Original Article

Correlates to Work-Related Stress of Newly-graduated Nurses in Critical Care Units

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Abstract

Background. Nurses in critical care units were found to have severe symptoms of work-related stress, with the newly-graduated nurses in critical care units found to have higher prevalence of work-related stress symptoms compared to experienced nurses.
Objectives. To explore the causes of work-related stress among newly-graduated nurses in critical care units.
Method. This study used a quantitative descriptive cross-sectional design, using self-reported questionnaires. A total of 220 participants were conveniently recruited.
Results. Participants reported high level of work-related stress. While the highest mean score was reported for "*workload* "(*M*= 2.6/3, *SD*= 0.3), the lowest mean score was reported for "*relationships and conflict*" (*M*= 1.2/3, *SD*= 0.7). Many significant differences were noticed in the work-related stress based on participants' demographics.
Discussion. This study underlines the significance of developing nursing policies concerning stress relief aiming at improving nursing caring performance. Providing training courses for nurses on effective response to stressful work situations is highly recommended during their orientation period, which may be helpful to prevent the negative consequences of stress on the newly-graduated nurses in the critical care units.

Keywords: Work-Related Stress; Newly-graduated Nurses; Critical Care Units; Jordan.

Introduction

Nursing is one of the most stressful professions worldwide as nurses are exposed to various stressful events and factors during their work, mostly by dealing with people who are suffering from severe physical, psychological or psychosocial illnesses (Chang, 2011).

The role of nurses in the healthcare delivery system cannot be underestimated as they represent the largest group in the healthcare workforce and they are needed at all levels of care (Dubois, D'Amour, Pomey, Girard & Brault, 2013).

Some stressful situations are specific to a particular type of hospital units, especially the critical care unit that was found to be the most stressful setting within the hospitals (Darawad, Nawafleh, Maharmeh, Hamdan-Mansour, & Azzeghaiby, 2015; Moss et al., 2016). Reasons

include the complex nature of surrounding environment in the critical care unit that arise from the physical, psychological, and social aspects of the work environment including both administrative and clinical ways (Moustaka & Constantinidis, 2010). Patients in critical care units are severely ill and having multi comorbidities, which causes higher stress level (Moss et al., 2016). Okwaraji and En (2014) stated that this overly stressful condition with a repeated exposure to stressors makes critical care nurses more likely to develop work-related stress. In addition, critical care nurses are exposed to hazards and risks during their work including environmental factors (e.g., noisy environment, risk for infections), along with organization policies and working on multi duty form that areconsidered as sources for work-related stress (Moustaka & Constantinidis, 2010). These stressors are greatly affecting the productivity and performance of the critical care

nurses and also affecting the overall organizational productivity (Trivellas, Reklitis & Platis, 2013).

The newly-graduated nurses represent the future of the nursing profession. So, it is very important to keep them at the optimal level of health status. Transition from being a student to work environment exposes them to high levels of work-related stress (Read, Emily & Heather, 2013).

According to Laschinger et al. (2016), more than 50% of the newly-graduated nurses had experienced high level of stress and a state of inactivity during their first year of practice. Further, they represent the most vulnerable category of nurses to work-related stress during their transition from study toward the working area specially in critical care units (Blomberg et al., 2014), which made them perceive high intention to leave the profession that is generally tripled among the newly-graduated nurses between two time points (4 months and 12 months after initiation work in critical care unit), and three-quarters of them had different levels of intention to leave in the second year (Zhang, Wu,, Fang, Zhang, & Wong, 2016). Similarly, Zhang et al. (2016) found work-related stress as the most critical factor associated with the newly-graduated nurses' intention to leave at different time points, which should be taken into account to provide support for stress reduction.

Also, work-related stress makes the newly-graduated nurses have a lower level of commitment toward work requirements, lower quality of nursing care and a higher rate of turnover (Al-hussami, Darawad, Saleh, & Hayajneh, 2013; Cheng, Liou, Tsai & Chang, 2015).

