



Clinical Staffs More Than Non-clinical Are Susceptible to Depression and Anxiety in a Psychiatric Hospital

Mojtaba YaghoubiPoor¹ and Seyed Hamid Seyed Bagheri^{2*}

¹*Shahid Behashti Hospital, Kerman University of Medical Sciences, Kerman, Iran.*

²*Department of Pediatric Nursing, Nursing and Midwifery School, Non-Communicable Diseases Research Center, Rafsanjan University of Medical Sciences, Rafsanjan, Iran.*

Authors' contributions

This work was carried out in collaboration between both authors. Author MYP designed the study, performed the statistical analysis, and wrote the protocol. Author SHSB wrote the first draft of the manuscript, managed the analyses of the study and managed the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

Anxiety and depression may cause employees increasingly poor performance. This study aimed to investigate the effects of occupation on anxiety and depression.

A total of 250 workers in a Psychiatric Hospital in Kerman participated and completed the BDI-II and BAI to determine their levels of anxiety and depression. All subjects were employed at one of two clinical and Non-clinical sections. Of all participants, 200 were employed in clinical jobs and 50 in Non-clinical employment.

Results indicated that the percentage of anxiety and depression and its severity in employees with clinical and Non-clinical occupation is significantly different. This difference in depression ($P < 0.01$) is more evident than anxiety ($P < 0.05$). According to our findings, the level of anxiety ($P < 0.05$) and

depression ($P < 0.01$) in women significantly is more than men. Also unlike depression there is a significant relationship between anxiety with age ($P < 0.01$). Based on our study, clinical job workers had higher levels of anxiety and depression than those working in Non-clinical jobs. It seems that due to the stresses in the job environment and also their direct relationship with the patients, they are more susceptible to anxiety and depression. Our findings suggest that should consider the organisational risks faced by clinical job employees.

Keywords: Anxiety; depression; clinical job; non-clinical; level of education.

1. BACKGROUND

Job and family are the two domains from which most adults derive satisfaction in life; equally, they are the standard sources of stressful experiences [1].

Occupational stress has been the focus of concern in hundreds of articles over the past two decades. Although many of these studies have focused on nurses, Comparison of anxiety and depression among clinical and Non-clinical staff has been done very little [2]. Clinical staff, due to their direct relationship with patients, have higher occupational stress than non-clinical staffs and are therefore more susceptible to anxiety and depression. This issue is more prominent in the psychiatric hospitals because of the high stress of patients' communication.

Job is not just a way to make a decent living but is also considered a vital element of the social status of the person, and a source of meaning in one's life [3]. Although money is important, it is neither a cure nor a preventive factor for burnout, except when it is considered the only measure of success [4].

It is clear that job is not only a source of satisfaction and economic status but also is source of stress [5]. In sharp contrast with stress coming from one's personal life or an environment, coping with job stress is difficult. In fact, no specific major stressful events are necessary to produce job stress. The accumulation of minor everyday events (hassles) could well produce considerable stress. Job stress alone does not cause burnout [6]. Professionals may function at high levels if their job provides them with positive feedback. However, those facing a highly stressful job environment, like the nursing staff in Intensive Care Units, may manifest higher levels of anxiety, anger, behaviour disorders and depressive symptomatology [7].

Anxiety and depression are the most common psychological health problems. In the prevalence

studies of anxiety disorders published between 1980 and 2009, the global prevalence of anxiety disorder was 7.3 % (4.8–10.9 %) [8].

Not only are there negative mental health effects for general population, but there are also deleterious effects on mental health for employees, with an estimated prevalence of about 10 to 20 % worldwide [9]. Mental health problems in the workplace may lead to economic burden, as well as increased absenteeism, labour compensation claims, high medical cost and reduced productivity [10]. Therefore, workplace psychological health interventions are required. Moreover, this scope must be expanded beyond individual factors to focus on organizational factors in the workplace.

