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The role of attachment styles in the prediction of posttraumatic stress disorder in emergency nurses

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ABSTRACT

Aims: Evidences indicated that attachment styles are important in people's adjustment with stressful situations. Therefore, this study has been carried out to assess the role of attachment styles in the prediction of Post-Traumatic Stress Disorder (PTSD) in emergency nurses.

Methods: It was a descriptive-correlational study. The statistical population of this study was all the emergency nurses of Uroumieh hospitals in 2010. 100 people of the population were selected randomly for this study. All the participants were tested individually by Mississippi PTSD scale and attachment styles questionnaire at their work place. Data analysis was done by multivariate ANOVA tests and multiple regression analysis and SPSS17 software.

Results: According to PTSD scale, twenty participants of the study were suffering from PTSD. Comparing their attachment styles with the healthy group (the group without PTSD) it was shown that the group with PTSD took higher scores in terms of fearful and dismissive attachment styles in compare with healthy group (without PTSD). The results of multi-regression analysis showed that 10 percent of the total variance of individuals in PTSD scale was explained by attachment styles.

Conclusions: Attachment styles are important in determining susceptibility of hospital emergency nurses to PTSD.

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1. Introduction

It has been many years that mental health specialists try to assess abnormal reactions of people in encountering with sources of stress. Finally they could identify psychological symptoms and abnormal behaviors for the first time among the soldiers of World War II in encountering with stressful events of the war; later in Diagnostic and Statistical Manual of Mental Disorders; it was as one of the sub-groups of psychiatric disorders naming Post-Traumatic Stress Disorder (PTSD).

This disorder is a syndrome that appears after observing, getting involved or hearing a very severe traumatic factor; a person responses to this experience by fearing and helplessness,

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reminds the event in his/her mind frequently and tries to forget it.

Diagnostic criteria of the fourth edition of Diagnostic and Statistical Manual of mental disorders for this disorder requires re-experiencing symptoms, avoidance and extreme excitation for more than one month and interference of important parts of life such as family and occupation. The appropriate diagnosis in patients that had these symptoms less than one month is perhaps acute stress disorder [2].

Encountering with traumatic events is common but PTSD is relatively rare.

In National Comorbidity Survey, 60.7 percent of the American adults experienced at least one traumatic event during their lifetime, but only 8.2 percent of men and 20.9 percent of women suffer from PTSD [3].

This apparent discrepancy in the amount of encountering with traumatic event and the prevalence of PTSD raises this fundamental question in mind that what are the risk factors that cause a person suffer from PTSD after encountering with traumatic events [4].

It has been identified in the recent decades that the kind of attachment between a child and his/her caregiver influences his/her many behavioral different dimensions when he/she is an adult; these dimensions include; relationship with peers, friends, competition in kindergarten and preschool, behavioral problems and behaving with unfamiliar adults [5].

Balbi in his attachment theory states that attachment style is formed in childhood and it is as a prototype of a child's performance in the future social relationships.

Attachment theory states that mental reflections of self and others are the main components of adults attachment [6].

Bartholomew has a theoretical model about attachment styles of the adults according to this theory; attachment styles are divided into four categories in this theory: secure, preoccupied (which was the previous ambivalent style) and the avoidant style, which was divided into two fearful and dismissive groups [7].

Feeny assumed that since attachment styles are the individuals' general answers to discomfort and unhappiness, they may be in relationship with several variables that predict healthy behavior [8].

Studies show that there's a negative relationship between secure attachment and PTSD growth in different victims of trauma. Dierprink et al. studied attachment styles of 107 of prisoners of war and achieved that scores of the people with secure style in PTSD scales were lower than the unsecure group and attachment styles- not severity or kind of trauma- were stronger predictors of intensity of PTSD symptoms [9].

Oconor & Elklit [10] showed that attachment styles are in relationship with some PTSD symptoms (affectivity attack, body building, and emotional coping) [10]. Zakin et al. [11] also studied the role of psychological hardiness and attachment styles as the personal sources of coping with stress in the prisoners and soldiers of war; they showed that psychological hardiness and safe attachment styles have an inverse relationship with PTSD and other psychiatric symptoms.

Results of the study of Muler et al. [12] regarding attachment styles of the people with the experience of sexual abuse showed that people with fear and preoccupied attachment styles achieve the highest scores in PTSD symptoms. Besser, Neria, Haynes showed that the soldiers who were encountered with terrorism incidents report higher PTSD symptoms, perceived stress and insecure attachment in compare with the soldiers without such experiences [13].

