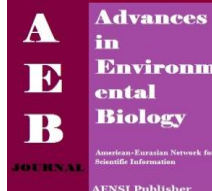




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The Relationship Between Occupational Burnout to Mental Health in Pre-Hospital Emergency Personnel

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ABSTRACT

Introduction and aim: since the first remedy group is emergency staff of pre hospital in emergency cases, thus stress due to it can influence health of emergency staff and it is important to consider mental health in technicians of emergency as if the researcher tried to perform a research on relation between occupational Burnout mental Health in emergency staff of pre- hospital. Materials and Methods: in this analytical study, correlation of 206 people entered by statistics method between all emergency staff occupied in 44 emergency bases of Golestan province at 2012-2013 and studied. Tools collection of data is demographic form, Maslach Burnout Inventory (MBI) and Goldberg General Health questionnaire (GHQ-28) which were analyzed by Likert scale. In analyzing statistics, the data was discussed by SPSS software and descriptive statistics, Pearson correlation coefficient, ANOVA Test , T- Test and Tukey test. Findings: in relation to complete level of occupational Burnout, 139 (76.7%) of personnel, experienced medium to high level of Burnout as if emotional exhaustion had the highest point of occupational Burnout. In relation to mental health, 145 (71/1%) of them, experienced mean to low level of occupational Burnout and in total level of occupational Burnout to mental health, a significant reverse correlation was observed ($p < 0/001$) and there was significant difference between occupational Burnout to graduation and mental health to type of employment. Concluding: occupational Burnout influenced mental health of emergency personnel than public population thus as for importance of stress of medical occupations and high prevalence of occupational Burnout, it is obvious to issue new polices about lower and prevent it.

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INTRODUCTION

Attention to mental health is so important in all fields of social, individual and occupational life. One of the filed in which mental health is important, is occupation and profession [1]. As if mental pressure due to workplace is high, it can emerge mental and bodily effects and endanger his health, organizational aims and reduce his performance [2]. According to Selye² long term duration of stress motivators influence not only mental and bodily health but endanger life [3]. Current studies showed that emergency medical services (which offer by technician) have destructive effects like fatigue, reduce sleep quality [4]. Similarly, the psychologists and researchers cited that nature of shifts turns of emergency technicians has low opportunity for sleep patterns which conduce to tribulation to sleep, stomach complaints [5]. Since of disorders of night shift is fatigue, sleep disorder, and Gastroenteritis [6]. Since emergency personnel offer services in disasters and accidents, and face to Post traumatic stress disorder [7]. If occupational Burnout is not recognize, and the solution doesn't perform for reduce it, it loses quality and efficiency of person, reduce physical and mental health, which this event has many costs like absent, replacement, lose efficiency [8]. The symbols of Burnout (emotional exhaustion, depersonalization, personal accomplishment) are not mental disorder but extend gradually and it is possible to convert in mental disorder [9]. Since occupational Burnout makes different defects like emotional, bodily and mental case thus, this factor is effective in mental health of person. As if Maunz [10] showed that the difficulty in mental health is high in person who exposed occupational Burnout [11]. Thus, as for stress motivators like problems in passing night shift of two persons, attendances of patient during treatment procedure, stress transfer,

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day and night shifts, remote from family for 48 hours by extra work, face to patient who have infectious and lacking lab. Tests can increase Burnout than other medical methods and disorder their mental health. Therefore, researcher tries to perform this research and prevent occupational downtown in pre hospital personnel.

Methodology:

current research is descriptive type by correlation kind in which between 247 technicians of emergency medical cases practitioner in 44 urban and road emergency bases of Golestan province at 2012.2013. And 7 persons because of family problems (death, divorce, nervous problem at 4-6 weeks) and 9 persons because of amateurs (experience lower than one year) deleted from sample and 25 persons did not respond questionnaire and finally 206 were selected for final analysis.

Researcher offered questionnaire regulated previous with name and necessary description in every emergency bases. And because of emotional exhaustion of samples, they completed them at home the criterion are 1- be occupant in urban and road emergency base as operational 2- minimum 1 years' experience in medical emergency ambulance, the occupants who had extra work (lower than 192 hours) and who had family problems like death, divorce, and so on and persons who had mental and nervous problems deleted.

