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Perceived Stress in Nurses: A Comparative Study

Rami Masa'Deh[1], Fadwa Alhalaiqa[2], Mohannad Eid AbuRuz[1], Ghadeer Al-Dweik[1] & Hekmat Yousef Al-Akash[1]

[1] School of Nursing, Applied Science Private University, Amman, Jordan

[2] School of Nursing, Philadelphia University, Amman, Jordan

Correspondence: Rami Masa'Deh, Associate Professor, School of Nursing, Applied Science Private University, Amman 11934, Jordan. Tel: 962-79-6067657. E-mail: r_masadeh@asu.edu.jo

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Abstract

Purpose: The purpose of this study is to assess the perceived stress in nurses working in various departments including mental health and psychiatric nurses in Jordan and compare the all together.

Methods: Using a non-random convenience sample, 310 nurses working in various departments in Jordan representing five different hospitals were included. Nurses answered the Arabic Version of Perceived Stress Scale 10-Items Questionnaire (PSS10) and a Characteristic Checklist.

Results: This study showed that nurses working in psychiatric departments perceived the highest stress levels followed by oncology nurses (ONs), ICU/CCU, and ER nurses respectively. Medical and surgical nurses reported the lowest level of stress.

Conclusions: This study showed that psychiatric nurses have the highest levels of stress among all participated nurses. This might lead to dissatisfaction with the work and high rates of burn out and turn over. All these factors can easily affect patients care and safety issue, especially psychiatric patients. It is highly recommended that nurse managers and policy makers pay a particular attention to this phenomenon and looking for causes of such high level of stress is important.

Keywords: department, Jordan, nurse, psychiatric, stress

1. Introduction

Lazarus (2006) stated that stress occurs when perceived demands exceed individuals' coping abilities; stress happens as a result of interaction between the external and internal components, involving the perception of the individual and taking into consideration the ongoing relationship between the individual and the environment (Lazarus, 2006). The nursing profession is widely acknowledged to be one of the most highly stressful occupations (Adriaenssens, De Gucht, & Maes, 2015). Worldwide, many studies have been conducted to identify the contributing factors of stress among nurses (Adriaenssens et al., 2015; Cañadas-De la Fuente et al., 2015; Menon, Narayanan, & Spector, 2013). Ruotsalainen, Serra, Marine and Verbeek (2008) reported that increasing workload, conflict with health care providers such as other nurses or physicians, unclear job description, leadership style, complexity of some nursing care procedure, difficulty of nursing practice and rapid change in health care environments were the main causes of stress among nurses. A recent study showed that inadequate resources, physical-environmental factors (i.e. lighting, space, temperature and disruption), psychological-environmental factors (i.e. verbal abuse and inappropriate client behaviors) and new technology were other sources of stress among nurses (Kushwaha, 2014). Additionally, low social support and lack of nurses empowerment in the work place were found to affect stress negatively (Mrayyan, 2009). Many authors worldwide and in Jordan have reported that the main stressors that nurses face in their work are issues of death and dying, with noted differences in stress according to nursing department and specialty (Adriaenssens et al., 2015; Hamaideh, Mrayyan, Mudallal, Faouri, & Khasawneh, 2008). Moreover, the perception of stress may differ among nurses working in the same department, depending on their individual characteristics, experiences and their ability to cope (Wu, Chi, Chen, Wang, & Jin, 2010).

The level of stress among nurses generally ranges from moderate to high (Itzhaki et al., 2015). In Jordan, a recent study revealed that nurses' stress score is significantly higher than that commonly reported in the literature (Subih, Alamer, Al Hadid, & Alsatar, 2013). Increased prevalence of stressors in workplace settings usually cause distress, which can be identified by the presence of psychological and physiological indicators (McVicar, 2003; Mimura &

Griffiths, 2003). Psychological indicators for distress include but are not limited to depression, low self-esteem, fatigue, sleep disturbances and increased smoking (Dyrbye, Thomas, & Shanafelt, 2006). Physical impacts of stress may include the increased incidence of coronary heart disease, mental illness, certain types of cancer, migraine, stomach ulcers, hay fever, asthma and skin rash (Dunn, 2005; Gelsema et al., 2006). Additionally, stress may lead to or exacerbate maladaptive behaviours, such as smoking, dietary problems, excessive alcohol consumption, substance abuse, life dissatisfaction, accident and unsafe behaviour at work, and marital and family conflicts (Dunn, 2005; Gelsema et al., 2006). Investigating stress levels and understanding the stress reaction process for nurses according to their working departments is crucial, and researchers are seeking to identify stressors that cause nursing stress for future health system action to provide a safer and more amenable environment for health providers and patients (Mealer & Jones, 2013).

