https://doi.org/10.33472/AFJBS.6.2.2024.925-934

AfricanJournalofBiological Sciences

Research Paper Open Access

The relation between occupational stress, social support and the work engagement among nurses

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Article History

Volume 6, Issue 2, April 2024

Received:19 April 2024

Accepted: 31 May 2024

Published: 31 May 2024

doi: 10.33472/AFJBS.6.2.2024.925-934

Abstract: Background: Nurses are the most susceptible to occupational stress, which may have an impact on work engagement, social support helps alleviate occupational stress and helps nurses feel more involved with their work. Employees that are engaged feel less physical and psychological distress and are more committed to the organization. **Aim of the study:** To determine the relation between occupational stress, social support and the work engagement among nurses. **Subject and methods**: **Research design:** A descriptive correlational design was utilized in this study. **Sitting:** This study was conducted at El Senbellawein General Hospital. **Subjects:** all nurses working in all units at El Senbellawein General Hospital (n=237). **Tools of data collection:** Three tools were used: Expanded Nursing stress Scale, work-related social support scale is a dimension of social support included in the job content questionnaire, and Utrecht Work Engagement Scale. **Results:** Indicated that 67.1% of studied nurses had moderate level of occupational stress, 60.6% and 68.4 of them had high level of perceived social support and work engagement respectively. **Conclusion:** Occupational stress was negatively significantly correlated with support from supervisors and coworkers and work engagement. Furthermore, work engagement was negatively significantly correlated with occupational stress, while, positively significantly correlated with support from supervisors and support from coworkers. **Recommendation:** potential sources of stress should be identified, implement effective coping method, provide praise recognition for job well done, show concerns for nurse's needs, value their efforts, provide guidance and feedback at work.

Keywords: *Nurse, Occupational Stress, Social Support, Work Engagement*

Introduction

Nursing has been known to be a very stressful profession that can be physically and mentally exhausting **(Yewande, 2022).** Occupational stress in nursing is the stress that nurses suffer in their workplace as a result of a lack of support from their colleagues and superiors, as well as when their talents and knowledge do not meet working expectations **(Kakshapati, 2021).**

Occupational stress has a significant financial impact on individuals as well as organizations due to absenteeism and employee turnover, reduced productivity, physical illness, worse health treatment, and a higher chance of medical errors. Occupational stress is expected to cost $5.4 billion year on a global scale **(Baye et al., 2020).**

Researchers have discovered the rise in occupational stress in the nursing profession to be a striking topic and a serious one that needs to be looked into more **(Shatnawi, 2020).**

According to **Liu and Aungsuroch (2019)** perceived social support refers to the extent to which a person feels understood, respected, and supported by others in their social surroundings. Social support is important for nurses to get help with occupational stress. Additionally, it was discovered that having social support reduces stress and exhaustion for 356 ICU nurses. In addition to coworkers and organizational members like peers and supervisors, family members can also be sources of social support **(Sahay & Wei, 2022).**

Research indicates that social support at work is associated with higher levels of job satisfaction, emotional well-being, and engagement among nurses **(Blanco-Donoso et al., 2019).** Employees who are engaged have a lot of energy and are very excited and active in their job. Previous research has shown that employees who are very committed to their job show more loyalty to their organization, have better attitudes, feel less stressed, and are less likely to want to quit their job **(Kato et al., 2021).**

Significance of the study

Nurses often feel stressed because they are in charge of taking care of people's health. Stressed nurses who can't handle their work duties argue with their co-workers and make things tense for everyone. Stress can really affect a nurse's health and make them feel exhausted in their work and personal life. This makes you feel very tired, concerned about what will happen next, and not interested in doing things or working.

Having people to lean on when you're stressed helps you focus on work and be more productive. This is really important. Having nurses who are involved and engaged in their work is not just about improving how well they do their job but also improving their performance and health.

Aim of the study

This study was conducted to assess the relation between occupational stress, social support, and the work engagement among nurses at El Senbellawein General Hospital.

Research questions:

1. What is the level of occupational stress among nurses?
2. What is the perceived social support among nurses?
3. What is the level of work engagement among nurses?
4. Is there relation between occupational stress, social support and the work engagement among nurses?

Subjects and methods:

Study design:

A descriptive correlational design was used.

Study setting:

This study was carried out at El Senbellawein General Hospital which affiliated to ministry of health.

