

# Determinant Factors of Work Stress Risk in Nurses at Rahman Rahim Sidoarjo Hospital

## *Faktor Determinan Risiko Stres Kerja pada Perawat RS Rahman Rahim Sidoarjo*

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### ABSTRACT

**Introduction:** Health sector such as hospitals had to pay attention to the company's hygiene aspects and all over occupational health. Nurses were one of the health worker that interact directly with patients and their families. Nurses were very risky to experience work stresses because they had complex tasks and very high responsibilities for the safety of human lives. The purpose of this study was determining factors of work stress in nurses at Rahman Rahim Sidoarjo Hospital. **Methods:** This research was a cross sectional research design. This study used the entire population of nurses at Rahman Rahim Sidoarjo Hospital, which consists of 60 people. The object of research was Rahman Rahim Sidoarjo Hospital. Research variables included the level of risk of work stress, sex, age, personality, working period social support and subjective workload. **Results:** The research study shows that most of the nurses at Rahman Rahim Sidoarjo Hospital have moderate stress risk levels of 44 out of 60 nurses (73.3%). A small number of nurses had a low level of stress risk of 11 nurses (18.3%), a high level of stress risk as many as 5 nurses (8.4%), and no nurses who had a high level of risk of work stress were found. **Conclusion:** Determinant factors of work stress risk that play an important role are factors of sex, personality and working period.

**Keywords:** determinant factor, nurses, work stress

### ABSTRAK

**Pendahuluan:** Sektor kesehatan seperti rumah sakit dituntut untuk memperhatikan aspek hygiene perusahaan dan kesehatan kerja secara menyeluruh. Perawat merupakan salah satu petugas kesehatan yang berinteraksi secara langsung dengan pasien dan keluarganya. Perawat sangat berisiko untuk mengalami stres kerja dikarenakan perawat memiliki tugas yang kompleks dan tanggung jawab yang sangat tinggi terhadap keselamatan nyawa manusia. Tujuan penelitian ini adalah untuk mengetahui faktor determinan risiko stres kerja pada perawat di Rumah Sakit Rahman Rahim Sidoarjo. **Metode:** Penelitian ini memakai desain penelitian cross sectional. Penelitian ini menggunakan sampel jenuh yakni menggunakan semua perawat Rumah Sakit Rahman Rahim Sukodono Sidoarjo, yaitu sebanyak 60 orang sebagai sampel. Objek penelitian adalah Rumah Sakit Rahman Rahim Sukodono Sidoarjo. Variabel penelitian meliputi tingkat risiko stres kerja, jenis kelamin, umur, kepribadian, masa kerja, dukungan sosial dan beban kerja subjektif. **Hasil:** Penelitian menunjukkan bahwa sebagian besar perawat di Rumah Sakit Rahman Rahim Sidoarjo memiliki tingkat risiko stres kerja sedang yaitu sebanyak 44 dari 60 orang perawat (73.3%). Sebagian kecil perawat memiliki tingkat risiko stres rendah sebanyak 11 orang perawat (18.3 %), tingkat risiko stres tinggi sebanyak 5 orang perawat (8.4 %), dan tidak ditemukan adanya perawat yang memiliki tingkat risiko stres kerja yang tinggi. **Simpulan:** Faktor determinan yang memegang peranan penting terhadap risiko terjadinya stres kerja adalah faktor jenis kelamin, kepribadian dan masa kerja.

**Kata kunci:** faktor determinan, perawat, stres kerja

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### INTRODUCTION

According to Suma'mur (2009) industrial hygiene and occupational health is an effort to create healthy and productive human resources and taking comprehensive care of the workers health problems. Comprehensive means all of health's aspects

specifically curative, preventive, adjusting human factors to their work, efforts to create comfortable working environment, satisfaction and etc. Health sector such as a hospital is also required to pay attention to these aspects in its overall activities.

To create a good quality of hospital services it depends on the services provided by all employees in the hospital, especially nurses. This is because nurses are one of health worker that directly interact with patients and their families.

Nurses are the most number of workers in hospitals. Based on research from the National Institute for Occupational Safety and Health (NIOSH), nurses are professionals who are at very high risk of stress (Gobel, Rattu and Akili, 2014). And based on the results of a survey that taken by Indonesian National Nurses Association (INNA) in 2006, around 50.9% of nurses working in four provinces in Indonesia experienced work stress, frequent dizziness, fatigue, unable to rest because of the heavy workload (Widyasari, 2010).