Studies about stress offered limited presentation of the effect of the demographic features on nurses' stress levels. A recent study carried out in Jordan to determine the relationship between stress levels and demographic variables found that marital status significantly affected stress in nurses, with single nurses having higher stress scores than married nurses (Subih et al., 2013). Another demographic variable was addressed byYada (2009), who found that gender differences might affect job-related stress. The results showed that female nurses had significantly higher stress levels than males. Other variables considered in previous literature include nurses' age, income, experience in the area, level of education, shift work duration and working department. In Jordan, few studies have been conducted to assess and compare the stress perception between various departments among nurses, and most studies conducted in the country investigated the relationship between stress and other variables such as social support (Hamaideh et al., 2008), job performance (AbuAlRub, 2004), satisfaction and demographic factors (Subih et al., 2013).

In previous literature, nurses who worked in medical, emergency room (ER), intensive care unit (ICU) and paediatric wards showed significantly higher perceived stress levels than in other wards(McCarthy, Power, & Greiner, 2010; Mrayyan, 2009). Subih, Alamer, Al Hadid and Alsatari (2013) conducted a study to identify the frequency of work stressors among nurses from different types of Jordanian hospitals and different work departments. The participants were recruited from the ER, ICUs, paediatric wards, medical surgical wards (MSWs), operation room (OR), and managerial nurses from private, public and training hospitals. Subih et al. (2013) found that nurses in the training hospital had the highest stress amongst all participants. Paediatric nurses reported significant stress levels higher than other specialties. Another Jordanian study aimed to examine the stress levels among nurses working in ICUs and general wards by using Nursing Stress Scale (NSS). Findings revealed that ICU nurses have the highest stress levels (Mrayyan, 2009). Subih et al. (2013) and Mrayyan (2009) offered valuable input, but they lacked comparison of stress perception among different nursing departments, particularly psychiatric and mental health nursing. Few previous studies have explored stress levels among nurses according to their working department, including psychiatric nurses (Currid, 2008). To the authors' knowledge, there is no single study conducted to compare stress level between different working departments including psychiatric nurse's stressors in Jordan. For this reason, the purpose of this study was to assess the perceived stress in nurses working in various departments including mental health and psychiatric units in Jordan.

2. Methods

2.1 Ethical Considerations

Ethical approval was obtained from the Institutional Review Board (IRB) of the Applied Science Private University to conduct this cross-sectional study in Jordan. The participants' rights (i.e. nature of voluntary participation, privacy and confidentiality and withdraw at any time without giving a reason) were explained and guaranteed to the nurses. An invitation letter and information sheet were sent to the intended participants. Nurses who agreed to participate signed the informed consent form after an opportunity to ask any questions or further explanation. All collected data was stored in a secure place and accessible only to the researchers.

2.2 Settings

As per ethical approval, nurses working in various departments were approached from five different hospitals (private and governmental) in Amman (the capital city of Jordan with the largest population and highest centralization of health facilities).

2.3 Participants

The population of this study comprises nurses working in any of the approached hospitals.

Inclusion criteria:

a) Holding at least a bachelor's degree in nursing

b) Working in any of the following settings: psychiatric, oncology, ICU, CCU, ER and MSW

c) In direct contact with the patients

d) Able to speak, understand, read and write English and Arabic.

Supervisor nurses, head nurses and those working in management positions were excluded because they are not in direct contact with patients.

2.4 Sampling

A convenience sampling technique was used to allow the researcher to approach all those who attended any of the selected settings (hospitals/departments). Data was collected from March to May 2016. Power analysis technique was used to calculate the sample size, with power of 80.0%, at 0.05 of α level and medium effect size, to have a total of 310 participants. In order to prevent bias, the researcher made sure the percentages of recruited nurses from the total nurses in all selected departments were appropriately distributed.