The newly-graduated nurses in critical care units were found to have higher prevalence of work-related stress symptoms compared to experienced nurses (Higazee, Rayan & Khalil, 2016). Okwaraji and En (2014) reported that 44.1% of the critical care nurses had work-related stress and 42.9% had emotional exhaustion. Further, a recent study reported that about 17.5% of newly recruited nurses resigned within the first year of work (Kovner, Brewer, Fatehi, & Jun, 2014). Literature revealed that hospitals' managers must pay attention for stress management in critical care units to lower nurses' work-related stress through decreasing workload and improving communication (Kovner et al., 2014).

Exploring the factors that may cause work-related stress among the newly-graduated nurses in critical care units may help preventing or decreasing them. Also, it would help in maintaining an optimal health status for nurses and increasing their satisfaction, providing better care and increasing commitment to organization policies (Saleh, Darawad, & Al-Hussami, 2014; Trivellas et al., 2013). Also, Kleinpell, Lateef, Patel and Start (2014) stated that promoting work environment would help in decreasing factors of work-related stress leading to a higher quality of care. While, patients may benefits from such study through receiving higher quality of care, attention and communication from nurses, which leads to increased patient safety and satisfaction (Sacco, Ciurzynski, Harvey & Ingersoll, 2015). Further, organizations may benefit through increasing internal stability of the organizations, which leads to attract and retain nurses to those organizations, minimize nursing turnover (Trivellas et al., 2013). Therefore, the purpose of this study is to explore work-related stress among the newly-graduated nurses in critical care units. To achieve the purpose of the study, the researchersare intended to answer the following questions:

1. What is the level of the work-related stress among the newly-graduated nurses in critical care units in Jordanian hospitals?
2. Are there statistically significant differences in the newly-graduated critical care nurses' work-related stress based on their demographics?

Method

Design and Setting: This study used a quantitative descriptive cross-sectional design, utilizing self-reported questionnaires. This study was conducted at different areas of critical care units; (surgical, medical, mixed intensive care units and coronary care units). Healthcare system in Jordan consists of four major sectors; private, military, governmental and educational. Data were collected from four hospitals representing the different healthcare settings in the middle region of Jordan. According Jordanian ministry of Health (2012), the total number of hospitals in Jordan is 106 hospitals, and the majority of them (63%) are located in the middle region. Hospitals were randomly selected from a list of hospitals in each sector and a convenience sample was recruited from all newly-graduated nurses in critical care units from the selected hospital.

Sampling: The target population included all newly-graduated nurses working at critical care units in Jordanian hospitals, whereas the accessible population included all newly-graduated nurses working at critical care units at the participating hospitals. Sample was conveniently recruited from newly-graduated nurses who had a bachelor degree in nursing, had an experience of more than three month and less than two years, and provide direct patient care. On the other hand administrative nurses who provide no direct patient care were excluded.

Instruments: The study instrument package contained two sections: demographics and the Mental Health Professionals Stress Scale (MHPSS). The demographic data sheet was developed by the researchers after reviewing the literature and it contained gender, age, income, type of hospital, type of critical care unit (surgical, medical and mixed critical care unit and coronary care unit), nurse-patient ratio, period of experience at critical care unit (in month), period of experience in nursing, duty shift (day, night or rotating) and marital status**.**

Work-related stress was assessed using the Mental Health Professionals Stress Scale MHPSS (Cushway *et al*. 1996).Which consists of 42 items grouped into seven sub-scales; (1) workload (2) client-related difficulties (3) organizational structure and processes (4) relationship and conflict with other professionals (5) lack of resources (6) professional self-doubt (7) and home–work conflict. Each subscale consist of six items, where each item is answered on 4-point Likert scale, ranging from 0 (Does not apply to me) to 3 (Does apply to me). The scores of MHPSS are ranged from $0 – 126$, with higher scores indicating higher work-related stress. Cronbach's alpha coefficient for the total scale was 0.92, and ranges from 0.66 for the client-related difficulties subscale to 0.82 for organizational structure and processes subscale (Jenkins & Elliott, 2004). In this study four subscales were used; workload, client-related difficulties, professional self-doubt and relationship and conflict with other professionals because of theses subscale are related to work-related stress for the newly-gradate nurses. Internal consistency reliability was estimated using Cronbach's alpha. The highest Cronbach's alpha was reported for "*workload subscale*" with a Cronbach's alpha value of 0.85, while the lowest value was reported for "*Conflict*" subscale which had a Cronbach's alpha value of 0.79.