Organizational factors that may impact mental health in the workplace are heterogeneous according to job type or occupation classification [11]. Additionally, job characteristics and labour environment, which can reveal the status of mental health, differ across occupational groups [12]. However, there are relatively few studies that demonstrate differences in mental health status based on different types of job. The purpose of comparing common mental disorders between job types is to identify groups with hazardous psychological environments. In addition to type of job, age, sex, level of education and job status are known occupational risk factors for mental health problems [13]. In a systematic review of epidemiological research, type of job, age, sex, level of education and job status were associated with both depressive state and anxiety [14]. Thus, type of job and age, sex, level of education and job status may be interrelated in their effect on mental health and all factors should be considered simultaneously. The main purpose of the study is to investigate the effects of occupation on anxiety and depression. Previous studies have independently investigated the relationship between occupational group and these factors on mental health. In this study, we aimed to evaluate the association between type of job and common

mental disorders (anxiety and depression). Because of the psychological conditions of patients in mental hospitals, clinical staff who are in direct contact with these people are affected and can exert excessive stress on them. So far, there has not been a study comparing anxiety and depression with clinical and non-clinical workers in these hospitals. So we decided to do this study. Additionally, we analyzed how type of job, age, sex and level of education interact as part of this relationship.

2. METHODS

2.1 Participants

We conducted a descriptive study that included subjects from two group of employees (Non-Clinical and clinical staff) that were part of the same hospital (Shahid Beheshti Psychiatric hospital in Kerman city). The statistical population in this study is 250 people. This number is comprised of all clinical and Non-clinical staff of this hospital with over 2 years of experience. All employees participate this study voluntarily and the interviewer was asked to complete a questionnaire for each individual at their workplace and their time of leisure. They fulfill standard Beck questionnaire and Demographic information questionnaire [15-17]. The researchers requested that all employees complete a questionnaire consisting of questions regarding mental health as measured by the standard Beck questionnaire and Demographic information questionnaire voluntarily. The response rate was 100 %. Each subject provided written informed consent prior to participation. We explained the purpose, methods, and precautions of this study. Tests were conducted only after informed consent was obtained from each participant. This study was approved by the Faculty of Literature & Humanities, Department of Psychology, Islamic Azad University of Kerman, Iran.

2.2 Study Variables

The two groups provided data that included demographic information about age, sex, level of education and type of job. The type of job includes the following two major occupation categories: clinical staffs and Non-clinical staffs. Subsequently, we classified participants into a clinical staffs and Non-clinical workers group based on the main task performed by the participant. If the occupation of a person was in a way that was directly related to the patients

referred to the hospital, it would be a clinical staff member and, if not was considered non-clinical staff. Doctors, nurses and health care providers were allocated to clinical jobs in the hospital. Other professionals as well as Medical equipment, Information Technology, accounting and insurance workers were allocated to Non-clinical jobs [18].

All participants were interviewed by a questioner and all required information such as Beck Depression Inventory II (BDI-II) and Beck Anxiety Inventory (BAI) questionnaires as well as all questions related to demographic information such as age, sex, level of education and type of job were collected.

2.3 Outcome Variables

In this study, the dependent variable was anxiety and depression, which was evaluated using the BDI-II and BAI. Participants independently completed the BDI-II and BAI. The BDI-II and BAI are self-assessment scale consisting of 21 items that are scored on a 4-point scale that measures the presence and severity of anxiety and depression separately [15]. The BDI-II and BAI has demonstrated acceptable reliability and validity in a general population [16,17]. In addition, this tool has been found to be adequate for detecting anxiety and depression symptoms in a workplace population. In this study, Cronbach's α scores for anxiety and depression were 0.92 and 0.91, respectively.

2.4 Statistical Analyses

Data were analyzed by descriptive statistics including mean, standard deviation, and inferential statistics including Two-way ANOVA, Khy-2 and Pearson correlation coefficients.

The associations between type of job and BDI-II and BAI scores for BAI scores and depression were analyzed by performing multivariate logistic regression analyses with two different models. The models were as follows: [1] unadjusted model; and [2] adjusted model for age, sex and level of education. To understand the impact of level of education on anxiety and depression as an effect modifier, we also used a multivariate logistic regression analysis based on the type of job by stratification of level of education and adjustment of covariates. The interaction between the type of job and level of education was also analyzed. Results were expressed as odds ratios (OR) with 95 % confidence intervals

(CI). Statistical significance was set at $p < 0.05$. All statistical tests were performed using SPSS version 18.0 software (SPSS, Inc. Chicago, IL, USA).

