

abuse within the family (incestuous), and 79% (n=48) experienced sexual abuse committed by non-related persons. There was no significant difference between patients with or without PTSD in terms of relationship with the abuse and presence of penetration ($p=0.34$ and $p=0.68$, respectively).

There was no significant difference between the groups with or without PTSD in terms of cortisol, GPx, SOD, coenzyme Q, and 8-OHdG levels (Table 1). Likewise, there was no significant difference between the groups with or without depression in terms of cortisol, GPx, SOD, coenzyme Q, and 8-OHdG levels ($p=0.43$, $p=0.46$, $p=0.38$, $p=0.53$, and $p=0.48$, respectively). There was no correlation between CAPS scores and GPx, SOD, coenzyme Q, and 8-OHdG levels between patients with or without PTSD.

The mean time that elapsed since the first sexual abuse until the date of examination was 23.9 ± 24.1 months (range: 1-115 months). In the PTSD group, cortisol levels decreased with increasing time after trauma, and there was no significant correlation with the cortisol levels in patients without PTSD ($r=-0.46$, $p=0.01$ and $r=-0.07$, $p=0.73$, respectively). Similarly, 8-OHdG levels in the PTSD group decreased with increasing time after trauma, and there was no significant correlation with 8-OHdG levels in patients without PTSD ($r=-0.42$, $p=0.03$ and $r=-0.04$, $p=0.85$, respectively).

DISCUSSION: In the present study, there was no significant difference between patients with or without PTSD in terms of oxidative stress and DNA damage. Furthermore, no relationship was found between the severity of the symptoms of PTSD and oxidative stress and DNA damage. In their studies, Tezcan et al. and Čepnija et al. did not report any association between PTSD and oxidative stress³. However, healthy volunteers having no past history of trauma were selected as the control group in their study. In addition, the type of trauma in their study was different compared to the present study. In contrast to our findings, human and animal studies showed an association between oxidative stress and anxiety. In an animal model of PTSD, inflammation and oxidative stress were reported to play a critical role in the development and exacerbation of PTSD².

In the present study, cortisol and 8-OHdG levels decreased with increasing time after trauma in the PTSD group. Although we did not find any difference between the groups in terms of 8-OHdG concentrations, this finding was considered to be a reflection of the relationship between cortisol and DNA damage.

In conclusion, there was no significant difference between children and adolescents with or without PTSD after sexual abuse in terms of the level of oxidative stress and DNA damage. However, cortisol and 8-OHdG levels decreased with increasing time after trauma in the PTSD group. Although we did not find any difference between the groups in terms of 8-OHdG concentrations, this finding was considered to be a reflection of the relationship between cortisol and DNA damage. This is the first study conducted in this age group.

Keywords: oxidative stress, PTSD, sexual abuse

References:

1. Hovatta I, Juhila J, Donner J. Oxidative stress in anxiety and comorbid disorders. *Neurosci Res* 2010;68(4):261–75.
2. Wilson CB, McLaughlin LD, Nair A, Ebenezer PJ, Dange R, Francis J. Inflammation and Oxidative Stress Are Elevated in the Brain, Blood, and Adrenal Glands during the Progression of Post-Traumatic Stress Disorder in a Predator Exposure Animal Model. *Plos One* 2013;8(10):e76146.
3. Čepnija M, Đerek L, Unić A, Blažev M, Fistić M, Kozarić-Kovačić D, et al. Oxidative stress markers in patients with post-traumatic stress disorder. *Coll Antropol* 2011;35(4):1155–60.

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[Abstract:0287] *Anxiety, stress, and adjustment disorders*

Dysfunctional fear of progression in DM patients and association with HbA1c level

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INTRODUCTION: Disease is defined as a situation resulting in physical and psychological imbalance, and this is more common among individuals with chronic diseases. People attempt to cope with the negative aspects of life caused by the disease by developing different adaptation mechanisms¹. An important consequence of the chronic nature of the disease is that the possibility of mental, emotional, social, and psychosexual problems being experienced is higher than for diseases that are not chronic. In people with Diabetes Mellitus

(DM), depression and anxiety may be linked to hyperglycemia and increased levels of HbA1c. Scales and inventories to assess disease-specific general stress or specific characteristics of distress such as worry or FoP (fear of progression) have been developed in studies to overcome this problem². In this study, we intended to research the relationship between DM and the FoP scale, a scale developed by Herschbach et al. based on patients with cancer, diabetes, and rheumatologic diseases, recommended for use by people with chronic disease and used to date on many cancer patients.

