Journal of Human Environment and Health Promotion
Print ISSN: 2476-5481 Online ISSN: 2476-549X

The Prevalence of Psychiatric Disorders and the Related Factors in the Employees of Zanjan Lead and Zinc Company, Iran

Omid Saed [a] | **Ahmad Amiri** [b,c] | **Mina Shabani** [b,c *]

a. Department of Clinical Psychology, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran.
b. Department of Psychiatry, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran.
c. Social Determinant of Health Research Center, Zanjan University of Medical Sciences, Zanjan, Iran

***Corresponding author:** Department of Psychiatry, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran. Postal code: 4513956111.
E-mail: manaz@zums.ac.ir

ARTICLE INFO

Article type:
Original article

Article history:
Received: 6 October 2020
Revised: 14 December 2020
Accepted: 27 December 2020

DOI: 10.29252/jhehp.6.4.8

Keywords:
Prevalence
Psychiatric disorders
Anxiety
Hostility
Paranoia

ABSTRACT

Background: The prevalence of psychiatric disorders in the workplace is increasing due to occupational and psychological stress and exhaustion. The present study aimed to investigate the prevalence of psychiatric disorders and the related factors at Zanjan Lead and Zinc Company (ZLZC) in 2019.

Methods: This descriptive-analytical study was conducted on 347 employees of ZLZC who were selected via stratified random sampling. For the subjects with higher scores of the symptom checklist-90-revised scales than the diagnostic cutoffs, a structured clinical interview was performed in terms of DSM-IV axis I disorders (SCID-I). Data were collected using SCL-90-R and SCID-I. Data analysis was performed using linear and logistic regression analysis.

Results: In total, 49.5% of the subjects were suspected of psychiatric disorders. Job satisfaction, income, and marital status could predict 21.2% of the global severity index, and no significant correlation was observed between the exposure level to lead and the prevalence of psychiatric disorders.

Conclusion: Considering the high prevalence of psychiatric disorders, it is recommended that proper training be provided on stress management, stress coping strategies, and self-efficacy training to increase the abilities of the staff of ZLZC.

1. Introduction

According to the Diagnostic and Statistical Manual of Psychiatric Disorders (DSM-5), a psychiatric disorder is a syndrome, the evident characteristic of which is the significant clinical disruption of cognition and emotional/behavioral regulation, reflecting the dysfunction of biological, psychosocial, and developmental processes that entail the psychological function of an individual, which may lead to the violation of social or occupational function.

According to the literature, psychiatric disorders, along with other medical conditions, are highly prevalent [1]. According to the World Health Organization (WHO) Mental Health Gap Action Program (2012), the total prevalence of psychiatric disorders is approximately 14%, and three-quarters of psychiatric disorders have been reported to occur in low- and middle-income countries [2]. In a meta-analysis (2014) of the studies published during -2013, the prevalence of psychiatric disorders was evaluated in 163 countries, and one out of every five interviewees (16.3%) reported one diagnostic criterion for a psychiatric disorder within the past 12 months [3].

In Iran, the National Mental Health Survey (2011-2012) evaluated the prevalence of psychiatric disorders in 7,886 individuals aged 15-64 years who were selected via three-stage random sampling, and the results showed that 23.6% of the samples aged 15-64 years had experienced one or

How to cite: Saed O, Amiri A, Shabani M. The Prevalence of Psychiatric Disorders and the Relate Factors in the Employees of Zanjan Lead and Zinc Company, Iran. *J Hum Environ Health Promot.* 2020; 6(4): 194-200.

more psychiatric disorders within 12 months before the study. In the mentioned survey, the prevalence of major depressive disorder and anxiety disorders (generalized anxiety disorder, obsessive-compulsive disorder, and posttraumatic stress disorder) were reported to be 14% and 12%, respectively [4].