3. RESULTS

Results shows that 66% (168) of participants were female and 34% (82) male. , the sample included 200 clinical staff (80%) and 50 Non-clinical staff (20%) and 49.2% (123) of participants were bachelor.

Subjects ranged in age from 25 to 59 years. According to the data, the mean age for Non-clinical staffs were 32.64 ± 14.38 and for the clinical staffs were $34.48 \pm 11/01$. Additionally, both anxiety and depression symptoms were more prevalent among clinical than Non-clinical staffs.

Based on the results, the mean men BDI scores were 27.46 ± 4.2 and 32.50 ± 9.21 in Non-clinical and clinical staffs' respectively. In the women staff, the mean of this score were 32.31 ± 10.04 and 31.62 ± 8.67 . Frequency distribution of participants based on the level of BDI scores showed that 176 (70.4%) of participants were in normal, 40(16%) were mild, 32(12.8%) were medium and only 2(0.8%) of participants report intense depression. According to the results, in the study group, 158 person was no anxiety, 36 person were mild, 44 person were moderate, and 12 person were in severe anxiety.

On the basis of the final result obtained from the analysis of variance analysis to examine the main effects of gender (woman and man) and type of job (clinical * Non-clinical), as well as the interactive effect of these two variables on anxiety, The main effect of gender is significant

(6.22) ($P < 0.05$). Also, the main effects of job status with the obtained value (5.23) were also significant ($P < 0.05$). However, the interactive effect of these two variables is not statistically significant (2.45). (Table 1)

According to the results of analysis of variance, it can be concluded that the level of anxiety in men and women is significantly different. The level of BAI scores of the clinical and non-clinical staff also has a significant difference with regard to the main effect of job status. But the results show that the effect of gender on BAI scores is not interactive with the type of office status or clinical relevance.

In the field of BDI scores, the results also show that the main effect of gender is significant (4.55) ($P < 0.01$). Also, the main effects of job status (Non-clinical or clinical) with the obtained value (5.89) were also significant ($P < 0.01$). Meanwhile, the interactive effect of these two variables was statistically significant (7.80) ($P < 0.01$). According to the results of analysis of variance, it can be said that depression in men and women is significantly different. The level of BDI scores in the clinical and admin staff also has a significant difference with regard to the main effect of job status. The results show that the effect of gender on BDI scores has an interactive effect on the status of the office staff or the clinical relevance.

As the results of Pearson correlation coefficient show, the correlation coefficient (0.175) is significant at level (0.01). As a result, there is a significant relationship between age and anxiety, and with regard to the nature of the relationship that is direct, one can say that as age increases, the level of BAI scores increases. (Table 2)

Table 1. The final result obtained from the analysis of variance analysis to examine the main effects of gender (woman and man) and the job

| Variable | | Average squares | Degrees of freedom | Sum of squares | F | sig . |
|-------------------------------|------------|-----------------|--------------------|----------------|------|-------|
| Sex | Anxiety | 1053.56 | 1 | 1053.56 | 6.02 | 0.01 |
| | Depression | 355.466 | 1 | 355.446 | 4.55 | 0.01 |
| Cadre (Clinical*Non-clinical) | Anxiety | 914.82 | 1 | 914.82 | 5.23 | 0.02 |
| | Depression | 460.12 | 1 | 460.12 | 5.89 | 0.01 |
| Gender * Cadre | Anxiety | 422.89 | 1 | 422.89 | 2.45 | 0.11 |
| | Depression | 609.336 | 1 | 609.336 | 7.80 | 0.01 |
| Error | Anxiety | 43032.17 | 246 | 174.92 | | |
| | Depression | 19218.85 | 246 | 78.12 | | |
| Total | Anxiety | 44632.55 | 249 | | | |
| | Depression | 20644.52 | 149 | | | |

Table 2. Pearson correlation coefficient between age and BAI scores and BDI scores

| Variables | | Anxiety | Significance level |
|------------|-----|---------|--------------------|
| | | R | |
| Anxiety | Age | 0.175 | P>0.01 |
| Depression | | 0.037 | P>0.05 |

The results obtained from Pearson correlation coefficient show that the correlation coefficient (0.073) is not significant. As a result, there is no significant relationship between age and BDI scores in the sample.

