Factors Affecting Nurses' Workplace Stress in Hospitals: A Systematic Review

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Abstract. The stress level of nurses in hospitals can be high. The ability of nurses to identify sources of stress in the workplace is very important. This systematic review aimed to describe the factors that influence the work stress of nurses in hospitals. Studies were obtained from databases including Google Scholar, Garuda portal and PubMed, and were restricted to articles published from 2010-2020. The researchers found 2,119 articles (1,999 articles on Google Scholar, 72 articles on the Garuda Portal, and 48 articles on PubMed). The researchers duplicated the critical appraisal and narrative synthesis of these articles and finally, data were extracted from 78 articles. There were 33 factors identified as causing work stress in nurses. Of these factors, workload, work environment, and work-family conflict were the most influential factors. It is recommended for nurses who serve in hospitals to try to overcome work stress by paying attention to what factors can affect work stress, because this stress can negatively impact their performance and decrease the quality of nursing services in hospitals.

Keywords: hospital, nurse, workplace stress

1. Introduction

Hospitals as health service institutions must provide optimal health services for 24 hours/7 days [1]. To optimal implementation, health services in hospitals are carried out by health workers, especially nurses. Nurses are one component of professional care providers who have a longer time interacting with patients than other staff. In addition, the complexity of patient care and an unbalanced workload cause work stress for nurses [2].

Job stress is an individual's inability to meet the demands of his work to influence both physical and mental health [3]. Based on the National Safety Council (2013) theory, the division of several sources of work stress comes from environmental, individual, and organizational factors. Environmental factors influence work stress in the form of hospital management. Furthermore, work stress is influenced by individual factors, namely experience or length of work, personality type, demographics. Organizational
factors influence work stress in job demands, lack of career development activities, interpersonal communication [4].

The American National Association for Occupational Health (ANAOH, 2009) states, out of 40 cases of work stress, work stress on nurses is ranked at the top. The incidence of nurse work stress is also high. The prevalence of nurse work stress in Indonesia reaches 50.9% [5]. Based on research by the National Institute for Occupational Safety and Health (NIOSH), it is stated that nurses are a profession that has a very high risk of stress because nurses have very high duties and responsibilities for the safety of human life [6]. According to a survey conducted in France, the presentation of stress on nurses was 74% [7]. In CDC data, the number of cases of work stress in the world continues to increase every year, from 4409 cases in 1998 to 5659 cases in 2001 [4].

Research at the PKU Muhammadiyah Hospital in Yogyakarta showed that 80.3% of nurses had a high level of work stress, while the research was conducted at Prof. Dr. Hospital. H. Aloei Saboe Gorontalo City showed that 55.1% of nurses had severe stress levels [8]. Research conducted by Linda (2018) to nurses at the Emergency Installation of RSUD Ulin Banjarmasin stated that interpersonal communication, workload, and work environment conditions correlate with work stress [9].

Someone who experiences work stress will get sick easily, and work performance decreases, harming workers’ physical and mental health [3]. The effect of work stress on nurses can also have an impact on professionalism in serving patients. Nurses tend to have poor performance so that service to patients becomes less than optimal. High work stress, if not addressed, will impact nursing services, such as a decrease in work productivity and caring for the nurses themselves [10].

Based on the description above, it is known that work stress on nurses still occurs in hospitals. Unresolved work stress can lead to errors in inpatient care which will endanger patient safety and decrease the quality of nursing services in hospitals. Therefore, it is necessary to conduct a systematic review about it to minimize work stress and maintain the performance of nurses to patients. The purpose of this study is to describe the factors Influencing nurses’ workplace stress in hospitals.

2. Methods and Equipment

The research was conducted through a systematic review. The Inclusion criteria were as follows articles published in between 2010 to 2020 years; articles used English and Indonesian language; the sample was nurses in the hospital; the methodology included cross sectional. The exclusion criteria were as follows: the sample was non- nurses in the
Researchers conducted an article search and found 2,119 articles with details of 1,999 articles on Google Scholar, 72 articles on the Garuda Portal, and 48 articles on PubMed. The researcher then selected the duplicated articles and found that there were 90 duplicate articles, so that the number of articles remaining after duplication was 2,029. Furthermore, the researchers selected articles based on the title and abstract. They obtained 1,783 articles that were not following the established research methodology, so that the remaining articles were 246 articles. The next step, sorting based on criteria and full text, obtained 74 relevant articles.

