Meta Analysis: The Relationship Of Self-Efficiency, Social Support And Work Stress On The Incident Of Burnout In Nurses In Hospital

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*Abstract-***Background**: Health And safety is a series of safeguards and guarantees of safety and health by improving the health status of workers by preventing accidents and occupational diseases with activities of preventive, promotive, curative, rehabilitation. Based on data from the International Labor Organization (ILO) states that 2.78 million workers worldwide die each year due to accidents at work and occupational diseases. About 86.3% of the causes of death for workers are occupational diseases. According to the World Health Organization (WHO), burnout is included in the 11th revision of the International Classification of Diseases (ICD-11) as an occupational phenomenon. Several studies explain that there is a relationship between self-efficacy, social support, work stress on the incidence of burnout in nurses in hospitals

Aim: The research examines studies that explain the relationship between self-efficacy, social support and work stress on the incidence of burnout in nurses in hospitals.

Method: This study used an analytic observational study with a cross sectional research design. The data source uses secondary data obtained from previous online studies. The data collection procedure uses Google Scholar, PubMed, and Science Direct published in the last 5 years. Pooled Odds Ratio (pOR) was calculated using the fixed-effect model and the random-effect model. Data were analyzed using Review Manager 5.4.

Result: From 180 studies obtained according to the inclusion and exclusion criteria, 16 studies were obtained which could be continued into the analysis RevMan 5.4. Where for the self-efficacy variable using 6 studies and for the social support variable using 6 studies and the work stress variable using 5 journals. The results of data analysis showed that there was a relationship between nurses' self-efficacy on the incidence of burnout in nurses in hospitals with a p-value < 0.0001 and a pooled odds ratio value of 0,66 (CI 95% 0.64,0.69). between nurses' social support on the incidence of burnout in nurses in hospitals with a p-value < 0.0000 and a pooled odds ratio value of 0,69 (CI 95% 0.65,0.74)

Conclusion: There is a relationship between self-efficacy, social support, work stress of nurses on the incidence of burnout in nurses in hospitals with a p-value 0,66 (CI 95% 0.64,0.69, between nurses' social support on the incidence of burnout in nurses in hospitals with a p-value < 0.0000 and a pooled odds ratio value of 0,69 (CI 95% 0.65,0.74) and the relationship between nurses' work stress on the incidence of burnout in nurses in hospitals with p-value < 0.0001 and pooled odds ratio value of 2,38 (CI 95% 0.38,0.38).

Index Terms- Self Efficacy, Social Support, Job Stress, Nurses, Burnout Incidence.

I. INTRODUCTION

Burnout is a fatigue syndrome, both physically, emotionally, and mentally which includes developing a negative self-concept, lack of concentration and negative work behavior B(Pines & Maslach, 1993 in Kapu, 2020). Burnout also said that burnout is a condition of work fatigue experienced by nurses, which is caused by personal, family, and work environment factors. This situation will make the atmosphere in the work cold, unpleasant, dedication and commitment to be reduced, performance, employee performance is not optimal. This makes workers keep their distance, do not want to be involved with their environment (Kapu, 2020). Factors that cause burnout are self-efficacy, social relationships, work stress, socio-culture that causes sleep disturbances, headaches, gastrointestinal disorders, muscle stiffness which is at risk of causing work accidents (Pamungkas, 2018)

According to the World Health Organization (WHO), burnout is included in the 11th revision of the International Classification of Diseases (ICD-11) as an occupational phenomenon. Although burnout is not classified as a medical condition, it can be considered as a factor that affects a person's health status or can be used as a basis for anamnesis that can be used as a reason for someone to contact health services. In the future WHO will develop more detailed evidence-based guidelines on the psychological mental well-being of workers in the workplace(WHO 2019).

Based on data from the International Labor Organization (ILO) states that, 2.78 million workers worldwide die each year due to accidents at work and occupational diseases. About 86.3% of the causes of death for workers are occupational diseases. While more than 13.7% occurred due to fatal work accidents (ILO, 2018).

According to the Health Human Resources Development and Empowerment Agency (BPPSDMK), the number of HRK in Indonesia in 2019 was 1,182,024 people consisting of 864,410 health workers (73.13%) and 317,614 health support personnel (26.87%).). The largest proportion of the workforce is nursing health workers, which is 29.23% of the total health workers. Thus the number of HRK personnel.

Data related to the incidence of KAK and PAK, especially health workers in Indonesia have not been recorded properly. However, several studies in several hospitals in Indonesia concluded that the incidence of KAK in hospitals due to needle sticks in 2005-2007 reached 38-73% of the total health workers. Meanwhile, cases of PAK such as low back pain in health workers were quite high, as many as 83.3% of workers in the central surgical installation of public hospitals in Jakarta in 2006(Dwiari and Muliawan 2020).

According to Leiter and Maslach (2001) the dimensions of burnout include three indicators, namely depersonalization, emotional exhaustion (emotional exhaustion) and reduced personal accommodation (decreased self-achievement). Nursalam (2016) explains that the consequences of depersonalization are likely to cause individuals who experience burnout to show behaviors such as losing their work goals and losing enthusiasm for work. For emotional exhaustion (emotional exhaustion) which is a determinant of the quality of burnout, it will show that someone feels exhausted at work so that they feel reluctant to do work and are reluctant to interact with other people.

The problem of burnout abroad is a trend issue that shows an increase in the health service sector. In Spain there are 1.89-2.84% nurses who experience burnout and 1.26% occur in nurses in the Netherlands (Andarini, 2018). Likewise, the results of research by Moreira et al (2009) showed that nurses working in hospitals in South Brazil had a prevalence of 35.7% of nurses experiencing burnout. The same problem was also found in Indonesia through a survey of the Indonesian National Nurses Association (PPNI) in 2006 which showed about 50.9% of nurses working.

Often research is carried out with the same case and using the same method not only once, either by different researchers or by the same researcher at different times or with different samples. This results in different research results, as has been studied above. Consciously it is known that many research results contradict the same topic. Differences can occur due to many things, including the size of the sample used, sampling errors, statistical techniques used and others. Therefore, a combined research result is needed which is used as an inference on the parameters estimated in the study. The method used for this purpose is known as meta analysis (Anwar R, 2005).

Research with meta-analysis is a technique used to summarize two or more studies with the aim of combining, reviewing and summarizing previous studies. In addition, by using meta-analysis, various questions can be investigated based on data that has been found from the results of previous studies that have been published. One of the requirements needed in conducting a meta-analysis is an assessment of the results of similar research (Sriawan, 2015). One of the advantages of meta-analysis is that new studies can be found with a large number of subjects so that more definitive conclusions can be drawn (Anwar R, 2005).

II. RESEARCH METHOD

The design of this study was a meta-analysis. search data through journal portal websites that can be accessed, namely PubMed, Science Direct and Google Schoolar. The literature used is at least the last 5 (five) years from the 2016-2021 period. By using the keywords self-efficacy, social support, job stress and the incidence of burnout nurses in the hospital. After a search, more than 1000 articles were found about the factors that influence or relate to the incidence of nurse burnout in hospitals, then screening was carried out according to the variables of self-efficacy, social support and work stress and adjusted for inclusion criteria, found 31 articles. After being reviewed and met the requirements for statistical tests, finally 16 articles were obtained to be analyzed. The literature search and selection process in this study will be described in the form of a Flow diagram in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA). After the literature search and selection process was carried out, data extraction was carried out, namely the name of the author, year of publication, variables studied, research subjects and the number of subjects, research results (according to SPIDER, namely sample, phenomenon of interest, design, evaluation, research type). The quality of research articles will be analyzed using Duffy's Research Appraisal Checklist Approach. This study will use Revman version 5.4. This study uses a spreadsheet and Kosinski's Time Reaction Software Program as a tool for data collection.

III. FINDINGS

Research Characteristics

a. Self-Efficacy Variable

From 16 journals obtained for review and appropriate for data input using the RevMan 5.4 computer application, there are 6 research journals that examine the relationship between nurses' self-efficacy in hospitals and the incidence of burnout in hospitals with a total sample of 2,399 samples. The following is a description in tabular form for 7 nurse self-efficacy studies in hospitals. (Table 1)

b. Social Support Variable

From 16 journals obtained for review and eligible for data input using the RevMan 5.4 computer application. There are 6 research journals that examine the relationship between social support of nurses in hospitals and the incidence of burnout in hospitals with a total sample of 1,032 samples. The following is a description in tabular form for 6 researches on social support for nurses in hospitals. (Table 2)

c. Work Stress Variable

From the 16 journals obtained for review and eligible for data input using the RevMan 5.4 computer application. There are 5 research journals that examine the relationship between nurses' work stress in hospitals and the incidence of burnout in hospitals with a total sample of 843 samples. The following is a description in tabular form for 5 researches on nurses' work stress in hospitals. (Table 3)

Table 1 Research Characteristics of the Relationship of Nurse Self-Efficacy with Burnout Incidence in Hospitals

No	Researcher	Thn pub	Sample	P-value	R	95% CI
1	Harnida H	2015	60	0.986	0.002	-0.257 - 0.261
2	Prihandani et al	2020	40	0.004	0.669	0.348- 0.990
3	Yao et al	2018	860	0.000	-0.39	-0.457- -0.323
4	Liu et al	2019	444	0.000	-0.33	-0.424- -0.236
5	Muttaqim et al	2019	398	0.000	-0.252	-0.350- -0.154
6	Chang et al	2018	536	0.000	-0.69	-0.774- -0.606
Total Sample 2,338						

Table 2 Research Characteristics of the Relationship of Nurse Social Support with Burnout Incidence in Hospitals

No	Researcher	Thn pub	Sample	P-value	R	95% CI
1	Harnida H	2015	60	0.498	0.089	-0.170- 0.348
2	Son et al	2020	67	0.001	-0.397	-0.642- -0.152
3	Adawiyah et al	2018	75	0.000	-0.601	-0.832- -0.370
4	Liu et al	2019	444	0.000	-0.41	-0.504- -0.316
5	Goong et al	2016	286	0.009	-0.27	-0.386- -0.154
6	Garcia et al	2016	100	0.005	-0.242	-0.442- -0.042
Total Sample 1,032						

Table 3 Research Characteristics of the Relationship between Nurse Work Stress and Burnout Incidence in Hospitals

No	Researcher	Thn pub	Sample	P-value	R	95% CI
1	Wardah & Tampo	2020	156	0.387	0.157	-0.02- 0.316
2	Henky	2019	61	0.016	0.158	-0.099- 0.415
3	Mehrabian et al	2018	316	0.000	0.866	0.754- 0.978
4	Zaghini et al	2020	207	0.001	0.63	0.493-0.767
5	Fanani et al	2020	103	0.643	0.195	-0.001- 0.391
Total Sample 843						

Meta-analysis of the relationship between self-efficacy and the incidence of burnout in nurses in hospitals

Based on Figure 1 shows the results of the analysis of 5 research articles, the results of which state that there is a relationship between self-efficacy and the incidence of burnout in nurses in hospitals and analyzed using the fixed effect model. The results of the heterogeneity test showed that the study variation was hom with the results obtained $p = 0.00001$ and the value of variation between studies (I^2) was 96%.