Armour, Elklit & Shevlin studied a big group of trauma victims; they showed that victims with secure attachment style had lower mean of scores in PTSD, depression and anxiety, but victims with fear attachment style had higher scores in compare with other styles [14].

Hunter & Lancee studied the effect of attachment on disease symptoms and days of illness among the hospital care center staff, they showed that both avoidant and anxiety

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attachments are along with deficiencies in the overall quality of sleep, reactivity and physical symptoms; also in this study, anxiety attachment was along with depression symptoms and disease days [15].

Ayers et al. assessed the role of attachment style, intervention for delivering a baby and social support during delivering a baby in PTSD after the birth time in women; they showed that avoidant attachment style, birth with weak support and performance during delivery are significantly along with PTSD [16].

Parmigiani et al. (2013) studied the patients who had the experience of heart surgery in a six-month follow-up; they showed that the avoidance related to attachment in the baseline is predicting PTSD in a six-month follow up [17].

Results of the studies of Fowler, Allen, Oldham and Frueh showed that attachment insecurity is the mediator of the relationship between experiencing trauma and depression severity [18]. Findings of Davis et al. also showed that anxiety attachment style is the mediator of childhood maltreatment and the bias due to negative emotions in adults [19].

Psychopathology causes high risk of suffering from PTSD in the adults, but the emergence of this disorder as the consequence of traumatic events is an exception not a rule.

The rules and the causes of suffering from PTSD or not suffering from it is not completely clear. In the previous studies on victims of severe traumas, especially war traumas, attachment styles were identified as a risk factor for increasing PTSD growth; but the relative contribution of this variable is not completely clear in predicting this disorder.

Considering that nurses in emergency centers are exposed to traumatic events, which increases the risk of psychopathology, this study has been done with the aim of determining the role of attachment styles in predicting PTSD in emergency nurses of hospitals".

2. Methods

The statistical population of this study was all the nurses working in emergency centers of Uromieh hospitals in 2010. Since the design of this study was correlation, according to the least sample size rule in correlation studies, the least number of the samples are 100 [26].

100 of the nurses were selected from this statistical population through random sampling method and they were the statistical samples of this study. The design of this study was correlation.

The research tools included: 1. Mississippi PTSD questionnaire; this test is a self-report scale, which is designed by Keaneh et al. in 1988 and it is used for evaluating the intensity of PTSD symptoms. This scale has 35 times and the participants answer these items with a five-degree scale and these choices are respectively scored; one, two, three, four and five. An individual's total score range is from 35 to 175; 107 and higher indicate PTSD; Cronbach's alpha coefficient of this test was reported in the range of 0.86 to 0.94. Cronbach's alpha coefficient of this test was 0.79 in this study. This test has a high validity and a very good correlation with other PTSD tools such as PTSD scale taken from Minnesota Multiphase Personality Inventory (MMPI) (PK) [12]. This scale is validated in Iran by Goudarzi in 2002 and Cronbach's alpha coefficient was reported 0.92. Cronbach's alpha coefficient of this test was achieved 0.79 in the present study. Three tools were used for determining the concurrent validity of the scale including; life events list, PTSD list and Log Padua; the correlation coefficient of Mississippi scale for each one of them was respectively reported; 0.23, 0.82 and 0.75 [27].

2. Attachment styles questionnaire: this questionnaire was made by Van

Odenhaven et al. in 2003 and it includes 24 items. This questionnaire consists of four scales including; 1. Security (8 items), 2. Fear (4 items), 3. Dismissive (seven items) and 4.Preoccupied (five items). The questions of this questionnaire included a five-point Likert

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scale from completely disagree (1) to completely agree (5). Cronbach's alpha coefficient of this questionnaire for security, fear, dismissive and preoccupied scales was respectively 0.74, 0.68, 0.55, and 0.80 [28]. Cronbach's alpha coefficient of this test in this study was from 0.65 for dismissive subscale to 0.88 for preoccupied subscale.

Data collection was done by referring to Imam Khomeinin, Imam Resa (s), Shahid Arefian and Shahid Motahari hospitals of Uromieh; the list of all the nurses working in emergency wards of the hospitals were provided and we referred to the participants' workplace at the time of their working shift (their information were achieved from the manager of the related centers) and we asked them to answer the PTSD questionnaires and attachment styles.

The aim of the study was explained to all the participants and they had the choice of participating or not participating in the study. Inclusion criteria included; the age range from 25 to 50 years old, having at least associate degree and exclusion criteria included; suffering from any kind of physical or mental disease except PTSD. Data analysis was done through Multivariate ANOVA (MANOVA) and multivariate regression analysis and SPSS17 software.