MATERIALS AND METHODS:

Patients: The sample population of the research was patients with a diagnosis of type 2 DM attending Ordu University Medical Faculty-Education and Research Hospital Diabetes clinic between 1 January and 1 June 2014. The basic inclusion criteria for the study were: no current and/or previous history of psychiatric disease or treatment, age between 18 and 80 years, voluntary participation in the study, and no physical or cognitive obstacles to being interviewed or completing the applied scales. Apart from these participants, the study scanned information in the system to include patients with HbA1c values taken within the previous 3 months. Statistical analysis classified patients into a variety of groups. According to HbA1c value, two groups were formed with $\text{HbA1c} \leq 7$ and $\text{HbA1c} > 7$, respectively. According to BMI value, 4 groups were determined: normal, overweight, obese and morbidly obese. Three groups were classified according to age: 18-40 years, 40-60 years, and above the age of 60. Lastly, patients were grouped according to duration of disease (0-3 years, 3-5 years, 5-10 years, 10-20 years and more than 20 years). The research was completed with 151 patients who fit the criteria stated above. Information was collected with a data collection form prepared by the researchers, the hospital anxiety depression scale, Rosenberg self-esteem scale and the fear of progression questionnaire.

Fear of Progression Questionnaire: The Fear of Progression questionnaire (FoP-Q) was recently created by Herschbach et al. to evaluate fear of a disease advancing in patients with breast cancer, diabetes mellitus, and rheumatic diseases (2). It consists of 43 items and was developed and tested in Germany. It includes 5 subscales of affective reactions (13 items), partnership/family (7), occupation (7), loss of autonomy (7), and coping with anxiety (9). The total score can be calculated by all anxiety subscales, and there is a single total score for the coping subscale. Each item is evaluated with a five-point Likert scale (from 1 [never] to 5 [very often]). Points are given as both subscale and total points. Validity and reliability studies for Turkey have not yet been completed. The English version of the scale was translated to Turkish by Cosar et al.

Statistical Analysis: Descriptive statistics of all data are given as frequency, median, minimum and maximum values. As the data did not follow normal distribution, the Mann Whitney U test was used to compare two groups and the Kruskal-Wallis test was used to compare more than two groups. If a significant difference was found by the Kruskal-Wallis test ($p < 0.05$), then Dunn's test was used to identify which median caused the difference. Statistical analyses were completed using SPSS software (v22, IBM Inc.). A value for $p < 0.05$ was accepted as significant.

RESULTS: According to HbA1c of ≤ 7 and > 7 , the total and sub-parameters of FoP, HADS and sub-parameters, and self-esteem points were compared. Accordingly, while there was no significant difference found between the two groups in terms of total FoP points, the coping subscale in the $\text{HbA1c} \leq 7$ group was significantly higher ($p = 0.0001$). The HADS total points ($p = 0.0023$) and both anxiety ($p = 0.0059$) and depression ($p = 0.0001$) subscale points were found to be significantly higher in the $\text{HbA1c} > 7$ group compared to the $\text{HbA1c} \leq 7$ group. When compared in terms of gender, while there was no difference in FoP total points between the genders, the affective reaction points of women were found to be higher by a significant degree compared to the points for men ($p < 0.05$). Similarly, the HADS total, anxiety and depression points for women were found to be higher by a statistically significant amount compared to men.

DISCUSSION: When examining the literature, no single study researching the fear of disease progression in diabetic patients was found. The relationship between these fears and blood sugar control is a topic that has not been studied to date.

The FoP of DM patients was investigated in our study based on the HbA1c levels of patients, and the FoP-Q was compared to the HADS to determine the disease-specific worries of patients. Accordingly, both HADS total points ($p = 0.0023$) and subscales of anxiety ($p = 0.0059$) and depression ($p = 0.0097$) were found to be higher by a significant degree in the $\text{HbA1c} > 7$ group compared to the $\text{HbA1c} \leq 7$ group. While no significant difference was found between the $\text{HbA1c} \leq 7$ and $\text{HbA1c} > 7$ groups in terms of total FoP points and other subscale parameters, the FoP subscale of coping was found to have significantly higher levels in the $\text{HbA1c} \leq 7$ group compared to the $\text{HbA1c} > 7$ group. When the effect of gender on anxiety and depression is examined, though there was no difference in the total FoP points, women had affective reaction points that were significantly higher than the points for men ($p < 0.05$). In a similar fashion, the HADS total and anxiety and depression points of women were found to be higher than for men at a statistically significant level.

