



Prevalence of Job Stress in Nurses Working in Iranian Hospitals: A Systematic Review, Meta-Analysis and Meta-Regression Study

Masoud Mohammadi¹, Aliakbar Vaisi-Raygani^{1*}, Rostam Jalali¹, Nader Salari¹

¹ Department of Nursing, School of Nursing and Midwifery, Kermanshah University of Medical Sciences, Kermanshah, Iran

Abstract

Introduction: One of the most common psychiatric disorders in nurses is job stress. Regarding the inconsistency of the studies conducted in nurses working in Iran, the present structured review and meta-analysis study was conducted to determine the prevalence of job stress in nurses working in Iranian hospitals.

Materials and Methods: The present study is a systematic review and meta-analysis conducted during 2001-2017. Articles related to job stress were obtained by searching SID, MEDLINE (PubMed), Science direct, and Google Scholar databases, and data were analyzed using Comprehensive Meta-Analysis software.

Results: Having investigated 17 studies, the overall prevalence of Job stress in nurses working in Iranian hospitals was obtained 60% (48.1% - 70.7%: 95% confidence), meta-regression test was conducted to investigate the heterogeneity of meta-analysis results. It was reported that increasing sample size decreases the prevalence of Job stress ($P < 0.05$).

Conclusion: Regarding the high prevalence of job stress among nurses working in Iranian hospitals, health policymakers have to take effective measures to remove and reduce the stress causes in nurses to reduce the prevalence of stress in nurses and enhance work efficiency.

Keywords: Job Stress, Nurse, Hospital, Iran, Meta-analysis.

*Corresponding Author: Aliakbar Vaisi-Raygani

Email Address: visi_akbar@yahoo.com

1. Introduction

Stress is an inevitable aspect of contemporary human life, some describe it as mental pressure or tension, and others consider it as a physiological response to the threatening environmental stimuli. Emotional cognitive theory holds that when a person considers a situation challenging and exhausting or does not have the necessary resources to adapt to that situation then the stress is created and disrupts the individual's natural activities in various aspects of life [1-3]. One of the main factors in reducing productivity in organizations and the cause of physical and psychological complications in employees in these organizations is job stress. International organizations of work estimate that the costs incurred by countries due to job stress are 1% to 3.5% of (GNP) and is still on the rise [4], due to the responsibility of ensuring the patients' health and treatment those in charge of medical care are affected by various stressors in their work environment [5]. Nurses are also part of treatment and clinical care in the country, among whom job stress is quite common and is of particular importance [6]. A large body of studies was conducted in the field of job stress in nurses and regarding the inconsistency and differentness of this rate in various studies conducted in the country, the present study intends to make a review study in a systematic way and meta-analysis to

address the prevalence of job stress in nurses working in Iranian hospitals.

2. Materials and Methods

The present study is a systematic review and meta-analysis investigating the Job stress prevalence in nurses working in Iranian hospitals and includes articles published in domestic and foreign journals during the years 2011-2017 and searching in databases of SID, MEDLINE (PubMed), Science Direct and Google scholar search engine, the search process in these sites was done using Persian keywords of job stress, nurses, Iran and their English equivalents and possible combinations. Based on the above, 42 articles were found in the SID database, 52 articles in PubMed, 332 articles in Science direct, 604 articles in the Google Scholar search engine and finally the total number of articles obtained from the search was 1030 articles. Each article was independently read by two reviewers and if the article was rejected, the reason for its rejection was mentioned. In case of disagreement between the two reviewers, the article was judged by the third reviewer. Regarding the prevalence and frequency of job stress in Iranian nurses, there was a selection criterion for entering the study (Fig. 1). Then, the data were analyzed using Comprehensive Meta-analysis software (version 3) for analysis and statistical analysis. The probability of bias in