The results of the data analysis shown in the image above show that there is a relationship between self-efficacy and the incidence of burnout in nurses at the hospital with a p value <0.05, namely $p < 0.00001$ and an Odds ratio value of 0.66 (95% CI 0.64,0.69), so it can be concluded that the high self-efficacy of nurses will reduce the incidence of burnout 0.66 times higher than the low self-efficacy of nurses.

Based on Figure 2, the funnel plot shows a publication bias which is indicated by the asymmetry of the right plot 3 with SE 0.03 and the left plot 1 with SE 0.042. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.
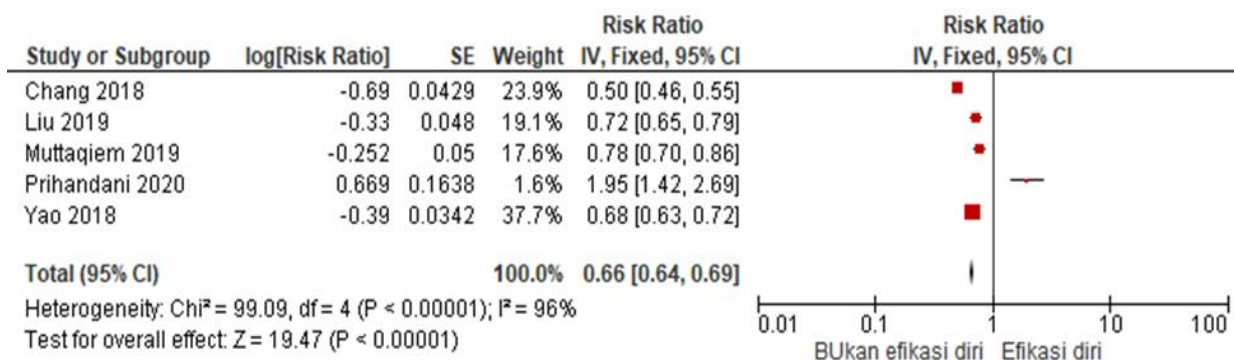
Figure 1 Forest plot of a research study which states that there is a relationship between self-efficacy and the incidence of burnout in nurses in hospitals.
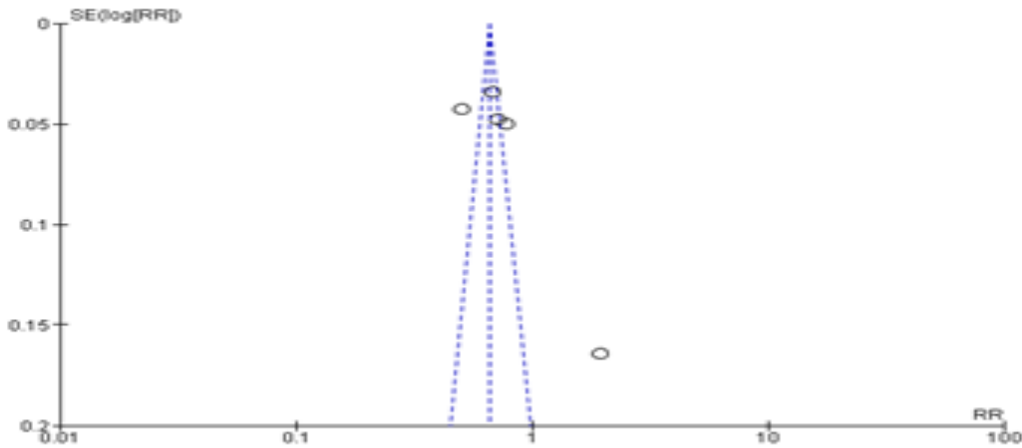

Figure 2 Funnel plot of the combined study of the relationship of self-efficacy with the incidence of burnout in nurses in hospital.

Based on Figure 3 shows the results of the analysis of 1 research article, the results of which stated that there was no relationship between self-efficacy and the incidence of burnout in nurses in hospitals and analyzed using the Fixed Effect Model. The results of the heterogeneity test showed that the variation of the study was homogeneous with the results obtained p = 0 and the value of variation between studies (I^2) was 0%.

The results of the data analysis shown in the picture above shows that there is a relationship between self-efficacy and the incidence of burnout in nurses in hospitals with a p value <0.05, namely p < 0.99 and an Odds ratio value of 1.00 (95% CI 0.77.1.30), so it can be concluded that the low self-efficacy of nurses will increase the incidence of burnout 1.00 times higher than the high self-efficacy of nurses.

Based on Figure 4, the funnel plot shows that there is no publication bias, which is indicated by the symmetry of the right and left plots. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.
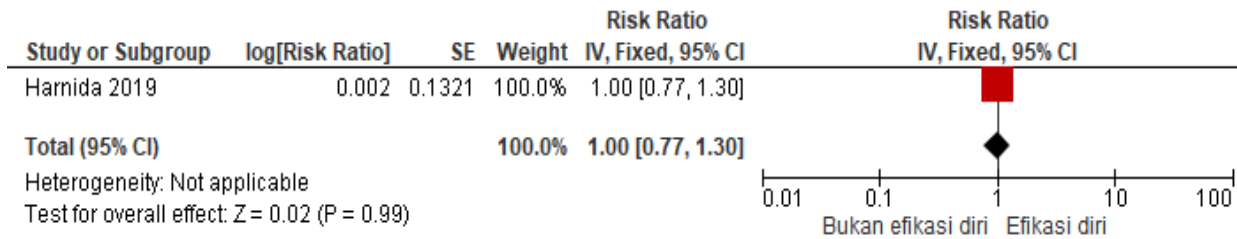

Figure 3 Forest plot of a research study which states that there is no relationship between self-efficacy and burnout in hospital nurses.
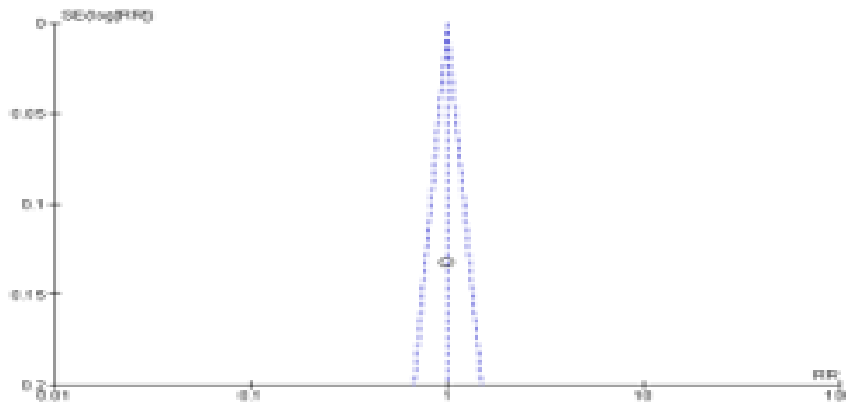

Figure 4 Funnel plot of the study which states that there is no relationship between self-efficacy and the incidence of burnout in nurses at the hospital.

Based on Figure 5 shows the results of the analysis of 6 combined research articles, the results of which stated that there was a relationship between self-efficacy and the incidence of burnout in nurses in hospitals and analyzed using the Random Effect Model. The results of the heterogeneity test showed that the study variation was hom with the results obtained p < 0.00001 and the value of variation between studies (I^2) was 96%. The results of the data analysis shown in the picture above show that there is a relationship between self-efficacy and the incidence of burnout in the hospital with a p value <0.05, namely p < 0.00001 and an Odds ratio value of 0.67 (95% CI 0.65, 0.70).), so it can be

concluded that high self-efficacy of nurses will reduce the incidence of burnout 0.67 times higher than those of low self-efficacy.

Based on Figure 6, the combined funnel plot of the research on the relationship of self-efficacy to the incidence of burnout in nurses at the hospital shows a publication bias which is indicated by the asymmetry of the right and left plots. Based on the picture on the funnel plot, it can be seen that there are 3 plots in the right quadrant, 2 plots attached to the vertical line and 2 plots in the left quadrant. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.

Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Fixed, 95% CI	Risk Ratio IV, Fixed, 95% CI
Chang 2018	-0.69	0.0429	23.2%	0.50 [0.46, 0.55]	
Harnida 2015	0.002	0.114	3.3%	1.00 [0.80, 1.25]	
Liu 2019	-0.33	0.048	18.5%	0.72 [0.65, 0.79]	
Muttaqiem 2019	-0.252	0.05	17.0%	0.78 [0.70, 0.86]	
Prihandani 2020	0.669	0.1638	1.6%	1.95 [1.42, 2.69]	
Yao 2018	-0.39	0.0342	36.4%	0.68 [0.63, 0.72]	
Total (95% CI)			**100.0%**	**0.67 [0.65, 0.70]**	

Heterogeneity: Chi² = 111.64, df = 5 (P < 0.00001); I² = 96%
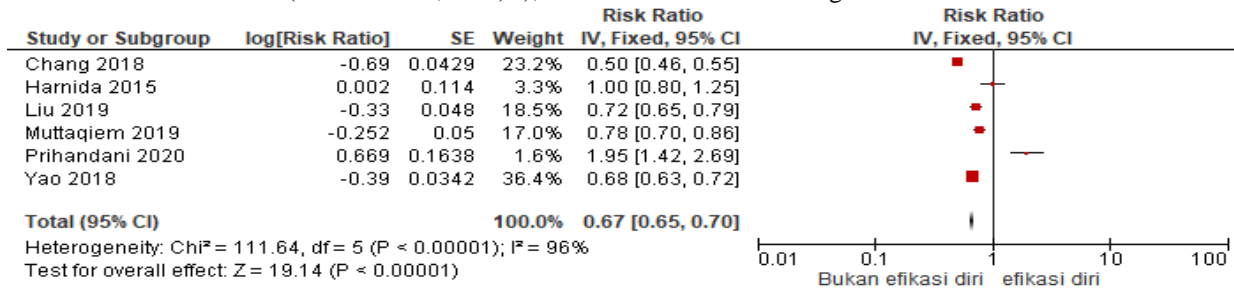Test for overall effect: Z = 19.14 (P < 0.00001)

