

## Relationship Between Job Stress and Anxiety, Depression and Job Satisfaction in Nurses in Iran

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**Abstract:** Nurses constitute the largest professional group in the health care sector and they are subjected to high level of occupational stress. Work-related stress is likely have a profound effect on depression, anxiety and job satisfaction among nurses. By measuring the job stress among nurses and its adverse effects this research aims at providing an appropriate managerial solution to reduce this problem. This study is descriptive and analytical; it was temporarily performed in Iran. The participants were 250 persons whom were selected and investigated among nurses. This research was tested by four questionnaires. OSIPOW for stress, Ruth and Berry field's for job satisfaction, Beck Anxiety (BAI) and Depression Inventory (BDI) and was analyzed by SPSS 22 Statistical Software. The results showed that a significant proportion of nurses suffered from stress. The 68% of these nurses reported medium-to-high degrees of stress. As well as, 35.6% of nurses have stated their satisfaction with job as very low and only 7.2% of them have been completely satisfied with their job. The 18.8% of nurses were fairly depressed and 31.2% of them stated that medium to sever anxiety. The results indicate that work-related stress was negatively associated with depression, job satisfaction and anxiety. These findings suggest that there is a need to focus on knowledge and development of preventive strategies against stress as well as rehabilitation for nurses with psychological distress in the work place.

**Key words:** Job stress, nurses, job satisfaction, job satisfaction, distress

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### INTRODUCTION

Nurses constitute the largest professional group in the health care sector and they play a substantial role in the quality of care and satisfaction of health care services in any country's system (Karchani *et al.*, 2012). Nurses are subjected to high levels of occupational stress (Rahmani, 2013; Aiken *et al.*, 2002). According to Cox, stress is the complex psychological conditions derived from cognitive power of the person in accordance with the requirements of the job environment (Alexander *et al.*, 1985; Rafiee *et al.*, 2014).

According to the study performed by Sharit and Salvendy, stress can be categorized into physiological,

psychological and social kinds (Aminian *et al.*, 2011). In this classification, both demands higher than the person's ability and demands lower than the person's ability can cause stress (Archibald, 2006; Barlings and Burns, 2009). Disorders of heart's coronary blood vessels, stomach and duodenal ulcers, misuse of drugs and anxiety, may be due to the physical and psychological effects of stress which can be possible causes of disturbance in life quality of these persons and their families (Begley and Czajka, 1993).

Source of stress are more prevalent in this occupation and nurse's life is affected continually by this stress. The prevalence of important psychological distress is especially high among hospital nurses because of severe

stress produced by busy working schedules, the magnitude of their responsibilities and interpersonal conflicts (Birch, 2001; Cannon, 1939). High levels of stress can decrease quality of care and patient safety (Aiken *et al.*, 2002; Khandan *et al.*, 2012, 2013), potentially this stress leading to medical errors and difficulties with patients. Therefore, reducing work-related stress and maintaining good psychological stress among nurses are essential to the prevention of medical errors and improving the quality of nursing care (Caplan *et al.*, 1989). The interaction between working ability and job requirements is one of the factors affecting job stress and poor working abilities that raises job stress and consequently decreases the nurses' general health (Aiken *et al.*, 2002). Work-related stress has a relation with burn-outs in addition to physical and mental health consequences (Deary *et al.*, 1996; Simon and Corbett, 1996).

Similarly, work-related stress has been found to have had a co-relationship with job satisfaction (Firth-Cozens, 1987). Stressors such as high workload, job demands, poor supervision and lack of support are all related with poor physical and mental health consequences (Firth-Cozens, 1987). Burnout which is one of the consequences of job stress can directly affect general health by there duction of resources necessary for coping, thus leading to negative states of being characterized by exhaustion, fatigue, somatization and social withdrawal (Gorgievski and Hobfoll, 2008. Mokhtarinia *et al.*, 2012; Barkhordari *et al.*, 2011). As well as job satisfaction that comes from work-related stress directly impact on individual's health and wellbeing indicators such as physical symptoms, emotional states of anxiety and depression (Graham *et al.*, 2011; Hsu and Marshall, 1987; Jex and Gudanowski, 2010). Physical and mental effects of stress not only make the people vulnerable but also are accompanied by significant costs for their employing organizations. So far, organizations have rarely noted these costs in economic terms, although they have always been concerned with them through workers' performance outputs. According to their views, job stress does not seem to have major importance as is the case for other problems (Kalliath and Morris, 2002). Fletcher revealed that 60% of absence from work was caused by stress-related disorders and only in England, 100 million work-days were lost through this absence (Kasl, 1978). Negative and unfavorable effect of job stress can cause accidents. Stress causes nurses not to observe the rules and consequently do not pay attention to alarming signs (Khamisa *et al.*, 2015). Thus, recognizing the impact of work-related stress and job satisfaction on general health and the effects of nurses' general health on