Study subjects:

Convenience sample technique was used. All available nurses at El Senbellawein General Hospital and agreed to participate in the study at the time of data collection (n=237) and having at least one year of experience were included in the study.

Tools of data collection:

Three tools were used to collect necessary data.

Tool I: Expanded Nursing stress Scale (ENSS).

This tool contained two parts as follow:

Part I: Personal and job characteristics of nurses:

This part was developed by researcher to collect data about nurses' age, gender, marital status, educational level, years of experiences in nursing, and unit.

Part II: Expanded Nursing stress Scale (ENSS).

Developed by **French et al. (2000)** has been used to measure the level of occupational stress. ENSS contained 57 items in nine subscales: (a) Death and Dying (7 items), (b) Conflict with Physicians (5 items), (c) Inadequate

Emotional Preparation (3 items), (e) Problems Relating to Peers (6 items), (f) Problems Relating to Supervisors (7 items), (g) Work Load (8 items), (h) Uncertainty Concerning Treatment (9 items), (i) Patients and their Families (8 items), and (j) Discrimination (3 items) (**French et al. (2000) (Harrington,2021)**, there is an item is deleted by the researcher according to the opinion of the supervisor, to be the total number of items 56 instead of 57.

Scoring system:

The nurses' responses were measured on 5-point Likert scale. Ranging from 'never stressful' (1), to stressful' (4), and 'doesn't apply' (5) **(Rabei et al 2020).** There are no specific cut-off scores for scale and subscales. Higher scores indicate higher levels of perceived stress **(Chatzigianni et al,2018) (Rabei et al 2020)**.

Tool II: work-related social support scale:

To measure perceived social support at work, the researcher used the dimension of social support included in the **job content questionnaire (JCQ)** based on job strain model developed by Karasek **et al.,1998.**

The **work-related social support scale** is the sum of two subscales: support from supervisors and support from co-workers, both measured by four items, such as: how much is each of the following people (supervisor and coworker).

Scoring system:

The nurses' responses were measured on a five-point Likert scale rating from ''don't have such person'' to very much'' they were scored from 0 to4 respectively for each statement, the scores were summed-up, and the median was equal 9, scores>9 perceived high social support **(abdelwahid, 2010).**

Tool III: The Utrecht Work Engagement Scale (UWES).

developed by **Schaufeli et al. (2006)** to assess the level of work engagement. It included 32 items divided into 3 dimensions as following:

- vigor:11 items.
- Dedication: 11 items.
- Absorption: 10 items.

Scoring system:

The nurses' responses were measured on 5-point Likert scale 1,2,3,4 and 5 for the responses ''never'', ''rarely'', ''sometimes'', ''often'', and ''always'' respectively. The domain was considered to be high if the percent score was 60% or more. And low if less than 60% **(Essa, 2014).**

Content validity and reliability:

Validity: The questionnaire was translated into Arabic; and then content and face validity were established by a panel of seven experts at the faculty of nursing, Zagazig university. Experts were requested to express their opinions and comments on the tool and provide any suggestion for any additions or omissions of items. According to their opinions, all recommended modifications were performed by the researchers.

Reliability: Cronbach alpha coefficient test was used to measure the internal consistency of the tools. Reliability of the used tools or instrument r= 0.945 for occupational stress tool, r= .824 for social support tool and r=0.940 for work engagement tool.

Pilot study:

A pilot study was carried out on 10% of the study subjects (22 nurses) to test applicability, feasibility, practicability of the tools. In addition, to estimate the time required for filling in the questionnaire sheets. Nurses were selected randomly and they were not excluded from the main study sample as there were no modifications according to their response in pilot study.

Field work:

The data collection phase of the study took one month from the beginning of February to the beginning of march 2021. The final forms of the questionnaire sheets were handled to nurses in their work setting by the researcher to elicit their opinions. The researcher met nurses in each unit in the morning shift and the night shift after finishing their work to distribute the questionnaires after clarifying the purpose of the study.

Nurses completed the questionnaires at the same time of distribution and took about 20-30 minutes. The researcher checked each questionnaire sheet after they had been completed to ensure the completion of all information.

Administrative design:

Official permissions were obtained from the dean of the faculty of nursing Zagazig University, and approval to conduct the study was obtained from medical and nursing director of Elsinbillawine General Hospital.