In comparison, 168 articles were issued in the review process because they did not meet the research objectives in the form of a final project (n = 155), articles that were not full text (n = 12), and articles that do not use Indonesian and English (n=1). Articles that meet the criteria and can be accessed in full text are then tested for...
methodological quality using the Joanna Briggs Institute critical appraisal tools for cross-sectional studies. Articles with the best methodological quality will be reviewed, and 74 articles will be obtained that can be included in a narrative synthesis. To describe and conclude research results from articles that discuss the factors that influence nurses’ work stress in hospitals.

3. Results

After duplication, critical appraisal, and narrative synthesis of articles related to the factors that affect nurses’ work stress in hospitals, 74 articles were included in the data extraction.

Based on the 74 articles reviewed, 33 variables/factors that can cause work stress to arise in nurses include:

**Table 1. Factors affect nurses’ work stress**

Table 1 showed that the three factors that have the greatest influence on work stress include workload (31%), work environment (9%), work-family conflict (7%).

Based on the 74 articles reviewed, it was found that four work areas can cause work stress for nurses, including:

**Table 2. Work areas can cause nurses’ work stress**

Table 2 showed that each treatment area has a risk of experiencing work stress but the highest wardroom with a proportion of 60%.

4. Discussion

Work stress occurs due to job demands that exceed the capacity and ability of individuals that are not resolved, causing reactions such as fatigue, decreased work productivity, and even performance in providing health services for patients [40]. Based on research by Mundung and Kundre, it is stated that the nursing profession is vulnerable to work stress [12]. As the spearhead of health care providers and have an important role, nurses must be sensitive to patient needs and become role models for patients in a hospital [41]. Hospitals provide complete health services for the community, including inpatient, outpatient, and emergency services [42]. Each treatment area has a risk of experiencing work stress. However, based on the articles reviewed, it was found that the workplace is the most trigger for the occurrence of work stress in nurses, namely hospitalization with a proportion of 60%, while in the ICU 14%, in the emergency room 23%, and inpatient care.
<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>(%)</th>
<th>Article Number in References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>40</td>
<td>31%</td>
<td>[1], [2],[11], [12], [13], [14], [15], [16], [17],[18], [19], [20], [21], [22], [23], [24], [25], [26], [27], [28], [29], [30], [31], [32], [33], [34], [35], [36], [37], [38], [39], [40], [41], [42], [43], [44], [45], [46], [47], [48]</td>
</tr>
<tr>
<td>Work Culture</td>
<td>1</td>
<td>1%</td>
<td>[2].</td>
</tr>
<tr>
<td>Role Demand</td>
<td>2</td>
<td>2%</td>
<td>[3],[14].</td>
</tr>
<tr>
<td>Work environment</td>
<td>11</td>
<td>9%</td>
<td>[1], [3], [28], [43], [49], [45], [50],[47],[51],[52],[53]</td>
</tr>
<tr>
<td>Work motivation</td>
<td>3</td>
<td>2%</td>
<td>[54],[55],[51]</td>
</tr>
<tr>
<td>Social Support</td>
<td>6</td>
<td>5%</td>
<td>[13],[39], [49], [56], [45], [57]</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>1</td>
<td>1%</td>
<td>[18]</td>
</tr>
<tr>
<td>Shift work</td>
<td>6</td>
<td>5%</td>
<td>[11],[24],[33], [36], [41],[58].</td>
</tr>
<tr>
<td>Fatigue</td>
<td>1</td>
<td>1%</td>
<td>[40].</td>
</tr>
<tr>
<td>Interpersonal Communication</td>
<td>3</td>
<td>2%</td>
<td>[24], [37], [46]</td>
</tr>
<tr>
<td>Occupational Health and Safety &amp; Job Insecurity</td>
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<td>2%</td>
<td>[1], [25].</td>
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<tr>
<td>Coping Mechanism</td>
<td>1</td>
<td>1%</td>
<td>[12].</td>
</tr>
<tr>
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<td>4%</td>
<td>[39], [55], [59], [60], [61]</td>
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<tr>
<td>Job satisfaction</td>
<td>4</td>
<td>3%</td>
<td>[23], [24], [26], [47]</td>
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<td>award</td>
<td>1</td>
<td>1%</td>
<td>[30].</td>
</tr>
<tr>
<td>Violence</td>
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<td>1%</td>
<td>[62].</td>
</tr>
<tr>
<td>Work-family conflict</td>
<td>9</td>
<td>7%</td>
<td>[13], [25], [63], [54], [64], [65],[46],[66],[67]</td>
</tr>
<tr>
<td>Leadership Style</td>
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<td>[68].</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>1</td>
<td>1%</td>
<td>[69].</td>
</tr>
<tr>
<td>Patient Aggressive Behavior</td>
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<td>2%</td>
<td>[70],[71],[22].</td>
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<tr>
<td>Interpersonal Intelligence</td>
<td>1</td>
<td>1%</td>
<td>[72].</td>
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<tr>
<td>Patient Care Problems</td>
<td>1</td>
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<td>[37].</td>
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<tr>
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<td>2</td>
<td>2%</td>
<td>[37],[47].</td>
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<td>1</td>
<td>1%</td>
<td>[73].</td>
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<tr>
<td>Mentoring Implementation</td>
<td>1</td>
<td>1%</td>
<td>[74].</td>
</tr>
<tr>
<td>Personality</td>
<td>3</td>
<td>2%</td>
<td>[14],[48],[75].</td>
</tr>
<tr>
<td>Resiliency Efficacy &amp; Self Efficacy</td>
<td>3</td>
<td>2%</td>
<td>[56],[76],[29].</td>
</tr>
<tr>
<td>Nurse Training</td>
<td>1</td>
<td>1%</td>
<td>[77].</td>
</tr>
<tr>
<td>Pride</td>
<td>1</td>
<td>1%</td>
<td>[78].</td>
</tr>
<tr>
<td>Contribution of sense of humor</td>
<td>1</td>
<td>1%</td>
<td>[79].</td>
</tr>
<tr>
<td>Hardiness</td>
<td>1</td>
<td>1%</td>
<td>[80].</td>
</tr>
<tr>
<td>Spiritual Intelligence</td>
<td>1</td>
<td>1%</td>
<td>[81].</td>
</tr>
<tr>
<td>Some Sociodemographic factors (marriage Status, length of work, gender)</td>
<td>8</td>
<td>6%</td>
<td>[2],[11],[15],[28],[31],[33],[40],[41].</td>
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</table>
3% road. Based on the 78 articles analyzed, several factors were found that discussed the factors that influence the work stress of nurses in hospitals, as follows:

4.1. Workload

Fourty of the seventy-four articles explained that work stress was most often caused by workload, and two articles stated that there was no relationship between workload and work stress. Two articles state that there is no relationship between workload and work stress. It is because the age of most nurses is still relatively young, meaning that the body has not experienced a decrease in muscle strength, motor skills are still good, and the physical layout of work makes nurses work more professionally [15], [16].

The workload must be completed in a limited time beyond one’s capacity and ability [35]. A workload following nursing care standards will increase work productivity and reduce work stress. The workload felt by nurses consists of a physical workload (physical activity) and a mental workload (involving the mind/brain). High task demands that are not proportional to one’s abilities will cause work stress that affects the performance of nurses. Inappropriate workloads are caused by excessive or too low work demands. High or low workloads will cause physical, mental, and boredom fatigue that affect work stress. Therefore, it is necessary to routinely evaluate each nurse’s perceived workload to optimize nursing care performance [43], [44], [45], [46], [47] [48].

4.2. Work environment

Eleven of the seventy-four articles stated that the work environment caused the second-order based on the articles that appeared the most. The work environment is divided into a physical work environment related to something around the workplace and non-physical related to one’s work relationship [45]. A comfortable and quiet work environment can improve a person’s performance and productivity and reduce work stress levels for nurses [28]. A bad work environment caused by an uncomfortable/conducive

<table>
<thead>
<tr>
<th>Place</th>
<th>n</th>
<th>Proportion (%)</th>
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<tbody>
<tr>
<td>Emergency unit</td>
<td>17</td>
<td>23%</td>
</tr>
<tr>
<td>Intensive Care Unit</td>
<td>10</td>
<td>14%</td>
</tr>
<tr>
<td>Inpatient Unit</td>
<td>44</td>
<td>60%</td>
</tr>
<tr>
<td>Outpatient unit</td>
<td>2</td>
<td>3%</td>
</tr>
</tbody>
</table>
work environment and an inharmonious work environment affect work productivity and increase work stress. Nurses need an ideal work environment to achieve optimal performance, foster harmonious relationships with people around their environment, and facilitate coordination and collaboration between teams of other health workers [1], [3], [43], [49], [50], [47] [51], [52], [53].

4.3. Work-family conflict

Work-family conflict is a pressure felt by nurses due to the conflict between work and family roles and the lack of support from the family [13], [46]. Nine of the seventy-four articles showed that work stress was caused by dual role conflict in the third place of the articles that often appeared. Multiple role conflicts occur most often, especially for women who have children and must divide their time between work and family [54]. The higher the dual role conflict, the work stress on nurses also increases. Unresolved dual role conflicts can cause work stress and impact nurses’ performance and quality of work [25], [63], [64], [65], [66], [67].

