Bosphorus Medical Journal
Boğaziçi Tıp Dergisi

Original Article

DOI: 10.14744/bmj.2022.78942

Bosphorus Med J 2022;9(1):9–15

Attachment Styles, Perceived Stress Levels, and Coping Styles of Chronic Insomnia Patients

Kronik İnsomni Hastalarının Bağlanma Stilleri, Algılanan Stres Düzeyleri ve Stresle Başa Çıkma Tarzları

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ABSTRACT

Objectives: Insomnia is one of the most frequent sleep disorders. Unhelpful cognitive processes and interpersonal factors play a role in insomnia. The aim of the present study is to investigate the perceived stress levels, attachment, and coping styles of individuals diagnosed with chronic insomnia and the relationship between these parameters.

Methods: The study group consisted of 40 patients diagnosed with insomnia according to International Classification of Sleep Disorders and 40 healthy controls. The sociodemographic data form, insomnia severity index (ISI), Pittsburgh sleep quality index (PSQI), perceived stress questionnaire (PSQ), coping with stress scale, and inventory of close relationship experiences 2 were applied.

Results: The mean ISI score of the patients was 19.5±5.5, and the mean total PSQI score was 14.3±3.7. The mean PSQ score in the patient group was 31.0±8.9 and was significantly higher than controls ($p<0.001$). When the coping styles were examined, the helpless style was higher in the patient group ($p=0.002$), while the self-confident and optimistic style were significantly higher in the control group ($p=0.036$, $p=0.001$). Looking at the attachment styles, the anxious attachment was significantly higher in chronic insomnia patients than in the control group ($p=0.022$). Significant correlations were found between ISI score and anxious attachment, PSQ score, self-confident, helpless, and optimistic styles ($r=0.266$, $p=0.017$; $r=0.607$, $p=0.001$; $r=-0.254$, $p=0.023$; $r=0.278$, $p=0.012$; and $r=-0.380$, $p=0.001$).

Conclusion: Cognitive processes and interpersonal factors are important factors that predispose, trigger, and maintain chronic insomnia. Understanding the relationship between insomnia, stress, coping, and attachment styles will both provide an understanding of the disease process and will guide the treatment.

Keywords: Coping; insomnia; stress.

ÖZET

Amaç: İnsomni yaygın uyku bozukluklarından biridir. Yararı olmayan bilişsel süreçler ve kişilerarası faktörler uykusuzlukta rol oynar. Bu çalışmanın amacı kronik insomni tanısı alan bireylerin bağlanma stillerini, algılanan stres düzeylerini, stresle başa çıkma tarzlarını incelemek ve bu parametreler arasındaki ilişkiyi araştırmaktır.

Yöntem: Çalışmaya ICSD-3'e (International Classification of Sleep Disorders) göre Kronik İnsomni tanısı alan 40 hasta ve 40 sağlıklı kontrol dahil edildi. Hastalara Sosyodemografik Veri Formu, Uykusuzluk Şiddeti İndeksi (ISI), Pittsburgh Uyku Kalitesi İndeksi (PUKİ), Algılanan Stres Ölçeği (ASÖ), Stresle Başa Çıkma Tarzları Ölçeği, Yakın İlişkilerde Yaşantılar Envanteri 2 (YİYE 2) uygulandı.

Bulgular: Hastaların ortalama ISI puanı 19.5±5.5, ortalama toplam PUKİ puanı 14.3±3.7 idi. Hasta grubunda ortalama ASÖ skoru 31.0±8.9 idi ve anlamlı olarak yüksekti ($p<0.001$). Stresle baş etme tarzları incelendiğinde hasta grubunda çaresiz yaklaşım anlamlı derecede daha fazlayken ($p=0.002$), kendine güvenli yaklaşım ve iyimser yaklaşım kontrol grubunda anlamlı olarak daha yüksekti ($p=0.036$, $p=0.001$). Bağlanma stillerine bakıldığında kronik insomni hastalarında kaygılı bağlanma kontrol grubuna göre anlamlı olarak daha yüksekti ($p=0.022$). ISI skoru ile kaygılı bağlanma, ASÖ skoru, kendine güvenli yaklaşım, çaresiz yaklaşım ve optimistik yaklaşım arasında anlamlı korelasyon saptandı ($r=0.266$, $p=0.017$; $r=0.607$, $p=0.001$; $r=-0.254$, $p=0.023$; $r=0.278$, $p=0.012$; $r=-0.380$, $p=0.001$).

Sonuç: Kronik insomniye zemin hazırlayan, tetikleyen ve sürdüren faktörler arasında bilişsel süreçler ve kişilerarası faktörler önemlidir. Uykusuzluk, stres, başa çıkma ve bağlanma biçimleri arasındaki ilişkiyi anlamak hem hastalık sürecinin anlaşılmasını sağlayacak hem de tedaviye yön verecektir.