Ethical consideration:

The research was given the green light by the ethics committee and the dean of the nursing school at Zagazig University. The Nursing Faculty at Zagazig University sent a letter to the medical and nursing administration at Elsinbillawine General Hospital. The letter asked for permission and help with collecting data for the study. Agreement was made when the questionnaires were filled out. In addition, the researchers talked to the nurses in the study about what the study is about and what they are trying to find out. Also, each person in the study agreed by talking and understanding the reason for the study. Nurses could choose whether or not to take part, and were told that any information they shared would be kept private and used only for research. Also, they don't have to write their names.

Statistical design:

Data entry and statistical analysis were done using SPSS 22.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. The Cronbach alpha coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Qualitative categorical variables were compared using a chi-square test (X^2). Quantitative continuous data were compared using the non-parametric Mann-Whitney or Kruskal-Wallis tests. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. The Spearman rank correlation was used for assessment of the interrelationships among quantitative variables and ranked ones. Statistical significance was considered at p-value <0.05.

Results:

Table (1) shows demographic characteristics of studied nurses. It was found that about 36.7% of studied nurses were from 25 to 30 years old with average age (24.29 ±4.67). Highest percent of studied nurses were female (89%) and married (75.1%). Furthermore, more than half of studied nurses (54.4%) had bachelor degree and experience from one to less than five years. Also, 16% and 21.5% of studied nurses worked at Intensive care unit and Pediatrics respectively.

Table (2) and figure (1). It was revealed that (67.1) had moderate level of stress, compared to 6.3% had mild level and 26.6% had severe level. The total mean score of stress among studied nurses was 130.02±37.0.

table (3) and figure (2). It was found that 54.4% of studied nurses perceived low support from supervisor compared to 45.6% perceived high support. while, 67.9% of studied nurses perceived high support from coworkers compared to 32.1% perceived low support. Also, from the same table, 60.6% of studied nurses perceived high social support compared to 39.4% perceived low support.

table (4) and figure (3). It was found that 68.4% of studied nurses had high level of work engagement compared to 31.6% had low level.

Table (5) shows occupational stress was negatively significantly ($p<0.05$) correlated with support from supervisors and coworkers and work engagement. Additionally, Work engagement was negatively significantly ($p<0.05$) correlated with occupational stress while, positively significantly correlated with support from supervisors and support from coworkers.

Table (1): Demographic characteristics of studied nurses (n=237)

Demographic characteristics	**Frequency**	**Percent**
Age:		
20-<25	83	**35.0**
25-<30	**87**	**36.7**
30-40	67	**28.3**
Mean± SD	**24.29 ±4.67**	
Rang	**(20 – 40)**	
Gender:		
Male	26	**11.0**
Female	**211**	**89.0**
Marital status:		
Single	55	**23.2**
Married	**178**	**75.1**
Widow	4	**1.7**
Education:		
Diploma in nursing	20	**8.4**
Technical institute of nursing	79	**33.3**
Bachelor degree	**129**	**54.4**
Master degree or higher	9	**3.8**
Unit:		
Intensive care unit	**38**	**16.0**
Pediatrics	**51**	**21.5**
Operations	21	**8.9**
Neonate ICU	24	**10.1**
Emergency	29	**12.2**
Obstetric	20	**8.4**
Dialysis unit	26	**11.0**
Hepatic care unit	28	**11.9**
Years of experience:		
1-<5 years	**129**	**54.4**
5-< 10 years	48	**20.3**
10-<15years	36	**15.2**
> 15 years	**24**	**10.1**

Table (2): Level / Total score of stress among studied nurses (n=237)

Level of stress	**No.**	**%**
Mild	15	**6.3**
Moderate	159	**67.1**
Severe	63	**26.6**
Mean ± SD	**130.02±37.0**	
Rang	**38-219**	