2.5 Data Collection Procedure

Five research assistants were trained to collect data (one for each selected hospital) and authorised to work in the settings and in the current study. Regular meetings were held between the primary researcher and research assistants to reduce recruitment bias and to answer their questions. They all agreed on a recruitment script in order to recruit nurses identically.

An information sheet with the research assistants' contact details was sent to potential participants; those who showed interest in the study called the research assistants who answered their enquiries about the study, then meetings were arranged by the research assistants with those who agreed to participate to sign the informed consent, after which they filled the questionnaires.

2.6 Measures

2.6.1 The Arabic Version of Perceived Stress Scale 10-Items Questionnaire (PSS10)

The PSS10 (Arabic and English version) has been shown to be a valid and reliable instrument(with Cronbach's alpha between 0.7 and 0.8) (Al-Hassan & Wierenga, 2000; Hamdan-Mansour & Dawani, 2008; Hattar-Pollara & Dawani, 2006; Masa'Deh, Collier, Hall, & Alhalaiqa, 2013).PSS10 was used to measure participants' feelings regarding whether they have enough resources to meet the demands placed upon them (Cohen & Janicki-Deverts, 2012). It has 10short and general quite simple questions to relate to participants with varying social circumstances (such as caring for hospitalised patients) (Cohen & Janicki-Deverts, 2012).

PSS10 uses a five-point Likert-type rating scale, ranging from never (0) to very often (4); the scores of four positive items (4, 5, 7 and 8) are reversed. The total scores range from 0-40, with higher scores indicating higher stress level.

2.6.2 Characteristics Checklist

Demographic characteristics of patients were collected by a developed English-language checklist by the researcher to collect data about the name of the hospital, working department, and participants' gender, marital status, number of children, educational level, weekly working hours and age, as these factors have been suggested as potential factors in nurses' stress levels, as mentioned in the literature review.

A pilot study was conducted before the actual one with the first 20 nurses who agreed to participate. The pilot went smoothly and there was no need for any change in the research process. After that the data collection proceeded. The data collected from the 20 participants in the pilot was included in the final analysis.

2.7 Data Analysis Process

SPSS version 21 (SPSS Inc., Chicago, IL, USA) was used to analyse the data. All numbers in the current study results were rounded up to the closest two decimal points. Descriptive statistics were used to describe the characteristics of the participants; frequency was used with categorical variables, and means and SD with continuous ones. A one-way among groups analysis of variance (ANOVA) was undertaken to check if there was any differences in nurses' stress levels according to their working departments.

3. Results

3.1 Descriptive

A total of 410 nurses were invited to participate, of whom 360 consented. Incomplete questionnaires were excluded from the analysis (34 questionnaires). From all approached hospitals, 326 nurses fully completed and returned the questionnaires and were considered in this analysis. There was minimal recruiting bias since the percentages of the approached/consented nurses were close to each other in all different included settings (i.e.

between 75% and 82%).

Table 1. Descriptive characteristics of nurses

Variable	N=326 N(%) or Means ± SD
Financial status:	
Comfortable	88 (27.0)
Varies	146 (44.8)
Tight	92 (28.2)
Number of children in the family:	
No children	68 (20.9)
One child	59 (18.1)
Two children	133 (40.8)
Three children	66 (20.2)
Gender:	
Male	161 (49.4)
Female	165 (50.6)
Educational level:	
Bachelors degree	297 (91.1)
Masters	29 (8.9)
Working department:	
Psychiatric settings	57 (17.5)
Oncology settings	55 (16.9)
ICU/CCU	58 (17.8)
ER	79 (24.2)
MSW	77 (23.6)
Age	34.28 ± 5.47
Total stress score	22.57 ± 8.49

Table 1 shows some characteristics of the nurses and their demographics. It can be seen that age of the nurses ranged from 22 to 44 years, with a mean of 34. Almost 79.1% of the participant nurses reported that they had between 1 and 3 children, and only 20.9% reported having no children. Almost half of the nurses were females. The vast majority of the nurses had a bachelor's degree (91.1%) and the rest had a master's degree. Only 27% of the nurses described their financial status as 'comfortable', whereas the rest stated 'tight' or 'varies'. Nurses were working in different hospitals and different departments. The number of participating nurses in each department ranged from 55 to 79.