In order to improve the mental health of employees and increase their efficiency and job performance, it is important to identify the individuals who are at the risk of psychiatric disorders, so that treatment could be provided immediately [5]. Therefore, investigating the prevalence of psychiatric disorders at the workplace seems essential. Considering that a primary goal of every organization is to achieve the highest level of productivity and efficiency [6], the prevalence of psychiatric disorders among organizational employees and workers in industrial centers not only reduces employees' performance, but additional costs will also be imposed on these organizations in terms of cost-benefit analysis indicators [7]. Variables such as job burnout, occupational stress, and quality of life of employees may have undeniable effects on the prevalence of psychiatric disorders in organizations and workplaces [8], which in turn leads to the increased absenteeism, chronic fatigue, and diminished mental health of the staff [9].

Clinically severe psychosocial disorders are often manifested in the form of an adjustment disorder, major depressive disorder, posttraumatic stress disorder, social phobia or general anxiety disorder [10]. Several studies have been focused on the prevalence of psychiatric disorders in the workplace. For instance, Baptista *et al.* (2017) evaluated 92 hospital employees in Brazil via structured interviews (DSM-IV-TR) and using the general health questionnaire, and the findings indicated that 45% of the employees experienced at least one psychiatric disorder within the past 12 months [11]. In a population-based survey, Kawasaki *et al.* (2015) assessed 1,712 industrial workers, and depressive symptoms associated with insomnia were detected in 51.6% and 53.5% of the technical workers and office workers, respectively [12]. Furthermore, the study by Zare *et al.* (2013) indicated the prevalence of psychiatric disorders to be 29.4% among 327 workers of Golghar Industrial Co. (Iran) [13].

Considering the high prevalence of psychiatric disorders in organizations and workplaces and the subsequent costs of therapeutic and psychological treatments, the present study aimed to investigate the prevalence of psychiatric disorders and the related factors among the employees of Zanjan Lead and Zinc Company (ZLZC) in 2019.

2. Materials and Methods

This descriptive-analytical study aimed to determine the prevalence of psychiatric disorders and the related factors in ZLZC in 2019. The sample population consisted of 347 employees who were selected via stratified random sampling. The inclusion criteria were employment in ZLZC during the study period and informed consent to participate in the research. The exclusion criteria were retirement, less than one year of employment in ZLZC, and a history of physical issues contributing to psychiatric disorders. The participants were selected using the sample size estimation formula in descriptive research to be enrolled or excluded. With 95% confidence interval, 80% test power, and error rate of 0.05, the prevalence of psychiatric disorders in the staff was determined based on the previous studies in this regard (30%). In total, 347 employees of ZLZC were selected based on the sample size formula.

After obtaining the approval of the Ethics Committee (code: IR.ZUMS.REC.1396.120) and receiving a referral from the Social Determinants of Health Research Center, coordination with ZLZC was carried out regarding the implementation of the research. Before initiating the research, privacy terms were described as the fundamental principle of the study to the participants, so that they would be ensured that their information would remain confidential and the research instruments would be completed anonymously. Initially, the research objectives were explained to the selected employees, and in case of complete and informed consent about participation, data were collected using a demographic questionnaire and the SCL-90-R test. If the subjects had higher SCL-90-R scores than the diagnostic cutoffs, a structured clinical interview for DSM-IV axis I disorders would be conducted by a psychiatric resident. To control the effect of the interviewer, a semi-structured diagnostic test was also performed to control diagnostic bias.

2.1. Measures

2.1.1. Demographic Questionnaire

The demographic questionnaire was used to collect data on the age, gender, marital status, number of children, education level, income status, type of contract, work record, second job, spouse's job, family history of psychiatric disorders, and satisfaction with the workplace.

2.1.2. Symptom Checklist-90-Revised (SCL-90-R)

This scale was designed by Limin and Curie in 1973 to measure psychological symptoms [14]. In 1984, Dragothis *et al.* (2011) reviewed and finalized the questionnaire with the title of symptom checklist-90-revised [14], which consisted of 90 items that measure nine dimensions of psychological symptoms, including physical complaints, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety, aggression, phobia, paranoid thoughts, and psychosis. The items of the scale were scored based on a five-point Likert scale (score range: 0-4), and the test scores were interpreted based on the global severity index (GSI), degree of discomfort, association of the indices. In addition, the reliability of the subscales was reported based on the correlations with the MMPI dimensions within the range of 0.33-0.73. Anissi *et al.* (2014) have confirmed the internal consistency of the scale at the relatively high Cronbach's alpha coefficients of 0.75-0.92 for the subscales and 0.98 for the GSI [15]. Moreover, previous studies have mostly confirmed the cutoff point of 0.7 as the GSI of this scale.