Figure 5 Forest plot combined study of the relationship of self-efficacy with the incidence of burnout in hospital nurses.
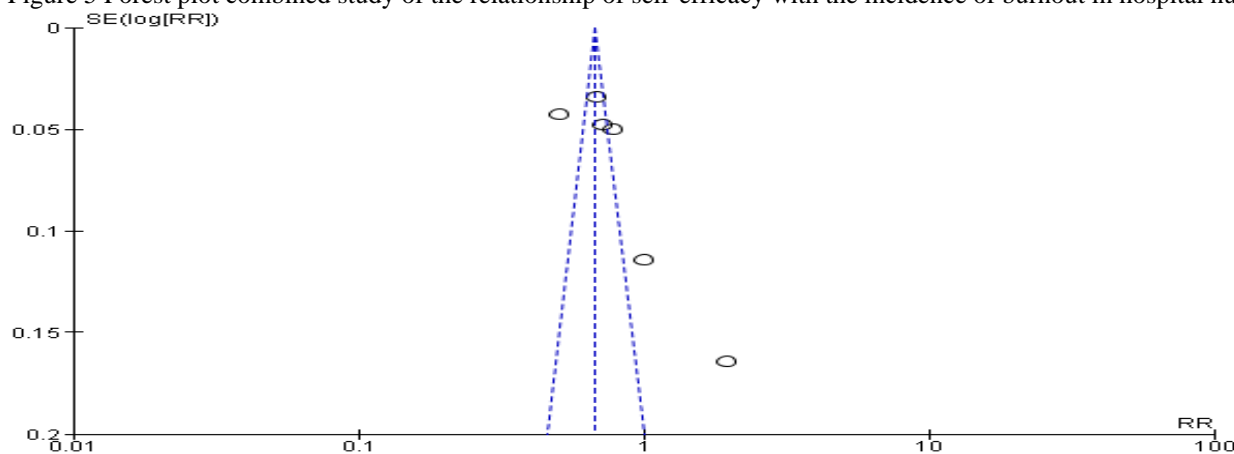
Figure 6 Funnel plot study of the relationship of self-efficacy with the incidence of burnout in nurses in hospital.

Calculation of Effect Size to determine the effectiveness of the relationship between research variables. The calculation of the combined effect size of research studies according to the

category there is a relationship and there is no relationship between nurses' self-efficacy and the incidence of burnout in nurses in hospitals is done manually in the table below

Table 4 The Average Effect Size of Combined Research on the Relationship of Nurse Self-Efficacy with Burnout Incidence in Hospitals

No	Research	ICE	Category	N	ES Max	ES Min
1.	Prihandani et al	0.1643	There is Relationship	5	0.1643	0.0341
2.	Yao et al	0.0342				
3.	Liu et al	0.0476				
4.	Muttaqim et al	0.0503				
5.	Chang et al	0.0429				
Average Effect Size				0.06792		
elementary school				0.5		
6.	Harnida	0.1324	No connection	1	0.1324	0.1324
Average Effect Size				0.1324		
elementary school				0.5		

Meta-analysis of the relationship between social support and the incidence of burnout in nurses in hospitals

Based on Figure 7 shows the results of the analysis of 5 research articles, the results of which state that there is a relationship between social support and the incidence of burnout in nurses in hospitals and analyzed using the Random Effect Model. The results of the heterogeneity test showed that the variation of the study was heterogeneous with the results obtained p = 0.06 and the value of variation between studies (I²) was 55%.

The results of the data analysis shown in the image above show that there is a relationship between social support and the incidence of burnout in nurses in hospitals with a p value of <0.05, namely p < 0.0000 and an Odds ratio value of 0.69 (95% CI 0.65.0.74), so it can be concluded that nurses' high social support can reduce the incidence of burnout in nurses 0.69 compared to nurses' low social support.

Based on Figure 8, the funnel plot shows a publication bias which is indicated by the asymmetry of the right and left plots. Publication bias can be seen from the imbalance in the distance between studies from both the right side 2 and the left side 2.

Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Fixed, 95% CI
Adawiyah 2018	-0.601	0.1179	7.6%	0.55 [0.44, 0.69]
Giarcia 2016	-0.242	0.102	10.1%	0.79 [0.64, 0.96]
Goong 2016	-0.27	0.0592	30.0%	0.76 [0.68, 0.86]
Liu 2019	-0.41	0.048	45.6%	0.66 [0.60, 0.73]
Putra 2020	-0.397	0.125	6.7%	0.67 [0.53, 0.86]
Total (95% CI)			100.0%	0.69 [0.65, 0.74]

Heterogeneity: Chi² = 8.98, df = 4 (P = 0.06); I² = 55%
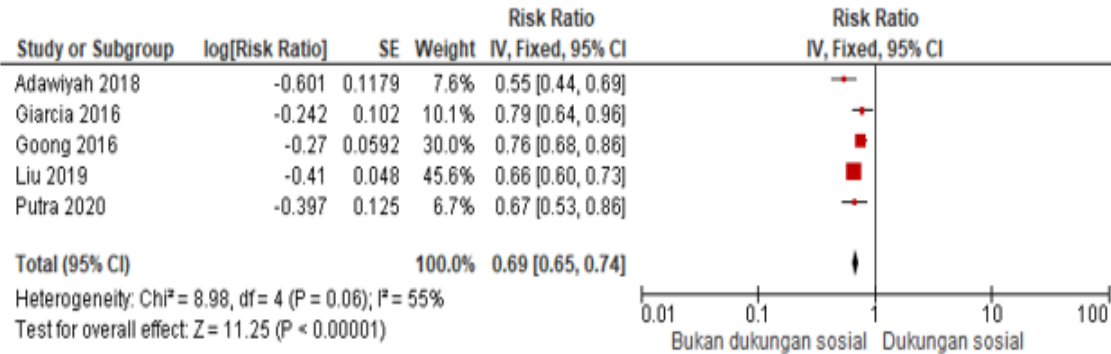Test for overall effect: Z = 11.25 (P < 0.00001)

Figure 7 Forest study plot Research which states that there is a relationship between Nurse Social Support and Burnout Incidence in Hospitals
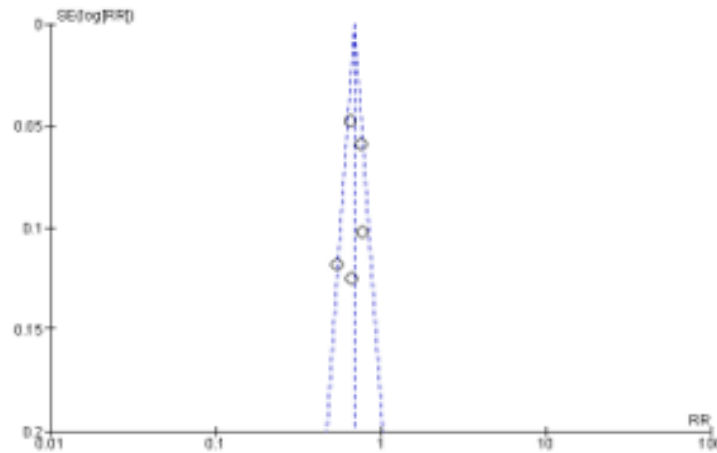

Figure 8 Funnel plot of the combined study of the relationship of social support with the incidence of burnout in nurses in hospital.

Based on Figure 9 shows the results of the analysis of 1 research article, the results of which stated that there was no relationship between social support and the incidence of burnout in nurses in hospitals and analyzed using the Fixed Effect Model. The results of the heterogeneity test showed that the research variation was homogeneous with the results obtained p = 0 and the value of variation between studies (I²) was 0%.

The results of the data analysis shown in the image above show that there is no relationship between social support and the incidence of burnout in nurses in hospitals with p <0.05, namely p < 0.50 and the Odds ratio value of 1.09 (95% CI 0.85.1.41), so it can be concluded that low social support for nurses can increase the occurrence of burnout 1.09 times compared to high social support for nurses.

Based on Figure 10, the funnel plot shows a publication bias which is indicated by the symmetricality of the right and left plots. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.
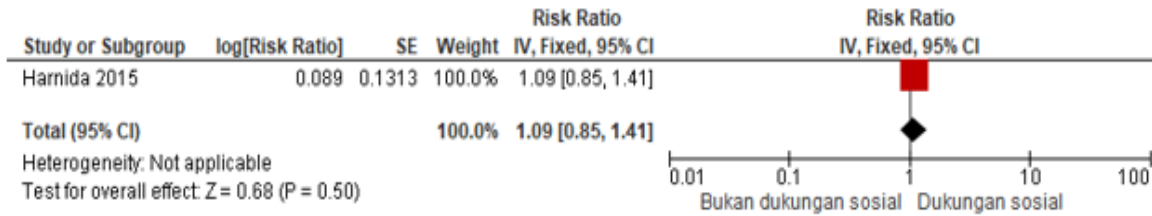
Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Fixed, 95% CI	Risk Ratio IV, Fixed, 95% CI
Harnida 2015	0.089	0.1313	100.0%	1.09 [0.85, 1.41]	
Total (95% CI)			100.0%	1.09 [0.85, 1.41]	
Heterogeneity: Not applicable					
Test for overall effect: Z = 0.68 (P = 0.50)					

Bukan dukungan sosial Dukungan sosial

Figure 9 Forest study plot Research which states there is no relationship between Social Support and Burnout Incidence in Hospital
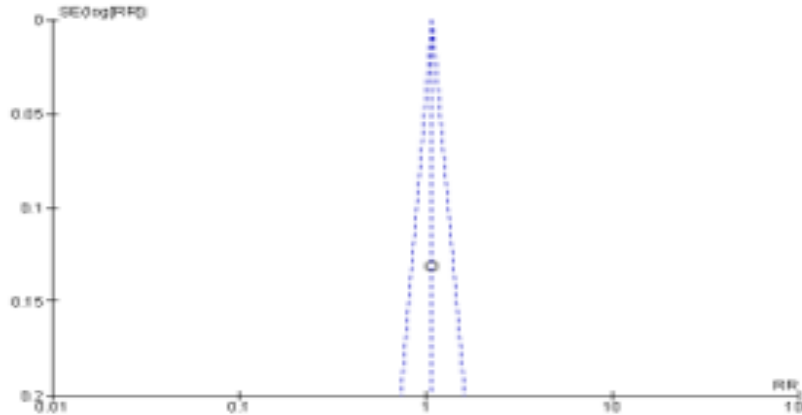

Figure 10 Funnel plot of the combined study there is no relationship between social support and the incidence of burnout in nurses in hospital.