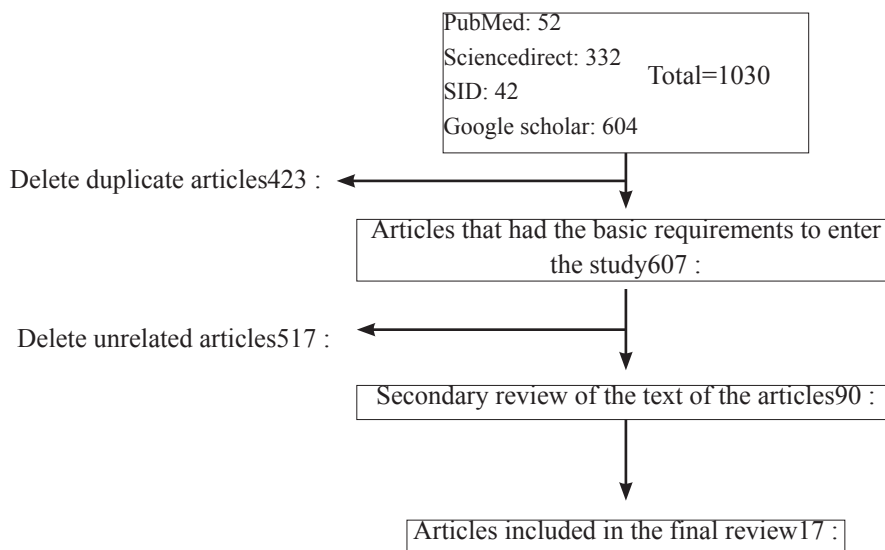


Fig. 1. Flowchart of the process of entering studies into a systematic review and meta-analysis

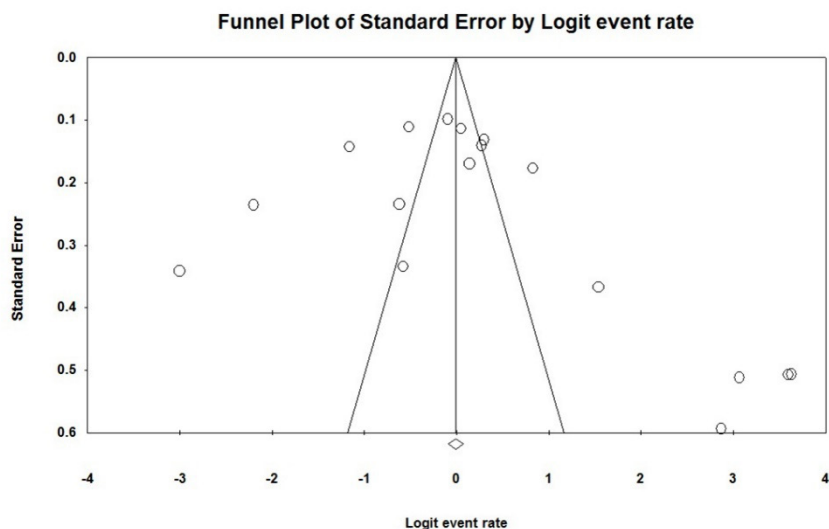


Fig. 2. Funnel Plot of the results related to the prevalence of job stress in nurses working in Iranian hospitals

the publication of results was examined by funnel diagram and Egger test with a significance level of 0.05 (Fig. 2), accordingly, statistical bias was not statistically significant ($P = 0.299$).

3. Results

Based on the studies on the prevalence of Job stress in nurses working in Iranian hospitals, the total number of participants in the study was 2757 people aged 20 - 50, the overall prevalence of Job stress in nurses working in Iranian hospitals was obtained 60% (48.1-70.7%: 95% confidence) (Fig. 3). In order to investigate the effects of potential factors affecting heterogeneity in the prevalence of job stress in nurses working in Iranian hospitals, meta-regression was used based on two factors, namely, sample size and year of study. According to Figure 4, increasing the sample size in the investigated studies decreases the prevalence of job stress which was a statistically significant difference ($P < 0.05$) and also with an increase in the year of research conduction, frequency and prevalence of job stress increased, which was not statistically significant ($P = 0.386$).

4. Conclusion

As one of the most important job risks, especially in nurses who run the medical sector in the country, Job stress can cause absenteeism, job transfer, reduced efficiency and effectiveness of medical activities and can also be a factor in increasing healthcare

costs among the medical staff, who have the role of medical providers in the country. As reported, the overall prevalence of Job stress in nurses working in Iranian hospitals is 60%, which indicates a high prevalence, in a study in Northern Ireland [5] the prevalence of tension and Job stress in nurses was 57.4% and for nurses in public hospitals of Thailand it accounted for 26.2% [6], and a study in the United Kingdom reported that the prevalence of Job stress in nurses was rather high and that nurses were severely exposed to work-related stress [7]. When nurses lack enough time to provide psychological support, do the work and address the works of nurses due to overwork they are stressed. As mentioned in various studies, heavy workload increases stress, fatigue during rest, burnout, lack of motivation and reduced job satisfaction [8]. Since the health sector is one of the most important areas of sustainable health development in human societies, and nurses as active and effective human resources are highly active to treat diseases and increase the efficiency of treatment process in hospitals and the importance of their health ensures the effectiveness of therapeutic activities, therefore proper and appropriate planning should be considered by health policymakers to eliminate and reduce the factors that cause stress. Job stress can also increase issues such as frequent absences, reduced energy and work efficiency apart from endangering the physical and mental health of