Tools collecting data are 1- demographic form¹ consisted of 14 questions for determining validity 2- Maslach Burnout Inventory (MBI) include 22 questions in 3 dimensions of emotional exhaustion, depersonalization, and personal accomplishment. This questionnaire is as ranking scale of 7 points that has 9 questions about estimate with emotional exhaustion, 5 questions about measuring depersonalization, 8 questions about personal accomplishment. The abundance is measured by zero (never) 1(some time) 2(one in month) 3(sometime in month) 4 (one in week) 5 (some time in week) 6 (every day).

High point of emotional exhaustion and depersonalization with low points of personal accomplishment shows high level of occupational burnout For analyzing data, record or converting⁵ method is used in personal accomplishment. For recognizing abundance of Burnout, statistics method was used in emotional exhaustion, lower than 16 is low, between 16-24 is medium, higher than 24 is high, dimension of depersonalization, lower than 8 is low, between 8-12 is medium, higher than 12 is high, dimension of personal accomplishment, lower than 5 is low, between 5-22 is medium and higher than 22 is high and in occupational Burnout, lower than 36 is low, between 36-53 is medium and higher than 53 is high.

Maslach and Jackson calculated the validity of micro tests that internal validity of questionnaire reported to Alpha Kronbach 71% to 90% and coefficient re test, 60% to 80% and internal validity is as following:., emotional exhaustion 90%, depersonalization 79% and personal capability 71% [12]. Thus internal validity of questionnaire for every subscales of emotional exhaustion, depersonalization and lacking personal accomplishment is 82, 74 and 83% respectively. Next section is Goldberg General Health questionnaire (GHQ-28) consist of 28 questions and discuss 4 subscales (1- somatic symptoms, 2-anxiety and insomnia, 3-social dysfunction and 4- severe depression) and every subscale has 7 questions [13]. this questionnaire is pointed with Likert scale in 4 degrees by no (0) few (1) much (2) and so much (3) and since according to questions, to obtain high point show mental health, thus we use record method as if in somatic symptoms, lower than 15 is low, between 15-19 is medium, higher than 19 is high, anxiety and insomnia factors, lower than 13 is low, between 13-18 is medium and higher than 8 is high, social dysfunction, lower than 13 is low, between 13-16 is medium and higher than 16 is high, severe depression, lower than 19 is low, between 19-21 is medium and higher than 21 is high and total level of mental health, lower than 60 is low, between 60-72.5 is medium and 72.5 is high.

In total level of mental health, validity is confirmed by sensitivity 91.2% and specialty 94.7%. In different studies, validity coefficient is calculated from 78% to 95% [14]. Thus internal validity by Alpha Kronbach is 88% for micro tests of somatic symptoms, 88% for anxiety and insomnia, 83% social dysfunction, 90% severe depression and 86% in total level of mental health. In this research firstly, data are collected and measured by SPSS software version 16. As for the aims, firstly, distribution of data was measured by Kolmogoroph- Smirnof test and as for normality of data; they are measured by Pearson correlation. For discussion relation between variables, and compare between two groups, T test was used and for other demographic aims, ANOVA was used. Tukey test is used when test is significant..

Findings:

In literature of demographic specification, 206 entered in research of pre hospital emergency personnel because of type of work and male. Thus, sex factor was deleted (table 1).

Absolute abundance distribution based on repetition showed that in complete level, 23/4% has high occupational Burnout, 24/5% low occupational Burnout and 52% in mean level (table 2).

Also, statistical indices showed that by repetition, emotional exhaustion with 38.35 point of 100 had the highest point and depersonalization with 35/56, lacking personal accomplishment with 29.06 had the later points.

Table 1: Some of demographic specifications of pre- hospital emergency staff of Golestan.

