perception in both alcohol and drug users. Thorberg et al. found that anxious attachment partially mediated the relationship with craving in a heavily drinking population. Thus, abusers which attach anxiously probably require a secure field or need unconsciousness to divert in their lives.

While attachment theory may be applied to many other psychologic conditions, our study showed, similar to many previous studies, a probable link between attachment theory and religious perceptions. Negative religious attachments were more linked to severity of alcohol/drug addictions than positive attachments. The attachment starts with the mother-baby relation and probably influences the relation with God and determines our beliefs. According to our study, the addiction pathology was related to religious perceptions, and the type of addictive drug was found related with addiction severity. We also suggest a complete approach in addiction treatment consisting of family life, religious perceptions, and general psychopathology. Such an approach may also be applied to government policies and future studies.

Keywords: addiction, attachment, religion

References:


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Relationships between psychiatric symptoms and levels of serum serotonin and salivary cortisol in healthy subjects

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OBJECTIVES: Healthy individuals may experience Psychiatric symptoms (PS) due to the effect of various stressors. Particularly, fluctuation of serotonin (5-HT) and cortisol levels contribute to psychiatric disorders and their etiologies ad hoc. 5-HT and cortisol levels both influence the etiology and also affect the emergence of psychiatric disorders. In some studies, 5-HT and 5-HT agonists caused to secrete corticotropin-releasing hormone by stimulating the hypothalamo-pituitary-adrenergic axis from the hypothalamus, and interactions with the levels and number of 5-HT receptors have been shown. PSs which do not affect functionality and are encountered in healthy subjects usually have been classified in symptoms checklists. The purpose of this study is to investigate the relationship between PSs and levels of serotonin and salivary cortisol in healthy individuals.

METHODS: For this study, 320 subjects, including 156 males and 164 females, who do not have a history of psychiatric illness or psychiatric treatment and follow-up were enrolled. The subjects were between 20 and 45 years of age. Participants were informed that the investigation aimed to establish the relationship between PSs and levels of serotonin and salivary cortisol. They were interviewed face to face by a psychiatrist. Subsequently, the participants were given the sociodemographic form and the SCL- 90-R. In order to collect salivary samples, we asked them to brush their teeth, not to smoke and not to take any drinks other than water for 8 hours before sampling. On the sampling day, we collected blood and saliva samples from the participants. For the measurements of 5-HT and cortisol, the ELISA method was used. Global symptom index (GSI) was used to assess the cases. If GSI is under or equal to one, psychiatric symptom scores are not assumed psychopathologic. But if it is above 1, they are admitted as psychopathologic. Participants were divided into two groups according to GSI ≤1 and GSI >1 and were compared with sociodemographic subgroups. Data were assessed with SPSS 15.0 version.

RESULTS: Baseline characteristics are: 51.2% (n=164) were women, 54.4% (n=174) were single, 55.0% (n=175) had been enrolled in school
for 13-16 years, 52.8% (n=169) were clerks. The mean age of the cases was 29.19±8.41. When we analyzed PSs of the 320 participants in our study, the highest PS scores were in the obsessive-compulsive-symptoms subgroup (0.92±0.80), interpersonal-sensitivity subgroup (0.75±0.55) and depressive-symptoms subgroup (0.72±0.53), respectively. We found a negatively significant correlation between PS scores and levels of 5-HT and cortisol, respectively (somatization; r=-0.209 p<0.001, r=-0.156, p=0.005; anxiety, r=-0.184, p=0.001, r=-0.177, p=0.001; depression, r=-0.209, p<0.001, r=-0.194, p<0.001; obsessive-compulsive, r=-0.136, p=0.015, r=-0.133, p=0.017; psychoticism, r=-0.168, p=0.003, r=-0.147, p=0.008). There was a negatively significant relation between the ages of participants and levels of 5-HT (r=-0.156, p<0.005). In contrast, there was a positively significant correlation between levels of 5-HT and cortisol (r=0.489, p<0.05). In our samples, who had GSI≤1, PS scores were lower and levels of 5-HT and cortisol were higher than in those with GSI>1. We found a significant difference in PS scores according to sex and years of education (groups other than obsessives and additional symptoms). Women’s PS scores were higher than men’s, but the levels of 5-HT and cortisol were lower. We also found a significant difference in PS scores and levels of 5-HT and cortisol between women and men. There was a negatively significant correlation between somatization and psychoticism scale and levels of 5-HT and between phobic scales and cortisol in men. In contrast, there was a negative correlation between somatization and hostility scales and levels of 5-HT in women. Divorced individuals’ PS scores were the highest, levels of 5-HT and cortisol were lower than others. Single people’s PS scores were the lowest, levels of 5-HT and cortisol were higher than others. There was a significant difference between PS scores and levels of 5-HT between the groups. We also found a negatively significant correlation between PS scores and levels of 5-HT and cortisol between the groups. 5-HT and cortisol levels were lowest in 5-8-years educated group. It was the highest in the group who were 9-12 years educated. PS scores of the 17-years-and-more educated were the lowest in this study. PS scores were the highest in cases who went to school between 5 and 8 years. There was a significant difference between PS scores and 5-HT levels among the groups. We found a negatively significant correlation between PS scores and 5-HT levels in the 13-16-years educated and 17-years-and-more educated groups (p<0.05) and also a negatively significant correlation between PS and cortisol levels in the 19-12-years educated. PS scores and 5-HT and cortisol were the highest in self-employed workers, but lowest in employees. There was a significant difference in 5-HT levels among the two groups (p<0.05). We found a negatively significant correlation between PS scores and 5-HT levels in unemployed, but also a negatively significant correlation between PS scores and 5-HT and cortisol levels in clerks. There was no correlation to professional status in the other groups.

CONCLUSIONS: Healthy subjects have psychiatric symptoms as well. There was a correlation between PS and 5-HT and cortisol levels. This correlation has arisen from socio-cultural structure and characteristics. Capabilities and defense mechanisms, which they have been used to, allow individuals to overcome these stress factors. Mental symptoms vary from person to person, place of living, socio-cultural characteristics and according to work and stress event. Not only serotonin and cortisol but also the impact of various life events, personal characteristics, and the response to these events are supposed to be effective in determining the onset of these symptoms. There is need for a study of these determinants how they affect the serotonin and cortisol levels.

Keywords: cortisol, healthy subject, psychiatric symptom, SCL-90-R, serotonin

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