Figure 11 shows the results of the analysis of 6 combined research articles, the results of which state that there is a relationship between social support and the incidence of burnout in nurses in hospitals and analyzed using the Random Effect Model. The results of the heterogeneity test showed that the study variation was hom with the results obtained p < 0.00001 and the value of variation between studies (I^2) was 75%. The results of the data analysis shown in the figure above show the relationship of social support to the incidence of burnout in nurses in hospitals with a p value of <0.05, namely p < 0.00001 and an Odds ratio value of 0.71 (95% CI 0.67.0.76). so that it can be concluded that high nurse social support will reduce the incidence of burnout 0.71 times higher than nurses' low self-efficacy.

Based on Figure 12, the combined funnel plot of the research on the relationship of social support to the incidence of burnout in nurses in hospitals shows a publication bias which is indicated by the asymmetry of the right and left plots. Based on the picture on the funnel plot, it can be seen that 1 plot is in the right quadrant, there are 3 plots attached to the vertical line and 2 plots in the left quadrant. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.

Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Fixed, 95% CI	Risk Ratio IV, Fixed, 95% CI
Adawiyah 2018	-0.601	0.1179	7.1%	0.55 [0.44, 0.69]	
Garcia 2016	-0.242	0.102	9.5%	0.79 [0.64, 0.96]	
Goong 2016	-0.27	0.0592	28.3%	0.76 [0.68, 0.86]	
Harnida 2015	0.089	0.1313	5.7%	1.09 [0.85, 1.41]	
Liu 2019	-0.41	0.048	43.0%	0.66 [0.60, 0.73]	
Putra 2020	-0.397	0.125	6.3%	0.67 [0.53, 0.86]	
Total (95% CI)			100.0%	0.71 [0.67, 0.76]	
Heterogeneity: Chi² = 20.23, df = 5 (P = 0.001); I² = 75%					
Test for overall effect: Z = 10.76 (P < 0.00001)					

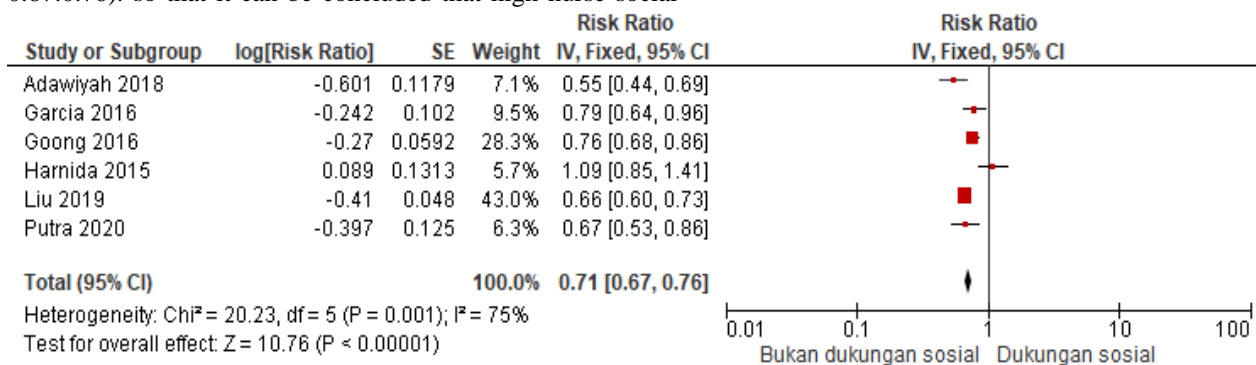Bukan dukungan sosial Dukungan sosial

Figure 11 Funnel plot study on the relationship of self-efficacy with the incidence of burnout in nurses in hospital.
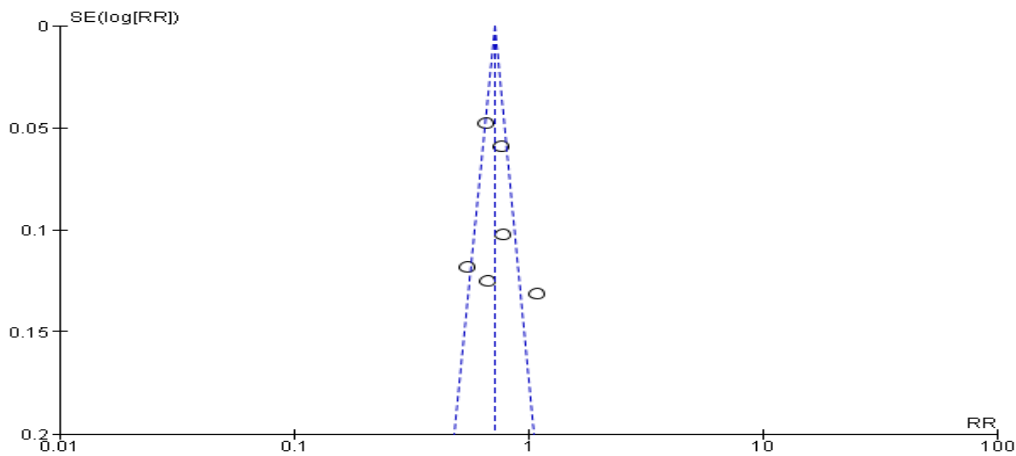
Figure 12 Funnel plot combined study of the relationship of self-efficacy with the incidence of burnout in nurses in hospital.

Calculation of Effect Size to determine the effectiveness of the relationship between research variables. The calculation of the combined effect size of research studies according to the category there is a relationship and there is no relationship between nurse social support and the incidence of burnout in nurses in hospitals is done manually in the table below.

Table 5 Large Mean Effect Size of Combined Research on the Relationship of Nurse Social Support with Burnout Incidence in Hospitals

No	Research	ICE	Category	N	ES Max	ES Min
1.	Son et al	0.1250	There is Relationship	5	0.1250	0.0476
2.	Adawiyah et al	0.1178				
3.	Liu et al	0.0476				
4.	Goong et al	0.0594				
5.	Garcia et al	0.1015				
Average Effect Size				0.09026		
elementary school				0.5		
6.	Harnida	0.1313	No connection	1	0.1313	0.1313
Average Effect Size				0.1313		
elementary school				0.5		

Meta-analysis of the relationship between work stress and burnout in hospital nurses

Based on Figure 13, it shows the results of the analysis of 3 research articles, the results of which state that there is a relationship between work stress and the incidence of burnout in nurses in hospitals and analyzed using the Random Effect Model. The results of the heterogeneity test showed that the research variation was heterogeneous with the results obtained p = 0.00001 and the value of variation between studies (I^2) was 98%.

The results of the data analysis shown in the picture above shows that there is a relationship between work stress and burnout in nurses in hospitals with a p value <0.05, namely p < 0.00001 and an Odds ratio value of 2.38 (95% CI 0.238, 0.38) , so it can be concluded that high nurse stress can increase the incidence of burnout in nurses 2.38 compared to low nurse work stress.

Based on Figure 14, the funnel plot shows a publication bias which is indicated by the asymmetry of the right and left plots. The plot only appears on the left as much as 2. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.
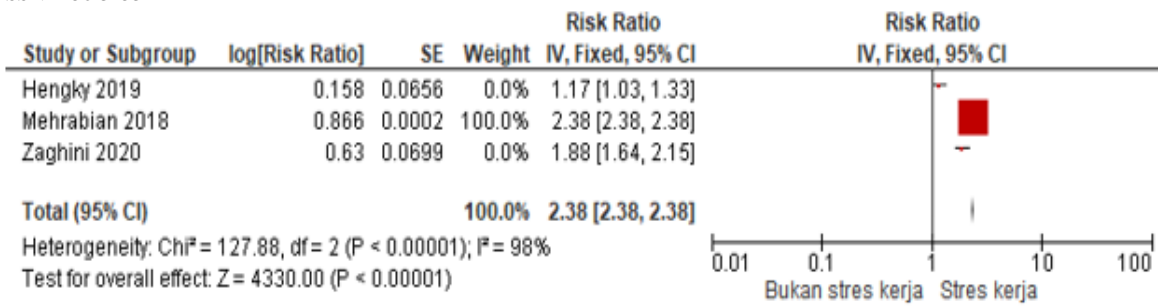
Figure 13 Forest study plot Research which states that there is a relationship between Nurse Work Stress and Burnout Incidence in Hospitals
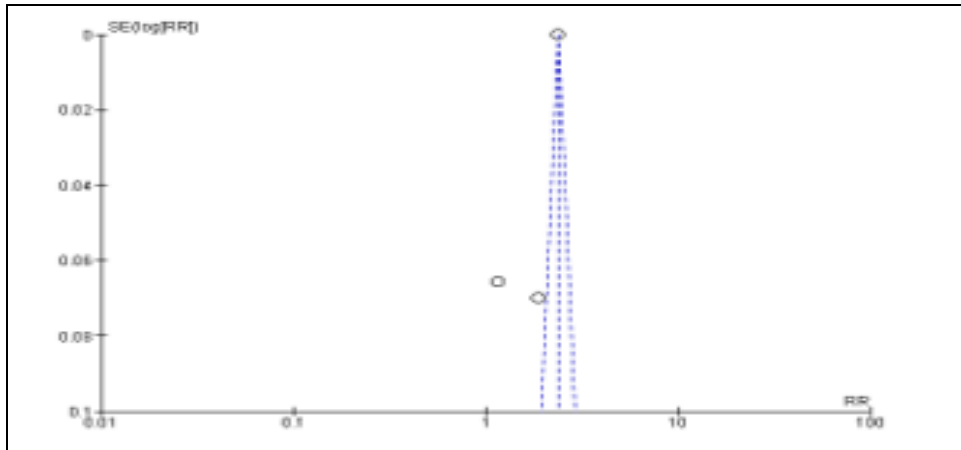

Figure 14 Funnel plot of the combined study of the relationship of work stress with the incidence of burnout in nurses in hospital.

Based on Figure 15, it shows the results of the analysis of 2 research articles, the results of which state that there is no relationship between work stress and the incidence of burnout in nurses in hospitals and analyzed using the Fixed Effect Model. The results of the heterogeneity test showed that the research variation was homogeneous with the results obtained p = 0.093 and the value of variation between studies (I^2) was 0%.