3. Results

Descriptive findings of the present study indicate that the mean and standard deviation of the participants' age were respectively; 38.45 and 8.93; 54 samples of the study were male and 42 were female and four of them did not report their gender. 28 were single, 63 were married and 9 did not answer this question, 44 had Diploma degree and lower than that, one had associate diploma, 41 had bachelor degree, one had master degree and 13 did not report their education level.

Table 1 indicates frequency distribution of the participants of the two groups in terms of gender, marital status, education level and also their mean and standard deviation according to the gender; results of the statistical tests indicate that there is no significant difference between the two groups. Results of Chi-square test regarding comparison of the two PTSD and healthy groups in terms of gender and marital status variables show that there is no significant statistical difference between the two groups. Also results of Kolmogorov-Smirnoff test and independent t-test are respectively indicating that there is no significant statistical difference between the two groups in terms of education and gender.

Table 1: Demographic information of the participants according ot their groups and significant tests of difference between the two groups

Variables	Variables level	The group suffering from PTSD	The healthy group	df	Statistical tests	Significant level
Gender	Male	10	44	2	χ^2 0.13	0.72
	Female	9	33			
	Not reported	1	3			
Marital status	Single	3	25	2	χ^2 5.74	0.06
	Married	13	47			
	Not reported	4	8			
Education level	Diploma	8	36	3	Kolmogorov-Smirnoff Z 0.34	1.00
	BA	9	32			
	MA	1	1			
	Not reported	2	11			
Age	Mean	37.53	38.66		t -0.43	0.66
	Standard deviation	8.14	9.16			

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Table 2: Mean and standard deviation and MANAVO results for attachment styles of the two PTSD and healthy groups

Attachment styles	Groups	Mean	Standard deviation	Freedom degree	Square mean	F	Significant level
Security	Suffering from PTSD	27.62	3.81	1	24.63	1.27	0.29
	Healthy	28.98	4.82				
	Total	28.75	4.67				
Fear	Suffering from PTSD	13.56	3.09	1	1115.31	15.19	0.001
	Healthy	12.68	2.68				
	Total	2.95	2.95				
preoccupied	Suffering from PTSD	20.50	4.25	1	8.94	0.42	0.52
	Healthy	19.67	4.70				
	Total	19.81	4.62				
Dismissive	Suffering from PTSD	15.37	3.11	1	93.73	6.80	0.01
	Healthy	12.71	3.81				
	Total	13.17	3.82				

Table 3. The abstract of PTSD regression model according to attachment styles

R	R^2	Moderated R^2	F	p
0.32	0.10	0.06	2.52	0.04

Table 4: results of PTSD regression coefficients according to attachment styles

Criterion variable	Prediction variables	B	Standard deviation	Beta	t	Significant level
PTSD	Fixed amount	77.29	15.04		1.97	0.05
	Security	-0.14	0.40	-0.03	-0.34	0.73
	Fear	1.26	0.66	0.22	1.9	0.05
	Preoccupied	0.07	0.41	0.02	1.8	0.85
	Dismissive	0.63	0.48	0.14	1.31	0.19

Table 2. mean and standard deviation and MANAVO results for attachment styles of the two PTSD and healthy groups.

Table 2 shows the mean and standard deviation of the scores of four attachment styles in the two PTSD and healthy groups and results of MANOVA for comparing these two groups. After Benferouni correction ($p<0.012$), it was found that there is no significant difference between the two PTSD and healthy groups in terms of secure and preoccupied attachment styles, but there is a significant difference between these two groups in terms of fear and dismissive attachment styles; so that those who were exposed to PTSD in terms of fear and dismissive attachment styles had higher scores in compare with the healthy group.

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The result of PTSD regression analysis according to attachment styles also indicated that the correlation level between the real score of the people in PTSD scale and the predicted score according to attachment styles are equal to (R=0.32) 0.32 and the level of R^2 was also equal to 0.10; it means about ten percent of the total variance of the people's score in PTSD scale is predicted by attachment styles and the considered model was also statistically significant (F=2.52, p<0.04).

Table 3 indicates that among other attachment styles, it is only t achieved from fear style (t=1.9, p<0.05) that is statistically significant and it can significantly predict PTSD. Other attachment styles could not predict PTSD significantly.