Data Collection Procedure: After obtaining the ethical approval, the primary researcher visited the nursing administration of the participating hospitals, and met with the critical care units' head nurses to obtain a list of the newly-graduated nurses in their units, and to facilitate approaching them in an appropriate time. All nurses who met the inclusion criterion were invited to participate in this study. Explanation by the researcher for all eligible staff nurses was done regarding the purpose of the study, the time required to fill the questionnaire (10-15 minutes) and participants' rights. A questionnaire was given in a closed envelop to each nurse who gave the verbal permission to participate and asked to return the filled questionnaire back in the envelope. Data were collected during the period from June to August 2017.

Ethical Consideration: The ethical approval was gained from the Scientific Research Committee at School of Nursing the University of XXXX and from the participating hospitals. All ethical concepts were taken in consideration including maintaining participants' privacy and confidentiality, explaining the purpose and nature of the study and using a consent letter for participants who was voluntarily participated in the study, and exposing them to no harm or risk.

Data Analysis: The Statistical Package for Social Science (SPSS) software (version 21) (IBM software, 2012) was used for data analysis. Descriptive statistics (means, standard deviations and frequencies) were used to describe study sample and to determine the level of work-related stress among newly-graduated nurses in critical care units. The second question was answered through using a series of inferential tests (one way analysis of variance [ANOVA] and t- test) to determine differences in work-related stress of newly-graduated nurses in the critical care units based on participants' demographic characteristics.

Results

Sample characteristics: Out of 220 invites, a total of 209 nurses completed the study. The majority of the participants were females ($n= 124$, 59.3%), single ($n=171$, 81.8%), graduated from private universities ($n=146$, 69.9%), and employed in private hospitals ($n=90$, 43.1%), and were working in mixed units (n=104, 49.8%). The mean age of the participants was 24.3 years (*SD*= 1.2), and the mean period of experience

was 18.5 months (*SD*= 4.6) in nursing and 13.8   months (*SD*= 6.4) at critical care units (Table 1).

Table1. Demographic Profile of the Participants (N=209)

Variable	Mean (SD)	Range	n (%)
Age	24.3 (1.2)	22- 27	
Income (JOD)	426.5 (34.6)	350- 505	
Experience in critical care units (months)	13.8 (6.4)	3- 24	
Experience in nursing (months)	18.5 (4.6)	9- 24	
University of graduation			
Private			146 (69.9)
Public			63 (30.1)
Gender			
Male			85 (40.7)
Female			124 (59.3)
Marital status			
Single			171 (81.8)
Married			38 (18.2)
Hospital			
Private			90 (43.1)
Governmental			84 (40.2)
Educational			35 (16.7)
Working area			
SICU			42 (20.1)
MICU			13 (6.2)
CCU			50 (23.9)
Mixed			104 (49.8)
Nurse-patient ratio			
1:1			22 (10.5)
1:2			157 (75.1)
1:3			30 (14.4)
Duty			
Day			42 (20.1)
Night			30 (30.4)
Rotating			137(65.6)

Table2. Description of the Work-Related Stress Sub-scales and its Individual Items (N=209)