the poor patient outcomes, high turnover, low retention, poor job performance, absenteeism and increased healthcare costs is important. By measuring the job stress among nurses and its adverse effects, this research aims at providing an appropriate managerial solution to minimize these problems. Finally, this study aimed to determine the effect of job stress and its outcomes on the mental health of nurses in Iran.

## MATERIALS AND METHODS

This study is descriptive and analytical; it was temporarily performed in Iran. The sample volume was 250 persons who were selected and investigated among nurses from different cities. Then, generally four questionnaires were filled out. Finally, data was extracted and entered to and analyzed by SPSS 22 Statistical Software and the results were reported.

**OSIPOW:** OSIPOW work stress questionnaire (revised in 1998) was used (Ganster *et al.*, 1986). The questionnaire contains 60 questions in six groups (ten questions in each group). The answers were ranked based on five points Likert's scale (1-5) (Yin and Yang, 2002). Total score of all questions was calculated and interpreted based on the manual of the questionnaire; scores ranging from 60-119 were regarded as mild stress, 120-179 as average stress, 180-239 as average to acute stress and 240-300 as acute stress. Based on scores of OSIPOW questionnaire, subjects were divided into two groups: group one (mild and mild-average stress) and group two (average-acute and acute stress). Validity and reliability of the questionnaire has been confirmed in other studies.

**Beck Anxiety Inventory (BAI):** This self-report questionnaire has been prepared for measuring the severity of anxiety in adolescents and adults. This instrument is a 21-point scale which participants select each question using a 4-point Likert scale (0-3) which indicates the severity of anxiety. Since, evaluating anxiety symptoms is very important in recognizing and curing mental problems, until now a lot of scales have been designed for it based on different perspectives, Forexample (Costello, Endler, Zhong). Examining these scales indicates that there are probably problems in theoretical conceptualization and methodological features of them. Beck anxiety inventory was presented by Beck. BAI measures the severity of clinical anxiety of people specifically. The reliability and validity of the questionnaire was examined and confirmed. In this regard, Cronbach's alpha was 0.92, test-retest reliability within a week was 0.75 and its internal consistency varied from 0.30-0.76.

Five types of validity test included: content, construct, simultaneity, diagnostics and operating validity was measured to the test. The results of all validity tests showed that BAI had a high performance for measuring anxiety.

Each subscale describes prevalent symptoms of anxiety including mental, physical and fear symptoms. The total score of BAI is calculated by summing up the scores of all items which ranged from 0-63 points.

The final BAI score was categorized into the following levels: No or minimal (0-7), slightly (8-15), medium (16-25) and severe (26-63).

**Beck Depression Inventory (BDI):** The Beck Depression Inventory, developed by Beck was used to assess the severity of depression, determination of mental illness and diagnosis of patients in normal individuals. BDI diagnose depression was based on its symptoms. BDI is a self-report test that can be completed in a short time between 5-10 min. The scale consisted of 21 questions with 4-point Likert scale (0-3) to determine the severity of depression. The questionnaire covered issues such as sadness, pessimism, feeling of disability, failure and guilt, sleep disturbances, loss of appetite, self-loathing so that 2, 11, 2, 5 and 1 questions were dedicated to emotions, cognitive issues, overt behavior, somatic symptoms and interpersonal symptomatology, respectively. Each sub-scale of test focused on a type of personal emotion. Scores obtained can be used to find people with different ranges of depression, especially in the workplace. Respondents should be educated, at least the 5th or 6th grade levels. The total score of BDI was calculated by summing up the scores of all items ranging from 0-63 points. The final BAI score was categorized into the following levels: no or minimal depression (0-13), mildly depressed (14-19), medium (20-28) and severely depressed (29-63).

