus, the relationship between the two variables is not statistically significant, although it can be said that both still have a correlation where the higher the self-esteem, the lower the level of anxiety (minus coefficient value). This supports Gregor's theory (2023) which states that low self-esteem causes higher anxiety, or higher anxiety causes low self-esteem because the relationship is symmetrical in both directions. Furthermore, there is a strong positive relationship between self-esteem and life orientation, and a fairly strong negative relationship between life orientation and anxiety. High self-esteem leads to a meaningful mindset and a virtuous life oriented towards higher moral perfection. Conversely, higher levels of anxiety can lead to lower meaningful mindsets. A similar theory was put forward by Ashfaq (2024), who found that those with higher self-esteem typically felt less anxious, while those with lower self-esteem typically felt slightly more anxious. However, this association was not very strong, suggesting that changes in one variable do not always produce similar changes in the other.

Rosenberg identified several factors related to self-esteem and influencing anxiety levels. Individuals with low self-esteem often experience an unclear perception of their self-image, which is highly valued by each individual. When individuals experience instability and uncertainty with their self-image, anxiety can be triggered by this sense of loss. Furthermore, individuals with low self-esteem are generally sensitive or vulnerable to criticism or negative opinions about themselves. When individuals are disturbed by this condition, it often triggers psychosomatic symptoms in the form of anxiety (Janice, 2024). When individuals feel worthless in life, they can also develop feelings of isolation. Individuals are unable to fully open themselves to others. This situation triggers physical and psychological loneliness, triggering anxiety due to a lack of social support from the environment. The statement above demonstrates the importance of self-esteem in influencing individual anxiety. High self-esteem can provide confidence in facing challenges (self-efficacy). Furthermore, the characteristics possessed by individuals with high self-esteem can prevent psychosomatic symptoms in the form of anxiety. Anxiety can occur in anyone, and it is normal. However, excessive and prolonged anxiety can have a negative impact, especially on academic achievement (Yuniarti, 2020).

Individuals with low self-esteem may perceive themselves as less valuable in the eyes of others, making it difficult for them to initiate social relationships (Behera, 2025). Low self-esteem is associated with a lack of self-confidence, a tendency to avoid others, higher levels of depression, anxiety, negative moods, and decreased life satisfaction (Holas, 2023). Low self-esteem is considered a significant risk factor for anxiety symptoms (Li, 2023). This is in line with previous studies such as those by Nurhayati (2022), Suparman (2019), Tita (2022), Aryani (2022), Azar (2020), Odeh (2019), Basco (2016), Jonathan (2024), Fitriah and Haryono (2019), Saragih (2021), Ate (2025), Halawa (2022). The research shows a relationship between self-esteem and anxiety, where people with high self-esteem will have lower levels of anxiety than individuals with low self-esteem.

Anxiety is an emotional state that arises when an individual is under stress, and is characterized by feelings of tension, thoughts that make the individual feel worried and accompanied by physical responses. Anxiety is one manifestation of work fatigue and also low self-esteem or self-confidence in facing a situation. In this study, the two independent variables (work fatigue and self-esteem) together explain a significant influence on anxiety in accordance with the theory of Mendez (2020) and Li (2023) that anxiety can be influenced by low self-esteem and also high work fatigue. Based on the results of the multiple regression equation model study, it shows a positive influence on the work fatigue variable and a negative relationship on the self-esteem variable. This means that the higher the work fatigue and the lower the self-esteem, the higher the level of anxiety of the individual (in this study, medical personnel at Kartini Hospital). Based on the results of the simultaneous F test hypothesis test, the F-count value is  $> F$  Table with a significance level  $< 0.05$ , so it can be concluded that together (simultaneously), work fatigue and self-esteem have a positive and significant effect on patient satisfaction.

This is in line with previous research conducted by Li (2023) and Mendez (2020), which suggested that high levels of job fatigue and low self-esteem play a significant role in increasing worker anxiety, particularly among medical personnel. From the above opinion, it can be concluded that anxiety is a natural response of the body to stressors. If stress (job fatigue) occurs in excessive circumstances, anxiety will also increase. Furthermore, individuals with low self-esteem often experience unclear perceptions of their self-image, which is very valuable to each individual. When individuals experience instability and uncertainty with their self-image, anxiety can be

triggered by this sense of loss. Furthermore, individuals with low self-esteem are generally sensitive or vulnerable to criticism or negative opinions about themselves. When individuals are disturbed by these conditions, it often triggers psychosomatic symptoms in the form of anxiety (Batiola, 2022). High self-esteem can provide confidence in facing challenges (self-efficacy). Furthermore, the characteristics possessed by individuals with high self-esteem can prevent psychosomatic symptoms in the form of anxiety. Therefore, it can be concluded that individuals with low self-esteem tend to have high levels of anxiety. The anxiety caused by high levels of work fatigue, coupled with low self-esteem, can ultimately lead to decreased work productivity (Amer, 2021). Therefore, hospital management and leaders must be concerned about this so that it can be addressed and does not impact external parties, in this case, patients as recipients of medical services.

## CONCLUSION

Based on the analysis of primary and secondary data as well as the results of multiple linear regression analysis and hypothesis testing and research data on the anxiety of medical personnel at Kartini General Hospital, South Jakarta, the following conclusions can be drawn:

1. Descriptive analysis, where respondents' opinions about work fatigue and self-esteem towards anxiety, are in the mild to moderate category for the variables of work fatigue and anxiety in the normal and mild stages, and self-esteem in the normal category tends to be high so that in general it can be said that medical personnel at Kartini Hospital have levels of work fatigue and anxiety that are within reasonable limits and self-esteem at a good level.
2. It was also found that the highest levels of work fatigue were found among medical personnel working in the Emergency Room, Inpatient Unit, and Operating Room. The lowest levels of work fatigue were found among medical personnel working in the polyclinic and nutrition units. This is consistent with the highest levels of anxiety also in the Emergency Room, Inpatient Unit, and Operating Room, and the lowest in the polyclinic and nutrition units. This is due to the high workload and work risks as well as more complex and extensive job descriptions in the Emergency Room, Inpatient Unit, and Operating Room compared to other units. Meanwhile, the highest levels of self-esteem were found among medical personnel working in Perinatology, the Delivery Room, and Inpatient Units, while the lowest self-esteem was found among medical personnel in the Pharmacy and Polyclinic Units.
3. The results of the multiple regression equation model indicate a positive and unidirectional functional relationship between work fatigue and anxiety, meaning that the level of work fatigue will influence anxiety, where increasing work fatigue will also increase anxiety. This is in line with the results of the correlation coefficient indicating a strong relationship and the coefficient of determination indicating a large influence.
4. The results of the multiple regression equation model indicate a negative and insignificant functional relationship between self-esteem and anxiety. This means that the level of self-esteem will influence anxiety, where increasing self-esteem will decrease anxiety levels. This is in line with the results of the correlation coefficient, which shows a weak relationship, and the coefficient of determination, which shows an insignificant effect.
5. The results of partial hypothesis testing show a positive and significant influence of work fatigue on the anxiety of medical personnel.
6. The results of partial hypothesis testing show that there is no positive and significant influence of self-esteem on medical personnel anxiety.
7. *Self Esteem* with Anxiety has an inverse relationship, meaning that if Self Esteem increases, anxiety decreases, and this is not statistically significant.
8. The results of simultaneous hypothesis testing show a positive and significant influence between work fatigue and self-esteem on the anxiety of medical personnel.
- 9.

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