4. Discussion

There has been lots of information regarding the importance of psychopathology in forming people's life periods in recent years. Research evidences have shown that the amount of psychopathology is high among the general population; from the other side, diagnosing PTSD depends on experiencing a traumatic event. However the conducted studies during several consecutive years have shown that all the people do not suffer from PTSD symptoms following a traumatic event. The available findings indicate that psychological personal differences influence PTSD growth [2]; one of these personal differences, which have been studied a lot in recent years, is attachment styles. This factor is very important in determining people's adjustment with traumatic conditions; it has been claimed that attachment styles is the basis of discovering the potential impacts of early experiences of childhood with the caregivers on the psychological functioning during adulthood. In this study, we tried to assess the role of attachment styles in psychological adjustment of the people after experiencing traumatic events.

The first theory of the present study was that there is a difference between attachment styles of those who are suffering from PTSD and the healthy people. Results achieved from this study showed that there is no significant difference between those who are suffering from PTSD and those who are exposed to disorder but are not suffering from PTSD in terms of security and preoccupied attachment styles, but there is a significant difference in terms of fear and dismissive styles between these two groups; so that people who are suffering from PTSD had higher scores in terms of fear and dismissive attachment styles in compare with the healthy group. These results are in consistent with the results achieved by Dierprink [9], Muler et al. [12], Beser et al. [13], Armour et al. [14], Mounder et al. [15], Ayers et al. [16], Parmigirani et al. [17], Fowler et al. [18] and Davis et al. [19] based on the role of insecure attachment in predicting PTSD among the people encountering with trauma. In addition in the study of Muler et al. [12], people with fear and preoccupied attachment styles (those who have negative approach towards themselves) had the highest scores in terms of PTSD; in this study there was significant difference between the two groups in terms of avoidant insecure attachment styles that is fear and dismissive styles . Results of the present study in this regard are not in consistent with the results of Muler et al..

Since attachment styles are people's general answers to discomfort and unhappiness it can be related to people's health. Among attachment styles only avoidant styles, which are fear and dismissive were significantly different between the two groups, but there was no difference in terms of security and preoccupied styles. People with secure attachment regulate their emotions effectively because of their positive approach towards themselves and others. Therefore they are less exposed to different risk of disorders. It is while people with insecure attachment use insufficient coping methods such as suppression and separation for encountering with negative emotions; and these insufficient coping methods expose them to higher risk of disorders. In this study only avoidant insecure

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styles that are fear and dismissive styles were significantly higher in PTSD group than the healthy group. The common features in these two attachment styles is avoiding friendship relationship and having negative attitudes towards others. This problem influences their approach of asking for help at the time of psychological stress and it makes them to less ask for help from others and these factors along with insufficient coping methods and negative evaluation of the situations expose them to PTSD more; it is in consistent with this finding that people who are suffering from PTSD are identified with high inter-personnel problems.

The second theory of the present study was that attachment styles can predict PTSD after encountering with traumatic events.

The achieved results showed that about 10 percent of the total variance of the people's score in PTSD scale are predicted by attachment styles. Among the attachment styles only the fear style could predict PTSD significantly. These results are also in consistent with the results of Ekotor and Alkolit [10] Zakin et al. [11], Armour et al. [14], Mounder et al. [15], Ayers et al. [16], Parmigirani et al. [17], Fowler et al. [18] and Davis et al. [19] according to the relationship of PTSD and other psychological symptoms of the people encountered with trauma with their attachment styles.

Attachment styles are categorized into four styles according to two important features of anxiety (lack of self-confidence) and avoidance (lack of trusting others). Considering that only fear style can predict PTSD significantly, it can be said that both features of anxiety or lack of self-confidence and avoidance or lack of trusting others are among the essential conditions for emergence of PTSD in the people encountering with trauma; it is because of that other insecure attachment styles that have one of the above features could not predict emergence of this disorder significantly.

Results of this study indicate the role of attachment styles in predicting PTSD among the staff of some stressful jobs such as nursing in emergency centers; therefore considering some personal components especially attachment styles in selecting these people for working can be useful in preventing this disorder. From the other side, considering high prevalence of PTSD among these people in compare with the general population, some useful educations can be provided regarding successful resolution of problems, raising the threshold of tolerance, emotional self-efficacy, coping skills and other emotional readiness in order to do early prevention before the emergence of disorder.

Our study samples were limited to the nurses of emergency centers of the state hospitals and we could not control other factors except working environment, which increases a person's susceptibility, these are the two main limitations of the present study. it is suggested to control other variables in addition to working environment in the future studies and to use other tools such as psychiatric diagnosis and clinical interview in addition to questionnaire for diagnosing disorder. Avoiding relationship with others, which can be seen in two fear and dismissive attachment styles, increases the risk of psychopathology. It is recommended to teach necessary skills in order to establish secure relationships with others for preventing nurses' psychopathology.

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