The results of the data analysis shown in the image above show that there is no relationship between work stress and burnout in nurses in hospitals with a p value <0.05, namely p = 0.033 and an Odds ratio value of 1.18 (95% CI 0.85, 1.63), so it can be concluded that high nurse work stress can increase the incidence of burnout 1.18 times compared to low work stress on nurses.

Based on Figure 16, the funnel plot shows a publication bias which is indicated by the asymmetry of the right and left plots. The plot lies only in the middle. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.
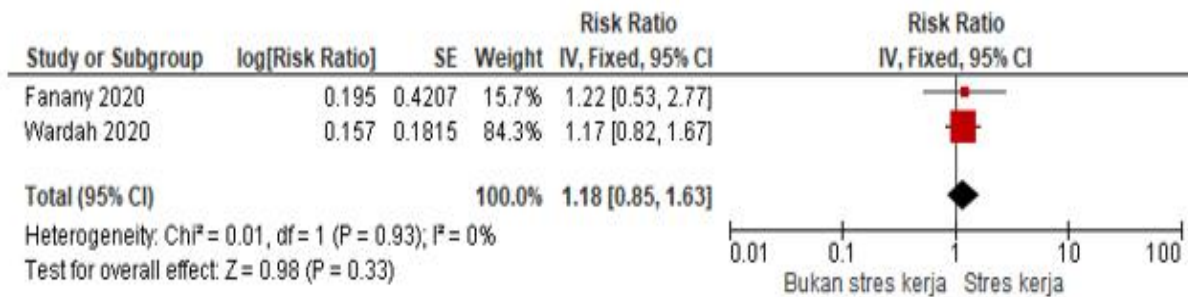

Figure 15 Forest study plot Research which states that there is no relationship between Nurse work stress and Burnout Incidence in Hospitals
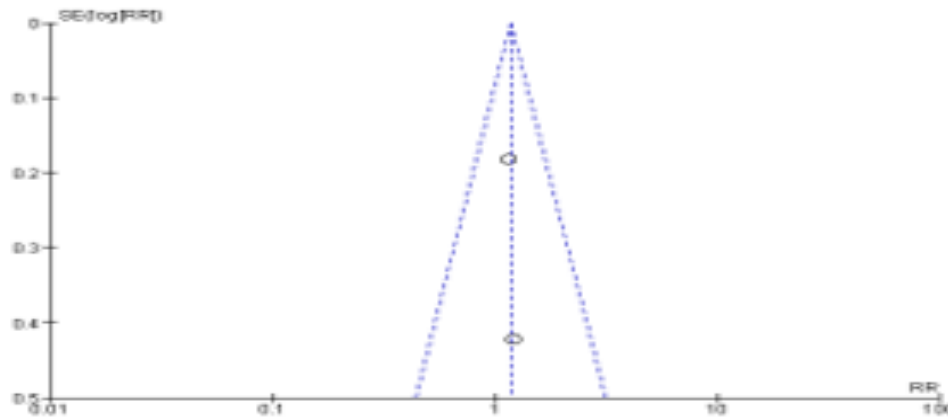
Figure 16 Funnel plot of the combined study there is no relationship between work stress and the incidence of burnout in nurses in hospital.

Based on Figure 17 shows the results of the analysis of five research articles combined with articles on the relationship of work stress to the incidence of burnout in nurses in hospitals and analyzed using the Random Effect Model. The results of the heterogeneity test showed that the research variation was high heterogeneity with the results obtained p < 0.00001 and the value of variation between studies (I²) was 97%. The results of the data analysis shown in the picture above shows the relationship between work stress and burnout in nurses at the hospital with a p value <0.05, namely p < 0.00001 and an Odds ratio value of 2.38 (95% CI 2.38.2.38). so it can be concluded that the high work stress of nurses will increase the incidence of burnout 2.38 times higher than the work stress of low nurses.

Based on Figure 18, the combined funnel plot research on the relationship of work stress to the incidence of burnout in nurses in hospitals shows a publication bias which is indicated by the asymmetry of the right and left plots. Based on the picture on the funnel plot, there are 4 plots in the right quadrant and there is 1 plot attached to the top of the vertical line. Publication bias can be seen from the imbalance in the distance between studies from both the right and left sides.

Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Fixed, 95% CI	Risk Ratio IV, Fixed, 95% CI
Fanani 2020	0.195	0.4207	0.0%	1.22 [0.53, 2.77]	
Hengky 2019	0.158	0.0656	0.0%	1.17 [1.03, 1.33]	
Mehrabian 2018	0.866	0.0002	100.0%	2.38 [2.38, 2.38]	
Wardah 2020	0.157	0.1815	0.0%	1.17 [0.82, 1.67]	
Zaghini 2020	0.63	0.1915	0.0%	1.88 [1.29, 2.73]	
Total (95% CI)			100.0%	2.38 [2.38, 2.38]	

Heterogeneity: Chi² = 135.80, df = 4 (P < 0.00001); I² = 97%
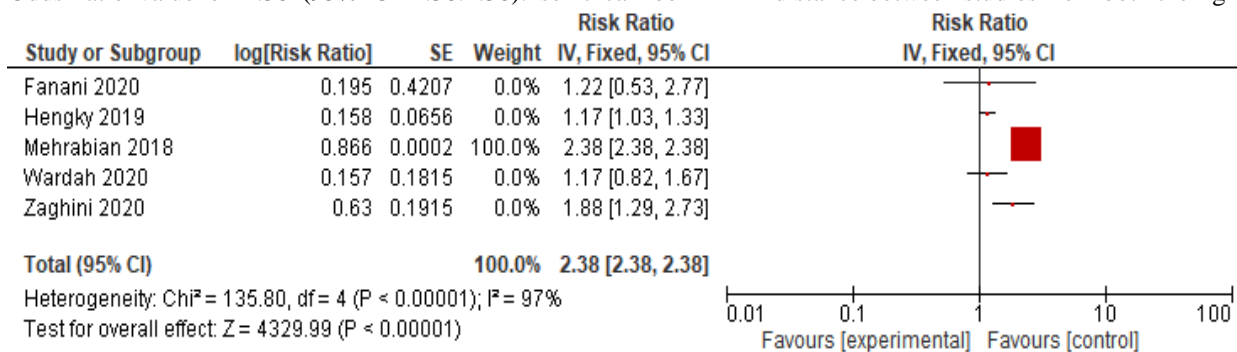Test for overall effect: Z = 4329.99 (P < 0.00001)

Figure 17 Forest plots a combined study of the relationship between work stress and burnout in hospital nurses.
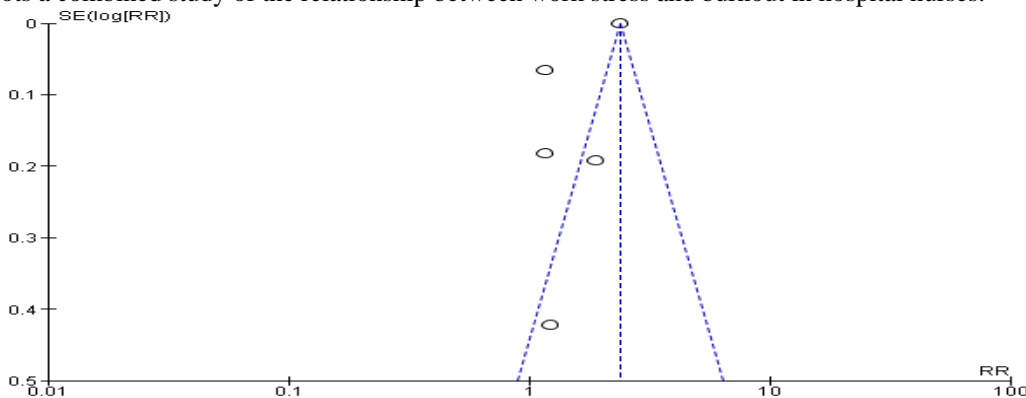

Figure 18 Funnel plot of a combined study of the relationship of work stress with the incidence of burnout in nurses in hospital.

Calculation of Effect Size to determine the effectiveness of the relationship between research variables. The calculation of the

combined effect size of research studies according to the category there is a relationship and there is no relationship

between nurses' work stress and the incidence of burnout in nurses in hospitals is done manually in the table below.

Table 6 The Average Effect Size of the Combined Research on the Relationship of Nurse Work Stress with Burnout Incidence in Hospitals

No	Research	ICE	Category	N	ES Max	ES Min
1.	Hengky A	0.656	There is Relationship	3	0.656	0.0002
2.	Mehrabian et al	0.0002				
3.	Zaghini et al	0.0669				
Average Effect Size				0.241		
elementary school				0.5		
4.	Wardah & Tampo	0.1815	No connection	2	0.4207	0.1815
5.	Fanani et al	0.4207				
Average Effect Size				0.392		
elementary school				0.5		

Meta-analysis of factors that are most related to the incidence of burnout in nurses in hospitals
Table 7 Comparison of Research Results whether or not there is a relationship between research variables and Burnout Incidence in Hospitals

Variable Research	There's a Relationship		No connection		Average Effect Size	
	Heterogeneity Test	Results	Test Heterogeneity	Results	There's a Relationship	No connection
Self Efficacy	p= 0.00001 I^2 = 96%. (heterogeneous)	P<0.00001 pOR=0.66 (95% CI 0.64,0.69)	p= 0 I^2 = 0%. (homogeneous)	P< 0.99 pOR =1.00 (95% CI 0.77,1.33	0.06792	0.1324
Endorsement Social	p= 0.06 I^2=55% (heterogeneous)	P<0.0000 pOR=0.69 (95% CI 0.65,0.74)	p= 0, I^2 = 0% (homogeneous)	P=0.50 pOR=1.09 (95% CI 0.85,1.41)	0.09026	0.1324
Work Stress	p= 0.00001 I^2= 98%. (heterogeneous)	p< 0.0001 pOR=2.38 (95%CI 0.38, 0.38)	p= 0.93 I^2 = 0% (homogeneous)	P=0.33 pOR=1.18 (95%CI 0.85, 1.63)	0.241	0.392