Prolonged work stress can affect aspects and immune systems of a person. As expressed by Cartwright, Cooper, & Murphy, 1995 that stress can affect a person's individual in the form of emotional, habitual and psychological changes. And stress also affects the organization in the form of low performance, absenteeism, work morale and employee turnover.

Rahman Rahim Hospital is one of the hospitals located in Sidoarjo, East Java, Indonesia. Activities at Rahman Rahim Hospital are high because the hospital serves several big insurance service provider such as Badan Penyelenggara Jaminan Sosial (BPJS). High service activity will be closely related to the increasing demands and heavy workload on health workers, especially nurses. If this is not balanced by optimal performance, their bodies will show symptoms of stress. Nurses in Rahman Rahim Hospital experienced dizziness and felt exhaustion. This can signal that there is negative stress (distress) existed. It can develop to be stress, which will affect physical illness, psychology and also can affect the services performance of nurses.

This study aims to determine the level of risk of work stress and determinant factors in nurses at Rahman Rahim Hospital Sidoarjo. The description of the level of risk of work stress and determinant factors in nurses is expected to be taken into consideration in preventing and handling work stress that can disrupt the health and safety of workers.

## **METHODS**

This research was a qualitative descriptive research with cross sectional research design. Descriptive research provide a clear and precise description of the individual traits of a particular condition, symptoms, or groups without having to analyze how and why these phenomena can occur. The design of this study is included in cross sectional research because the data collection is carried out simultaneously at a certain time. This research already has ethical approval with No: 1301-KEPK.

The location of the research taken was Rahman Rahim Hospital, located in Sidoarjo, East Java, Indonesia. The preparation of proposals and permits is taken from February to March 2019. The population of this research are all nurses who work at the Rahman Rahim Sidoarjo Hospital, which is 60 people. The sampling technique used in this study is a census/ population research technique, because samples are taken from all populations that is called saturated samples.

The variables studied included risk of work stress, sex, personality type, subjective workload and working period. The data collected using instruments include: (1) reports, files or records made by Rahman Rahim Sidoarjo Hospital, such as hospital profiles and employee data, and (2) form of personal data, work stress level questionnaires, personality type and subjective workload questionnaire. Personality variables were measured using the Type A & B Scale Bortner (1969) questionnaire, while the subjective workload variable used the Spector and Jex (1998) questionnaire, social support using the Kerasiotis (2001) questionnaire and the risk of work stress was measured using Health and Safety Executive (2003) questionnaire.

After the data is obtained, the data is inputted and presented as frequency distribution tables and percentages accompanied by descriptive analysis. Data with a ratio scale like age and working period's are grouped into two category based on the median value. Correlation between risk of work stress and its determinant factor is presented as cross tabulation.

The analysis of the correlation between risk of work stress and its determinant factors is supported with statistics test using SPSS program. The Spearman Rho (rs) test is used to analyze the relationship between the risk of work stress and the variables of sex, marital status, education, age, working period and subjective workload. Whereas to

analyze the correlation between risk of work stress with the social support and personality variables is using Pearson test.

**RESULT**

**Overview of Individual Characteristics**

Nurses are the largest number of health workers in Rahman Rahim Sidoarjo Hospital, which is 60 out of a total of 104 workers (58%). There is more female nurses than male nurses, 49 nurses are female (82%). This is because the nurse is profession is really needs high patience and accuracy, so the job attracting female more than male.

The age of nurses who working at Rahman Rahim Sidoarjo Hospital ranged from 21 to 39 years, and 57% nurses were married. The number of nurses who have married status is closely related to sex and average age, that is, at the age of 24 years, most likely women in Indonesia are married.

The level of education that has been taken by most nurses is DIII Nursing, with a percentage of 78%. In general, nurses at Rahman Rahim Sidoarjo Hospital have personality type A (70%). And 45 of 60 nurses (75%) felt that they faced a heavy workload.

**Overview of Work Factors**

Nurses of Rahman Rahim Hospital mostly have high social support both from work colleagues, superiors and families (67%). The nurses average work period at Rahman Rahim Sidoarjo Hospital is 1.85 years, and 33 of 60 nurses (55%) have working period less than a year.

The number of nurses at Rahman Rahim Sidoarjo Hospital has a work period of less than a year because the hospital is in the development stage so it requires a lot of workers. In addition, it can also be caused by high turnover of workers. According to Widjaja et al. (2018) turnover intention can be

**Table 1.** Risk of Work Stress in Rahman Rahim Hospital 2019

Risk of Work Stress	Frequency	Percentage (%)
Low	11	18.3
Moderate	44	73.3
High	5	8.4
Very High	0	0
<b>Total</b>	<b>60</b>	<b>100</b>

influenced by the mismatch of workers expectations with the reality of training, compensation, promotion, reward and recognition, organizational culture, work environment, and work family conflict.