3.2 The Effect of Working Department on Nurses' Stress Levels

Table 2. The mean stress scores for nurses across different working departments

Working departments	Nurses	Mean of nurses stress scores	SD
Psychiatric	57	31.89	6.09
Oncology	55	28.29	5.40
ICU/CCU	58	22.62	4.31
ER	79	22.34	4.97
MSW	77	11.77	3.75

Table 3. Post-Hoc tests of total stress scores of nurses across different working departments

Working departments		Mean difference of nurses stress scores	P value
Psychiatric	Oncology	3.60	0.001
	ICU/CCU	9.27	<0.001
	ER	9.55	<0.001
	MSW	20.13	<0.001
Oncology	Psychiatric	-3.60	0.001
	ICU/CCU	5.67	<0.001
	ER	5.94	<0.001
	MSW	16.53	<0.001
ICU/CCU	Psychiatric	-9.55	<0.001
	Oncology	-5.67	<0.001
	ER	0.28	0.99
	MSW	10.85	<0.001
ER	Psychiatric	-9.55	<0.001
	Oncology	-5.95	<0.001
	ICU/CCU	-0.279	0.99
	MSW	10.57	<0.001
MSW	Psychiatric	-20.13	<0.001
	Oncology	-16.53	<0.001
	ICU/CCU	-10.85	<0.001
	ER	-10.58	<0.001

Stress levels were examined and the overall mean stress level was 22.57. As shown in Tables 2 and 3, one-way among groups analysis of variance (ANOVA) was conducted to determine the effect of the working department on the stress levels of the nurses. Nurses were divided into five groups according to their working department (i.e. psychiatric, oncology, ICU/CCU, ER and MSW). Results revealed that there was a statistically significant difference in the stress levels of nurses between the five groups: f (164.087) = 4, $p<0.001$. Eta squared=0.67 indicated a large effect size. Post-hoc comparisons tests indicated that the mean score for psychiatric nurses was significantly higher than all nurses working in other departments. Oncology nurses had significantly higher stress levels than ICC/CCU, ER and MSW. There were no statistically significant differences in stress levels between nurses working in ICC/CCU and the ER, but nurses in all of these settings had significantly higher stress levels than nurses working in MSW.

4. Discussion

The major results of this study showed that nurses working in psychiatric departments reported the highest stress levels, followed by oncology nurses (ONs), ICU/CCU, and ER nurses respectively. Medical and surgical nurses reported the lowest perception of stress. Similar previous studies showed mixed results in this regard, but psychiatric nurses were consistently found to report very high levels of stress compared to nurses in other work departments (Leka, Hassard, & Yanagida, 2012; Richards et al., 2006; Tuvesson, Eklund, & Wann-Hansson, 2012). McLeod (1996) conducted a study to explore the levels and sources of stress among psychiatric nurses working with severely mentally ill patients. Those nurses reported high work load, insufficient training, lack of respect and understanding of their role by others. Moreover, they described their need for more supervision and support. Forty percent of the sample was found to be stressed according to the General Health Questionnaire (GHQ 28). The researchers reached a conclusion that working with the severely mentally ill patients is particularly stressful. Additionally, workplace stress among 357 psychiatric nurses in Belgium was investigated and the authors found

that nurses experiencing high levels of stress and burnout. The authors recommended that there should be strategies for reduction in workplace stress in order to improve the overall situation for psychiatric nurses, clients and health services (Bogaert, Clarke, Willems, & Mondelaers, 2013). Further exploration of the issue of high burnout among psychiatric nurses by Sahraian et al. (2008) linked the higher rate of burnout rate to high levels of occupational stress in psychiatric wards compared to surgical, burns, and general wards.

In Taiwan, a cross-sectional study was conducted among 573 nurses in various psychiatric institutions to assess perceived occupational stress (Shen, Cheng, Tsai, Lee, & Guo, 2005). The Chinese version of Job Content Questionnaire was used to assess occupational stress. Of the total sample, more than 17% of nurses reported that they always or often work under stress. Sources of stress are many, with the assault episodes being the major source (reported by 45% of the nurses). Perceived work stress was associated with high psychological demand, low level of work-place support, and fear of assault at work.