Item	Mean (SD)
Work load	**1.2 (0.7)**
Too much work to do.	2.7 (0.7)
Too many different things to do.	2.9 (0.6)
Not enough time to complete all tasks satisfactorily.	2.4 (0.8)
Too many clients/ patients.	2.6 (0.9)
Working too long hours.	2.4 (0.9)
Not enough time for recreation.	2.6 (0.8)
Client load difficulty	**2.6 (03)**
Terminating with clients/patients.	2.3 (0.8)
Dealing with death or suffering.	2.4 (0.7)
No change or slowness of change in clients/ patients.	1.9 (0.9)
Difficult and/or demanding clients/ patients.	2.3 (0.8)
Physically threatening clients/ patients.	2.4 (0.8)
Managing therapeutic relationships.	1.8 (0.9)
Conflict	**1.8 (0.7)**
Conflict with other profession.	1.1 (0.9)
Conflicting roles with other professional.	1.0 (0.9)
Working in a multidisciplinary team.	1.7 (1.1)
Criticism by other professional.	1.0 (0.9)
Lack of emotional support from colleagues.	1.2 (0.9)
Difficulty of working with certain colleagues.	1.2 (0.9)
Self-doubt	**2.2 (05)**
Feeling inadequately skilled for dealing with emotional needs.	1.6 (0.9)
Uncertainty about own capabilities.	1.4 (0.8)
Feeling inadequately skilled for dealing with difficult clients.	1.7 (0.8)
Doubt about the efficacy of therapeutic endeavors.	1.7(0. 9)
Keeping professional/ clinical skills up to date.	2.3 (0.8)
Fear of making a mistake over a client/ patient's treatment.	2.2 (0.8)

Table 3. Comparison of Main Study Variables on Categorical Demographic Variable

Variable	Category	Conflict	Workload	Self-doubt	Client-related Difficulty
		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Gender	Male	7.24 (4.25)	15.67 (2.10)	10.34 (3.22)*	13.29 (2.90)
	Female	7.47(3.69)	15.20 (1.90)	11.43 (3.62)	13.04 (3.05)
Type of hospital	Educational	6.65 (3.85)	15.42 (2.26)	12.31 (2.59)	14.20 (2.18)
	Public	7.05 (4.20)	16.16 (1.77)	11.44 (3.42)	14.34 (2.74)
	Private	7.96 (3.62)	14.66 (1.79)**	10.04 (3.63)**	11.61 (2.80)**
Working area	CCU	6.26 (3.74)	15.60 (1.96)	11.10(3.25)	13.02 (3.12)
	Mixed	7.89 (3.69)	15.00(1.86)	10.91(3.60)	12.55(2.91)
	MICU	8.30 (4.47)	14.84 (1.67)	10.00 (3.51)	12.46 (2.56)
	SICU	7.16 (4.31)	16.28(2.12)**	11.33 (3.53)	14.95(2.44)**
Ratio	1:1	7.31 (4.09)	14.68 (1.42)	10.81 (4.26)	11.54 (3.03)*
	1:2	7.45 (3.92)	15.42 (2.04)	10.85 (4.52)	13.17(3.04)
	1:3	7.03 (3.90)	15.76 (1.94)	11.76 (2.59)	14.16 (2.08)
Shift	Day	7.69 (3.73)	14.59 (2.10)**	12.02 (3.23)	12.73(3.10)
	Night	6.16 (4.06)	16.23 (1.95)	10.66 (3.61)	13.80 (3.04)
	Rotating	7.55 (3.92)	15.45 (1.87)	10.73 (3.51)	13.12 (2.93)

*$P<.05$, ** $P<.01$. - The last category was used as a reference for comparison

Level of work-related stress: Table 2 represents the means and *SD* for the four sub-scales of the work-related stress and the individual item for each sub-scale. Regarding the four sub-scales, the highest mean score was reported for "*workload* "(M= 2.6, SD= 0.3), while the lowest mean score was reported for "*relationships and conflict*" (M= 1.2, SD= 0.7). Regarding the individual item; the highest mean score was reported to item "*Too many different things to do*" (M= 2.9, SD= 0.6), and "*Too much work to do* " (M= 2.7, SD= 0.7) both are from " Work-load" subscale While, the lowest mean score was for "*Conflicting roles with other professional*" and "*Criticism by other professionals*" (M=1, SD= 0.9) and "*Conflict with other profession*" from conflict subscale (M= 1.1, SD= .9).

Differences in work-related stress based on sample characteristics: Table 3 compares the four components of work-related stress among the participants based on their demographic characteristics. The results indicated a statistically significant difference in professional self-doubt according to the gender of participants (t= -2.23, $df=207$, $p<$ .05), as female nurses had higher level of work-related stress (M=11.43, SD= 3.26) than male nurses (M= 10.34, SD= 3.22). Regarding the type of hospitals, the results of one way ANOVA analysis indicated a statistically significant difference in the mean of three subscales of work-related stress including workload, (F=13.91, df= 2, $P<$ .01), professional self-doubt, (F=6.87, df= 2, $P<$ .01) and client related difficulty(F=25.77, df= 2, $P<$ .01) according to the type of hospital.