4.4. Sociodemography

Sociodemographic factors include gender, years of service, and marital status. Gender is a biological and physiological difference between men and women [31], [33]. The sexes at high risk of experiencing work stress are women, based on the proportion of 18 women (51.4%) and 17 men (48.6%), where women are more sensitive, easily anxious, and tend to experience changes hormonal than men [33]. Women are more emotional than rational. The work period is the grace period or the length of time a person works in a workplace. The highest proportion of nurses working period five years was 33 people (70.2%) and five years was nine people (40.9%) [41], Nurses who have a working period of 5 years are more likely to experience work stress than new nurses or nurses who have a working period of 5 years [2]. The work period can have a good or bad impact, a good impact if a person produces a lot of work experience, and a bad impact if a person experiences boredom and work fatigue [15]. Marital status is one of the needs of a person. Nurses who experience work stress are more experienced by unmarried nurses as 83.7%. Unmarried nurses are more likely to experience stress than married nurses because they have immature emotions and lack a partner’s role in motivating them to work optimally [11], [28].
4.5. Social Support

Six out of seventy-four articles mention that social support is a factor in the fifth order of articles that often appear to cause work stress in nurses. Social support is an appreciation of emotions, information, and instruments that make a person feel respected and loved [49]. High social support can provide comfort for nurses to control work stress well and positively impact nurse performance [13], [39]. Social support from the closest people is very important in dealing with high work demands and decrease work stress because it builds nurses to be more enthusiastic in carrying out their work [56], [45], [57].

4.6. Shift work

Six out of seventy-four articles explained that work stress was caused by shift work. Shift work is a change of working time aimed at optimizing the work productivity of nurses [11], [24]. According to Azteria and Hendarti’s research, nurses who get night shifts experience more work stress than nurses who get morning or afternoon shifts [33]. However, Muji Hartono’s research states that the morning shift is more prone to work stress than the afternoon shift [41]. Irregular work shifts and excessive work demands can harm nurses [58]. Based on research conducted by Konoralma et al., it was stated that the morning, afternoon, and evening shifts had a relationship with nurses’ work stress. Nursing scheduling must be carried out as effectively as possible to avoid work stress, which will harm nurses’ health and nurse performance [36].

5. Emotional Intelligence

Five of the seventy-four articles explained that work stress was caused by low emotional intelligence. Emotional intelligence is a person's ability to recognize and control the emotions of others and himself [39], [55]. Nurses who usually have high emotional intelligence have good social skills and can work together in teams [59]. The higher the emotional intelligence of a nurse so the lower the occurrence of work stress on nurses [60]. High emotional intelligence is important for a nurse who experiences work pressure because emotional intelligence plays a role in regulating moods and keeping from stress [61].
5.1. Job satisfaction

Four of the seventy-four articles explained that job stress was caused by job satisfaction, and one article stated that there was no relationship between job satisfaction and job stress. It is because the salary received is satisfactory [23], [24], [26], [47]. Nurses will be satisfied if the salary is appropriate, co-workers are good, work is completed efficiently, and promotions are carried out well [23]. If the minimum salary can make the nurse’s satisfaction decrease, the nurse’s motivation will also decrease, while if the nurse is satisfied in her job, the less a person will experience work stress [47].

6. Conclusions

The results showed that 33 factors influence nurses’ work stress, namely workload, work motivation, social support, work environment, work shifts, coping mechanisms, multiple role conflicts, interpersonal intelligence, interpersonal communication, work fatigue, emotional intelligence, spiritual intelligence, aggressive patient behavior, forgiveness, locus of control, the resilience of efficacy, self-efficacy, personality, individual roles, training, mentoring, leadership style, self-esteem, contribution to a sense of humor, hardiness, work culture, facilities/infrastructure, development career, patient care issues, job satisfaction, occupational health and safety, job insecurity, rewards, violence, and sociodemography (gender, years of service, marital status). 3 of the 33 stress sources that appear the most and affect work stress are workload, work environment, and work-family conflict.

Recommendations for future research are expected to further examine the work stress of nurses in each room. In addition, suggestions for nurses who serve in hospitals are expected to overcome work stress by paying attention to what factors can affect work stress because it can negatively impact nurse performance and decrease the quality of nursing services in hospitals.

7. Acknowledgement

We would like to thank the coordinator of the nursing school who has provided support so that this research can run well.
8. Conflict of Interest

No conflict of interest was found in this study.

References


[63] Kalendesang MP. Hubungan konflik peran ganda perawat wanita sebagai care giver dengan stres kerja di ruangan rawat inap rumah sakit jiwa Prof. Dr. V. L. Ratumbusang provinsi sulawesi utara. 2017;5.


