

The Relation between Occupational Stress, Burnout and the Work Engagement among Nurses

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Abstract

Background: The most at risk of occupational stress and burnout is nurses, which may have an impact on job engagement. Engaged employees experience lower levels of physical and psychological stress, burnout, and demonstrate increased levels of commitment to the organization. **Aim of the study:** Was to determine the relation between occupational stress, burnout and the work engagement among nurses. **Subject and methods; Research design:** A descriptive correlational design was utilized in this study. **Setting:** 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, Maslach-Burnout Inventory Human Services Survey, and Utrecht Work Engagement Scale. **Results:** 67.1% of studied nurses had moderate level of occupational stress, 44.3%, and 68.4 of them had high level of burnout and work engagement respectively. **Conclusion:** Occupational stress was positively significantly correlated with emotional exhaustion and depersonalization, and negatively significantly correlated with work engagement. As well emotional exhaustion was positively significantly correlated with depersonalization. Furthermore, work engagement was negatively significantly correlated with occupational stress and depersonalization, and positively significantly correlated with personal accomplishment. **Recommendations:** Potential sources of stress and burnout should be identified, implementing effective coping method, 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, it gives a chance to relax, and recharge physical and emotional reserves.

Key words: Nurse, Occupational Stress, Burnout, Work Engagement.

Introduction:

Nursing has been known to be a very stressful profession that can be physically and mentally exhausting⁽¹⁾. 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⁽²⁾.

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⁽³⁾. 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⁽⁴⁾.

While stress is not classified as an illness, prolonged stress can result in burnout⁽⁵⁾. Burnout, a condition characterized by excessive occupational stress, leads to emotional exhaustion among healthcare professionals⁽⁶⁾.

Burnout has been shown to diminish motivation and work engagement, leading to various health issues, both physical and psychological. The presence of burnout among nurses poses

a significant financial burden on healthcare organizations, as it negatively affects the quality of patient care and the overall outcomes for individual nurses and their work⁽⁷⁾.

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⁽⁸⁾. While low nurse work engagement leads to adverse effects on patient safety, diminished job satisfaction, and higher turnover rates⁽⁷⁾.

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 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, burnout, 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 level of burnout among nurses?
- (3) What is the level of work engagement among nurses?
- (4) Is there relation between occupational stress, burnout and the work engagement among nurses?

Subjects and Method:

Design:

A descriptive correlational design was used.

Setting:

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

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 for 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 the 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):** It was developed by French et al.⁽⁹⁾ to measure the level of occupational stress. ENSS contained 56 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)^(9,10).

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)⁽¹¹⁾. Higher scores indicate higher levels of perceived stress^(11, 12).

Tool II: Maslach-Burnout Inventory Human Services Survey:

It was developed by Maslach et al. ⁽¹³⁾, and comprised from 22 questions to determine the levels of burnout through three subscales: Emotional exhaustion (EE) (9 items), Depersonalization (DP) (5 items), and Personal accomplishment (PA) (8 items) ⁽¹⁴⁾.

Scoring system:

The nurses' responses were measured on 7-point scale ranging from (never: 0 to every day: 6). The three scores are calculated for each respondent. High scores for EE and DP indicated higher levels of burnout, while high scores for PA indicated lower levels of burnout ⁽¹⁵⁾.

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

Developed by Schaufeli et al. ⁽¹⁶⁾ 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% ⁽¹⁷⁾.

Content validity and reliability:

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, there is one item from NESS tool (demands of patients' classification system) was deleted by the researcher according to the opinion of the experts, so the total number of items 56 instead of 57. All

recommended modifications were performed by the researchers.

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.

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.

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.

Administrative and Ethical considerations:

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.

The research was approved by the ethics committee and the dean of the

faculty of nursing 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.

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 analysis:

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 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): Personal and job characteristics of studied nurses (N=237), reveals 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.

Figure (1): Level of Stress among studied nurses (n=237), reveals that 67.1% of studied nurses had moderate level of stress, compared to 6.3% who had mild level and 26.6% who had severe level. The total mean score of stress among studied nurses was 130.02±37.0.

Figure (2): Level of burnout among studied nurses (n=237), reveals that 44.3% of studied nurses had high level of burnout compared to 30.8% who had low level and 24.9% who had moderate level.

Figure (3): Level of burnout dimensions among studied nurses (n=237), reveals that 74.7% of studied nurses had high degree of emotional exhaustion compared to 20.2% who had moderate degree and 5.1% who had Low degree. Also, 46.4% of studied nurses had High degree of depersonalization compared to 37.1% who had Moderate degree and 16.5% who had low degree. Furthermore, 70.5% of studied nurses had low degree of personal accomplishment compared to 17.7% who had moderate degree and 11.8% who had high degree.