Patients with chronic physical diseases, like cancer, rheumatic diseases and diabetes mellitus, have a high incidence of anxiety disorders. Compared with the general population, patients with diabetes mellitus had more than 6 times the rate of generalized anxiety disorders. The criteria developed to aid diagnoses of anxiety disorders are suited to the general population and may not be relevant to patients with chronic physical disease. In order to classify as a mental disorder according to the DSM-4 (or ICD-10) (3), excessive, irrational or inappropriate displays of anxiety should be present

DM is a non-contagious chronic disease beginning in middle or advanced age which creates the perception of a real threat in patients due to the disease itself, its high morbidity and mortality, and possible complications. This is different from irrational or psychiatric anxiety because the underlying fear is real and independent. As such, a specific tool is needed to assess it, and this is why the FoP-Q was

developed.

The coping scale item, separate from other subscales of the FoP-Q, inquires into whether patients can access help from various sources, such as relaxation or pleasant activities, and whether they can talk to doctors about concerns and fears (4). The high coping points obtained by patients with HbA1c ≤ 7 may indicate that DM patients could benefit from supportive interventions for blood glucose control. This result supports studies in the literature emphasizing the positive relationship between HbA1c levels and anxiety values (5). As a result, we believe that developing the coping skills of DM patients may indirectly provide a protective effect on blood sugar levels and thus on possible complications that may develop in the future.

Our study is the first in our country researching the fear of disease progression in DM patients. While we believe it to be an important contribution to the literature, there are some limitations. Our patient numbers are low and it is a single-center study, making it difficult to generalize our findings. This topic requires broader and multi-centered studies. Another limitation is that validity and reliability studies of the scale have not been completed in Turkey. Cosar et al. continue to work on this topic.

CONCLUSION: There is a positive relationship between the stress coping skills of a person and blood sugar control. The FoP-Q coping subscale points of patients with HbA1C ≤ 7 were higher than in the HbA1C > 7 group. This shows that if the coping skills of individuals with a chronic disease like DM can be developed, if the worries of the person related to disease are reduced, this may contribute to blood sugar regulation. In chronic diseases like DM, instead of using scales based on the general population or psychiatric diseases, the use of the FoP-Q scale to identify worries related to situations that are more true to the real life of patients or that affect quality of life may be a good marker of psychiatric interventions for the clinician.

Keywords: diabetes mellitus, fear of progression, HbA1C

References:

1. Elbi Mete H. Chronic diseases and depression Klinik Psikiyatri 2008; 11(Suppl 3):3-18. (Turkish)
2. Herschbach P, Berg P, Dankert A, Duran G, Engst-Hastreiter U, Waadt S and et al. Fear of progression in chronic diseases. Psychometric properties of the Fear of Progression Questionnaire. J Psychosom Res. 2005;58(6):505-11.
3. American Psychiatric Association. Diagnostic and Statistical Manual of Mental disorders. 4th rev ed. Washington, DC: American Psychiatric Association; 2000.
4. Shim EJ, Shin YW, Oh DY, Hahm BJ. Increased fear of progression in cancer patients with recurrence. Gen Hosp Psychiatry. 2010;32(2):169-75.
5. Eren I, Erdi O, Ozcankaya R. Relationship between Blood Glucose Control and Psychiatric Disorders in Type II Diabetic patients Turk Psikiyatri Dergisi 2003; 14 (3):184-91. (Turkish)

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[Abstract:0290] *Schizophrenia and other psychotic disorders*

Oxidative stress and DNA damage in drug-naïve first-episode psychosis in adolescents

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INTRODUCTION: Oxidative stress has been implicated in the psychopathology of schizophrenia, with abnormal activity of antioxidant enzymes, decreased antioxidant levels and increased lipid peroxidation all being demonstrated in patients with schizophrenia¹. There are, however, discrepancies between studies. Studies of adolescents with First-Episode Psychosis (FEP) showed lower total antioxidant (TAS) and glutathione (GSH) levels, and a relationship has been suggested between GSH deficiency and the loss of cortical gray matter over two years².

The aim of the present study is to evaluate the level of oxidative stress and the presence of DNA damage in first-episode psychosis in adolescents. Furthermore, the study investigates the presence of a relationship between the severity of psychotic symptoms and oxidative stress and DNA damage.

METHOD:

Study Sample: The study was conducted in the Department of Child Psychiatry at Dicle University, using data that was collected between February and November 2014. The study included 20 adolescent patients aged between 11 and 17 years, all of whom had been diagnosed with psychosis according to DSM-4 criteria and who had received no previous psychiatric therapy, as the patient group, and 20 age-matched healthy adolescents with no medical or neurological disorders as the control group. Patients with an intelligence score