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CROSS SECTIONAL DESIGN

Background: Every profession and employee in both developed and developing countries is affected by occupational stress, which is a global problem. Due to the great burden and responsibility of safeguarding human lives, the anesthesia care profession is particularly vulnerable to stress. And high levels of occupational stress can cause health problems, such as mental and behavioral disorders such as fatigue, anxiety, and depression, as well as other physical disorders such as cardiovascular disease and musculoskeletal disorders that affect service functions. The role of expert anesthesiologist has a function in pre, intra, post anesthesia care services and emergency management. Objective: To identify the characteristics of anesthesiologist's work stress level based on age, gender, working period, working hours and latest education in the surgical room. Methods: This research is descriptive quantitative with a cross sectional approach. The study population was 39 respondents, the focus of observation in this study was a description of the stress level of anesthesia administrators in the surgical room of the Banyumas Regency Hospital. Results: This study shows the level of stress with mild stress category with a total of 19 respondents with a percentage (48.7%) and moderate work stress as many as 4 respondents with a percentage (10.3%). Conclusion: The results of this study indicate the presence of mild and moderate work stress in surgical room anesthesiologists at the Banyumas Regency Regional Hospital.

Keywords: Occupational Stress, Anesthesiology, Anesthesiologists, Operating Rooms

Introduction:

The surgical room is an area that provides surgical services with a very high risk of accident cases (1). The surgical team in the operating room consists of surgeons, surgical assistants, instrument nurses, circular nurses, and anesthesia administrators (2). Anesthesiology and intensive therapy in hospitals are developing rapidly as part of health services due to advances in technology and science in the field of anesthesia (Sulistiyowati, (3). An anesthesiologist is any individual who has completed anesthesia nursing education or anesthesia stylist in accordance with statutory regulations. In their professional practice, anesthesiologists are authorized to provide anesthesia care in preanesthesia, intraanesthesia, and postanesthesia (4).
As stated by the International Labour Organization (2016), every profession in both developed and developing countries is affected by occupational stress, which is a global problem. In recent decades, globalization and technological advances have changed the world of work, bringing new work patterns, working relationships, and organizational forms. This has increased stress in the workplace (5).

Another study of 427 anesthesiologists and nurse anesthetists found that 28% scored high on a psychological distress scale and that 11% were currently under treatment for anxiety or depression (6).

The results of previous research, Alif Achmad Fahrizal (2019) in his research found that most anesthesia nurses in surgical rooms in the Yogyakarta Special Region in March 2019 had mild work stress 7 people (21.9%) and severe work stress 25 people (78.1%) (7). However, according to Ang Kim Ho (2021), anesthesiologists between the ages of 20 and 40, who are married and have a DIII Nursing education experience high job stress (8). In her research, Annabilah (2022) found that in East Kalimantan Province, most anesthesiologists experienced moderate levels of job stress as many as 61 people (80.3%), 56 people (73.7%) were male, 39 people (51.3%) were aged 22 to 40 years, and 46 people (60.5%) had more than 15 years of service (9).

An imbalance between one's needs and resources causes stress, a greater degree of disparity leads to greater stress, which is potentially dangerous (10). The impact of work stress experienced by workers in the workplace can cause changes in individuals experiencing stress (11).

There are three ways to deal with stress: awareness, analysis and action. First, the awareness stage includes an understanding of what stress is, how it occurs, its sources, and the models used to guide analysis. Next, tools to identify and measure stress are used to understand the process and origins of stress. Finally, the stress management stage includes taking action to manage stress (12).

The role of the anesthesiologist is to provide anesthesia care in the operating room. An expert anesthesiologist has a function in his duties, namely doing things such as providing pre, intra, and post-anesthesia care and handling emergencies (13). Due to the great burden and responsibility for maintaining the safety of human life, the anesthesia stylist profession has a high risk of exposure to stress.

From the data mentioned by Mr. Iwan Shobri as CPD (Continuing Professional Development) DPP IPAI on January 5, 2023 via Email, the number of anesthesia stylists throughout Indonesia in 2022 amounted to 5,395 stylists registered as IPAI members. The results of an interview with the chairman of IPAI DPC Banyumas, Mr. Rismanto, SKM at Prof. Dr. Margono Hospital on October 5, 2022, the number of anesthesiologists in the Banyumas area is around 40 anesthesiologists spread across hospitals in the Banyumas Regency area.