It is worth noting that scores less than four show that the person denied his depression and pretended to be healthy. High scores even among severely depressed individuals were indicating possible over statement of depression or possibility of having histrionic personality disorder. Some researchers have opined that 18 points be considered as a cut-off point. It is said that this rating accurately identifies and classifies nearly 92% of patients with major depressive disorder.

Another way of interpreting the test is the "relative interpretation" that pays attention to irrational beliefs and also recognizes the signs and symptoms of depression. Diagnosis of these symptoms and beliefs can be helpful in identifying depressed patients and use of treatment

methods. In some cases, where individuals gain 3 points it can be considered as an indication of possible problems. These cases are presented as:

- Sadness
- Pessimism
- Previous failure
- Loss of pleasure
- Feeling guilty
- Feeling punishment
- Hating oneself
- Self-criticism
- Suicidal thoughts
- Crying
- Anxiety
- Loss of interest
- Uncertainty or indecision
- Feeling of emptiness and worthlessness
- Loss of energy
- Changes in sleep patterns
- Irritability
- Change in appetite
- Impaired concentration
- Feeling tired
- Loss of sexual desire

**Ruth and Berry field's job satisfaction:** Job satisfaction is a level of positive feelings and attitudes that people have concerning their jobs. When a person is very satisfied with their job it means that he really loves his/her job and he has positive feeling about his/her work. Her job is rewarding for him. People with higher job satisfaction enjoy a good condition of mental and physical strength. An important factor in the efficiency and effectiveness of an organization is employees' job satisfaction. Paying attention to the job requirements of human resources in an organization is very important and it can directly affect the performance of people, quality of products and services. In fact, the level of job satisfaction can affect the amount of accidents, absence of research, negligence, delay in work and organizational commitment. Effects of job satisfaction on the motivation of employees are most important to the improvement of systems and organizations. If job satisfaction is low, many research disorders and disagreements will occur and it will be harder to teach people new skills. People who research with more motivation and satisfaction have an important role in the promotion of organizations. Ruth and Berry field's job satisfaction questionnaire, developed by Barry Field and Ruth was designed to assess Job satisfaction. The questionnaire consisted of 21 questions with 7-point

likert scale (0-6). In the questionnaire, respondents should express their feeling and attitude about their jobs on a five degrees scale. In the questionnaire, the first 9 questions are related to emotional exhaustion, second 5 questions are used to assess depersonalization and the next 8 questions are related to the sense of personal accomplishment.

According to the scores obtained, individuals were classified in three categories including mild, moderate and severe as mentioned as:

- Classification of emotional exhaustion: 0-9 (mild), 10-36 (average), 37-54 (Severe)
- Classification of depersonalization: 0-10 (mild), 11-20 (average), 37-54 (sever)
- Classification of sense of personal accomplishment: 0-16 (mild), 17-32 (average), 21-30 (sever)
- Classification of burnout: 0-44 (mild), 45-88 (average), 89-132 (sever)

The reliability and validity of the questionnaire was examined and confirmed by Jackson. In this regard, Cronbach's alpha was 0.71-0.90 and test-retest reliability was from 0.6-0.8.

## RESULTS AND DISCUSSION

Average age of the nurses participating in this study was 36.4±7.69 years with ages ranging from 24-61 years. The average working hours of nurses was 12.73±2.56 h. The nurses' job stress is given in Table 1.

According to the Table 1, most of the nurses have had medium to high degrees of stress. As observed in the Table 2, most nurses have been unsatisfied with their jobs.

This study measured 3 parameters namely: stress, anxiety, job satisfaction and depression and their influence on nurses' mental health in Iran. The study showed that a significant number of nurses had stress and anxiety. According to the Table 1, 68% of these nurses reported medium-to-high degrees of stress which is possibly caused by difficulties and problems with their job. The most important probable stress-causing

factors which has caused medium-to-high and/or high degree of stress include work-load, ambiguity of duty, responsibility, social level, level of managers and the physical environment. Hence, we can consider these factors as important and effective in inducing job stress among the nurses. Results similar to this study have been reported in a study performed by Yao SQ and colleagues (Kristensen, 1991).