One study contrarily found different results in regard to the levels of stress; Richards et al. (2006) reviewed the prevalence of stress, burnout, job satisfaction and psychological well-being among staff working in in-patient psychiatric wards. Among the studies reviewed, 13 met the inclusion criteria. The review concluded that most studies did not find high levels of staff burnout or stress, but they were criticized as having small sample sizes and not providing complete or standardised prevalence data. The explanation of such results might be that psychiatric patients are expected to have better general physical conditions than those in other wards, thus they require less clinical care, which may make the level of workload and stress of nurses in psychiatric wards relatively low(Virtanen et al., 2012).

Different explanations of why psychiatric nurses have high levels of stress were presented in the literature. For example, verbal violence and work related injuries are considered as leading causes of stress compared to medical and surgical words (Hanrahan, Aiken, McClaine, & Hanlon, 2010). Additionally, psychiatric nurses' stress originates from the nature of their role in spending more time with difficult patients, especially when they deal with suicidal and violent behavior (Virtanen et al., 2012). Moreover, the lack of community support and qualified staff might explain the high stress levels of psychiatric nurses (Jenkins & Elliott, 2004). It has also been suggested that the stigma associated with psychiatric care and mental illness in some countries, including Jordan, contributes to inadequate resource provision by health systems (Halter, 2002). A literature review focused on stress in mental health nursing reported that increasing workload, lack of resources, lack of motivations and privileges for nurses working in psychiatric health settings may be a reason for the particularly high perception of stress levels in such settings (Edwards, Burnard, Coyle, Fothergill, & Hannigan, 2000).

In the current study, oncology nurses reported significantly higher stress level than ICU/CCU, ER and nurses working in general wards. This was congruent with previous studies (Gomes Sda F, 2013; Poulsen, Poulsen, Baumann, McQuitty, & Sharpley, 2014) that attributed stress to several patient-related factors, such as the complexity of cancer treatment, the nature of the illness itself and its treatment, and other work-related factors such as patients' suffering and feelings of fear, despair, panic and death (Borteyrou, Truchot, & Rascle, 2014; Poulsen et al., 2014). In Jordan, oncology treatment is carried out in three main centers, one of which is a highly advanced center where employees are assumed to be satisfied and have low stress.

Previous studies showed that critical areas (e.g. ICUs and CCUs) are intrinsically stressful work places (Lexshimi RG, 2007; Raj, 2016), and they invariably manifest the most stressful encountered in nursing care, including fear of erroneous interventions, insufficient training and inadequate payment in addition to the general stress embedded in intensive and critical care (Raj, 2016).Furthermore, the complex nature of patient's conditions, sophisticated technology, ethical dilemmas relevant to patient care in case of death and end of life issues, changeable nursing roles and responsibilities and changes in health care delivery systems were considered major factors of stress in ICU (Raj, 2016).Nursing shortage, lack of support, and high expectations from administrators are also documented systemic sources of stress for ICU nurses (Borhani, Abbaszadeh, Nakhaee, & Roshanzadeh, 2014; Manal., 2012).

In this study, critical care nurses reported lower level of stress compared to psychiatric nurses. Recently in Jordan, some large healthcare institutions have focused their efforts to equip ICU/CCU nurses with advanced knowledge, which is expected to be at the expense of training of other nurses in other wards like psychiatry. The physical environment of ICU/CCU is also gaining increasing attention to be able to overcome these difficulties. This may provide an explanation for higher stress levels among psychiatric nurses than ICUs nurses, as the latter can at least perceive efforts to improve their situation. Additional studies are needed to investigate this issue in depth.

One of the findings of this study is that there was no difference between the levels of stress between ICU and ER. In Jordan, ICUs and ER staff are currently considered to be under the umbrella of critical care, which also includes the OR and cardiac catheterization lab. All these areas receive the same incentive and deal with similar types of

cases. For these reasons, the sample did not show any significant difference in regard to the stress level. However, psychiatric nurses do not receive such incentives; therefore they might have higher levels of stress compared to ER nurses.

