

The relationship between dissociative experiences and childhood trauma in nursing and midwifery students

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Objective: dissociative disorders usually have a poor prognosis. Childhood trauma is one of the most important predisposing factors for it. This study aimed to investigate the relationship between dissociative experiences with childhood abuse, in nursing and midwifery students of Rafsanjan University Medical Science.

Patients and methods. This cross-sectional study was carried out in nursing and midwifery students of Rafsanjan University of Medical Sciences. The students were asked to complete Dissociative Experience (DES) and Traumatic Life Events Questionnaires. Descriptive statistics, independent t-test, ANOVA, chi-square test and Pearson correlation coefficient were used for statistical analysis.

Results and discussion. The prevalence of moderate and severe dissociative experiences among the participated students was about 38%. Nearly 50% of the students reported to have moderate to severe childhood injuries. Significantly higher dissociative experiences scores were observed in men compare with women ($P=0.015$). Moderate correlations were detected between subscales of childhood traumatic life events questionnaire and dissociative experiences score ($P<0.05$).

Conclusion. The prevalence of dissociative experiences among the studied students was moderately high which revealed the necessity and importance of psychological counseling among health professional students. A positive correlation was detected between dissociative disorders and traumatic events. Therefore, in order to reduce the chance of dissociative disorder, childhood psychological counseling is necessary in children who have had traumatic events.

Keywords: dissociative disorders, adult survivors of child adverse events, nursing, midwifery.

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Dissociative disorders are conditions that involve disruptions or breakdowns of memory, awareness, identity or perception. People with dissociative disorders use dissociation as a pathological and involuntary defense mechanism [1].

Generally, breakdown or dissociation is a defense mechanism that people use to deal with stressful and traumatic events. In cases with high use of this defense mechanism, which resulted in discomfort and reduction of person's performance and social relationships, it is said that the dissociative disorder has occurred [2, 3]. There are three types of this disorder in Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM 5; Code 300.15):

1. Dissociative amnesia.
2. Dissociative identity (multiple personality disorder).
3. Depersonalization disorder /derealization [4].

This disorder is likely to include 5% of all Psychiatric disorders and the majority of patients with diagnosed dissociative identity disorder are women [1]. Dissociative identity disorder's etiology is unknown, however in the history of patients the history of childhood traumatic event was often seen. A total of four types of causes have been identified for this disorder. Existence of a traumatic event in a person's life, susceptibility to disorder, environmental factors and lack of external support [5].

The most significant risk factor for dissociative disorder is experiencing chronic stress, especially during adolescence, as well as experiencing or witnessing acute traumatic events. Adolescents with dissociative disorder escape from reality in ways that are involuntary and pathologically that cause problems with functioning in everyday life [6]. Behzadnia examined the prevalence of dissociative symptoms in 341 students from two universities of Zabol and Sistan&Baluchistan. The results of the DES questionnaire showed that there was a significant relationship between dissociative experiences and the existence of traumatic life events [7]. In a systematic review by Pereda and et al., 65 studies that were conducted in 22 different countries were studied. Its results showed that, the prevalence of dissociative experiences and dissociative disorders is about 20% in women and 8% in men who had positive history of physical and sexual trauma during their childhood [8]. In a study conducted on US Army forces, the prevalence of dissociative experiences due to a traumatic event in childhood was 8% and 15% in people with the experience of the Vietnam war events [9].

Schafer et al., investigate the impact of traumatic events on the relationship between dissociative symptoms and types of drug and alcohol abuse and showed that there is a strong association between traumatic events in childhood (especially emotional abuse) and dissociative symptoms [10]. Sar et al. reported the prevalence of dissociative disorders in a sample of normal female population in Turkey to be 18.3% [11]. In another study by Saret al in Turkey, childhood traumas in dissociative patients were significantly higher than that of the control group [12]. Sar et al. studied emotional abuse in childhood and dissociative experiences in 32 patients with conversion disorder. Dissociative disorder was diagnosed in 46.9% of studied patients [13]. They found a significant relationship between total score of dissociative experience scale and the experience of trauma during childhood [14].