Figure (4): Level of work engagement among studied nurses (n=237), finds that 68.4% of studied nurses had high level of work engagement compared to 31.6% who had low level.

Table (2): Relations between occupational stress, burnout, and the

work engagement among nurses (n=237), reveals that occupational stress was positively significantly correlated with Emotional exhaustion and depersonalization ($p<0.05$), and negatively significantly ($p<0.05$) correlated with work engagement. Emotional exhaustion was positively significantly correlated with depersonalization. Work engagement was negatively significantly ($p<0.05$) correlated with occupational stress and depersonalization, while, positively significantly correlated with personal accomplishment.

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 a study carried out by **Morsy and Ebraheem** ⁽¹⁸⁾ 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 and Al-Shafeai** ⁽¹⁹⁾ 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 burnout, the findings of the present study indicate that more than one third of the

studied nurses had high level of burnout, the possible explanation for this finding might be due to stress factors mentioned above led to nurses become overwhelmed, unable to provide the best care, increase the feeling of exhausted and low personal accomplishment.

The result of the present study is in agreement with a study carried out by **El-Hegawy et al.** ⁽²⁰⁾ in Egypt, who studied “the burnout syndrome and its predictors among nurses in primary health care facilities during COVID-19”, showed that most of studied nurse had high level of burnout syndrome.

On the contrary, this finding was not supported by the study carried out by **Opoku et al.** ⁽²¹⁾ in Ghana, who studied “the effect of burnout on intention to quit the profession among nursing professionals” revealed that the burnout level is in the low category.

Regarding the burnout dimensions in the present study, the findings of the present study indicated that more than two third of studied nurses had high degree of emotional exhaustion (first dimension), more than one third of studied nurses had high degree of depersonalization (second dimension), and more than two third of studied nurses had low degree of personal accomplishment (third dimension), these results might be due to working over eight hour a day, inability to separate work from personal life and nurses’ feeling that they are not making a difference or unable to satisfy the patient.

These findings are in agreement with a study done by **El-Hegawy et al.** ⁽²⁰⁾ showed that most of studied nurses had high depersonalization and had low degree of personal accomplishment.

The result of present study is in disagreement with a study carried out by **Simisola et al.** ⁽²²⁾ in Nigeria, who studied “burnout experienced among nurses working in selected critical care units”, showed that majority of the

respondents experienced a high level of personal accomplishment.

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.** ⁽²³⁾ 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 **Ahmad** ⁽²⁴⁾ 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, burnout, and the work engagement among nurses. The result of this study showed that occupational stress was positively significantly correlated with emotional exhaustion and depersonalization (subscales of burnout), and negatively significantly correlated with work engagement. Emotional exhaustion was positively significantly correlated with depersonalization. Work engagement was negatively significantly correlated with occupational stress and depersonalization, and positively significantly correlated with personal accomplishment.

These findings are matching with a study carried out by **Liao et al.** ⁽²⁵⁾ in Taiwan, who studied “a hierarchical model of occupational burnout in nurses associated with job-induced

stress, self-concept, and work environment” showed that occupational stress was positively significant factor affecting emotional exhaustion and depersonalization.

Also, these findings are matching with **Zhang et al.** ⁽²⁶⁾ in China, who studied “the influence of perceived stress and workload on work engagement in front-line nurses during COVID-19 pandemic” found that work engagement was negatively correlated with stress, **Li et al.** ⁽²⁷⁾ in China, who studied “moderated role of social support in the relationship between job strain, burnout, and organizational commitment among operating room nurses” revealed that emotional exhaustion was positively significantly associated with depersonalization. In addition to **Marti et al.** ⁽²⁸⁾ in Italy, who studied “correlation between work engagement and burnout among registered nurses: an Italian hospital survey” showed negative correlation between work engagement and personal accomplishment burnout.

On the other hand, these results were in disagreement with the result reported by **Okolo et al.** ⁽²⁹⁾ who studied “the moderating role of perceived organizational support in the relationship between burnout and work engagement in a sample of Nigerian nurses” demonstrated that depersonalization dimension of burnout positively predicted the three components of work engagement (vigor, dedication and absorption), also demonstrated that feeling of reduced personal accomplishment dimension of burnout negatively predicted the three components of work engagement (vigor, dedication and absorption).

Conclusion:

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 burnout, had high level of work engagement. Additionally, occupational stress was positively significantly correlated with emotional exhaustion and

depersonalization, and negatively significantly correlated with work engagement. As well emotional exhaustion was positively significantly correlated with depersonalization. Furthermore, work engagement was negatively significantly correlated with occupational stress and depersonalization, and positively significantly correlated with personal accomplishment.