The high demands of duties and responsibilities in maintaining patient safety together when performing anesthesia nursing care can trigger work stress in anesthesiologist. This work stress itself has various impacts, one of which has an impact on the decline in care services. Therefore, it is necessary to get an overview of the level of work stress of anesthesiologist so that prevention and treatment can be made.

**Method:**

The research method used in this study was quantitative with a cross-sectional approach. Quantitative descriptive research is a type of research conducted with the stages of a quantitative approach to obtain more information about a phenomenon and to provide answers to a problem (14). The sample technique in this study used total sampling of 39 anesthesiologists. Total
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sampling is a sampling technique in which all members of the population are sampled (15). This research has been approved by the Harapan Bangsa University research ethics review board with approval number No. B.LPPM- UHB/1825/05/2023 on May 22, 2023. This research instrument uses The Workplace Stress questionnaire.

Study Design
This analysis uses primary data from the results of questionnaires conducted on the respondents studied, namely anesthesiologists in hospitals in the banyumas district and data about respondents. With the inclusion criteria, respondents work in hospitals in the Banyumas District, have a registration certificate from IPAI and are willing to become respondents.

This study was conducted by giving a workplace stress scale questionnaire to determine the level of work stress of anesthesiologist in the surgical room of the hospital in the Banyumas district area who were respondents in this study.

Data Collection and Outcome Measurement
In this study, there were several stages of data collection, namely preparation, administration, explanation, collection, and processing. Data was collected using The Workplace Stress Scale questionnaire and the processing included coding, editing, scoring, processing, and cleaning.

This study focuses on measuring the occupational stress level of anesthesiologists.

Work Stress Levels
Anxiety levels were measured using The Workplace stress scale (WSS), with scores of ‘1-15’ no stress; ‘16-20’ mild work stress; ‘21-25’ moderate work stress; ‘26-30’ severe work stress (7).

Statistical analyses
All statistical analyses in this study used SPSS statistics with Version 23.0; IBM. The data analysis method is carried out with the aim that the data from the research results which are still in the form of rough data to be easier to read and interpret. Data analysis method used in this study were analyzed using univariate analysis. The purpose of this analysis is to see the magnitude of the proportion of the variables studied consisting demographic data (age, gender, length of work, hours worked, and last education), data on occupational stress levels and identifying the level of stress experienced by anesthesiologist at the Banyumas Regency Hospital.

According to Notoatmojo (2012) univariate analysis aims to explain or describe the characteristics of respondents based on the characteristics of each variable. To find out characteristics of each research subject by calculating the distribution and percentage of each group (16).

Result

| Table 1. Frequency distribution of respondents’ occupational stress |
|---------------------------------|---|---|
| Category                       | f | %  |
| No Stress                      | 16 | 41.0 |
| Mild Work Stress               | 19 | 48.7 |
| Moderate Work Stress           | 4  | 10.3 |
| Total                          | 39 | 100.0 |

Based on table 1, it can be seen that the work stress of anesthesiologists in the Banyumas Regency Hospital is a mild stress category with a total of 19 respondents with a percentage (48.7%) and moderate work stress as many as 4 respondents with a percentage (10.3%) and 16 respondents (41.0%) do not experience work stress.

<p>| Table 2. Frequency distribution of occupational stress based on respondents’ age |
|---------------------------------|---|---|---|---|</p>
<table>
<thead>
<tr>
<th>Age</th>
<th>No Stress</th>
<th>Mild Work Stress</th>
<th>Moderate Work Stress</th>
<th>Total</th>
</tr>
</thead>
</table>

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Table 2 shows that the majority of anesthesiologists in the Banyumas Regency Hospital are aged 36-45 years (late adulthood) as many as 21 respondents (53.8%) with those who do not experience work stress, namely 11 respondents (27.9%) and those who experience mild work stress, namely 9 respondents (23.1%) and those who experience moderate work stress, namely 1 respondent (2.6%) with a total percentage of (53.8%).