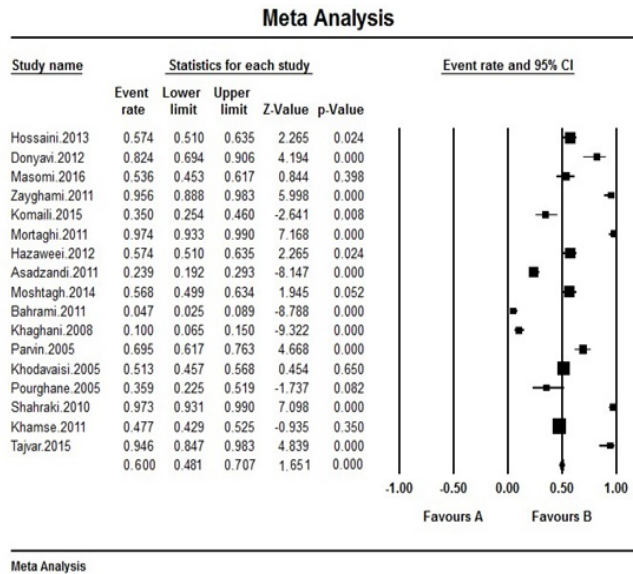


Fig. 3. The prevalence of Job stress in nurses working in Iranian hospitals based on random model

nurses, and increase lack of proper nursing care and increased error rate, therefore, the programs to reduce job stress as noted in most studies is employee engagement in decision-making leading to the interaction of officials and subordinates, reducing stress and feelings of autonomy, responsibility, self-confidence, and a sense of control [7]. Empowering nurses to deal with stressful factors, in addition to creating the conditions to reduce these factors, can play an effective role in creating a calm work environment and increasing capacity and efficiency [7, 8]. Regarding the high prevalence of job stress in nurses, health policymakers should identify the causes of stress and take effective measures to remove and reduce these factors to lower the prevalence of stress in nurses and increase work efficiency.

5. References

[1] Khaier M, Seif D. Study of the relationship between coping with stress skills and academic achievement of undergraduate students in relation to some demographic factors. *Clinical Psychology and Personality*. 2004; 1(4): 25-34

[2] Hashemzade A, Orangi M, Bahredar M. The relationship between job stress and mental health in a group of hospital employees in Shiraz. *Iran Journal of Psychiatry and*

Clinical Psychology. 2000; 6(2&3): 55-62

[3] Molaee B, Mohammadi MA, Nikzad F, Habibi A, Eskandaroghly B, Abolhasanzade M.A study of job stress and its related causes among employed women in Ardabil city. *Journal of Ardabil University of Medical Sciences*. 2010; 11 (1): 76-85 [Persian]

[4] Kooranian F, Khosravi AR, Esmaeeli H. The relationship between hardiness/ locus of control and burnout in nurses. *Ofogh-e-Danesh*. 2008; 14(1): 58-67 [Persian]

[5] Aoki M, Keiwkarnka B, Chompikul J. Job stress among nurses in public hospitals in Ratchaburi Province, Thailand. *Journal of Public Health and Development*. 2011; 9(1): 19-27

[6] Smith A. The scale of perceived occupational stress. *Occup Med (Lond)*. 2000; 50(5):294-8.

[7] Nicholl H, Timmins F. Program – related Stressors among part –time under graduated nursing student. *Journal of advanced nursing*. 2005; 50(1): 93-100.

[8] Rezai Sh, Hosini MA, Falahi M. Effect education communication skills on job stress amount nursing staffs working in rehabilitation centers Reai, Tehran, Shemiranat cities 2003. *Journal of medical school of Tehran university of medical science* .2006; 64(1): 21-26.