Recommendations:

Based on the study findings, the following recommendations can be included:

- Nursing manager can identify potential sources of stress and burnout and implement effective coping methods.
- Nursing manager can implement Mindfulness-based stress reduction training to help nurses cope with occupational stress and burnout.
- Nursing manager can offer cognitive-behavioral intervention programs, and evidence-based support programs.
- Nursing manager can provide praise recognition for a job well done, show concerns for nurse's needs, value their contribution and efforts, providing guidance and feedback at work.
- Nurses can Seek mentor, create realistic goals, eat healthy, do exercises, do something fun, spend time with others, and take a break, disconnect from work is important, it gives a chance to relax, and recharge physical and emotional reserves.

Table (1): Personal and job characteristics of studied nurses (n=237)

Personal and job 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

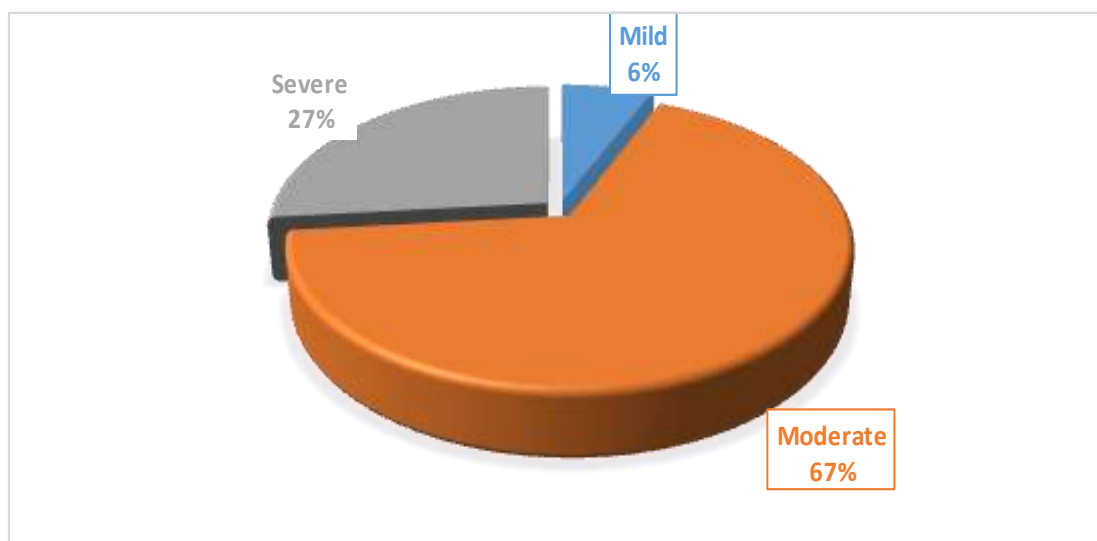


Figure (1): Level of Stress among studied nurses (n=237)

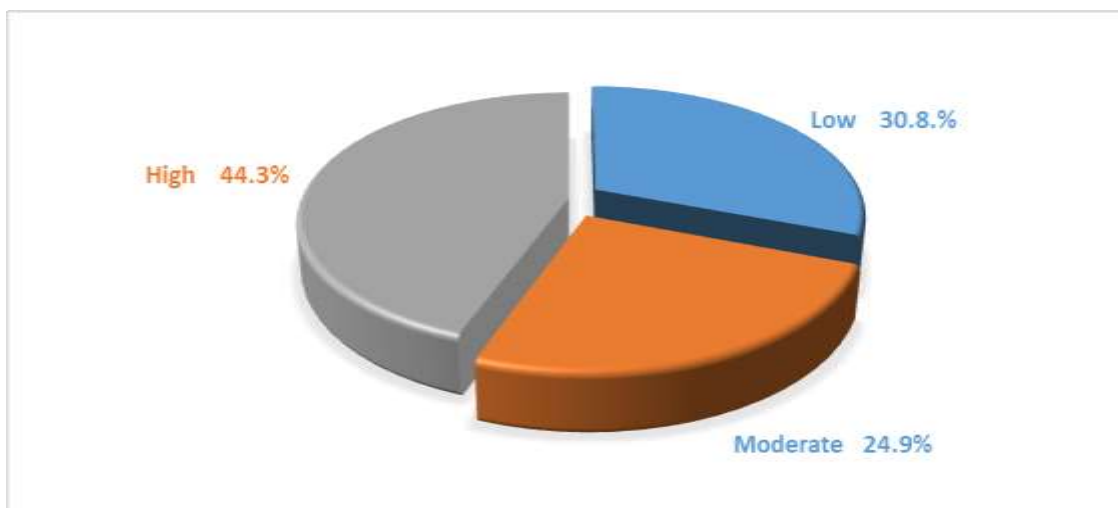


Figure 2: Level of burnout among studied nurses (n=237)