Work-related stress is high among nurses due to their working arrangements and high workloads, meaning they are at high risk of psychological distress problems, job dissatisfaction and low mental health. Stress among nurses specifically has been stated to be higher than other health professionals due to the nature of their work (Lambert *et al.*, 2007). Nursing needs the delivery of humane, empathetic, culturally sensitive, proficient and moral care in working environments with incomplete resources and increasing responsibilities. The stated conditions can justify high stress in this job. Other health care occupations also have similar environments which lead to stress in the individuals. For example, it has been stated that doctors suffer high levels of stress. These conditions may cause job dissatisfaction, lower morale, and poorer work performance (Letvak *et al.*, 2012; Liem and Liem, 1988). Moreover, personality factors are among other factors that can attribute to stress, anxiety and job satisfaction in different occupations and certain people could probably experience high levels of stress in their jobs than others (Malek *et al.*, 2011; Nicklin, 2000; Piko, 2006). These stresses can be attributed to a mismatch between job expectations and actual working environments which contribute to higher levels of work-related stress and lower levels of job satisfaction (Pillay, 2009). Moreover, lack of resources invokes feelings of insecurity about obtaining and maintaining resources necessary for meeting job demands, there by triggering stress (Spector, 1997). Also, stress-related patient care is critically important. Personal stressors including financial matters, difficult relationships and family struggles can provoke work-related stress. Results of this study showed that a high percentage of nurses are not satisfied with their jobs (Table 2).

According to the table, 35.6% of nurses have described their job satisfaction as low and only 7.2% of

Table 1: Distribution of the degree of job stress among nurses

| Degree of job stress | Frequency | Percentage |
|----------------------|-----------|------------|
| Very low             | 89        | 35.6       |
| Low                  | 32        | 12.8       |
| Medium               | 72        | 28.8       |
| High                 | 47        | 18.8       |
| Very high            | 10        | 4.0        |

Table 2: Distribution of satisfaction with job among nurses

| Degree of satisfaction with job | Frequency | Percentage |
|---------------------------------|-----------|------------|
| Very low                        | 89        | 35.6       |
| Low                             | 48        | 19.2       |
| Medium                          | 76        | 30.4       |
| High                            | 19        | 7.6        |
| Very high                       | 18        | 7.2        |
| Total                           | 250       | 100.0      |

Table 3: Distribution of degree of depression among nurses

| Degree of depression                   | Distribution | Percentage |
|--|--------------|------------|
| Normal                                 | 99           | 39.6       |
| Slightly depressed                     | 55           | 22.0       |
| In need of psychological consultations | 35           | 14.0       |
| Fairly depressed                       | 47           | 18.8       |
| Severely depressed                     | 13           | 5.2        |
| Ultra depressed                        | 1            | 0.4        |

Table 4: Distribution of severity of anxiety among nurses

| Severity of anxiety | Frequency | Percentage |
|---------------------|-----------|------------|
| Unstressed          | 56        | 22.4       |
| Low                 | 116       | 46.4       |
| Medium              | 59        | 23.6       |
| Sever               | 19        | 7.6        |
| Total               | 250       | 100.0      |

Table 5: Distribution of job stress based on the degree of depression among nurses

| Degree of depression                   | Low-medium (%) | Medium-high (%) |
|--|----------------|-----------------|
| Degree of job stress                   |                |                 |
| Normal                                 | 38 (69.1)      | 53 (31.3)       |
| Slightly depressed                     | 7 (12.7)       | 41 (24.7)       |
| In need of psychological consultations | 5 (9.1)        | 23 (13.9)       |
| Fairly depressed                       | 5 (9.1)        | 37 (22.3)       |
| Severely depressed                     | 0              | 12 (7.2)        |
| Ultra depressed                        | 0              | 1 (0.6)         |

Table 6: Distribution of satisfaction based on the degree of job stress among nurses

| Degree of stress             | Very low (%) | Low (%)   | Medium (%) | High (%) | Very high (%) |
|------------------------------|--------------|-----------|------------|----------|---------------|
| <b>Satisfaction with job</b> |              |           |            |          |               |
| Low-medium                   | 10 (17.5)    | 9 (15.8)  | 23 (40.4)  | 7 (12.3) | 8 (14)        |
| Medium-high                  | 73 (43.7)    | 36 (21.6) | 49 (29.3)  | 7 (4.20) | 2 (1.2)       |