The result of the Chi-square test to examine the correlation between the level of BDI scores and the level of education in the sample shows that the obtained value (4.70) with a degree of freedom (df=2) is not significant. Also, the obtained concordance coefficient as an indicator of the relationship between level of education and level of BDI scores shows the lack of correlation between the two variables. (Table 3)

The result of the Chi-square test to check the correlation between the level of BAI scores and the level of education in the sample shows that the obtained value (11.09) with a degree of freedom (2=df) is significant, and the obtained concordance coefficient as an indicator of The relationship between level of education and level of BAI scores also shows the correlation between two variables (0.20) at the level (0.01).

Results of multivariate logistic regression analysis including job, sex, level of education and job status indicated that the percentage of anxiety and depression and its severity in employees with clinical and Non-clinical occupation is significantly different. This difference in BDI scores (P<0.01) is more evident than BAI scores (P<0.05). According to our findings, the level of BAI scores (P<0.05) and BDI scores (P<0.01) in men and women is significantly different. According to the findings of our study, there is a significant relationship between BAI scores with age in the Non-clinical and clinical staffs (P<0.01) (Table 4) but there isn't a significant relationship between BDI scores with age in the Non-clinical and clinical staffs (P=0.37). Based on the findings of our study, there is a meaningful relationship between BAI scores and educational level in the Non-clinical and clinical staff, but does not apply to depression.

4. DISCUSSION

Our finding showed that, as evaluated with the BDI-II and BAI, working a clinical job elevated the

Table 3. The result of chi-square test to examine the correlation of education with BDI scores and anxiety

| Group | Test | Value | Df | significance level | Coefficient of agreement | significance level |
|------------|------------|-------|----|--------------------|--------------------------|--------------------|
| Anxiety | Chi-square | 11.09 | 2 | 0.01 | 0.20 | 0.01 |
| | N | 250 | | | | |
| Depression | Chi-square | 4.70 | 2 | 0.09 | 0.13 | 0.09 |
| | N | 250 | | | | |

Table 4. Multivariate logistic regression analysis of job, sex and level of education

| | | Odds ratio (OR) BAI scores | p-value | Odds ratio (OR) BDI scores | p-value |
|--------------------|--------------------------|-------------------------------|------------|-------------------------------|------------|
| Job | Clinical | 0.3860 | P = 0.0386 | 0.3222 | P = 0.0274 |
| | Non-clinical | | | | |
| Sex | Man | 0.4339 | P = 0.0547 | 0.4768 | P = 0.0388 |
| | Woman | | | | |
| Level of education | Diploma and less | 0.4835 | P = 0.0071 | 0.5764 | P = 0.0507 |
| | Super-diploma and higher | | | | |

risk of anxiety and depression compared to working a Non-clinical job. Our results are consistent with the results of a previous study that compared the prevalence of common mental disorders between occupational groups. Physicians are reported to experience high levels of stress, depression, anxiety, and poorer mental health [19].

Different types of businesses have different job features and require different types of labor, even if workers are categorized in the same occupational groups [20]. Consequently, previous studies that focus on the general population demonstrate heterogeneous results and are limited in terms of their practical application in the workplace.

In the current study, the risk of anxiety and depression increased as level of education. A study of the level of depression, life and job satisfaction of physicians showed that increased clinical hours worked per year, involvement in medical education, and region of residence were negatively related to satisfaction. Time away from clinical practice was also important to emotional well-being and job satisfaction [21]. Although there are slight differences between these studies, our study results are consistent with their findings.

In the present study, type of job, gender and age were shown to be the workplace risk factors for anxiety and depression. However, little is known about the interaction between type of job and level of education, which have an impact on anxiety and depression. Our study demonstrated that clinical job workers were more vulnerable to anxiety and depression symptoms than Non-clinical job workers.

Stress is not inherently deleterious, however. Each individual's cognitive assessment, their insights and clarifications, gives meaning to events and determines whether events are viewed as threatening or positive [22]. Personality traits also influence the stress equation because what may be overtaxing to one person may be exhilarating to another [23].