2.1.3. Structured Clinical Interviews for DSM-IV Axis I Disorders (SCID-I)

SCID-I is a comprehensive standardized tool used for the assessment of major psychiatric disorders based on the definitions and criteria of DSM-IV. The scale has been designed for clinical and research purposes and requires the clinical judgment of the interviewer about the responses of the interviewees. SCID-I is considered to be a semi-structured interview, and the interviewer must have adequate knowledge and experience in the field of psychopathology. This tool is available in two versions, and the SCID-I/CV clinical version covers most psychiatric diagnoses [16]. In the present study, the SCID-I/CV clinical version was used and implemented in one session with the duration of 45-90 minutes.

The validity and reliability of the tool have been confirmed in previous studies. For instance, Zanarini *et al.* (2001) reported the Kappa score of higher than 0.70 for most of the diagnoses in the assessment of diagnostic reliability [17]. The Persian version of the questionnaire has been prepared by Sharifi *et al.* (2013), and the diagnostic agreement regarding most of the diagnoses has been moderate to acceptable (*Kappa* > 0.60). In addition, the overall agreement regarding the current diagnoses has been estimated at 0.52, and the total lifetime diagnosis has been calculated to be 0.55 [18]. The validity of the tool has also been confirmed by the experts and professors of clinical psychology with the retest reliability of 0.95 in one week. In the present study, interviews were performed to screen the patients for DSM-IV-TR axis I disorders [19].

2.2. Statistical Analysis

Data analysis was performed in SPSS version 22 using descriptive statistics (mean and standard deviation) to determine the prevalence of the disorders and one-way linear regression analysis and logistic regression analysis to determine the share of the demographic variables predicting the prevalence. In order to assess the correlations between the demographic variables and prevalence of psychiatric disorders, Spearman's correlation-coefficient and Pearson's correlation-coefficient were applied in terms of the GSI. To determine the extent to which psychiatric disorders could predict the demographic variables and lead levels, we used the simultaneous regression analysis and stepwise multivariate regression analysis, which also determined the optimal predictor of the demographic variability of the prevalence of the psychiatric disorders.

3. Results and Discussion

Table 1 shows the frequency and percentage of the demographic variables based on age, gender, education level, marital status, job satisfaction, income status, history of psychiatric disorders, family history of psychiatric disorders, second job, preoccupation history, and type of employment contract.

Table 1: Demographic variables of ZLZC employees

Variables	Frequency	Percentage (%)
Gender		
Male	333	96
Female	14	4
Age		
20-30	97	28
31-40	189	45.5
41-50	58	16.7
51-60	3	0.9
Education		
1-5	36	10.4
6-9	57	16.4
10-12	47	13.5
12-14	117	33.7
14-16	30	8.6
16-19	37	10.7
19 <	23	6.6
Marital status		
Married	53	15.3
Single	294	84.7
Job satisfaction		
A lot	50	14.4
Medium	163	47
A little	100	28.8
Dissatisfaction	34	9.8
Income		
Under 1milion	9	2.6
1-2 million	280	80.7
2-3 million	51	14.7
Upper 3 million	7	2
History of psychiatric disorders		
Yes	320	92
No	27	8
Family history of psychiatric disorders		
Yes	324	93.4
No	23	6.6
Second job		
Yes	34	10
No	313	90
Work experience (year)		
1 -5	169	48.7
6-10	101	19.1
11-15	58	16.7
16-20	19	5.5
Contract type		
Formal	1	0.3
Treaty	1	0.3
Arbitrarily	331	95.4
Corporative	14	4