5. Conclusion and Recommendation for Practice

This study showed that psychiatric nurses have the highest levels of stress among all nurses working in different departments, which might lead to dissatisfaction with work and high rates of burnout, causing inefficiencies due to illness and exacerbating turnover. All these factors can easily affect patient care and safety issues, especially for psychiatric patients who require particular consideration. It is highly recommended that nurse managers and policy makers pay more attention to this phenomenon. Future research is needed to identify the possible factors associated with the markedly high level of stress among psychiatric nurses.

6. Limitation of the Study

The study was conducted in Jordan using PSS10 to measure stress for nurses. Therefore, the generalization of the results emergent from this study may be limited to Jordanian nurses and to this instrument. Additional work is needed in other countries and using different instruments to measure stress.

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Competing Interests Statement

The authors declare that there is no conflict of interests regarding the publication of this paper.

References

Abu AlRub, R. F. (2004). Job stress, job performance, and social support among hospital nurses. *J Nurs Scholarsh, 36*(1), 73-78. https://doi.org/10.1111/j.1547-5069.2004.04016.x

Adriaenssens, J., De Gucht, V., & Maes, S. (2015). Causes and consequences of occupational stress in emergency nurses, a longitudinal study. *Journal of Nursing Management, 23*(3), 346-358. https://doi.org/10.1111/jonm.12138

Al-Hassan, M., & Wierenga, M. (2000). Exercise participation decisions of Jordanian myocardial infarction patients: application of the decisional conflict theory. *International journal of nursing studies, 37*(2), 119-126. https://doi.org/10.1016/S0020-7489(99)00065-6

Bogaert, P., Clarke, S., Willems, R., & Mondelaers, M. (2013). Nurse practice environment, workload, burnout, job outcomes, and quality of care in psychiatric hospitals: a structural equation model approach. *Journal of advanced nursing, 69*(7), 1515-1524. https://doi.org/10.1111/jan.12010

Borhani, F., Abbaszadeh, A., Nakhaee, N., & Roshanzadeh, M. (2014). The relationship between moral distress, professional stress, and intent to stay in the nursing profession. *J Med Ethics Hist Med, 7*, 3.

Borteyrou, X., Truchot, D., & Rascle, N. (2014). Development and validation of the Work Stressor Inventory for Nurses in Oncology: preliminary findings. *Journal of advanced nursing, 70*(2), 443-453. https://doi.org/10.1111/jan.12231

Ca-adas-De la Fuente, G. A., Vargas, C., San Luis, C., García, I., Ca-adas, G. R., & De la Fuente, E. I. (2015). Risk factors and prevalence of burnout syndrome in the nursing profession. *International Journal of Nursing Studies, 52*(1), 240-249. https://doi.org/10.1016/j.ijnurstu.2014.07.001

Cohen, S., & Janicki-Deverts, D. (2012). Who's Stressed? Distributions of Psychological Stress in the United States in Probability Samples from 1983, 2006, and 20091. *Journal of Applied Social Psychology, 42*(6), 1320-1334. https://doi.org/10.1111/j.1559-1816.2012.00900.x

Currid, T. J. (2008). The lived experience and meaning of stress in acute mental health nurses. *Br J Nurs, 17*(14), 880-884. https://doi.org/10.12968/bjon.2008.17.14.30652

Dunn, D. (2005). Substance abuse among nurses—defining the issue. *AORN journal, 82*(4), 572-596. https://doi.org/10.1016/S0001-2092(06)60028-8

Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2006). Systematic review of depression, anxiety, and other indicators of psychological distress among US and Canadian medical students. *Academic Medicine, 81*(4),

354-373. https://doi.org/10.1097/00001888-200604000-00009

Edwards, D., Burnard, P., Coyle, D., Fothergill, A., & Hannigan, B. (2000). Stress and burnout in community mental health nursing: a review of the literature. *Journal of psychiatric and mental health nursing, 7*(1), 7-14. https://doi.org/10.1046/j.1365-2850.2000.00258.x

Gelsema, T. I., Van der Doef, M., Maes, S., Janssen, M., Akerboom, S., & Verhoeven, C. (2006). A longitudinal study of job stress in the nursing profession: causes and consequences. *Journal of Nursing Management, 14*(4), 289-299. https://doi.org/10.1111/j.1365-2934.2006.00635.x