**Risk of Work Stress**

Table 1 showed that 44 of 60 nurses (73.3%) of the nurses at Rahman Rahim Sidoarjo Hospital are at moderate risk of work stress. The others 11 nurses (18.3%) is have low risk of work stress and there is 5 nurses (8.4%) have high risk of work stress.

**Analysis of Intervariables**

Based on table 2, it is showed that from 49 female nurses, there were 11 people (22%) who had a low risk of work stress, 36 people (73%) had a moderate risk of work stress, 2 people (4%) had a high risk of work stress. While from 11 male nurses, there were 8 people (73%) who had a risk of moderate work stress, and 3 people (27%) had a high risk of work stress.

The results of statistics analysis conducted to determine the correlation between sex and the risk of work stress obtained p value = 0.028. This shows

**Table 2.** Cross Tabulation Between Sex and Risk of Work Stress in Rahman Rahim Hospital 2019

Risk of Work Stress	Sex			
	Female		Male	
	n	%	n	%
Low	11	22	0	0
Moderate	36	73	8	73
High	2	4	3	27
Very High	0	0	0	0
<b>Total</b>	<b>49</b>	<b>100</b>	<b>11</b>	<b>100</b>

**Table 3.** Correlation Between Sex and Work Stress Risk in Rahman Rahim Hospital 2019

		Sex	Risk of Work Stress
Ses	Correlation Coefficient	1.000	-.284*
	Sig. (2-tailed)	.	.028
	N	60	60
Risk of Work Stress	Correlation Coefficient	-.284*	1.000
	Sig. (2-tailed)	.028	.
	N	60	60

**Table 4.** Cross Tabulation Between Personality and Risk of Work Stress in Rahman Rahim Hospital 2019

Risk of Work Stress	Personality			
	A		B	
	n	%	n	%
Low	5	12	6	33
Moderate	32	76	12	67
High	5	12	0	0
Very High	0	0	0	0
<b>Total</b>	<b>42</b>	<b>100</b>	<b>18</b>	<b>100</b>

**Table 5.** Correlation between Personality and Risk of Work Stress in Rahman Rahim Hospital 2019

		Risk of Work Stress	
Risk of Work Stress	Pearson Correlation	1	-.287*
	Sig. (2-tailed)		.026
	N	60	60
Personality	Pearson Correlation	-.287*	1
	Sig. (2-tailed)	.026	
	N	60	60

that sex and risk of work stress have a significant correlation.

Based on table 4, it is showed that out of 42 nurses who have type A personality, there are 5 people (12%) who have low risk of work stress, 32 people (76%) have moderate risk of work stress, and 5 people (12%) have high risk of work stress. While from 18 nurses who have type B personality, 6 people (33%) have low risk of work stress, and 12 people (67%) have moderate risk of work stress.

The results of statistic tests conducted to determine the correlation between personality and risk of work stress obtained p value = 0.026. This shows that personality and risk of work stress have a significant correlation.

Based on table 6, it is showed that out of 33 nurses who have a working period less than a year, there are 9 people (27%) who have a low risk of work stress, 23 people (70%) at moderate risk of work stress, and 1 person (3 %) have a high risk of work stress. While from 27 nurses who have working period more than or equal to 1 year, there

**Table 6.** Cross Tabulation Between Working Period and Risk of Work Stress in Rahman Rahim Hospital 2019

Risk of Work Stress	Working Period			
	< 1 year		≥ 1 year	
	n	%	n	%
Low	9	27	2	7
Moderate	23	70	21	78
High	1	3	4	15
Very High	0	0	0	0
<b>Total</b>	<b>33</b>	<b>100</b>	<b>27</b>	<b>100</b>

**Table 7.** Correlation Between Working Period and Risk of Work Stress in Rahman Rahim Hospital 2019

		Risk of Working Period	
Risk of Work Stress	Correlation Coefficient	1	-.287*
	Sig. (2-tailed)		.026
	N	60	60
Working Period	Correlation Coefficient	-.287*	1
	Sig. (2-tailed)	.026	
	N	60	60

are 2 people (7%) who have low risk of work stress, 21 people (78%) have a moderate risk of work stress and 4 people (15%) have high risk of work stress.

The results of statistic analysis conducted to determine the correlation between working period and the risk of work stress obtained p value= 0.015. This shows that working period and risk of work stress have a significant correlation.