Table 3. Frequency distribution of occupational stress based on respondents’ period of work

<table>
<thead>
<tr>
<th>Period Of Work</th>
<th>Occupational Stress</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Stress</td>
<td>Mild Work Stress</td>
</tr>
<tr>
<td>&lt; 6 years</td>
<td>f %</td>
<td>f %</td>
</tr>
<tr>
<td>0-6 years</td>
<td>2 5.1</td>
<td>7 17.9</td>
</tr>
<tr>
<td>6-10 years</td>
<td>0 0</td>
<td>2 5.1</td>
</tr>
<tr>
<td>&gt; 10 years</td>
<td>14 35.9</td>
<td>10 25.6</td>
</tr>
<tr>
<td>Total</td>
<td>16 41.0</td>
<td>19 48.7</td>
</tr>
</tbody>
</table>

Table 3 shows that most anesthesiologists in hospitals in Banyumas Regency with working hours > 8 hours experienced mild stress, namely 15 respondents (38.5%) and moderate work stress, namely 3 respondents (7.7%), while anesthesiologists with working hours ≤ 8 hours experienced mild work stress, namely 4 respondents (10.3%) and moderate work stress, namely 1 respondent (2.6%).

Table 4. Frequency distribution of work stress based on respondents’ working hours

<table>
<thead>
<tr>
<th>Working Hours</th>
<th>No Stress</th>
<th>Mild Work Stress</th>
<th>Moderate Work Stress</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>f %</td>
<td>f %</td>
<td>f %</td>
<td>f %</td>
<td></td>
</tr>
<tr>
<td>≤ 8 hours</td>
<td>6 15.4</td>
<td>4 10.3</td>
<td>1 2.6</td>
<td>11 28.2</td>
</tr>
<tr>
<td>&gt; 8 hours</td>
<td>10 25.6</td>
<td>15 38.5</td>
<td>3 7.7</td>
<td>28 71.8</td>
</tr>
<tr>
<td>Total</td>
<td>16 41.0</td>
<td>19 48.7</td>
<td>4 10.3</td>
<td>39 100.0</td>
</tr>
</tbody>
</table>

Table 4 shows that most anesthesiologists in hospitals in Banyumas Regency with working hours > 8 hours experienced mild work stress, namely 15 respondents (38.5%) and moderate work stress, namely 3 respondents (7.7%), while anesthesiologists with working hours ≤ 8 hours experienced mild work stress, namely 4 respondents (10.3%) and moderate work stress, namely 1 respondent (2.6%).

Discussion

1. Anesthesiologist occupational stress overview

The results of this study found data that most respondents experienced mild work stress as many as 19 respondents (48.7%) and moderate stress as many as 4 respondents (10.5%). This research is in line with Andrianti’s research (2020) which states that nurses at Raflesia Hospital, Bengkulu City, most of the respondents have low levels of work stress (51.8%) and moderate levels of stress (48.2%) (17). Meanwhile, in a previous study, most anesthesiologists...
experienced moderate levels of job stress (92.2%) (8).

Anesthesiology is considered one of the most stressful medical specialties. If not managed properly, this occupational stress can lead to negative psychological consequences such as burnout and consequently to decreased quality of care (6). Given that the anesthesia profession deals with the use of drugs with high vigilance, every anesthesiologist should understand their roles and responsibilities while working. Side effects of anesthesia are more likely to occur in patients who have certain diseases or health conditions, such as diabetes, obesity, or heart disease (18). Anesthesia prescribers face increased pressure, which puts them at a very high risk of experiencing psychiatric problems, including mild to severe stress.

2. Overview of anesthesiologist occupational stress based on age

This study shows that most anesthesiologists in hospitals in Banyumas Regency are in the age range of 36-45 years (Late Adulthood) as many as 21 respondents (53.8%) with a percentage of mild stress 9 respondents (28.2%) and moderate stress 1 respondent (2.6%) higher than other age ranges. This research is not in line with Ho (2021) which states that 20-40 years old experience higher stress than 41-65 years old. Job stress is experienced more by people under the age of 40 than people over the age of 40. However, people over the age of 40 can also experience work stress problems due to their poor physical condition (9).