Gomes Sda F, S. M., Carolino ET. (2013). Psycho-social risks at work: stress and coping strategies in oncology nurses. *Rev. Latino-Am. Enfermagem, 21*(6), 1282-1289. https://doi.org/10.1590/0104-1169.2742.2365

Halter, M. J. (2002). Stigma in psychiatric nursing. *Perspectives in psychiatric care, 38*(1), 23-29. https://doi.org/10.1111/j.1744-6163.2002.tb00652.x

Hamaideh, S. H., Mrayyan, M. T., Mudallal, R., Faouri, I. G., & Khasawneh, N. A. (2008). Jordanian nurses' job stressors and social support. *Int Nurs Rev, 55*(1), 40-47. https://doi.org/10.1111/j.1466-7657.2007.00605.x

Hamdan-Mansour, A., & Dawani, H. (2008). Social Support and Stress Among University Students in Jordan. *International Journal of Mental Health and Addiction, 6*(3), 442-450. https://doi.org/10.1007/s11469-007-9112-6

Hanrahan, N. P., Aiken, L. H., McClaine, L., & Hanlon, A. L. (2010). Relationship between psychiatric nurse work environments and nurse burnout in acute care general hospitals. *Issues in mental health nursing, 31*(3), 198-207. https://doi.org/10.3109/01612840903200068

Hattar-Pollara, M., & Dawani, H. (2006). Cognitive Appraisal of Stress and Health Status of Wage Working and Nonwage Working Women in Jordan. *Journal of Transcultural Nursing, 17*(4), 349-356. https://doi.org/10.1177/1043659606291543

Itzhaki, M., Peles-Bortz, A., Kostistky, H., Barnoy, D., Filshtinsky, V., & Bluvstein, I. (2015). Exposure of mental health nurses to violence associated with job stress, life satisfaction, staff resilience, and post-traumatic growth. *Int J Ment Health Nurs, 24*(5), 403-412. https://doi.org/10.1111/inm.12151

Jenkins, R., & Elliott, P. (2004). Stressors, burnout and social support: nurses in acute mental health settings. *J Adv Nurs, 48*(6), 622-631. https://doi.org/10.1111/j.1365-2648.2004.03240.x

Kushwaha, S. (2014). Stress managment at workplace. *Global Journal of Finance and Management., 6*(5), 469-472.

Lazarus, R. S. (2006). *Stress and Emotion: A New Synthesis*. New York: Springer Publishing Company.

Leka, S., Hassard, J., & Yanagida, A. (2012). Investigating the impact of psychosocial risks and occupational stress on psychiatric hospital nurses' mental well‐being in Japan. *Journal of psychiatric and mental health nursing, 19*(2), 123-131. https://doi.org/10.1111/j.1365-2850.2011.01764.x

Lexshimi RG, S. T., Santhna L.P, Md Nizam. . (2007). Prevalence of Stress and Coping Mechanism among Staff Nurses in the Intensive *Care Unit. Med & Health, 2*(2), 146-153.

Maha Subih, Rasmeih Alamer, Lourance Al Hadid, & Alsatari, M. (2013). Stressors Amongst Jordanian Nurses Working in Different Types of Hospitals and the Effect of Selected Demographic Factors: a Descriptive-Explorative Study. *Jordan Medical Journal, 45*(4), 331-340.

Manal., Y. S. H. M. I. (2012). Stressors among Nursing Staff Working in Intensive Care Unit in Governmental & Non-governmental Hospitals at Makkah Al-Moukarramah, KSA. *The Journal of American Science, 8*(6), 25-31.

Masa'Deh, R., Collier, J., Hall, C., & Alhalaiqa, F. (2013). Predictors of Stress of Parents of a Child with Cancer: A Jordanian Perspective. *Global Journal of Health Science, 5*(6), 81. https://doi.org/10.5539/gjhs.v5n6p81

McCarthy, V. J., Power, S., & Greiner, B. A. (2010). Perceived occupational stress in nurses working in Ireland. *Occup Med (Lond), 60*(8), 604-610. https://doi.org/10.1093/occmed/kqq148

McVicar, A. (2003). Workplace stress in nursing: A literature review. *J Adv Nurs, 44*(6), 633-642. https://doi.org/10.1046/j.0309-2402.2003.02853.x

Mealer, M., & Jones, J. (2013). Posttraumatic stress disorder in the nursing population: a concept analysis. *Paper presented at the Nursing forum*. https://doi.org/10.1111/nuf.12045

Menon, S., Narayanan, L., & Spector, P. E. (2013). Time urgency and its relation to occupational stressors and health outcomes for health care professionals. *Stress and emotion: Anxiety, anger, and curiosity, 16*, 127-142.