Age(year)	Age mean and deviation of majority	34/36±7/56
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	samples	25-29 years (24/3%)
Experience	Age mean and deviation of majority samples	8/52±5/94 Lower than 10 years 65%
Type of employment	permanent long term Contractual short term contractual	78(37/9%) 33(16%) 95(46/1%)
Graduation	Bachelor Associate degree Diploma of high school	59(28/9%) 130(63/7%) 15(7/4%)
Relation of graduation degree to occupation	Related Unrelated	156(76/8%) 47(23/2%)
Marital	Single Married	33(16%) 173(84%)
Monthly income	Lower than 3000\$ 3000-4500\$ Higher than 4500\$	60(45/5%) 38(28/8%) 34(25/8%)
Second profession	Hospital Un hospital Nil	119(57/8%) 36(17/5%) 48(23/3%)

Table 2: Abundance distribution based on repetition of occupational burnout in pre- hospital emergency personnel.

	Much	Mean	Low	Abundance Variables	
Deviation -Mean	Number (%)	Number (%)	Number (%)		Dimensions of occupational burnout
20/71±7/66	42(21/8%)	109(56/5%)	42(21/8%)	Emotional exhaustion	
10/67±3/61	47(24/1%)	112(57/4%)	36(18/5%)	Depersonalization	
13/95±10/56	48(24%)	111(55/5%)	41(20/5%)	Lacking personal accomplishment	
45/28±12/23	43(23/4%)	96(52/2%)	45(24/5%)	total level of Occupational Burnout	

As if mean and deviation point by repetition showed that deviation of emotional exhaustion is (20/71±7/66), depersonalization (10/67±3/61) lacking personal accomplishment is (10/56±13/96) and locate in medium group as for normal point. Absolute and relative distribution of abundance by severity of mental health is 23/8% in low level, and 51/3% in medium and 24/9% in high level.(table 3)]

In addition Statistical indices show that social dysfunction aspect as the subscale of mental health with mean score of 100 (69/23) had the highest effect in reducing mental health of emergency personnel. After that, dimensions of anxiety and insomnia (71/47), somatic (78/33), depression (88/95) were in next ranks respectively.

As if results of, mean and deviation show that mean of somatic aspect obtained the score of (3/89±16/45), anxiety and insomnia (15/1±14/23), social dysfunction (14/52±13/07) and depression (18/68±3/65), all of which are in average category based on the normality score.

In discussion correlation between total points of mental health and occupational burnout of emergency personnel, findings show that there is A significant inverse correlation between mental health to occupational Burnout.($p<0/001$, $r=0/569$). So that based on Pearson correlation Coefficient, emotional exhaustion and depersonalization subscale of occupational Burnout had negative correlation with all aspects of mental health ($p<0/01$) and lacking personal accomplishment had negative relation to all mental health aspects except somatic dimension ($p<0/01$). (Table 4).

Table 3: Absolute and relative abundance distribution of pre- hospital emergency personnel of Golestan (based on severity of mental health).

	Much	Mean	low	Severity Variables	
Mean- deviation	Number (%)	Number (%)	Number (%)		Dimensions of mental health
16/45±3/89	37 (% 18/3)	121(%59/9)	44(%21/8)	somatic symptoms	
15/01±4/23	35(% 17/3)	120(%59/4)	47(%23/3)	anxiety and insomnia factors	
14/54±3/07	44(%21/9)	122(%60/7)	35(%17/4)	social dysfunction	
45/28±3?65	0(%0)	150(%75/4)	49(%24/6)	severe depression	
64/63±1/27	48 (%24/9)	99(%51/3)	46(% 23/8)	total level of Mental health	

Table 4: Correlation between dimensions of occupational burnout with mental health and its sub- indices in pre-hospital emergency personnel of Golestan.

severe depression		social dysfunction		anxiety and insomnia factors		somatic symptoms		
Sig	r	Sig	R	Sig	r	Sig	r	
0/001	0/503-	0/001	0/361-	0/001	0/526-	0/001	0/514-	Emotional exhaustion
0/023	0/165-	0/034	0/154-	0/033	154/0-	0/022	0/165-	Depersonalization
0/008	0/192-	0/011	0/183-	0/021	0/166-	0/074	0/129-	Lacking personal accomplishment

In relation to occupational Burnout and demographic specifications, ANOVA test showed that there was significant difference between lacking personal accomplishment and graduation ($p=0/028$) as if Tukey test showed that this difference was between Bachelor and Associate degree to diploma of high school. ($P=0/22$ Bachelor to diploma)($p=0/043$ Associate degree to diploma). (Table 5).