Older people who do not experience severe stress because they can still control the workload even though they are not in the best physical condition, so they only experience mild stress (19). It is difficult to look at the age factor specifically because there are several other factors within individual characteristics that can influence the relationship between job stress and age. With increasing age, individuals will have better knowledge than before and have a greater sense of responsibility, which will cover their limitations in adapting (20).

Anesthesiologists with young age experience stress due to their lack of experience and for anesthesiologists with old age experience stress due to physical conditions that are not optimal. In the study of anesthesiologists in the Banyumas Regency area, the majority of stress was found in the age range of 36-45 years (Late Adulthood), because the majority of anesthesiologists in the Banyumas Regency area were in the age range of 36-45 years (Late Adulthood).

3. Overview of occupational stress of anesthesiologist based on work period

Anesthesiologists in hospitals in the Banyumas Regency area with the majority of anesthesiologists with a work period of > 10 years (Long service period) experienced work stress, namely 10 respondents (35.9%) with mild stress and 3 respondents (7.7%) with moderate stress. This is in accordance with Annabilah's research (2022) which states that there is a significant relationship between the respondent's tenure and work stress (9). Meanwhile, according to Ansori & Martiana (2017), the length of service has a moderate correlation with the onset of work stress with an unidirectional value, which means that the less the length of service, the higher the work stress (20).

Anesthesiologists who have a longer working period will have more experience and knowledge than anesthesiologists with a shorter working period. The longer the working period, the more special cases they
work on, and they will acquire more new knowledge, skills, and experiences (18). A higher level of saturation in their work is usually possessed by people with longer tenure than new tenure. Therefore, people with a long tenure experience more job stress on average than those with a new tenure. New tenure may experience work stress because they have to adjust to their work environment and face all the risks that may occur in their workplace (9).

Anesthesiologists with a long working period experience work stress in addition to the usual level of boredom also because of the large burden and responsibility placed on senior anesthesiologists. Meanwhile, new employees are more susceptible to stress because they still lack experience and have not adapted to the new work environment.

4. Overview of anesthesiologist work stress based on working hours

The majority of respondents with working hours > 8 hours experienced mild stress, namely 15 respondents (38.5%) and moderate work stress 3 respondents (7.7%), while anesthesiologists with working hours ≤ 8 hours experienced mild work stress, namely 4 respondents (10.3%). This is related to the research of Tulhusna & Puryantoro (2019) which states that due to increased fatigue and lack of sleep, individuals who have unusual work schedules, such as working longer than noon, working at night, or working at unusual hours, may experience an increase in human error or work errors (21).

In article 77 paragraph 1, In Law No.13 of 2003 concerning Manpower, every employer or health service is required to implement the provisions of working hours. According to the Decree of the Minister of Manpower and Transmigration, No.Kep. 102/MEN/VI/2004, the provisions of working hours have been regulated in two systems, namely 7 working hours in 1 day or 40 working hours in 1 week or 8 working hours in 1 day or 40 working hours in 1 week for 5 working days in 1 week (22). Although laws governing labor have been passed, a frequent problem is the violation of working hours or labor time, as well as the inability to pay overtime wages if workers work beyond the time stipulated in the Labor Law (23).

Due to fatigue leading to decreased quality of rest, decreased focus on work, increased time exposed to hazardous factors in the workplace, and adverse health effects, too many working hours can lead to human error or work errors. Anesthesiologists who do two shifts and cite with many operations as well as the stress level experienced by anesthesiologists working in several hospitals may increase due to the workload they have to bear.

Limitations and Future Research

In this research only identifies occupational stress based on individual factors, further research needs to be developed with better methods by identifying occupational stress based on environmental and organizational factors.

Conclusion

The occupational stress of respondents who experienced mild occupational stress was 19 respondents (48.7%), while moderate occupational stress was 4 respondents (10.3%). The age of the most dominant respondents who experienced work stress was late adulthood (aged 36-45 years) ranging (53.8%) with increasing age, the ability to make decisions related to work procedures will increase related to work procedures. The most dominant working period of respondents is
long working period (>10 years) as many as 27 respondents (69.2%) with mild stress 10 respondents (25.6%) and moderate work stress 3 respondents (7.7%). The most dominant working hours of respondents experiencing work stress are >8 hours as many as 28 respondents (71.8%) the longer the working hours of respondents, the higher the risk of experiencing work stress.

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