In Table 2, the mean values of each item in the SCL-90-R have been ranked based on the available norm, and the mean scores of less than or equal to 0.5 indicate the healthy subjects with no psychological symptoms, while the mean scores of 0.51-1.5 show mild symptoms, the mean scores of 1.51-2.5 indicate moderate symptoms, and the mean scores of more than 2.5 represent severe symptoms. In Table 2, the prevalence of each psychiatric disorder, the GSI, and the positive symptoms disorder index have been reported at four levels of healthy, mild, moderate, and severe. According to the information in Table 2, 347 samples were surveyed in the current research, and 50.5% of the employees of ZLZC were healthy in terms of the GSI,

Table 2: Prevalence of psychiatric disorders in employees of ZLZC

SCl-90-R Subscales and Indices	Index		Healthy		Mild		Moderate		Sever	
	M	SD	F	%	F	%	F	%	F	%
Somatization	0.36	0.39	256	73.8	85	24.5	6	1.7	0.0	0.0
Obsessive-compulsive	0.61	0.64	208	59.9	99	28.5	35	10.1	5	1.4
Interpersonal sensitivity	0.81	0.76	154	44.4	132	38	50	14.4	11	3.2
Depression	0.53	0.05	204	58.8	134	38.6	8	2.3	1	0.3
Anxiety	0.88	0.90	176	50.7	99	28.5	48	13.8	24	6.9
Hostility	0.93	1.1	187	53.9	82	23.6	41	11.8	37	10.7
Phobia	0.93	0.73	123	35.4	150	43.2	58	16.7	16	4.6
Paranoid ideation	1.6	67.1	131	37.8	87	25.1	44	12.7	85	24.5
Psychoticism	0.34	0.47	272	78.4	62	17.9	12	3.5	1	0.3
Global severity index (GSI)	0.72	0.76	175	50.5	125	36	42	12.1	5	1.4
Positive symptom distress index (PSDI)	1.6	0.54	192	55.3	129	37.2	26	7.5	0.0	0.0
Positive symptom total (PST)	35.9	23.7								

while 49.5% were suspected of psychiatric disorders (36% mild, 12.1% moderate, and 1.4% severe). Furthermore, the most common symptom was paranoid ideation, and the least common was somatization.

According to the information in Table 3, the results of simultaneous regression indicated that the demographic variables of age (β= -0.226; t = -2.44; P = 0.015), income status (β= -0.187; t = 3.84; P = 0.001), and job satisfaction (β= -0.384; t = -7.5; P = 0.001) could significantly predict the GSI of psychiatric disorders. Moreover, the negative beta factor indicated that with increased age, income, and job satisfaction, the GSI of the disorders decreased. Notably, the other demographic variables could not significantly predict the GSI.

According to the information in Table 4, job satisfaction was the optimal predictor of the GSI of psychiatric disorders in the employees of ZLZC, which could explain 17% of the GSI variance. The coefficient of determination (R^2 = 0.170) also indicated that 17% of the dependent variable variation (GSI) could be explained by the variable of job satisfaction.

According to the information in Table 4, job satisfaction and income status could predict 19.5% of the GSI variance.

Furthermore, the three demographic variables of job satisfaction, income status, and marital status could explain 21.2% of the GSI variance in the employees of ZLZC.

The results of the correlation-coefficient in Table 5 were indicative of no significant association between lead exposure and psychiatric disorders at the significance level of 0.05 in the employees of ZLZC.

To determine the extent to which the lead exposure levels could predict psychiatric disorders, we used a simultaneous regression analysis, and the results of the beta coefficients demonstrated that exposure to lead could not significantly predict psychiatric disorders (P< 0.05).

The main objective of the present study was to investigate the prevalence of psychiatric disorders in the employees of ZLZC, including 347 subjects who were examined in a cross-sectional study. Furthermore, the demographic factors that affected the prevalence of psychological disorders were investigated. In terms of demographic characteristics, the highest prevalence was observed in men (96%), in the age range of 31-40 years (45.5%), married subjects (84.7%), subjects with a high school diploma and postgraduate degree (74%), and laborers (55.9%). Among the participants, 95.4% were contracted for more than five years (52%), had no second job (90%), and had a moderate income (95%) in ZLZC. The job satisfaction of 47% of the subjects was observed to be average, and more than 90% did not report the presence of mental disorders in themselves or their family.