However, stress has been considered as an occupational threat since the mid-1950s [24]. In fact, occupational stress has been cited as an important health problem [25]. Work stress in nursing was first assessed in 1965 when Menzies [26] identified four sources of anxiety among nurses: patient care, decision-making,

taking responsibility, and change. The nurse's character has long been observed as stress-filled based upon the physical labor, work hours, staffing, human suffering, and interpersonal relationships that are central to the job nurses do. Since the mid-1980s, however, nurses' work stress may be intensifying due to the increasing use of technology, continuing rises in health care costs, and turbulence within the work environment [1].

Numerous recent studies have discovered work stress among health care personnel in many countries. Most of the studies focused on nurses, but the studies were not always clear regarding which types of nursing personnel participated. Registered nurses (RNs) were the dominant focus [27-30]. Other investigations considered licensed practical nurses (LPNs) and nursing aides; [31,32] licensed nurses (e.g., RNs and LPNs); [33-35] RNs, aides, and clerical staff; [36] and generic assessments of nursing staff [37,38].

Stress has been considered as an antecedent or stimulus, as a consequence or response, and as an interaction. It has been studied from many different frameworks. For example, Selye [39] suggested a physiological valuation that supports considering the association between stress and illness. Conversely, Lazarus [22] encouraged a psychological view in which stress is "a particular association between the person and the environment that is assessed by the person as taxing or exceeding his or her resources and endangering his or her well-being."

Historically, the association between the negative affective conditions of depression and anxiety has been of significant theoretical and clinical interest [40,41] theoretically, depression and anxiety are quite different, but the clinical overlap between the two conditions has long exercised both clinicians and investigators. The concept of stress poses additional problems in the study of negative affective conditions. In addition to precipitating episodes of anxiety and depression, stressful life events are often thought to lead to a characteristic stress response involving chronic arousal and impaired function [42]. Considered as an affective or emotional state [43], the concept of a stress response has clear affinities with anxiety. Regarding the findings, it appears that clinical staff of mental hospitals are more susceptible to anxiety and depression because of direct exposure to psychiatric patients. Many

studies have shown that having a mental illness can have a great impact on stress and depression [44,45]. Therefore, direct communication with these people can lead to stress and depression [46,47].

The limitations of this study should be considered. First, because the study design was descriptive, it was not possible to determine if there was a precise causal relationship. Thus, because a longitudinal design was not utilized, we could not trace workers' tasks over time or evaluate all workers' tasks based on type of job. We could not get the information about total annual income of study participants individually. If total income was adjusted in this study model, the association between type of job and mental health would be weakened. Additionally, low education level is a known risk factor for mental disorders and generally, workers in clinical jobs overall had a lower education level than those in non-clinical jobs. Considering the high prevalence of anxiety and depression among clinical job workers, it appears that the impact of education was not stronger than type of work, and there is a possibility that the impact of clinical jobs on mental health was underestimated in this study. Finally, since this study focused on subjects working in a wide range of jobs representing a single workplace, caution must be used when generalizing these results to other workplaces.

5. CONCLUSION

The results indicate that there is a meaningful relationship between the severity of anxiety and the variables of age, sex, level of education and type of work. There is also a significant relationship between depression and gender and job status variables, but there is no significant relationship between depression and age and also education level. The results of this study showed that there is a significant relationship between the level of anxiety and depression in the Non-clinical and clinical staff of Shahid Beheshti hospital in Kerman.

Our study demonstrated that type of job, age, sex and level of education were associated with increasing the risk of anxiety and depression in workplace. Based on findings organizational injustice and inequality between occupational classifications might play a role in increasing mental disorders. Thus, our results may have implications for prevention programs in occupational health. In the past, the

management of occupational mental health has focused on those engaged in manufacturing work or blue-collar workers. But now we have found that in addition to these people, those who are directly exposed to mental illness can be susceptible to anxiety and depression. However, it will be important for occupational physicians to identify organizational factors that impact mental health across occupational classifications and administer the most appropriate intervention based on the specific type of job that the employee is engaged in. Further research can be done to eliminate this problem and prevent this bad effect.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard written ethical permission has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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