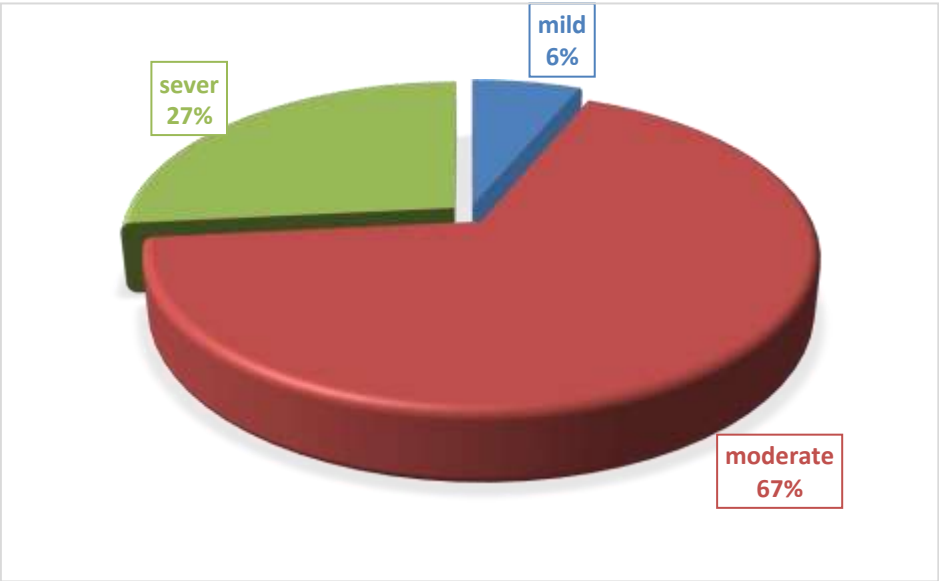

Figure (1): Level of Stress among studied nurses (n=237)

Table (3): level of social support perceived by studied nurses (n=237)

Total social support		**No.**	**%**
Support from supervisor	**Low**	129	**54.4**
	High	108	**45.6**
Support from coworker	**Low**	76	**32.1**
	High	161	**67.9**
Total **Mean ± SD= 26.2±5.32**	**Low**	93	**39.4**
	High	**144**	**60.6**

Figure (2): total score of social support perceived by studied nurses (n=237)

Table (4): level of Work Engagement as reported by studied nurses (n=237)

Level of Work Engagement	No.	%
Low	75	**31.6**
High	**162**	**68.4**

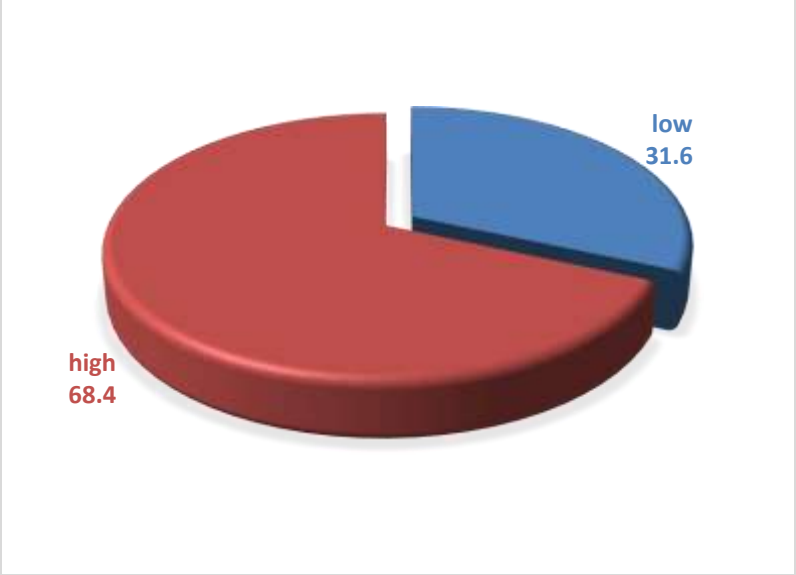

Figure (3): level of Work Engagement as reported by studied nurses (n=237)

Table (5): Correlation matrix of occupational stress, burnout, social support and the work engagement scores among nurses

Scores	Occupational stress	Support from supervisors	Support from coworkers	Work engagement
Occupational stress		**-.172****	**-.145***	**-.149***
Support from supervisors			**.247****	**.404****
Support from coworkers				**.310****
Work engagement				

(*) Statistically significant at p<0.05 (**) statistically significant at p<0.01

Discussion:

Regarding the level of Stress among studied nurses the findings of the present study indicated that two third of studied nurses had moderate level of stress, the possible explanation for this might be due to shortage of nursing staff, high workload, long shifts, night shifts, low schedule flexibility, difficulty balancing life with the job, and lack of supervisor support, and nurses do not have enough skills to manage this stress.

This result goes in the same line with those of previous studies as study carried out by **Morsi & Ebraheem (2020),** in Egypt, who studied "the work-related stressors, coping strategies: its relation to job performance and perceived organizational support among critical care nurses" showed that moderate level of occupational stress between nurses.