Table 4. The Relationships of Work-Related Stress

Variable	Income	Age	Experience In ICU	Experience In Nursing
Workload	.284[**]	.247[**]	.202[**]	.189[**]
Client related difficulty	.318[**]	.153[*]	-.015-	.067
Conflict	-.023-	.002	.215[**]	.005
Self-Doubt	.087	-.135-	-.194-[**]	.049

* P< .05, ** P<.01

Post-hoc analysis (Scheffe test) indicated that participants from the private hospitals had significantly higher mean scores in the three sub-scales of work-related stress than the public hospitals. Also, the participants in the educational hospital had significantly higher mean scores in two sub-scales of work-related stress (self-doubt and client related difficulty) than the participants in the private hospital.

There was a statistically significant difference in the means of two sub-scales of work-related stress including work-load (F=4.88, df= 205, $P<$ .01) and client related difficulty, (F=7.33,df= 3, $P<$ .01). Based on working area, the results of post-hoc analysis indicated that nurses from SICU had higher mean of client related difficulty than nurses from CCU, and higher mean scores in both self-doubt and client related difficulty than nurses from mixed ICU. Also, the results indicated a statistically significant difference in the mean score of client-related difficulty sub-scale of work-related stress according to nurse to patient ratio (F=5.10, df= 2, $P<$ .01). However, Post-hoc analysis indicated that only the ratio 1: 1 and the ratio 1:3 differed significantly in the mean of client-related difficulty sub-scale, as nurses who reported 1:3 ratio had higher mean scores of work-related difficulty sub-scale than nurses who reported 1:1 ratio.

Furthermore, the results of one way ANOVA indicated a statistically significant difference in the mean score of workloadsub-scale of work-related stress according to the working shift of the participants (F=6.46, df = 2, $P<$ .01). Post-hoc analysis indicated that nurses working at rotating shift had higher mean scores in workload related stress than nurses working at day shift, while nurses working at night shift had higher mean scores in workload sub-scale of work-

related stress than nurses working at day shift. Finally, the results indicated no significant mean difference in any of the main study variables according to participants' marital status and the university of graduation.

For the continuous demographics (Table 4), the experience in critical care units was positively and significantly correlated with conflict sub-scale of work-related stress (r = 0.22, $P<$ 0.01). However, all of these demographics had significant and positive relationship with workload sub-scale of work-related stress (age; r =.247, $P<$.01), income(r =284, $P<$ .01) experience in ICU (r =.202, $P<$.01), experience in nursing (r = 189, $P<$.01). In addition, income and age were significantly correlated with client related difficulty subscale of work-related stress; income (r = .318, $P<$ .01), age (r =.15, $P<$ .05). The professional self-doubt was negatively correlated with the experience in critical care units (r =-.194, $P<$ .01).

Discussion

This study explored work-related stress among the newly-graduated nurses in critical care units. The current study found that participants had a high level of work-related stress, which is consistent with the previous literature examining work-related stress among nurses working in the critical care units (Cheung & Yip, 2015) including Jordanian nurses (Darawad et al., 2015; Higazee et al., 2016).

Among the four aspects of the work-related stress examined in the current study, the highest mean score was reported for "*workload*". This outcome is consistent with the previous literature, which reported that the high workload and the demanding tasks in the critical care units are considered among the major stressors

experienced by nurses working in the ICUs (Gurses, Carayon & Wall, 2009; Hoonakker et al., 2011). In addition, the highest mean scores for MHPSS among the study participants were concerning "*workload*" including "*Too many different things to do*", *"Too much work to do"* and "*Not enough time for recreation.*" A recent study highlighted the association between the multiple duties imposed on nurses working in the critical care units and their reported work-related stress (Pryce, 2016). Therefore, research has emphasized on decreasing workload to ultimately manage stress among nurses working in the critical care units (Parker et al., 2014).