IV. DISCUSSION
Meta-analysis of the relationship between self-efficacy and the incidence of burnout in nurses in hospitals
a.   Research variation and heterogeneity
The results of the analysis show different values of variance and weights. The theory expressed by Dahlan (2012) that the weight in a study is directly proportional to the number of research subjects (research samples). Research with 100 subjects will have a greater weight than research with 50 subjects. In addition to the number of subjects, the weight is also influenced by variations in the data. The weights are inversely proportional to the variation of the data. Research with more varied data will have a smaller weight than research with smaller variations.
Objectively, determining the role of variation between studies was tested by heterogeneity test. If the results show p>0.05 then it is declared homogeneous, meaning that the variation between studies does not play a role in the total variation, on the contrary if the heterogeneity test results show p<0.05, it is declared heterogeneous, which means that the variation between studies has a role in the total variation. In addition to

the p value, the data variation also looks at the value of variation between studies (I2). If there is a result of 50% below it can be categorized as homogeneous variation and if it is above 50% it is considered heterogeneous. The null hypothesis is rejected if the p value in the heterogeneity test is greater than 0.05 (Dahlan, 2012).
The statistical test describes high heterogeneity so that it can be concluded using a random effect model in measuring the combined effect of journal data used in the RevMan 5.4 computer application. The result obtained is pOR = 0.66 with 95% confidence interval 0.64 to 0.69. The combined effect also produces a Z value of 19.47 with a p value of < 0.00001. Statistically, the combined effect is significant if the p value <0.05 and this means that the null hypothesis is rejected. In other words, there is a relationship between low self-efficacy and the incidence of burnout in nurses in hospitals with a tendency to increase the risk of 0.66 times to experience burnout events compared to nurses who have high self-efficacy.
While the heterogeneity test results in 1 research study which stated that there was no relationship between self-efficacy and

the incidence of burnout in nurses at the hospital showed a p value = 0 and an I2 value (variation between studies) of 0% was declared homogeneous with low heterogeneity so that using fixed effect models in measuring the combined effect of the data in the data input model in the RevMan 5.4 computer application. The result obtained is pOR = 1.00 with 95% confidence interval 0.77 to 1.30. The combined effect also produces a Z value of 0.22 and a p value < 0.99. Statistically, the combined effect is significant if the p value <0.05 and this means that the null hypothesis is accepted,

b.   Analysis of research results

This study is the first meta-analysis study that analyzes the relationship between self-efficacy and the incidence of burnout in nurses in hospitals. Many studies have analyzed the self-efficacy associated with burnout in hospital nurses. For this reason, statistical analysis was carried out using meta-analysis to prove the quality of each study so that new quantitative data were obtained with a larger sample size and more accurate conclusions could be drawn.

The results of searching journals from various sources eventually resulted in 180 studies and in 16 studies that met the inclusion criteria which could be analyzed into a meta-analysis with the RevMan 5.4 computer application. This can be continued by using meta-analysis because according to Sastroasmoro (2011) in his book states that meta-analysis is a combination of two or more studies. So it can be concluded that with a minimum of two studies, quantitative analysis can be carried out with meta-analysis.

The six nurse self-efficacy studies were analyzed involving 2,338 research samples from the total number of samples in each research study. The results of the analysis for 5 research studies which stated that there was a relationship between self-efficacy and the incidence of burnout in nurses at the hospital after a combined analysis showed that there was a relationship with variations in heterogeneity of data, while with 1 study which stated that there was no relationship between self-efficacy and burnout in nurses at home pain after the combined analysis still showed no association with weak data heterogeneity.

For 5 research studies which stated that there was a relationship between self-efficacy and burnout in nurses, the total sample was 2278 samples. The results of the combined effect concluded that self-efficacy was associated with burnout in hospital nurses with p < 0.0001 and pOR = 0.66 and 95% confidence interval (0.64.0.69) on the forrest plot. It can be concluded that nurses who have low self-efficacy have a tendency to increase the risk of 0.66 times for the incidence of burnout in nurses in hospitals compared to nurses who have low self-efficacy.

For one research study which states that there is no relationship between self-efficacy and burnout in nurses in hospitals, the total sample is 60 samples. The results of the combined effect concluded that self-efficacy was associated with burnout in hospital nurses with p value = 0.00001 and pOR = 1.00 and 95% confidence interval (0.77,1.33) on the forest plot. After conducting a combined analysis on 1 research study, the results stated that there was no relationship with the p value < 0.05, namely p = 0.99. It can be concluded

that the nurse's self-efficacy is not related to the incidence of burnout in nurses at the hospital has a tendency to increase the risk of 1.00 times to experience burnout events in nurses at the hospital compared to nurses who have low self-efficacy.

In the combined plot funnel, it can be seen that the plots are not symmetrical on the right and left of the vertical line where the number of plots on the left is 4 and the right side has 1 plot. This indicates a publication bias. Mohet et al., (2009) suggested a quantitative meta-analysis with a random effects model approach, although the combination of this information can produce a more precise statistical analysis, the bias is still unavoidable. This can happen in this study because it pays attention to the results of research studies that show high values and have varying data, which shows a negative correlation and a positive correlation. Varied correlation results will show high heterogeneity results (Waluyohadi AEG., 2019).

c.   Comparison of Meta Analysis Results

In five studies which state that there is a relationship between self-efficacy and the incidence of burnout in nurses in hospitals, it can be seen that the largest R number is owned by the research of Prihandhani et al (2020) with a value of 0.669 which means that respondents who have high self-efficacy have a strong enough relationship to did not experience burnout. While the smallest R value which states the existence of self-efficacy with the incidence of burnout in nurses in hospitals is a study by Muttaqim et al with a value of 0.252 which means that nurses with high self-efficacy have a relationship close to 0 , which is meaningful if the correlation coefficient is close to 0 then the relationship between self-efficacy and the incidence of burnout is getting weaker. After merging in the meta-analysis test,

One research study, namely research conducted by Harnida (2015) with R = 0.002 had contradictory results which stated that there was no statistically significant relationship between nurses' self-efficacy and burnout in hospital nurses. After one research study was included in the RevMan 5.4 meta-analysis statistical test, the combined statistical results showed that there was no relationship with the p>0 value.0.05, which is p < 0.99 and the pooled odds ratio value is 1.00 (95% CI 0.77.1.30), indicating that nurses who have low self-efficacy have only 1.00 times greater chance of experiencing burnout in nurses in hospital compared to nurses who have high self-efficacy.

The majority of research studies that show that there is a relationship between nurses' self-efficacy and the incidence of burnout in hospitals. This is in accordance with the nursing profession which plays an important role in providing health services and becomes a benchmark in determining the quality of service in a hospital. A nurse is required to have knowledge, expertise and concentration in fulfilling their duties and functions. It is also added that nurses have credibility as one of the health care professions that have the task of paying attention to the needs of patients and caring for patients who are under stress due to illness with full responsibility.(Putra and Muttaqin 2020).

Work that is oriented to serving others can form an asymmetrical relationship between service providers and

service recipients. When someone works in the service sector, he will provide attention, service, assistance and support to patients. This condition can sometimes cause stress to nurses so they are easily stressed. The emotional condition of nurses such as feeling tired and bored that arises as a result of increasing and continuous work demands can lead to burnout. However, as an individual, nurses also have their own psychological conditions.

Nurses with high self-efficacy are expected to be able to manage stress by directing them to problem solving efforts. Individuals with high self-efficacy are able to manage stress by directing them to problem solving efforts. among nurses will cause a decrease in burnout in aspects of depersonalization, emotional exhaustion and lack of personal achievement. According to Chwalisz, Altmaier, and Russell (2016) states that individuals with high self-efficacy are able to manage stress by directing them to problem solving efforts, have a sense of optimism related to their ability to work, develop positive attitudes such as self-confidence and high commitment, thus he is able to carry out his role and function properly.(Prihandhani and Hakim 2020).

In Harnida's research (2015) stated that there was no relationship between self-efficacy and the incidence of burnout in nurses in hospitals. When viewed from the number of samples and the number of journals, prospective researchers suspect that this results in research results that lack strength. This is in accordance with Alwisol's theory (2014) which states that self-efficacy or self-confidence can be obtained, changed, increased or decreased, through one or a combination of four sources, namely performance experience (performance accomplishment), past performance being the most important modifier of self-efficacy. strong influence. Good past achievements increase efficacy expectations, the second is vicarious experience, vicarious experience is obtained through social models. Efficacy will increase when observing the success of others, on the contrary, efficacy will decrease if observing people whose abilities are approximately the same as themselves fail. The third is social persuasion, self-efficacy can also be obtained, strengthened or weakened through social persuasion. The condition of trust in the persuasion, and the realistic nature of what is being persuaded. In a fairly small number of samples, about 60 samples may not have been widely described. and the realistic nature of what is being persuaded. In a fairly small number of samples, about 60 samples may not have been widely described. and the realistic nature of what is being persuaded. In a fairly small number of samples, about 60 samples may not have been widely described.

Self-efficacy is related to a person's belief in his ability to practice self-control in events that affect his life and work. Self-efficacy is related to Chernis' theory (2007), There are three main components that can be considered as the cause of burnout, namely organizational design, leadership and social support and co-worker interaction. This theory is clarified by Pamungkas (2018) which further clarifies the above theory. The explanation is more complex, which consists of involvement with service recipients and work pressure which includes workload, work stress and role ambiguity. Judging from the work environment factors consist of role conflict,

social support, organizational motivation. Meanwhile, in terms of demographic characteristics (age, gender, education, etc.) Personal characteristics (self-efficacy and self-esteem) and social and cultural factors which include social and cultural values that can be measured both with qualitative and quantitative approaches. The theory states that self-efficacy, social support and work stress are included in the involvement factor with service recipients, work environment factors and characteristic factors of a nurse worker in a hospital.

This self-efficacy theory is closely related to aspects of worker characteristics which include differences based on age, gender, occupation, education, religion, ethnicity, status, geographic location, social class and personality.

According to the results of the researcher's analysis that self-efficacy is related to burnout in nurses because with self-efficacy nurses will practice self-control in events that affect their lives and work, especially providing axial services without doing burnout activities at work. Nurses' efficacy will increase when observing the success of others, on the contrary, efficacy will decrease if observing people whose abilities are approximately the same as themselves fail. Nurses with high self-efficacy are expected to be able to manage stress by directing them to problem solving efforts. Individuals with high self-efficacy are able to manage stress by directing them to problem solving efforts. among nurses will cause a decrease in burnout in aspects of depersonalization, emotional exhaustion and lack of personal achievement. Nurses with high self-efficacy are able to manage stress by directing them to problem-solving efforts, have a sense of optimism related to their ability to work, develop positive attitudes such as self-confidence and high commitment, thus they are able to carry out their roles and functions well in provide services to patients. Self-efficacy is needed by a person in solving various problems in providing nursing care and also relating to his services to patients and avoiding burnout syndrome. thus he is able to carry out his role and function well in providing services to patients. Self-efficacy is needed by a person in solving various problems in providing nursing care and also relating to his services to patients and avoiding burnout syndrome. thus he is able to carry out his role and function well in providing services to patients. Self-efficacy is needed by a person in solving various problems in providing nursing care and also relating to his services to patients and avoiding burnout syndrome.