Based on the results of the studies which have conducted so far and the necessity to review the dissociative experiences disorder and its dimensions in critical hard jobs including nursing and midwifery, we aimed to determine the prevalence of dissociative experiences disorder and investigate its relationship with childhood and adolescent's trauma in nursing and midwifery students.

Patients and methods. This cross-sectional study was carried out on nursing and midwifery students of Rafsanjan University of Medical Sciences. According to previous similar studies in this topic, we supposed the prevalence of disorder to be around 30% [15]. Therefore, in order to estimate the prevalence of disorder with 95% confidence and a precision of 0.07, at least 164 subjects are needed.

To increase the accuracy, 200 students were selected. The samples were selected with convenient sampling according to student's field of study. Therefore, 132 nursing and 68 midwifery students were selected.

Informed consent was attained from the participated students and the study protocol and ethical issues were approved by IRANDOC registration code: 2799949. To evaluate dissociative experiences, DES (Dissociative Experience Scale) was used which contained 28 questions; each of the questions was scored in a 0–100 scale. The attained questionnaire's average score was calculated for each of the participated student. Thus, minimum score in this questionnaire was zero and the maximum was 100. In this questionnaire, scores from 0 to 28 are categorized as mild, 29 to 60 as moderate and above 60 as severe dissociative disorder. In this study, the Dissociative Experiences Questionnaire's

Cronbach's alpha was 0.956. Shin reported Cronbach's alpha of adult dissociative experience questionnaire as 0.91 and its test-retest reliability within one-month was reported to be 0.91 [16]. Cronbach's alpha for Iranian population is 0.94 [17].

In order to assess childhood and adolescents trauma, TLEQ questionnaire (Traumatic life Events Questionnaire) was used. In this study, the Cronbach's alpha of childhood trauma was 0.679. In a previous study by Kim et al. The reliability of childhood trauma was reported to be 0.88 and its validity acquired as 0.87 [18]. In another study, the reliability of the questionnaire which was given to 300 university students was estimated to be 0.89 [19].

Both questionnaires were administered among students. After one week, the questionnaires were collected and then the collected data were analyzed using SPSS version 21. The data were analyzed using descriptive statistical methods, chi-square, independent t-test, ANOVA and Pearson correlation.

Statistical analysis. The Pearson correlation coefficient was reported for assessing the association between students' score in different dimensions of trauma and the dissociative disorder score.

The mean score of dissociative disorders and experience of trauma in male/female and midwifery/nursing students were compared by Independent t-test and for comparing the intensity of trauma and dissociative disorders between male/females and midwifery/nursing students, according to the defined cut point chi-square test was performed.

The mean score of dissociative disorders and experience of trauma in different age groups were compared by one way ANOVA.

Results. In this study, 200 nursing and midwifery students were studied. One hundred and forty two (71%) were female and 58 (29%) were male. Minimum age of study participants was 18 years and their maximum age was 29 years with a mean age of 20.69 ± 1.72 years. Eighty participants (40%) aged under 20, 94 persons (47%) aged from 20 to 22 years and 26 participants (13%) aged 22 years and older. Sixty-eight persons (34%) studied midwifery, and 132 individuals (66%) studied nursing. 124 (62%) had no dissociative disorder or mild dissociative disorder, 68 (34%) with average dissociative disorder, and eight persons (4%) had severe dissociative disorder. Thirteen people without experiencing trauma (6.5%), 87 persons (43.5%) have experienced a low trauma, 65 (32.5%) experienced moderate trauma and 35 (17.5%) experienced severe trauma.

The mean score of dissociative disorder was compared between men and women (Table 1). The mean score for men was significantly higher than that of women ($P=0.015$). Significant differences in the intensities of dissociative disorders were found between men and women ($P=0.023$).