The lowest mean score of the work-related stress in the current study was concerning This might suggest that with increased age and experience, responsibilities and roles of the newly-graduated nurses might increase and subsequently increase the workload among them. High workload was found to be one of the major stressors reported by nurses working in the critical care units (Gurses et al., 2009; Hoonakker et al., 2011).

The experience in critical care units was positively correlated with conflict sub-scale of work-related stress. With increasing experience, the newly-graduated nurses may acquire more knowledge and skills, and experience more ethical dilemmas and conflicts with other healthcare professionals in critical care units, which might result in moral distress and conflict with other health care professionals (Pendry, 2007). In addition, age was significantly correlated with client related difficulty subscale of work-related stress. This outcome might indicate that older nurses might experience difficulty in dealing with demanding clients in critical care units. The professional self-doubt was negatively correlated with the experience in critical care units. This outcome is expected because increased experience might be associated with increased feeling of capabilities and being skilled to deal with the needs of patient and less fear of a mistake during providing nursing care (Cushway et al. 1996).

Female participants were found to have a higher level of professional self-doubt than male nurses. High levels of professional self-doubt might indicate feeling inadequately skilled to respond to the needs of patients and dealing with difficult patients, uncertainty about the nurse own capabilities and fear of committing a mistake at

"*Relationships and conflict*". Although a previous study found a high percentage of perceived conflicts among the critical care units staff (up to 70%), these conflicts were caused mainly by the workload and patient care related issues rather than the poor staff relationships (Azoulay et al., 2009). However, it seems that the newly-graduated nurses care less regarding relations compared to workload during their period of professional transition.

The results of the current study indicated that age, experience in critical care units and experience in nursing were positively correlated with workload sub-scale of work-related stress.

work, and doubt about the efficacy and the ability to keeping professional skills up to date (Humpel & Caputi, 2001). These outcomes might suggest that female participants feel that they have inadequate capabilities and skills to respond effectively and professionally to patient needs and avoid mistakes in the critical care units (Cushway et al., 1996). This highlights the importance of paying more attention to the needs of the female newly-graduated nurses working in critical care units in Jordan who might need to be adequately skilled to avoid mistakes. In addition, participants from the private hospitals had higher mean scores in workload, professional self-doubt, and client related difficulty. This might be explained by that in private hospitals have much higher paper work and services in addition to patient care. Participants in the educational hospital had significantly higher mean scores in self-doubt and client related difficulty than the participants in the private hospitals, which might be due to higher workload.

Nurses from SICU had higher levels of client related difficulty than nurses from CCU, and higher mean scores in both self-doubt and client related difficulty than nurses from mixed ICU. These differences in work-related stress could be due to various factors including organizational support in each area of work, work demands, types of patients and levels of care needed by patients (Moustaka & Constantinidis, 2010; Read et al., 2013; Vahedian-Azimi et al., 2017). Also, nurses who were working with a nurse-patient ratio of 1:3 had higher mean scores of client-related difficulty sub-scale of work-related stress than nurses who reported 1:1 ratio. This outcome is expected because working with more patients per shift is associated with increased nurses'

workload and work demand, which might increase their stress levels (Gurses et al., 2009; Hoonakker et al., 201).

Nurses working at rotating shift had higher mean scores in workload related stress than nurses working at day shift. In addition, nurses working at night shift had higher mean scores in workload sub-scale of work-related stress than nurses working at day shift. This outcome was supported by the previous literature highlighting the consequences of shift work on stress levels among nurses (Hamdan-Mansour, Al-Gamal, Puskar, Yacoub & Marini, 2011; Parikh, Taukari, & Bhattacharya, 2004).

Implications and Recommendations: Paying more attention to work-related stress among this vulnerable population is necessary to decrease their burnout and their intent to quit job in near future. There is a need to conduct longitudinal studies considering this topic in the future. Training nurses on time management, handling workload and responding to the stressful work situations might be helpful. The results of this study suggest a need to further assess the associated factors that could influence work-related stress such as receiving training and education regarding how to deal with stress at workplace. The health policy makers and nurse managers should consider establishing specific intervention programs directed toward reducing work-related stress among the newly-graduated nurses employed in the critical care units.