Based on table 8, it is showed that out of 15 nurses who have a perception that they experienced moderate workload, there are 4 people (27%) who have a low risk of work stress, 9 people (60%) who are at moderate risk of work stress and 2 people (13%) who have a high risk of work stress. While from 45 nurses who have a perception that they experienced heavy workload, there are 7 people (16%) who have a low risk of work stress, 35 people (78%) who have a moderate risk of work stress, and 3 people (7%) have high risk of work stress.

The results of statistic tests conducted to determine the correlation between subjective workload and risk of work stress obtained p value =



0.701. This shows that subjective workload and risk of work stress do not have a significant correlation.

Based on table 9 shows that out of the 37 nurses aged 21-25 years, there were 8 (22%) who had a low risk of work stress, 28 people (76%) had a moderate risk of work stress, and there was 1 person (3%) have high risk of work stress. While from 23 nurses who have aged 26-39 years, there were 3 people (13%) who had a low risk of work stress, 16 people (70%) who were at moderate risk of work stress, and 4 (17%) had high risk of work stress.

The results of the statistic tests conducted to determine the correlation between age and risk of work stress obtained p value = 0.295. This shows that age and risk of work stress do not have a significant correlation.

Based on table 12, it is showed that out of 20 nurses who have moderate social support, there are 5 people (25%) who have low risk of work stress, 14 people (70%) have a moderate risk of work stress, and 1 person (5%) have high risk of work stress. While from 40 people who have high social support, there are 6 people (15%) who have a low risk of work stress, 30 people (75%) have a moderate risk

of work stress, and 4 people (10%) have a high risk of work stress.

The results of the statistic tests conducted to determine the correlation between social support and risk of work stress obtained p value = 0.062. This shows that social support and risk of work stress do not have a significant correlation.

## DISCUSSION

### Sex

Female tend to have higher stress levels, stress can appear as a side effect of the biological, psychological and social changes. According to (Suma'mur, 2009) emotional conditions can aggravate the incidence of stress in female. In addition, if viewed in terms of additional burden, a female workers does have a double burden, namely the burden on the home and also the workload, so that it can be a trigger for stress in a female (As'ad, 1987).

This research found out that the risk of work stress level in male nurses was higher than female

**Table 8.** Cross Tabulation Between Subjective Workload and Risk of Work Stress in Rahman Rahim Hospital 2019

Risk of Work Stress	Subjective Workload			
	Moderat		Heavy	
	n	%	n	%
Low	4	27	7	16
Moderate	9	60	35	78
High	2	13	3	7
Very High	0	0	0	0
<b>Total</b>	15	100	45	100

**Table 9.** Correlation Between Subjective Workload and Risk of Work Stress in Rahman Rahim Hospital 2019

		Risk of Work Stress	Subjective Workload
Risk of Work Stress	Correlation Coefficient	1.000	-.051
	Sig. (2-tailed)	.	.701
	N	60	60
Subjective Workload	Correlation Coefficient	-.051	1.000
	Sig. (2-tailed)	.701	.
	N	60	60

**Table 10.** Cross Tabulation Between Age and Risk of Work Stress in Rahman Rahim Hospital 2019

Risk of Work Stress	Age (Year)			
	≤ 25		> 25	
	n	%	n	%
Low	8	22	3	13
Moderate	28	76	16	70
High	1	3	4	17
Very High	0	0	0	0
<b>Total</b>	37	100	23	100

**Table 11.** Correlation Between Age and Risk of Work Stress in Rahman Rahim Hospital 2019

		Risk of Work Stress	Age
Risk of Work Stress	Correlation Coefficient	1.000	-.137
	Sig. (2-tailed)	.	.295
	N	60	60
Age	Correlation Coefficient	-.137	1.000
	Sig. (2-tailed)	.295	.
	N	60	60

**Table 12.** Cross Tabulation Between Social Support and Risk of Work Stress in Rahman Rahim Hospital 2019

Risk of Work Stress	Social Support			
	Moderate		High	
	n	%	n	%
Low	5	25	6	15
Moderate	14	70	30	75
High	1	5	4	10
Very High	0	0	0	0
<b>Total</b>	<b>20</b>	<b>100</b>	<b>40</b>	<b>100</b>

**Table 13.** Correlation Between Social Support and Risk of Work Stress in Rahman Rahim Hospital 2019

		Risk of Work Stress	Social Support
Risk of Work Stress	Pearson Correlation	1	-.242
	Sig. (2-tailed)		.062
	N	60	60
Social Support	Pearson Correlation	-.242	1
	Sig. (2-tailed)	.062	
	N	60	60

nurses, it was not in accordance with the existing theory. These findings can occur because the ratio of male nurses and female nurses is not the same, there are more female nurses at Rahman Rahim Hospital. So there is a possibility that male nurses have a higher workload than female nurses.