ANOVA Test and T-test showed that there was no significant difference between occupational Burnout with age, experience, type of employment, Relation of graduation degree to occupation, income, education during service and second work.(Table 5)

Also ANOVA test showed that there is significant difference between social dysfunction from mental health aspects and type of employment ($p=0/027$)and Tukey test showed this difference between permanent employee ($14/44\pm 3/24$)and short term contractual personnel, ($15/04\pm 2/74$) ($p=0/021$) and also long term contractual personnel ($13/37\pm 3/28$) with short term contractual personnel ($15/04\pm 2/74$)($p=0/018$) but there was no difference between permanent and long term contractual personnel in terms of social function (Table 5).

ANOVA test and T- test showed that there was not significant relation between aspects of mental health, age, experience, graduation, income, Relation of graduation degree to occupation and second work.

Table 5: Mean occupational stress and mental health and its sub- indices in terms of demographic specifications in pre- hospital emergency personnel of Golestan.

$p=(<0/05)$	Max.	Min	Deviation	Mean	Number	Graduation	Occupational burnout
$p=(0/028)$	41	0	1/51	15/32	56	Bachelor	Lacking personal accomplishment
	40	0	0/91	14/08	123	Associate degree	
	31	0	2/61	6/92	14	Diploma of high school	
	41	0	0/76	13/92	193	Total	
$p=(<0/05)$	Max.	Min.	Deviation	Mean	Number	Type of employment	Mental health
$p=(0/027)$	21	1	3/24	14/44	77	permanent	social dysfunction
	21	6	3/28	13/37	31	long term contractual	
	21	9	2/74	15/04	93	short term contractual	
	21	1	3/07	14/54	201	Total	

Discussion:

Findings showed that by abundance distribution, 139 (76/7%) of emergency personnel experienced average to high occupational Burnout and from this aspect, majority of them had in mean level in every three aspects. The results of Khatibian and et al showed that abundance distribution of most personnel of the studied units based on repetition in emotional exhaustion as(51/9%) and depersonalization as 48.3% and lacking personal accomplishment as 88.2 % which are at the highest level [15]. Cabera and Gutierrez and et al reported scale of occupational Burnout between nurses at different dimensions of emotional exhaustion, depersonalization as well as lacking personal accomplishment by 40%, 32% and 63% [16]. And Masoudi and et.al reported emotional exhaustion in 86/36%, depersonalization, 22/71% and lacking personal accomplishment in 76/36%.of average to high level [17].

Results of mean and deviation showed that emotional exhaustion, depersonalization and lacking personal accomplishment are in medium level as for normal point.

Based on results of current research, these persons expose occupational Burnout in Iran and other countries like cares of other medical courses. Of course, scale of occupational burnout is different in different domestic and abroad reports as if Khatibian and et.al reported average severity and Abundance of emotional exhaustion and feeling depersonalization and more lacking personal accomplishment in medical emergency personnel [15]. Of course, instead of said results, Popa and et al showed correlation between professional groups in Romania and proved that medical emergency groups had the lowest emotional exhaustion that is the highest protection between other groups so that it had the minimum danger in occupational burnout dimensions [18]. Also, different results are shown in nurse profession as if Moghimian and *et al* [19] and Koranian [20] and Sobral [21] reported average level of occupational burnout in three dimensions of their studies which said studies conform current research while in the study of Tsang, emotional exhaustion is average and depersonalization is low to average and lacking personal accomplishment is reported as low [22]. Losa Iglesias and *et al* showed emotional exhaustion in high level and depersonalization in mean level [23]. Maslach and *et al* counted factors for stimulating occupational like: culture, individual response in self statement questionnaire and manner of self statement in local societies [24].