Limitations: The results of the current study should be taking considering its limitations. Firstly, the current study used a convenience sample which might limit the generalizability of the study findings. Applying self-reported questionnaires constitutes another limitation as its accuracy depends on truthfulness of the study participants. Further, using quantitative methodology might hinder the ability of the researcher to obtain some sensitive data associated with work related stress among the study participants.

Conclusion: The current study explored the causes of work-related stress among the newly-graduated nurses in critical care units. Overall, participants had high level of work-related stress, but the "workload" was found to be the highest scored aspect of work-related stress. The outcomes of this study indicate a crucial need for paying more attention to work-related stress, which might influence the ability of nurses to respond to the needs of the patients in the critical care units.

This study underlines the significance of developing nursing policies concerning stress relief aiming at improving nursing caring performance. Providing training courses for nurses on effective response to stressful work situations is highly recommended during their orientation period, which may be helpful to prevent the negative consequences of stress on the newly-graduated nurses in the critical care units.

References

Al-hussami, M., Darawad, M., Saleh, A., & Hayajneh, F. (2013). Predicting nurses' turnover intentions by demographic characteristics, perception of health, quality of work, and work attitudes. *International Journal of Nursing Practice*, 20(1), 79–88.

Azoulay, E., Timsit, J., Sprung, C., Soares, M., Rusinová, K., Lafabrie, A. & Benoit, D. (2009). Prevalence and factors of intensive care unit conflicts: The conflicus study. *American Journal of Respiratory and Critical Care Medicine*, *180*(9), 853-860.

Blomberg, K., Isaksson, A., Allvin, R., Bisholt, B., Ewertsson, M., KullénEngström, A.&Gustafsson, M. (2014). Work stress among newly-graduated nurses in relation to workplace and clinical group supervision. *Journal of Nursing Management*, 4(2), 101-116.

Chang, Y. (2011). Psychometric validity of the problem-focused style of coping scale: In relation to self-efficacy and life satisfaction among nursing staff in Taiwan. *Journal of Advanced Nursing*, *67*(7), 1625-1631.

Cheng, C. Y., Liou, S. R., Tsai, H. M., & Chang, C. H. (2015). Job stress and job satisfaction among new graduate nurses during the first year of employment in Taiwan. *International Journal of Nursing Practice*, *21*(4), 410-418.

Cheung, T., & Yip, P. S. (2015). Depression, anxiety and symptoms of stress among Hong Kong nurses: A cross-sectional study. *International Journal of Environmental Research and Public Health*, *12*(9), 11072-11100.

Cushway, D., Tyler, P.& Nolan, P. (1996). Development of a stress scale for mental health professionals. *British Journal of Clinical Psychology*, *35*(2), 279-295.

Darawad, M., Nawafleh, H., Maharmeh, M., Hamdan-Mansour, A., & Azzeghaiby, S. (2015). The relationship between time pressure and burnout syndrome: A cross-sectional survey among Jordanian nurses. *Health,* 7(1), 14-22.

Dubois, C., D'Amour, D., Pomey, M., Girard, F., & Brault, I. (2013). Conceptualizing performance of nursing care as a prerequisite for better measurement: A systematic and interpretive review. *BMC Nursing*, *12*(1), 7-8.

Gurses, A., Carayon, P., & Wall, M. (2009). Impact of performance obstacles on intensive care nurses' workload, perceived quality and safety of care, and quality of working life. *Health Services Research*, *44*(2p1), 422-443.

Hamdan-Mansour, A. M., Al-Gamal, E., Puskar, K., Yacoub, M., & Marini, A. (2011). Mental health nursing in Jordan: An investigation into experience, work stress and organizational support. *International Journal of Mental Health Nursing*, *20*(2), 86-94.

Hoonakker, P., Carayon, P., Gurses, A., Brown, R., Khunlertkit, A., McGuire, K.& Walker, J. (2011). Measuring workload of ICU nurses with a questionnaire survey: The NASA Task Load Index (TLX). *IIE Transactions on Healthcare Systems Engineering*, *1*(2), 131-143.

Higazee, M., Rayan, A.& Khalil, M. (2016). Relationship between job stressors and organizational support among Jordanian nurses. *American Journal of Nursing Research*, *4*(3), 51-55.