According to the findings of the current research, 49.5% of the subjects were suspected of psychiatric disorders (36% mild, 12.1% moderate, and 1.4% severe).

Our findings also showed that the employees of ZLZC were exposed to numerous risk factors for psychological

Table 3: Results of regression analysis on demographic variables predicting prevalence of psychiatric disorders in employees of ZLZC

Model Coefficients	Not standardized coefficients		Standardized coefficients	t	P	Collinearity statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	2.9	0.469		5.87	0.001		
Gender	-0.130	0.174	-0.040	-0.746	0.456	0.802	1.25
Age	-0.023	0.009	-0.226	-2.44**	0.015	0.266	3.76
Education	0.017	0.022	0.046	0.801	0.424	0.690	1.45
Marital status	-0.103	0.109	-0.057	-0.941	0.347	0.610	1.64
Job satisfaction	-0.294	0.039	-0.384	-7.5**	0.001	0.869	1.15
Income	-0.252	0.072	-0.187	-3.84**	0.001	0.782	1.27
History of psychiatric disorders	-0.009	0.117	-0.004	-0.076	0.939	0.958	1.04
Family history of psychiatric disorders	0.045	0.124	0.017	0.364	0.716	0.986	1.01
Second job	0.103	0.109	0.048	0.94	0.346	0.891	1.12
Occupation history	-0.068	0.053	-0.067	-1.27	0.203	0.827	1.2
Contract type	-0.052	0.137	-0.019	-0.383	0.702	0.935	1.1

** P< 0.01, * P< 0.05

Table 4: Results of multivariate regression analysis to predict GSI of psychiatric disorders by demographic variables

Predictive variable	Criterion variable	R	R^2	R adjusted
Job satisfaction	GSI	0.415	0.172	0.170
Job satisfaction	GSI	0.447	0.200	0.195
Income				
Job satisfaction	GSI	0.467	0.218	0.212
Income				
Marital status				

distress, including physicochemical hazards, ergonomics, high pressure and volume, high job stress, and job dissatisfaction. The differences in the individual needs and working conditions, undesirable physical and psychological environment, and boring and repetitive work could also lead to anger and irritability, disappointment, hatred, and fatigue in work, which in turn reduce individual adequacy [20]. Therefore, the industrial environment and appropriate organizational atmosphere may be helpful in motivating employees and enhancing their mental health, participation in decision-making processes, and job satisfaction [21].

In the current research, the prevalence of psychiatric disorders in the employees of ZLZC was determined based on the amount and intensity of the prevalence, and the most prevalent disorders were respectively paranoid ideation (24.5%), hostility (10.7%), anxiety (6.9%), phobia (4.6%), interpersonal sensitivity (3.2%), obsessive-compulsive disorder (1%), depression (0.3%), psychosis (0.3%), and somatization (<1%). Among the detected symptoms, the highest prevalence of psychiatric disorders belonged to paranoid ideation, which could be attributed to work-related pessimism and job dissatisfaction among the employees. Since 95% of the employees were contracted to the company and the income of over 90% was moderately low, factors such as the lack of job security, fear of layoffs, and job loss contributed to the suspicion and doubts of the staff. In addition, aggression and anxiety were observed to be highly prevalent, which could be due to the diminished coping mechanisms of the employees with stressors in the work environment, indicating their physical exhaustion and emotional symptoms [22].

According to the current research, all the demographic variables and the variables of job satisfaction, income status, and marital status could predict 21.2% of the GSI of psychiatric disorders. However, no significant correlation was observed between lead exposure and the prevalence of psychiatric disorders ($P < 0.05$).

According to the results of the present study, job satisfaction was the optimal demographic variable to affect the prevalence of psychiatric disorders in ZLZC, which could predict 17% of the GSI of psychiatric disorders. Previous studies have shown that reduced salaries and professional satisfaction of employees play a key role in their mental health, while job dissatisfaction could reduce their energy and efficiency and lead to chronic fatigue, helplessness, anxiety, anger, depression, and eventually the syndrome of job burnout [23].