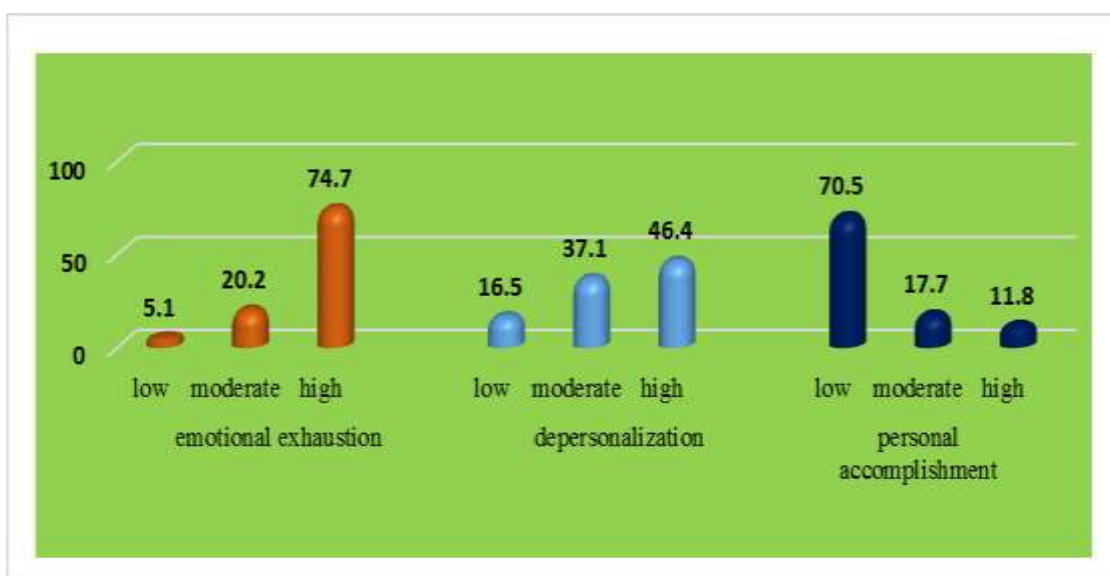


Figure (3): Level of burnout dimensions among nurses (n=237)

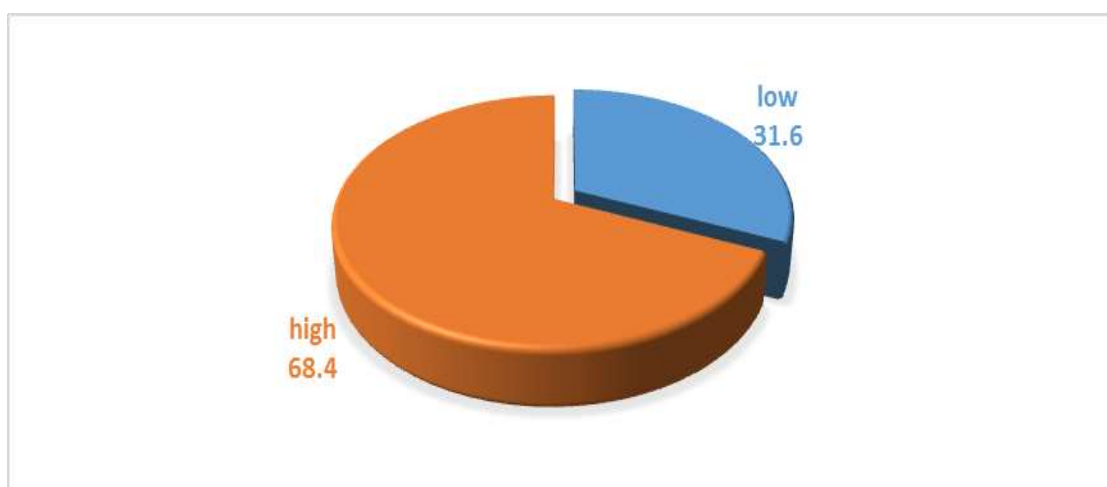


Figure (4): Level of Work Engagement as reported by studied nurses (n=237)

Table (2): Correlation matrix of occupational stress, burnout, social support and the work engagement scores among nurses

Scores	Occupational stress	Emotional exhaustion	Depersonalization	Personal accomplishment	Work engagement
Occupational stress		.177**	.264**	.047	-.149*
Emotional exhaustion			.263**	.107	.101
Depersonalization				-.003	-.155*
Personal accomplishment					.197**
Work engagement					

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