Mimura, C., & Griffiths, P. (2003). The effectiveness of current approaches to workplace stress management in the nursing profession: an evidence based literature review. *Occup Environ Med, 60*(1), 10-15. https://doi.org/10.1136/oem.60.1.10

Mrayyan, M. (2009). Job stressors and social support behavior: comparing intensive care units to wards in Jordan. *Contemporary nurse, 31*, 163-175. https://doi.org/10.5172/conu.673.31.2.163

Poulsen, M. G., Poulsen, A. A., Baumann, K. C., McQuitty, S., & Sharpley, C. F. (2014). A cross-sectional study of stressors and coping mechanisms used by radiation therapists and oncology nurses: Resilience in Cancer Care Study. *Journal of medical radiation sciences, 61*(4), 225. https://doi.org/10.1002/jmrs.87

Raj, A. K. (2016). Job stress among staff nurses working in critical care units and their Socio-demographic correlates: A cross sectional survey. *Global Journal for Research Analysis, 4*(12).

Richards, D. A., Bee, P., Barkham, M., Gilbody, S. M., Cahill, J., & Glanville, J. (2006). The prevalence of nursing staff stress on adult acute psychiatric in-patient wards. A systematic review. *Soc Psychiatry Psychiatr Epidemiol, 41*(1), 34-43. https://doi.org/10.1007/s00127-005-0998-7

Ruotsalainen, J., Serra, C., Marine, A., & Verbeek, J. (2008). Systematic review of interventions for reducing occupational stress in health care workers. *Scandinavian journal of work, environment & health*, 169-178. https://doi.org/10.5271/sjweh.1240

Sahraian, A., Fazelzadeh, A., Mehdizadeh, A. R., & Toobaee, S. H. (2008). Burnout in hospital nurses: a comparison of internal, surgery, psychiatry and burns wards. *Int Nurs Rev, 55*(1), 62-67. https://doi.org/10.1111/j.1466-7657.2007.00582.x

Shen, H. C., Cheng, Y., Tsai, P. J., Lee, S. H., & Guo, Y. L. (2005). Occupational stress in nurses in psychiatric institutions in Taiwan. *J Occup Health, 47*(3), 218-225. https://doi.org/10.1539/joh.47.218

Subih, M., Alamer, R., Al Hadid, L., & Alsatar, M. (2013). Stressors Amongst Jordanian Nurses Working in Different Types of Hospitals and the Effect of Selected Demographic Factors: a Descriptive- Explorative Study. *Jordan Medical Journal, 45*(4), 331-340.

Mcleod, T. (1996). Work stress among community psychiatric nurses. *British Journal of Nursing, 6*(6), 569-74.

Tuvesson, H., Eklund, M., & Wann-Hansson, C. (2012). Stress of conscience among psychiatric nursing staff in relation to environmental and individual factors. *Nursing Ethics, 19*(2), 208-219. https://doi.org/10.1177/0969733011419239

Virtanen, M., Vahtera, J., Batty, G. D., Tuisku, K., Oksanen, T., Elovainio, M., et al. (2012). Health risk behaviors and morbidity among hospital staff--comparison across hospital ward medical specialties in a study of 21 Finnish hospitals. *Scand J Work Environ Health, 38*(3), 228-237. https://doi.org/10.5271/sjweh.3264

Wu, H., Chi, T., Chen, L., Wang, L., & Jin, Y. (2010). Occupational stress among hospital nurses: Cross-sectional survey. *Journal of advanced nursing, 66*(3), 627. https://doi.org/10.1111/j.1365-2648.2009.05203.x

Yada H, A. H., Omori H., Ishida Y., & Katoh T. (2009). Stressor among nurses in a psychiatric department--comparison between acute and recuperation wards. *Department of Public Health, Graduate School of Medical Sciences, Kumamoto University, 1, 31*(3), 293-303.