Our findings are in line with the epidemiological studies regarding the prevalence of psychiatric disorders in the workplace, as well as several other studies. For instance, Hashemi *et al.* (2015) investigated the related factors and workplace indices and their association with the mental health of 207 nurses, and the obtained results showed that 47% of the research samples experienced at least one mental disorder within the past 12 months [24]. In the mentioned study, the most prevalent psychiatric disorders among the nurses were anxiety, depression, and somatization, which is inconsistent with the current research possibly due to the higher number of women in the mentioned study and the subsequently higher prevalence of mood disorders and somatization [25].

With regard to the most significant predictor of the prevalence of psychiatric disorders in the workplace, our findings are consistent with the study by Mahindro *et al.* (2016), in which job satisfaction and income status had significant effects on the mental health and psychological disorders of the staff [26]. In addition, Selmpe and Broderick (2014) concluded that psychiatric disorders are prevalent in various work environments (37%), and job satisfaction may be the most significant predictor of the mental health of staff [27]. Our findings in this regard are also in line with the studies by Qadimipoor (2015), Yagwobi *et al.* (2014), Tajvar *et al.* (2015), Henderson *et al.* (2011), and Kumar *et al.* (2011) (28-32).

One of the limitations of the current research was the use of a self-report data collection tool. Given the nature of self-report questionnaires and the efforts of the subjects to propagate a positive self-image, the collected data may not reflect the exact conditions of the individuals. In addition, some of the participants may not have provided accurate data regarding their psychological issue within the past 12 months, which makes the generalizability of the findings difficult. Another limitation of our study was the dropout of the subjects during the research; to resolve this problem, the sample size was considered to be 5% larger than the estimated value in the initial sampling.

Research Implications

Further studies should be conducted in the field of occupational mental health in order to reduce the prevalence of psychiatric disorders. In addition, identifying the major factors that exacerbate psychiatric disorders in work environments, as well as the identification, management, and referral of susceptible individuals to available clinicians and therapists are highly recommended. Further investigations are also required to analyze the results of job satisfaction and conduct psychological and behavioral tests to determine the effects of exposure to heavy metals and organic matters on the prevalence of psychological disorders.

Table 5: Prediction of psychiatric disorders based on lead exposure level

The correlation matrix			Simultaneous regression analysis				
Model coefficients	Exposure to heavy metals		Not standardized coefficients		Standardized coefficients	t	*p*
	R	*P* value	B	Std. Error	Beta		
Constant			7.03	0.134		52.6	0.000
Somatization	0.005	0.463	0.604	0.372	0.162	1.52	0.105
Obsessive-compulsive	0.038	0.241	0.259	0.307	0.113	0.84	0.400
Interpersonal sensitivity	-0.074	0.085	-0.254	0.239	-0.132	-1.06	0.288
Depression	0.064	0.116	0.097	0.167	0.033	0.25	0.820
Anxiety	0.026	0.315	0.109	0.167	0.067	0.651	0.515
Hostility	0.053	0.161	0.084	0.163	0.064	0.515	0.607
Phobia	0.075	0.082	0.166	0.171	0.083	0.968	0.334
Paranoid ideation	0.073	0.088	0.145	0.126	1.167	1.14	0.251
Psychoticism	0.086	0.054	0.397	0.322	0.127	1.23	0.219

4. Conclusion

According to the results, 49.5% of the employees of ZLZC were suspected of psychiatric disorders. Paranoid ideation had the highest prevalence, and physical complaints had the lowest prevalence. Considering the high prevalence of psychiatric disorders in occupational settings, our findings could help identify the individuals who are at a high risk of these disorders in order to improve their mental health, increase the efficiency of staff, and prevent excessive healthcare costs. Our findings indicated that among the demographic variables, the factors of job satisfaction, income status, and marital status were most significantly correlated with the prevalence of psychiatric disorders in the employees of ZLZC. Therefore, it is essential to provide training programs to increase the job satisfaction and quality of life of employees. Since job burnout is a potential issue in all occupations and due to the difficulty and stressful nature of the job of the employees at ZLZC, some employees may not be able to adapt to the work conditions and tolerate stressful situations. It is recommended that proper programs be implemented on stress management training, stress coping strategies in the work environments, and self-efficacy in order to increase the capabilities of employees.