Humpel, N.&Caputi, P. (2001). Exploring the relationship between work stress, years of experience and emotional competency using a sample of Australian mental health nurses. *Journal of Psychiatric and Mental Health Nursing*, *8*(5), 399-403.

Jenkins, R. & Elliott, P. (2004). Stressors, burnout and social support: Nurses in acute mental health settings. *Journal of Advanced Nursing, 48*(6), 622-631.

Kälvemark, S., Höglund, A., Hansson, M., Westerholm, P. &Arnetz, B. (2004). Living with conflicts-ethical dilemmas and moral distress in the health care system. *Social Science & Medicine*, *58*(6), 1075-1084.

Kleinpell, R., Lateef, O., Patel, G., & Start, R. (2014). Caring for ICU providers. In *The Organization of Critical Care* (pp. 137-151). Springer New York.

Kovner, C., Brewer, C., Fatehi, F., & Jun, J. (2014). What does nurse turnover rate mean and what is the rate?. *Policy, Politics, & Nursing Practice*, *15*(3-4), 64-71.

Laschinger, H., Cummings, G., Leiter, M., Wong, C., MacPhee, M., Ritchie, J. & Young-Ritchie, C. (2016). Starting out: A time-lagged study of new graduate nurses' transition to practice. *International Journal of Nursing Studies*, *57*, 82-95.

Ministry of Education. (2012). Retrieved from Ministry of Education:

http://www.moe.gov.jo/SearchResult.aspx?Search Word=عدد20%الخريجين

Moustaka, Å.& Constantinidis, T. (2010). Sources and effects of Work-related stress in nursing. *Health Science Journal*, *4*(4), 80-86.

Moss, M., Good, V., Gozal, D., Kleinpell, R., &Sessler, C. (2016). An official critical care societies collaborative statement—burnout syndrome in critical care health-care professionals: A call for action. *CHEST Journal*, *150*(1), 17-26.

Okwaraji, F., & En, A. (2014). Burnout and psychological distress among nurses in a Nigerian tertiary health institution. *African Health Sciences*, *14*(1), 237-245.

Parker, V., Giles, M., Lantry, G. & McMillan, M. (2014). New graduate nurses' experiences in their first year of practice. *Nurse Education Today*, *34*(1), 150-156.

Parikh, P., Taukari, A., & Bhattacharya, T. (2004). Occupational stress and coping among nurses. *Journal of Health Management*, *6*(2), 115-127.

Pendry, P. S. (2007). Moral distress: Recognizing it to retain nurses. *Nursing Economics*, *25*(4), 217.

Pryce, C. (2016). Impact of shift work on critical care nurses. *Canadian Journal of Critical Care Nursing*, 27(3-4), e703-e709.

Read, Emily & Heather (2013). Correlates of new graduate nurses' experiences of workplace mistreatment. *Journal of Nursing Administration*, 43(4), 221-228.

Sacco, T., Ciurzynski, S., Harvey, M., & Ingersoll, G. (2015). Compassion satisfaction and compassion fatigue among critical care nurses. *Critical Care Nurse*, *35*(4), 32-42.

Saleh, A., Darawad, M., & Al-Hussami, M. (2014). Organizational commitment and work satisfaction among Jordanian nurses: A comparative study**.** *Life Science Journal,* 11(2):31-36.

Trivellas, P., Reklitis, P. & Platis, C. (2013). The effect of job related stress on employees' satisfaction: A survey in health care. *Procedia-Social and Behavioral Sciences*, *73*, 718-726.

Vahedian-Azimi, A., Hajiesmaeili, M., Kangasniemi, M., Fornés-Vives, J., Hunsucker, R., Rahimibashar, F. & Miller, A. (2017). Effects of Stress on critical care nurses: A national cross-sectional study. *Journal of Intensive Care Medicine*, 108, 190-730.

Zhang, Y., Wu, J., Fang, Z., Zhang, Y., & Wong, F. (2016). Newly graduate nurses' intention to leave in their first year of practice in Shanghai: A longitudinal study. *Nursing Outlook*, 8(4), 25-39.