Table 7: Distribution of Anxiety based on the degree of job stress among nurses

| Severity of anxiety     | Low-medium (%) | Medium-high (%) |
|-------------------------|----------------|-----------------|
| <b>Degree of stress</b> |                |                 |
| Normal                  | 23 (41.8)      | 18 (11.2)       |
| Low                     | 27 (49.1)      | 76 (47.2)       |
| Medium                  | 5 (9.1)        | 50 (31.5)       |
| High                    |                | 17 (10.6)       |

nurses have been completely satisfied with their job. Therefore, it can be concluded that satisfaction with job is very low in this group of nurses and this is caused by the job problems in their occupation. According to the Table 3, 18.8% of nurses were fairly depressed. This percentage of depressed people in the nurse's profession is really critical due to their important roles in the health care system. The frequency and relative frequency of anxiety in nurses are presented in Table 4. Based on the results of the table, totally, 31.2% of nurses stated that they belonged to medium and severe anxieties (Table 5-7).

The results of this study showed that work-related stress is associated with job satisfaction, depression and anxiety (Table 8). Anxiety, job satisfaction and depression scores have a negative correlation with stress scores.

Table 8: The relationship between anxiety, job satisfaction and depression with stress

| Variables        | Low-medium stress (%) | Medium-high stress (%) | p-values |
|------------------|-----------------------|------------------------|----------|
| Job satisfaction | 20(17.7)              | 93(89.3)               | 0.023    |
| Depression       | 13(26)                | 37(74)                 | 0.006    |
| Anxiety          | 24(39.3)              | 37(60.7)               | 0.004    |

This relationship was reported in some related studies (Deary *et al.*, 1996; Simon and Corb, 1996). In order to explain these correlations, it can be said that security risks in the workplaces lead to stress and subsequently affect job satisfaction and health of nurses (St-Pierre and Holmes, 2010). In addition to some stressors such as higher workloads and staff issues has been found to be associated with poor job satisfaction (Firth-Cozens, 1987; Sutherland and Cooper, 1993). In the study by Khamisa *et al.* (2005) it has been shown that stress and job satisfaction were associated (St-Pierre and Holmes, 2010). Although, Khamisa *et al.* (2015) have shown that staff issues are related with job satisfaction but security risks in the workplace also affect job satisfaction among nurses. Lack of important resources such as treatment tools, drug and diagnosis facilities, compromises patient care and negatively affects job satisfaction.

Cannon's stress theory showed that exposure to stressor can cause a disorder in homeostasis which leads to breakdown of the biological system (Sveinsdottir *et al.*, 2006). This breakdown prevents compensatory and anticipatory changes that aid coping, thus causing depression (Tummers *et al.*, 2001).

Effects of stress on the health and well-being of nurses are shown in literature. There seems to be a consensus that the experience of work-related stress usually reduces the work-related quality of lives of nurses, increases minor psychiatric morbidity and may contribute to some forms of physical illness, anxiety and depression (VanYperen *et al.*, 2000).

It is obvious that stress at work plays an important role in high blood pressure and high levels of cholesterol, cardiovascular diseases, anxiety and depression. There is a complex relationship between self-reported anxiety, dissatisfaction, depression and risk of serious ill-health; the links between stress and job dissatisfaction are not very clear among professionals in occupations of high status.

## CONCLUSION

In conclusion, research-related stress plays a vital role in determining depression, anxiety and job satisfaction among health care nurses. Stress has an impact on the mental health and wellbeing of nurses and

this could most probably assume the form of sacrificing efficiency, productivity and the quality of health care. The findings suggest that there is need to pay attention to knowledge about the development of preventive strategies against stress as well as conducting rehabilitation exercises for nurses with psychological distress in the work place, thereby decreasing work-related stress and subsequently develop nurses' mental health which should be used as part of the the management strategies of organizations. Further researches that have the tendency to explore specific strategies for stress management may reduce the impact of stress on mental health of nurses and subsequently lessen absenteeism and turnover. The achievement of these evidence-based strategies that are intended to make better work environments where the security of nurses is guaranteed and they have enough resources to successfully complete their jobs will help improve their health outcomes.

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