Authors' Contributions

O.S., and A.A., study concept and design, data analysis and interpretation; M.S., and O.S., drafting of the manuscript; O.S., critical revision of the manuscript for important intellectual content; M.S., study supervision.

Conflict of interest

The Authors declare that there is no conflict of interest.

Acknowledgments

Hereby, we extend our gratitude to the Social Determinants of Health Research Center at Zanjan University of Medical Sciences and all the participants for assisting us in this research project. This research has been officially registered as a residency thesis (Code: A-11-122-8) conducted at the School of Medicine of Zanjan University of Medical Sciences, Iran.

References

1. Association AP. Diagnostic and Statistical Manual of Mental Disorders (DSM-5®). *Am Psychiatric Pub* ; 2013.
2. Rössler W. Stress, Burnout, and Job Dissatisfaction in Mental Health Workers. *Eur Arch Psychiatry Clin Neurosci*. 2012; 262(2): 65-9.
3. Steel Z, Marnane C, Iranpour C, Chey T, Jackson JW, Patel V, *et al*. The Global Prevalence of Common Mental Disorders: A Systematic Review and Meta-Analysis 1980–2013. *Int J Epidemiol* . 2014; 43(2): 476-93.
4. Vandad Sharifi M, Hajebi A, Radgoodarzi R. Twelve-Month Prevalence And Correlates of Psychiatric Disorders in Iran: The Iranian Mental Health Survey, 2011. *Arch Iran Med*. 2015; 18(2): 76.
5. Garbarino S, Cuomo G, Chiorri C, Magnavita N. Association of Work-Related Stress with Mental Health Problems in a Special Police Force Unit. *BMJ Open*. 2013; 3(7): e002791.
6. Sardarzadeh F, Jian Bagheri M, Farahani Mashhadi M. The Role of Resilience in Reduction of Job Stress and Job Burnout among Employees of Satellite Project of Iranian Offshore Oil Company. *Shenakht J Psychol Psychiatr*. 2016; 3(4): 61-77.
7. Jadidian A, Solgi M. Effectiveness of Resilience Training on Reduction of Parental Stress of Autistic Childrens Mothers. *Sci J Ilam Univ Med Sci*. 2015; 23(4): 95-105.
8. Butterworth P, Leach L, McManus S, Stansfeld S. Common Mental Disorders, Unemployment and Psychosocial Job Quality: Is a Poor Job Better Than No Job at All? *Psychol Med*. 2013; 43(8): 1763-72.
9. Doremami F. Relationship Between Leadership Style and Communicative Skills of Managers with Mental Health of The Employees. *Police Med*. 2012; 1(1): 19-25.
10. Knudsen AK, Øverland S, Aakvaag HF, Harvey SB, Hotopf M, Mykletun A. Common Mental Disorders and Disability Pension Award: Seven Year Follow-Up of The HUSK Study. *J Psychosom Res*. 2010; 69(1): 59-67.
11. Tito RS, Baptista PCP, da Silva FJ, Felli VEA. Mental Health Problems among Nurses in Paediatric Cardiac Intensive Care. *Br J Nurs*. 2017; 26(15): 870-3.
12. Kawasaki Y, Nishitani N, Sakakibara H. Factors Associated with Depressive Symptoms in Blue-Collar and White-Collar Male Workers. *J Occup Health*. 2015; 57(4): 130-9.
13. Zare S, Shabani N, Babaei HA, Asghari M, Aminizadeh R, Nazemorroaya V, *et al*. Investigation of the Relationship Between General Health and Workers'sleep Quality and Work Incidence in Gole Gohar Mineral Industries Co., Sirjan. *J Ilam Univ Med Sci*. 2013; 21(2): 112-9.
14. Vaurio R. Symptom Checklist-90-Revised. *Encycl Clin Neuropsychol*. 2011; 2447-50.
15. Anisi J, Eskandari M, Bahmanabadi S, Noohi S, Tavalayi A. Standardization of Symptom Checklist 90 Revised (SCL-90-R) of a Military Unit. *J Mil Psychol*. 2014; 5(17): 57-67.
16. Zanarini MC, Skodol AE, Bender D, Dolan R, Sanislow C, Schaefer E, *et al*. The Collaborative Longitudinal Personality Disorders Study: Reliability of Axis I And II Diagnoses. *J Pers Disord* . 2000; 14(4): 291-9.
17. Zanarini MC, Frankenburg FR. Attainment and Maintenance of Reliability of Axis I and II Disorders over the Course of a Longitudinal Study. *Compr Psychiatry*. 2001; 42(5): 369-74.