Meta-analysis of the relationship between social support and the incidence of burnout in nurses in hospitals

a. Research Variation and Heterogeneity

The analysis of six studies that analyzed the relationship between social support and the incidence of burnout in nurses in hospitals showed different results of variance and weight values. Determination of the role of variation between studies was tested by heterogeneity test. The results of the heterogeneity test on 5 research studies which stated that there was a relationship between social support and the incidence of burnout in nurses at the hospital was I2 = 55% and p value = 0.06. If the results of the heterogeneity test show p>0.05 and I2<50%, it is said to be homogeneous with a fairly high level

of heterogeneity, which means that the variation between studies does not have a role in the total variation.

The test results show a fairly high heterogeneity (heterogeneous) so that using Random effect models in measuring the combined effect of the data in the data input model in the RevMan 5.4 computer application. The results obtained are pOR = 0.69 with 95% confidence interval: 0.65,0.74. The combined effect also resulted in a Z value of 11.25 and a p value of < 0.0000. Statistically, the combined effect is significant if the p value <0.05 and this means that the null hypothesis is rejected, in other words there is a relationship between social support and the incidence of burnout in nurses in hospitals with a tendency for nurses with low social support to increase the risk of 0.69 experience burnout than nurses who have high social support.

While the heterogeneity test on 1 research study which stated that there was no relationship between social support and the incidence of burnout in nurses at the hospital between showed a p value = 0.50 and an I2 value (inter-study variation) of 0% was declared homogeneous. The results of the heterogeneity test showed a homogeneous value so that the analysis used fixed effect models in measuring the combined effect of the data in the data input model in the RevMan 5.4 computer application. The results obtained are pOR = 1.09 with 95% confidence interval: 0.85,1.41. The combined effect also produces a Z value of 0.68 and a p value of 0.50. Statistically, the combined effect is significant if the p value <0.05 and this means that the null hypothesis is accepted, in other words, there is no relationship between social support and burnout in hospital nurses with a tendency to increase the risk of 1.09 times to experience burnout compared to nurses who have high social support.

b.   Analysis of Research Results

This study is the first meta-analysis study that analyzes the relationship between the relationship of social support with the incidence of burnout in nurses in hospitals. Many studies have analyzed the social support associated with burnout in hospital nurses. For this reason, statistical analysis was carried out using meta-analysis to prove the quality of each study so that new quantitative data were obtained with a larger sample size and more accurate conclusions could be drawn.

The results of journal searches from various sources ultimately resulted in 180 studies and in 16 studies that met the inclusion criteria which could be analyzed into meta-analysis with RevMan 5.4 application software. This can be continued by using meta-analysis because according to Sastroasmoro (2011) in his book states that meta-analysis is a combination of two or more studies. So it can be concluded that with a minimum of two studies, quantitative analysis can be carried out with meta-analysis.

The six studies of social support on nurses were analyzed by involving 1,032 research samples from the total number of samples in each research study. The results of the analysis for 5 research studies which stated that there was a relationship between social support and the incidence of burnout in nurses at the hospital after a combined analysis showed that there was a relationship with moderate heterogeneity of data variation, while 1 study stated that there was no relationship

between social support and the incidence of burnout among nurses in the hospital. hospital after the combined analysis still showed no association with weak data heterogeneity.

For 5 research studies which state that there is a relationship between social support and the incidence of burnout in nurses, the total sample is 972 samples. The results of the combined effect concluded that self-efficacy was associated with burnout in hospital nurses with p < 0.0000 and pOR = 0.69 and 95% confidence interval (0.65,0.74) on the forrest plot. It can be concluded that nurses who have low social support have a tendency to increase the risk of 0.69 times for the incidence of burnout in nurses in hospitals compared to nurses who have high social support.

For one research study which stated that there was no relationship between social support and the incidence of burnout in nurses in hospitals, the total sample was 60 samples. The results of the combined effect concluded that social support was associated with the incidence of burnout in hospital nurses with p value = 0.050 and pOR = 1.09 and 95% confidence interval (0.85,1.41) in the forest plot. After conducting a combined analysis on 1 research study, the results stated that there was no relationship with the p value > 0.05, namely p = 0.50. It can be concluded that nurses who have low social support have a tendency to increase the risk of 1.09 times to experience burnout events in nurses in hospitals compared to nurses who have high social support.

The results of the combined funnel plot show that the plots are not symmetrical on the right and left of the vertical line where the number of plots on the left is 3 and the right side has 2 plots with 1 plot attached to the vertical line. This indicates a publication bias. Mohet et al., (2009) suggested a quantitative meta-analysis with a random effects model approach, although the combination of this information can produce a more precise statistical analysis, the bias is still unavoidable. This can happen in this study because it pays attention to the results of research studies that show high values and have varying data, which shows a negative correlation and a positive correlation. Varied correlation results will show high heterogeneity results (Waluyohadi AEG., 2019).

c.   Comparison of Meta Analysis Results

The results of five research studies which state that there is a relationship between social support and the incidence of burnout in nurses in hospitals, it can be seen that the largest R number is owned by the research of Adawiyah et al (2018) with a value of 0.601 which means that respondents who have high social support have a strong relationship. strong enough not to experience burnout. While the smallest R value which states the existence of social support with the incidence of burnout in nurses in hospitals is a study by Garcia et al with a value of 0.242 which means that nurses with high social support have a relationship close to 0, which is significant if the correlation coefficient is close to 0 then the relationship between social support and the incidence of burnout is getting weaker. After merging in the meta-analysis test, a research study which states that there is a relationship between social support and the incidence of burnout in nurses in hospitals, the results are p value < 0.0000 and a pooled odds ratio value of 0.69 (95% CI 0.65,0.74), which indicates that there is a

relationship between support with the incidence of burnout in nurses in hospitals where nurses who have low social support have a 0.66 times greater chance of experiencing burnout in hospitals than nurses with high social support.

One research study, namely research conducted by Harnida (2015) with R = 0.089 which stated that there was no statistically significant relationship between nurse social support and the incidence of burnout in nurses in hospitals. After one research study was included in the RevMan 5.4 meta-analysis statistical test, the statistical results showed that there was no relationship with the p value > 0.05, namely p < 0.50 and the pooled odds ratio value of 1.09 (95% CI 0.85,1.41) , shows that nurses who have low social support have a 1.09 times greater chance of experiencing burnout in hospital nurses than nurses who have high social support.

Most of the research studies that show the results of a relationship between social support and the occurrence of burnout in nurses in hospitals suggest that there is an external factor, namely social support which is important in reducing burnout. This is because in dealing with stressful events, nurses need social support from other individuals to overcome and resolve their problems. A nurse is expected to get enough social support so that they will also be psychologically awake. But if nurses lack or even do not receive social support when they are under pressure, they will experience stress which can lead to burnout.

On research Adawiyah and Blikololong (2018) Regarding the relationship between social support and burnout, it was concluded that the lack of social support from supervisors, co-workers, friends, and family can predict the occurrence of burnout in nurses.

Cooper's theory (2000) aspects of the situation or organization in relation to K3 (Situational aspects, what organizational has, what is said). This aspect is closely related to the situation of the work environment, for example, does the hospital have a K3 management system, SOPs, K3 Committee and a conducive work environment.

Social support is an important factor that is easily available in overcoming burnout. Social support is generally perceived to refer to comfort, attention, appreciation, and assistance given to individuals from a person or group. Social support is defined as the presence, willingness, care of people who appreciate and love us. Social support revealed that social support includes two aspects, including: 1) The number of available sources of social support (quantity), is the perception that there are a number of people that individuals can rely on when they need help; 2) The level of satisfaction with the social support received is related to the individual's perception of the available sources of social support that his needs will be met.

Based on the analysis of researchers, social support affects individual health by providing protection against high levels of negative stress. When a nurse experiences burnout from work, social support will develop buffers that are useful for dealing with stress. Social support can reduce pressure due to activities that cause burnout in nurses. Strengthening social support is a way to reduce or minimize the impact of events that have the potential to cause burnout. In addition, individuals who have a positive perception of the form of

social support they receive will increase their self-confidence, well-being, competence, self-control, and positive things that exist within the individual. A nurse is expected to get enough social support so that they will also be psychologically awake. But if nurses lack or even do not receive social support when they are under pressure, they will experience stress which can lead to burnout.

Meta-analysis of the relationship between work stress and burnout in hospital nurses

a.   Research Variation and Heterogeneity

Analysis of five studies that analyzed the relationship between work stress and burnout in hospital nurses showed different variance and weight values. Determination of the role of variation between studies was tested by heterogeneity test. The results of heterogeneity test on 3 research studies which stated that there was a relationship between work stress and burnout in hospital nurses was I2 = 98% and p value = 0.0001. If the results of the heterogeneity test show p<0.05 and I2>50%, it is said to be heterogeneous with a fairly high level of heterogeneity, which means that the variation between studies has no role in the total variation. The null hypothesis is accepted if the p value in the heterogeneity test is more than 0.05 (Dahlan, 2012).

The test results show a fairly high heterogeneity (heterogeneous) so that using Random effect models in measuring the combined effect of the data in the data input model in the RevMan 5.4 computer application. The result obtained is pOR = 2.38 with 95% confidence interval: 2.38,2.38. The combined effect also produces a Z value of 4330 and a p value of < 0.0001. Statistically, the combined effect is significant if the p value <0.05 and this means that the null hypothesis is rejected, in other words, there is a relationship between work stress and the incidence of burnout in nurses in hospitals with a tendency for nurses with high work stress to increase the risk of 2.38 more times experience burnout than nurses who have low work stress.

While the heterogeneity test on 2 research studies which stated that there was no relationship between work stress and burnout in nurses at the hospital showed a p value = 0.93 and an I2 value (inter-study variation) of 0% was declared homogeneous. The results of the heterogeneity test showed a homogeneous value so that the analysis used fixed effect models in measuring the combined effect of the data in the data input model in the RevMan 5.4 computer application. The results obtained are pOR = 1.18 with 95% confidence interval: 0.85,1.63. The combined effect also produces a Z value of 0.68 and a p value of 0.50. Statistically, the combined effect is significant if the p value <0.05 and this means that the null hypothesis is accepted, In other words, there is no relationship between work stress and burnout in nurses in hospitals with a tendency for nurses who have high work stress to increase the risk of 1.09 times to experience burnout events compared to nurses who have low work stress.

b.   Analysis of Research Results

This study is the first meta-analysis study that analyzes the relationship between work stress and burnout in hospital nurses. Many studies have analyzed the work stress associated with burnout in hospital nurses. For this reason, statistical analysis was carried out using meta-analysis to prove the quality of each study so that new quantitative data were obtained with a larger sample size and more accurate conclusions could be drawn.