### Personality

According to Friedman & Rosenman, (1979) personality can be grouped into two different types, namely type A personality and type B personality. Both types have differences in overcoming changes that occur in their environment. Personality type A tends to be aggressive and ambitious, generally impatient, competitive and their mind is always filled with work tasks. While personality type B tends to have a different attitude to personality type A, which is more patient, not so ambitious, prefers to have fun or relax compared to showing off their ability.

Nurses in Rahman Rahim Sidoarjo Hospital with personality type A tends to have a higher risk of work stress level compared to nurses who have type

B personality. This is quite same with the findings of Sa'idah & Widjasena (2018), found out that there is a significant correlation between personality and work stress for room administration staff at the RSUD KRMT Wongsonegoro, Semarang. In addition, Iman (2017) also found a significant correlation between personality types and symptoms of work stress in students of the dental education program at the Faculty of Dentistry, Airlangga University.

### Work Period

Work period can affect a person's stress level. According to Atkinson (1991) that fewer years of work will tend to experience work stress. Besides that, Widoretno (2017) said that the longer nurses work, the more experienced they are in carrying out their duties.

However, nurses of Rahman Rahim Hospital who have working period more than or equal to 1 year, tend to have a higher risk level of work stress compared to nurses who have working period of less than a year can be due to fatigue which can later increase the risk of work stress. In addition, 33 out of 60 nurses or 55% of the total nurses have working period less than a year.

That can be cause by Rahman Rahim Sidoarjo Hospital construction and development, so it requires more workers. In addition, it can also be caused by high turnover. According to Widjaja, Kristiani, & Marcella (2018) turnover intention can be influenced, among others, by the mismatch of workers expectations with the reality of training, compensation, promotion, reward and recognition, organizational culture, work environment, and work family conflict.

### Subjective Workload

Excessive workloads and less workload can become stressors. Excessive workloads will make it difficult for workers to complete their work, while less workload can lead to boredom. According to Cooper & Kelly (1984), boredom was found to be a real source of stress on crane operators. According to (Santoso, 2004) mental workload that is too heavy can cause discomfort (initial stage), fatigue (over stress), injury, accident, pain, disease and decreased productivity (final stage). The higher mental workload, the higher risk level of work stress experienced by the workers.

Sa'idah & Widjasena (2018) found a significant correlation between mental workload and work

stress on room administration staff in the RSUD K.M.T. Wongsonegoro, Semarang City. In addition, (Sandianto, 2017) in his research also found that the mental workload variable has a correlation to the occurrence of work stress. Respondents with a heavy mental workload have a risk 30 times experiencing moderate work stress compared to respondents with a moderate mental workload.

There is no significant difference in the risk of work stress both on nurses who have a heavy, moderate and low subjective workload at Rahman Rahim Sidoarjo Hospital, due to the presence of other determinants of risk levels of work stress, so subjective workload factors are difficult to analyze alone.

### Age

A person's age affects a person's mental state. The older person the more complex problems that they have to face, so it will increase the possibility of stress (Anoraga, 1998). In addition, in general, the older person, the more sleep time is shortened, so that mental complaints are more experienced by older workers than young workers.

There was no significant difference between age and risk of work stress. This happens because age factors are difficult to analyze alone, there are still many other determinant factors that also influence the risk of work stress.

### Social Support

According to (Katz and Kahn, 1978) social support is one way of positive communication, because it contains feelings, likes, beliefs, rewards, self-acceptance and confidence in someone's interests. With the existence of social support both from family, boss or coworkers can neutralize the existence of work stress.

There is not significant difference between social support and the level of risk of work stress on nurses of Rahman Rahim Sidoarjo Hospital, it can be caused by still many other determinant factors that influence risk of work stress, so that the factors of the social support are difficult to analyze alone.

### CONCLUSION

The risk of work stress on nurses at Rahman Rahim Sidoarjo Hospital was measured using the Health Safety Executive questionnaire (Health and Safety Executive, 2003), and it was found that most

nurses at Rahman Rahim Sidoarjo Hospital had moderate stress risk levels, 44 out of 60 nurses (73 %). A small number of nurses had a low risk of work stress, which is 11 nurses (18%), a high risk of work stress experienced by 5 nurses (8%), and there is no one who had a high risk of work stress were found.

The determinant factors of work stress risk in nurses of Rahman Rahim Sidoarjo Hospital are factors of sex, personality and working period. Male nurses, have personality type A and who have a work period of more than 1 year tend to have a high level of stress risk.

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