Contradicting to the previous results, these results are not consistent with a study carried out by **Said & Al-Shafeai, (2020),** in Egypt, who studied "Occupational stress, job satisfaction, and intent to leave: nurses working on front lines during COVID-19 pandemic in Zagazig City" showed high level of occupational stress between nurses, the discrepancy may be due to COVID-19 pandemic.

Regarding the level of perceived social support, the findings of the present study indicated that more than half of studied nurses perceived high social support, more than two third of them perceived high support from coworkers, and more than half of them perceived low support from supervisor, the possible explanation for these findings might be due to good communication and relation between nurses personnel and the years of experience make trust between them. While there is poor of relation, trust and presence of discrimination between supervisor and nurses. This result is in agreement with study carried out by **Bohlender, (2022),** who studied "sources of occupational stress for nurses working in acute adult inpatient psychiatric settings in Germany, measure levels of stress, burnout, social support, and intention to leave, and explore relationships between these variables and individual factors" demonstrated that most of the participants perceived high social support.

Contradicting to the previous results, a study carried by **Navajas-Romero (2020),** who studied "the job demands-control-support model in work-life balance: a study among nurses in the European context" showed that nurses perceived high social support from supervisor more than perceived from co-workers.

Regarding the level of work engagement the findings of the present study indicated that more than half of studied nurses had high level of work engagement, the possible explanation for these findings might be due to nurses who perceived support from coworkers can avoid negative events and situations, feeling more psychological well-being, trigger a motivational process through which nurses may feel energetic, dedicated, and engrossed in their work, carry out the tasks in effective ways, that may make them engaged into the job.

This result goes in the same line with previous study carried out by **Remegio, et al., (2021),** who studied "the professional quality of life and work engagement of nurse leaders" demonstrated high level of work engagement. In additionally study carried out by **Ahmed, (2022),** in Egypt, who studied "work place bullying, practical environment and work engagement among staff nurses" showed moderate level of work engagement.

Regarding the relation between occupational stress, social support and the work engagement among nurses. The result of this study showed that occupational stress was negatively significantly correlated with work engagement, support from both supervisors and coworkers. Work engagement was negatively significantly correlated with occupational stress, while, positively significantly correlated with support from supervisors and support from coworkers.

These findings are matching with a studies carried out by **Hetzel-Riggin et al (2019),** in Penn State Erie, who studied "work engagement and resiliency impact the relationship between nursing stress and burnout" showed that increased occupational stress seems to have decreased nurses' engagement in day-to-day tasks associated with the job, **A** study carried by **Mirzaei et al., (2021),** who studied "the predictors of turnover intention based on psychosocial factors of nurses during the COVID-19 outbreak. Social support at the workplace" revealed that supervisor and co-worker support play a key role in reducing response to job stress.

A study carried by **Contreras, et al., (2020),** who studied "the influence of support on work engagement in nursing staff: the mediating role of possibilities for professional development" showed that work engagement is significantly and positively related to colleague support and supervisor support.

But this is on the contrary with the result reported by **Kokoroko & Sanda (2019),** who studied "the effect of workload on job stress of Ghanaian outpatient department nurses: the role of coworker support'' showed that coworker support has a positive but insignificant correlation with job stress, coworker support levels did not significantly correlate with job stress levels of the outpatient department nurses. more surprisingly, a close look at the result showed a positive relationship between coworker support levels and job stress levels.

Conclusions:

In the light of the main study results; it can be concluded that most of studied nurses had moderate level of stress, had high level of work engagement, perceived high social support; high support from coworkers and

low support from supervisor. Additionally, Occupational stress was negatively significantly correlated with work engagement, support from supervisors and coworkers. Furthermore, work engagement was negatively significantly correlated with occupational stress, while, positively significantly correlated with support from supervisors and support from coworkers.

Recommendations:

Based on the study findings, the following recommendations can be included: potential sources of stress should be identified, effective coping methods, mindfulness-based stress reduction training can also be implemented to help nurses cope with occupational stress, offering cognitive-behavioral intervention programs, evidence-based support programs, providing praise recognition for a job well done, show concerns for nurse's needs, value their contribution and efforts, providing guidance and feedback at work. Additionally, seeking mentor, creating realistic goals, eating healthy, doing exercises, doing something fun, spending time with others, and taking a break**,** disconnecting from work is important for nurses, it gives a chance to relax, and recharge physical and emotional reserves.

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