The results of journal searches from various sources ultimately resulted in 180 studies and in 16 studies that met the inclusion criteria which could be analyzed into meta-analysis with the RevMan 5.4 application software. The five studies of work stress on nurses were analyzed by involving 843 research samples from the total number of samples in each research study. The results of the analysis for 3 research studies which stated that there was a relationship between work stress and the incidence of burnout in nurses in hospitals after a combined analysis showed that there was a relationship with moderate heterogeneity of data variations, while 2 studies stated that there was no relationship between work stress and burnout in nurses in hospitals. hospital after the combined analysis still showed no association with weak data heterogeneity.

For 3 research studies which state that there is a relationship between work stress and burnout in nurses, the total sample is 972 samples. The results of the combined effect concluded that work stress was associated with burnout in hospital nurses with $p < 0.0001$ and pOR = 2.38 and a 95% confidence interval (2.38.2.38) on the forrest plot. It can be concluded that nurses who have high work stress have a tendency to increase the risk of 2.38 times for the incidence of burnout in nurses in hospitals compared to nurses who have high work stress.

For the 2 research studies which stated that there was no relationship between work stress and burnout in nurses at the hospital, the total sample was 259 samples. The results of the combined effect concluded that work stress was associated with burnout in hospital nurses with p value = 0.33 and pOR = 1.18 and 95% confidence interval (0.85.1.63) in the forest plot. After conducting a combined analysis of the 2 research studies, the results showed that there was no relationship with the p value > 0.05, namely p = 0.33. It can be concluded that nurses who have high work stress have a tendency to increase the risk of 1.18 times to experience burnout events in nurses in hospitals compared to nurses who have low work stress.

In the combined plot funnel, it can be seen that the plots are not symmetrical on the right and left of the vertical line where the number of plots on the left is 4 and the right is empty but with 1 plot attached to the end of the vertical line. This indicates a publication bias. Mohet et al., (2009) suggested a quantitative meta-analysis with a random effects model approach, although the combination of this information can produce a more precise statistical analysis, the bias is unavoidable. This can happen in this study because it pays attention to the results of research studies that show high values and have varied data, which shows a negative correlation and a positive correlation. Varied correlation results will show high heterogeneity results (Waluyohadi AEG., 2019).

c. Comparison of Meta Analysis Results

In three studies which state that there is a relationship between work stress and burnout in hospital nurses, researchers Mehrabian et al (2018) with a correlation value of 0.866, Hengky's research 2019 with a correlation value of 0.158 and Zaghini's research 2020 with a correlation value of 0.630 . After carrying out statistical tests on the 3 studies, it can be seen that the results of data analysis displayed in the forest plot show a relationship between work stress and the incidence of burnout in nurses at the hospital with a value of $p < 0.05$, namely $p < 0.0001$ and a pooled odds ratio of 2.38 (95% CI 2.38 to 2.38) so it can be concluded that nurses with high work stress increase the risk of experiencing burnout 2.38 times compared to nurses with low work stress.

The assumption of most of the research that the results show a relationship of work stress to the incidence of burnout in nurses in hospitals suggests that the responsibilities and demands of a lot of work in nursing services in hospitals can potentially be a stressor for nurses. Stressors that occur continuously and cannot be controlled by individuals will cause burnout conditions(Fanani et al. 2020).

Research from the National Institute for Occupational Safety and Health (NIOSH), defines fatigue as a physical and mental state that is different from usual, which results in a decrease in work power and reduced body resistance to work. Work fatigue can result in decreased performance and increased work errors which will provide opportunities for work accidents and occupational diseases, especially in hospitals that provide health services (Hengky, 2019).

Of the five research studies conducted by meta-analysis, it appears that there are two research studies that show the results of no relationship between work stress and the incidence of burnout in nurses in hospitals, namely the Wardah and Tampobulon research (2020) with a correlation of 0.157 and the research by Fanani et al. 2020) with a correlation of 0.195. Both of these studies suggest the reason that there is no influence of work stress on the incidence of burnout can be caused by various factors other than individual factors and work stress. The other factors mentioned can be in the form of perceptions of workload, internal factors, namely age, gender, personality, education and marital status. Furthermore, for the external factors themselves are the environment, role conflict, role ambiguity and support either from family or from colleagues.

Role conflict and role ambiguity are two factors in the scope of work that contribute to stress, tension and emotional attitudes associated with burnout. Role overload also contributes to increased stress and burnout. This is because these two factors greatly affect a person's coping. The existence of role conflicts that arise due to demands that are not in line, including a very potential factor in the emergence of burnout.

After the two research studies which stated that there was no relationship between work stress and the incidence of burnout in nurses at the hospital were included in the meta-analysis

statistical test, the statistical results of the merger showed that there was no relationship between work stress and the incidence of burnout in nurses at the hospital with a score of p > 0.05, namely p = 0.33 and the pooled odds ratio value is 1.18 (95% CI 0.85.1.63).

Work stress is influenced by excessive workload that affects emotions, thought processes and one's condition. Psychological responses caused by the body to demands, work pressures or those that exceed one's abilities, both in the form of physical or environmental demands and social situations that interfere with the performance of tasks can change normal physical and psychological functions so that they can be considered dangerous and unpleasant. . external factors, namely social support which is important in reducing burnout. This is because in dealing with stressful events, nurses need social support from other individuals to overcome and resolve their problems. A nurse is expected to get enough social support so that they will also be psychologically awake. But if nurses receive less or even no social support when experiencing role conflict and role ambiguity are two factors in the scope of work that contribute to stress, tension and emotional attitudes associated with burnout. Role overload also contributes to increased stress and burnout. This is because these two factors are very influential on a person's coping. The existence of role conflicts that arise due to demands that are not in line, including very potential factors for the emergence of burnout. So the efforts made in reducing burnout are to equalize perceptions of workload, and pay attention to internal factors, namely age, gender, personality, education and marital status. Furthermore, for external factors themselves are the environment, role conflict, role ambiguity and support either from family or from coworkers.

Meta-analysis of factors that are most related to the incidence of burnout in nurses in hospitals

Based on the results obtained in the meta-analysis, it can be seen that the risk factor/tendency associated with the incidence of burnout in nurses in the hospital, the largest of the 3 variables studied is work stress because job stress has a tendency to increase the risk of burnout 2.38 times compared to nurses. low work stress. Then social support, nurses with low social support increase the risk or tend to be 0.69 times to experience burnout events compared to nurses who have high social support. The smallest is self-efficacy, nurses who have high self-efficacy have a tendency to increase the risk of 0.66 times to experience burnout events compared to nurses who have low self-efficacy.

The analysis based on the average value of the effect size of the research study for each research variable showed different results, that the work stress variable which stated there was a relationship with the incidence of burnout in nurses at the hospital had the highest average effect size value of 0.241 then the social support variable which stated there was the relationship is 0.093, while the average effect size of the relationship of self-efficacy which states there is a relationship with the incidence of burnout in nurses in hospitals with a value of 0.068. The lowest average effect size value is found in research which states that there is no relationship between social support and the incidence of burnout in nurses in

hospitals with a value of 0.1313. Effect size is a measure of the practical significance of research results in the form of a measure of the magnitude of the correlation or difference, or the effect of one variable on another variable. This measure complements the analytical results provided by the statistical significance test (Cohen, 1988). From this theory, it can be concluded that the significance of the relationship between the work stress variable and the burnout incident variable in nurses at the hospital has the greatest relationship level compared to social support and self-efficacy.

Comparison between these three variables can be done but it must be remembered that the comparison is not proportional because there is no similarity in the number of samples and characteristics in the research study of each variable studied in the meta-analysis and differences in the level of heterogeneity in each variable, causing differences in the selection of the analytical model used. .

The causes of work stress are more related than the other two variables because work stress is influenced by excessive workloads that affect one's emotions, thought processes and conditions and will affect self-efficacy and low social support. Psychological responses caused by the body to demands, work pressures or those that exceed one's abilities, both in the form of physical or environmental demands and social situations that interfere with the performance of tasks can change normal physical and psychological functions so that they can be considered dangerous and unpleasant. and plus less social support. External factor is social support which is important in reducing burnout. This is because in the face of stressful events, Nurses need social support from other individuals to overcome and resolve their problems. A nurse is expected to get enough social support so that they will also be psychologically awake. But if nurses lack or even do not receive social support when they are under pressure, they will experience stress which can lead to burnout.

Role conflict and role ambiguity are two factors in the scope of work that contribute to stress, tension and emotional attitudes associated with burnout. Role overload also contributes to increased stress and burnout. This is because these two factors are very influential on a person's coping. The existence of role conflicts that arise due to demands that are not in line, including a very potential factor in the emergence of burnout. So the efforts made in reducing burnout are to equalize perceptions of workload, and pay attention to internal factors, namely age, gender, personality, education and marital status. Furthermore, for the external factors themselves are the environment, role conflict, role ambiguity and support either from family or from colleagues.

V. CONCLUSION

1. There is a significant relationship between self-efficacy and the incidence of burnout in nurses in hospitals through an analysis of 5 articles that meet the requirements with a relationship between self-efficacy and burnout events in nurses in hospitals with p < 0.05, namely p < 0.00001 and the pooled odds ratio value is 0.66 (95% CI 0.64,0.69) so it can be concluded that nurses who have high self-efficacy are at risk or have a

tendency of 0.66 times to not experience burnout in hospitals compared to nurses who have low self-efficacy.

2. There is a significant relationship between social support and the incidence of burnout in the hospital through an analysis of 5 articles that meet the requirements with the relationship between social support and the incidence of burnout in the hospital with p value < 0.05, namely p = 0.0000 and the pooled odds ratio value of 0.69 (95% CI 0.65.0.74) so it can be concluded that nurses who have high social support are at risk or have a tendency of 0.69 times not to experience burnout in hospitals compared to nurses who have low social support.

3. There is a significant relationship between work stress and the incidence of burnout in the hospital through an analysis of 5 articles that meet the requirements with the relationship between work stress and the incidence of burnout in the hospital with a p value < 0.05, namely p = 0.0001 and a pooled odds ratio value of 2.38 (95% CI 0.38.0.38) so it can be concluded that nurses who have high work stress are at risk or have a tendency of 2.38 times to experience burnout in hospitals compared to nurses who have low work stress.

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