18. First MB. Structured Clinical Interview for The DSM (SCID). *Encycl Clin Psychol*. 2014:1-6.

19. Sharifi V, Asadi SM, Mohammadi MR, Amini H, Kaviani H, Semnani Y, *et al*. Reliability and Feasibility of the Persian Version of the Structured Diagnostic Interview for DSM-IV (SCID). *Adv Cogn Sci*. 2004; 6(1): 10-22.

20. Zare S, Hasheminejad N, Dehesh T, Hasanvand D, Kazemi R, Ahmadi S. The Relationship Between Mental Workload and General Health among Welders of Tehran Heavy Structure Metal Company. *J Paramed Sci*. 2016; 7(4): 45-51.

21. Sanderson K, Andrews G. Common Mental Disorders in The Workforce: Recent Findings from Descriptive and Social Epidemiology. *Can J Psychiatry* . 2006; 51(2): 63-75.

22. Akbarzad H, Akbarzad D, Panahali A. The Relationship Between Organizational Commitment, Resilience and Mental Health with Job Burnout Fire Department Employees Tabriz. *Sci J Rescue Relief* . 2014; 6(3): 57-70.

23. Amini F. The Relationship Between Resiliency and Burnout in Nurses. *J Res Dev Nurs Midw*. 2013; 10(2): 94-102.

24. Hashemi S, Ghazanfari F, Karami K, Farzinara F, Ebrahimzadeh F. The Effect of Environmental Index on Mental Health in Nurses Working in Emergency and Non Emergency Wards in Khorramabad Hospitals. *J Clin Nurs Midwifery*. 2015; 4(3): 57-66.

25. Fisher J, Mello MC, Patel V, Rahman A, Tran T, Holton S, *et al*. Prevalence and Determinants of Common Perinatal Mental Disorders in Women in Low-And Lower-Middle-Income Countries: A Systematic Review. *Bull World Health Org*. 2012; 90: 139-49.

26. Mahindru P, Sharma MK, Chaturvedi SK. Job Related Stress and Employment of People with Mental Illness: A Catch 22. *J Psychosoc Rehabil Ment Health*. 2016; 3(1): 31-3.

27. Slemp GR, Vella Brodrick DA. Optimising Employee Mental Health: The Relationship between Intrinsic Need Satisfaction, Job Crafting, and Employee Well-Being. *J Happiness Stud*. 2014; 15(4): 957-77.

28. Ghadampour E. Investigating the Relationship between Organizational Factors and Mental Health of the Staff in State Organizations of Lorestan Province. *YAFTEH*. 2015; 17(3): 95-105.

29. Yaghubi H, Karimi M, Omidi A, Mesbah N, Kahani Sh AQ. Prevalence of Mental Disorders and Demographic Factors that Influence the Freshmen Students of Tehran City Universities of Medical Sciences. *J Clin Psychol*. 2014; 6(2): 95-104.

30. Tajvar A, Saraji GN, Ghanbarnejad A, Omidi L, Hosseini SS, Abadi AS. Occupational Stress and Mental Health among Nurses in a Medical Intensive Care Unit of a General Hospital in Bandar Abbas in 2013. *Electron Physician*. 2015; 7(3): 1108.

31. Henderson M, Harvey SB, Øverland S, Mykletun A, Hotopf M. Work and Common Psychiatric Disorders. *J R Soc Med*. 2011; 104(5): 198-207.

32. Kumar PK, Jayaprakash K, Monteiro FN, Bhagavath P. Psychiatric Morbidity in Industrial Workers of South India. *J Clin Diagn Res*. 2011; 5(5): 921-5.