The findings showed that in relation to general health level, considering the , abundance, 75/1% of emergency personnel experienced average to low mental health , while Rahmani and colleagues studied the general health of the intensive care unit nurses and reported 30/5% personnel with low mental health, 32.5% in medium condition and 37/3% in suitable situation [28]. In Study of Nourian and et al all points pertain to public health is 55/3% is unhealthy and scale of prevalence disorder between nurses is reported [26]. Example, Farrell cited that scale of disorder between nurses is 34%, [27] and Fagin counted [28] as 41%. In addition to, Yang cited that prevalence of it is 58/8% against 33/3% of public population [29]. Information obtained showed that mental health is 23/6% in Iran [30]. Current research showed that mental health of emergency personnel is

endangered which is nature of stressful, work pressure, face to unanticipated situations, shifts, organizational factors and individual factors.

The statistical indices showed that dimension of social dysfunction of mental health sub-indices had the most effects in reducing mental health of emergency personnel, and dimensions like anxiety and insomnia, somatic symptoms and - severe depression obtained next ranks in mental health functions . In studies by Khaghanizadeh and *et al*, the more abundance was Allocated for social dysfunction (69%) and depression and trend to suicide had the lowest abundance (17%) [31]. It should be said that since nature of task of personnel is as night shift or turn, thus we can obtain significant for increasing sleep disorder and social dysfunction that conduce to deprivation from social deliberations.

In discussion correlation between total points of mental health and occupational Burnout, there is (converse) significant relation between mental health. Rahmani and *et al* [25] and Abdi and *et al* [32] showed that there is significant relation between variables of occupational Burnout and mental health. The results conform to findings of Turnispeed in which there is relation between burnout and mental health and anxiety [33].

The findings showed that dimensions of emotional exhaustion and depersonalization had negative relation to all dimensions of mental health. Also lacking personal accomplishment dimension had negative (converse) significant relation to all dimensions of mental health instead of somatic dimension.

While in the study of Abdi and colleagues, there was a negative relationship between the “anxiety and insomnia”, “depression” which are subscales of mental health with all dimensions of job burnout and in physical dimension, emotional exhaustion and depersonalization. The aspect of social dysfunction had a significant reverse relation with two dimensions of depersonalization and lack of self-efficacy, all of which were in line with the results of our study and only were opposed to our results in terms of social dysfunction.

In relation dimensions between occupational Burnout to demographic specifications, there was significant difference between lacking personal accomplishment and graduation. As if, Tukey test showed that this difference, is between bachelor and associate degree with diploma of high school degree, that is, as for mean of points obtained, pre hospital emergency personnel who had diploma of high school had lower lacking personal accomplishment than two other groups.

In current research, perhaps, cause of lacking personal accomplishment in bachelor and master degree is that as for culture and people insights in which role of emergency is as transmission patient to hospital, and staff of emergency are cited as carrier patient and possible misunderstands reduce. Thus there is negative insight about their task and reduction of self-esteem in persons who had higher graduation that conduce to lacking personal accomplishment than persons who had lower graduation degree. As for graduation, there is more potential in care of them.

In study Wv and *et al*, bachelor and associate degree and diploma of high school increase personal accomplishment as if the nurses who had lower graduation, had lower personal accomplishment and did not conform to current study [34]. In study of Zeighami and *et al*, scale of personal accomplishment for nurse personnel who had diploma of high school and assistant degree had higher than persons who had high graduation [35]. In study of Sahebzadeh and *et al*, there is not significant relation between occupational Burnout and graduation [36]. The findings showed that there is significant difference between social dysfunction from sub-indices of mental health and type of employment. And Tukey test showed significant difference between permanent with short term contractual personnel and so long term contractual with short term contractual Personnel , but there was no significant difference between permanent and conditional personnel in terms of social dysfunction. As if short term contractual Personnel had lower disorder than permanent and long term contractual Personnel in social dysfunctions. Maybe, the cause of less disorder is that majority of short term contractual Personnel don't expose to health disorder since they have been just recently attracted by system.

Nourian and *et al* cited that there is significant relation between public health and type of employment [26].

Concluding:

Thus, we can cite that majority of personnel of emergency don't able to show their capability and tis problem is because of lacking positive situations in work place in turn, make Burnout and endanger mental health. The results are applied as database and statistical source in planning of university authority who involve in mental health. This study can be as bed for performing studies for effectiveness of involvement in emergency centers and offer consultancy centers, psychology, in emergency centers and there are compatibility mechanisms for entering in work place and reduce occupational pressure and increase compatibility of occupational events are so important.

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