The mean score of dissociative disorders and experience of trauma in different age groups were compared, no significant difference was observed in the mean score of dissociative disorders ($P=0.49$) and the mean score of experienced trauma ($P=0.72$). Different intensities of dissociative disorders and experienced trauma in different age groups was not significant ($P=0.63$, $P=0.99$).

The mean score of dissociative disorders and trauma experience were compared between nursing and midwifery students (Table 1). No significant differences was detected between midwifery and nursing students in the mean scores of dissociative disorders ($P=0.47$) and trauma experience ($P=0.58$).

Table 1. *The distribution of Dissociative disorder and Child trauma questionnaire scores based on participants' gender and field of study*

Gender and field of study	mean (SD)	Dissociative disorder			mean (SD)	Child trauma questionnaire			
		mild	moderate	severe		none	mild	moderate	severe
Gender:									
male	30.9 (19.5)	29 (50%)	24 (41%)	5 (9%)	4.69 (3)	1 (2%)	21 (36%)	25 (43%)	11 (19%)
female	24.7 (14.7)	95 (66%)	44 (31%)	3 (2%)	3.89 (2.73)	12 (8%)	66 (46%)	40 (28%)	24 (17%)
P-value	0.015	0.023	0.072	0.079					
Field of study:									
nursing	27.12 (17.03)	82 (62%)	44 (32%)	6 (5%)	4.04 (2.82)	4 (6%)	28 (41%)	22 (32%)	14 (21%)
midwifery	25.34 (15.30)	42 (64%)	24 (36%)	2 (3%)	4.28 (2.87)	9 (7.8%)	59 (45%)	43 (33%)	21 (16%)
P-value	0.47	0.34			0.58	0.86			

The mean score of trauma experience of men and women were compared (Table 1). Although the mean score for men was higher than that of women, this difference was not statistically significant (P=0.072). The intensities of trauma experience in men and women were compared and the difference was not significant (P=0.079).

The correlation between the score of dissociative disorders, trauma experience and age was investigated. The correlation was not statistically significant (r=-0.07, p=0.32 and r=-0.14, p=0.1)

The correlation between the score of dissociative disorders and trauma and its dimensions were studied. There was a significant positive correlation between dissociative disorder and physical disorder (P=0.031), sexual trauma (P=0.023), emotional trauma (P=0.026) and violence (P=0.001) (Table 2). A significant positive correlation was detected between dissociative disorder and total score of trauma (P=0.001).

Discussion. Several studies has been done for evaluating the relationship between dissociative experiences in adults and the history of traumatic events in childhood including loss of family, physical and sexual abuse as well as emotional neglect. Several studies have also found evidence of the relationship between dissociation and traumatic experiences in patients with psychiatric disorders such as post-traumatic stress disorder, borderline personality, dissociative identity disorder as well as eating disorders. Even some studies have also been reported the relationship between dissociative experiences and childhood trauma in patients with obsessive-compulsive disorder [13]. Many studies have been conducted regarding to the prevalence of dissociative disorders around the world. In a study by Sar in Istanbul, which was carried out in patients with mental disorders and the healthy individual, the prevalence of dissociative disorders among patients and healthy individuals was reported as 10% [20]. A study conducted in Finland and reported the prevalence of dissociative disorders among patients with mental disorders and healthy population to be 14% and 21%, respectively [21]. In this respect, the present study, which measured the prevalence of dissociative disorders among the student population as 35%, is inconsistent with Lipsanen study. This prevalence of disorder among admitted patients of the emergency room of Istanbul was around 35.7% [11]. In another study conducted in Zurich, Switzerland by Muller, the prevalence of dissociative disorders among all the people was 25% [22]. That is consistent with the result of our study. On the other hand, Sar et

al. stated that the prevalence of dissociative disorder based on the DSM-IV scale was about 46.9% in patients with mental disorders [13]. The difference in the reported prevalence values can be due to the differences in the inclusion and exclusion criteria and different study designs [23]. Friedl analyzed and reviewed various studies conducted in this regard and stated that different scales with different cut off points are usually used to measure dissociative disorders [24]. In this study, the measurement tool for assessing the dissociative disorders was DES that was designed based on the terms DDIS: dissociative disorders interview schedule. In this questionnaire, the cut-off point for diagnosing dissociative disordered individuals was to obtain a score greater than 30 while the cut point in studies based on SCID (Structured Clinical Interview for Dissociative Disorders) regulated, was 20.

Based on a systematic review which was conducted by Sar, the prevalence of dissociative disorders among healthy individuals and patients was between 5 and 10% worldwide. However, it should be emphasized that hospitalized patients with mental health problems are isolated from these figures [12]. In a German population, Vanderlinden showed that the dissociative disorders was about 2.9% and 0.7% in women and men, respectively [25]. This prevalence is inconsistent with the results of this study. Akyuz et al. found that there was no significant relationship between gender and the prevalence of dissociative disorders [26]. Similarly, in a study by Schafer, no significant relationship was detected between gender and dissociative disorders too [27]. These results were inconsistent with the results of current study.

Table 2. *Correlation coefficients of trauma history and its dimensions with dissociative disorder*

Correlation coefficient	Trauma dimensions	P-value
Physical trauma	0.152	0.031
Sexual trauma	0.161	0.023
Emotional trauma	0.157	0.026
Violence	0.239	0.001
Total score of trauma	0.24	0.001

Another aim of this study was to examine the relationship between childhood trauma and dissociative experiences among students. The results showed there was a significant relationship between dissociative disorder and childhood trauma, physical trauma, sexual trauma, emotional trauma and violence. In several studies, this association was 58.8%, 82.4%, 70.6% and 58.8% in people with a history of emotional trauma [28]. It has been shown that the prevalence of dissociative disorder was high in hospitalized children who were hospitalized due to physical or sexual abuse. The prevalence of dissociative disorder was higher in patients with a history of emotional trauma than in children without a history of emotional trauma [19]. Schafer and colleagues found a relationship between dissociative experiences and childhood trauma too [10]. In another study Schafer et al. found that in patients with schizophrenia, dissociative experiences were associated with childhood trauma [27]. Foote showed that, 71% of people with dissociative disorder had a history of physical trauma and 74% had a history of childhood sexual trauma [23]. Gast et al., reported a significant relationship between childhood trauma and dissociative disorders [29]. The results of the present research are consistent with his study.

Sar also carried out a study to determine the relationship between childhood trauma and dissociative disorders in patients with conversion symptoms. Its results showed that, among all types of childhood trauma, emotional trauma was the only significant predictor of dissociation disorder and none of the

aspects of childhood trauma could predict borderline personality disorder [12].

Brodsky also studied 60 female patients with borderline personality disorder. He found 50% of these patients had high scores in dissociative experience scale. 52% had a history of self-mutilation, 60% had a history of childhood sexual or physical trauma. In addition, these individuals had higher levels of depressive symptoms and psychiatric treatment. Self-mutilation was a more powerful predictor of dissociative disorder [30]. Dorahy also found that, childhood sexual trauma can predict dissociative disorder in adulthood and has a significant correlation with it [31]. Vogel et al. found no relationship between trauma and dissociative disorders in schizophrenic patients but he reported that subtypes of dissociative experiences can be related with PTSD [32]. There was a significant relationship between dissociative disorder and physical and emotional trauma. He suggests that emotional trauma may play an important role in the etiology of dissociation in patients with schizophrenia [33].

Conclusion. The present study showed that the prevalence of dissociative experiences among nursing and midwifery students was about 35%. Due to moderate prevalence of dissociative experiences in the studied population, psychological counseling among health professional students seems to be necessary. Besides, statistically significant correlation was observed between having the experience of traumatic events during childhood and dissociative experiences.

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