Anahtar sözcükler: Bağlanma; insomni; stres.

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Cite this article as:
Aydın Sünbül E. Attachment Styles, Perceived Stress Levels, and Coping Styles of Chronic Insomnia Patients. Bosphorus Med J 2022;9(1):9–15.

Received: 08.11.2021
Accepted: 19.12.2021

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Insomnia is one of the most frequent sleep disorders. Many factors such as age, gender, and socioeconomic status are associated with the prevalence of insomnia. It is seen in more than 50% of people over the age of 65. It is more common especially in individuals with low socioeconomic status, single or separated, female gender, and during the menopausal period.[1] In terms of diagnosis, there should be one of the symptoms such as difficulty in initiating and maintaining sleep, waking up early in the morning, and inability to sleep again for at least 3 months at a frequency of at least three nights a week, and it should cause symptoms that continue throughout the day.[2]

The importance of predisposing, initiating, and sustaining factors is known in the 3P model of insomnia.[3] Stress is the most common initiating factor and patients with insomnia show increased cognitive and psychological response to stress according to the hyperarousal model.[4] Stress encountered in all areas of life can be defined as an introverted reaction of individuals to situations that they perceive as a challenge or threat, or as a situation that is sometimes exposed as a result of time pressure, sometimes as a result of an unexpected event or reaction as a result of interaction with the environment.[5] People are affected differently by stress due to differences in their interpretation of events and their coping styles.[6,7] Individuals' coping skills play an important role in evaluating and interpreting the relationship between the individual and the environment.[8]

Individuals' personality traits and attachment styles are important for understanding the relationship between stress and response to stress.[7] There are studies showing the importance of personality traits and attachment styles when explaining the concept of stress. John Bowlby, the theorist of attachment theory, defines attachment behavior as any behavior that an infant displays to establish and maintain the desired closeness to its primary caregiver figure/mother. These experiences allow us to connect with other people around us throughout life.[9] Securely attached individuals have less anxiety and depression symptoms compared to insecurely attached individuals, and they think that they receive more social support from their environment.[10] Therefore, it can be said that perceived stress and psychological symptoms are more common in insecurely attached individuals.[11,12]

When examining the relationship between stress and attachment, coping styles should also be considered.[13] Coping styles are a stable positive or negative strategy, for overcoming difficulties.[14] Positive coping style uses direct and rational ways to solve problems while negative coping style uses neglect, avoidance, and denial.[15,16] In literature, it has been reported that individuals with secure attachment prefer active coping strategies against stress while insecurely attached individuals prefer avoidant coping strategies.[17,18] Brennan describes two types of insecure attachment as avoidant and anxious.[19] There is a study showing that those with anxious attachment perceive life events as more stressful than those with avoidant attachment.[20]

In the literature, there are studies investigating temperament and character traits, which are psychological factors that can lead to insomnia.[21,22] However, interpersonal factors have not been adequately studied. Therefore, in our study, we aimed to examine the attachment styles, perceived stress levels, and coping styles of individuals diagnosed with chronic insomnia and to investigate the relationship between these parameters.

Methods

This study was performed at the sleep disorder outpatient clinic of the Erenköy Mental and Neurological Diseases Training and Research Hospital. Following the Helsinki Declaration, approval was obtained from the ethics committee with decision number 25 on June 28, 2021. The informed consent form was signed by all participants.

Study Population

This observational study consisted of 40 consecutive patients who applied to the sleep disorder outpatient clinic of the University Hospital between July 2021 and October 2021 and diagnosed with chronic insomnia according to the third edition of the International Classification of Sleep Disorders (American Academy of Sleep Medicine, 2014) and 40 healthy controls. Inclusion criteria of patient group included: (1) Patients without any other accompanying sleep disorder. (2) Volunteering to participate in the study and signing the informed consent. (3) Being literate. (4) Being over the age of 18. Exclusion criteria included: (1) Having psychiatric disorder. (2) Having mental retardation that is understandable by interview. (4) Presence of neurocognitive impairment as a result of clinical observation and medical history. (5) Having another accompanying sleep disorder.

While excluding other sleep disorders, Berlin questionnaire for sleep-related respiratory disorders, Epworth scale for hypersomnia, and restless legs syndrome (RLS) diagnostic cri-

teria questionnaire were used for RLS. The sociodemographic data form, insomnia severity index (ISI), Pittsburgh sleep quality index (PSQI), perceived stress questionnaire (PSQ), coping with stress scale, and inventory of close relationship experiences 2 (ICRE2) were applied. Those parameters were compared between patients with chronic insomnia and control group.

Questionnaires

ISI

Is a seven-item questionnaire used to assess sleep quality and insomnia severity.[23] The ISI scores range between 0 and 28. We evaluate the total ISI score. ISI score of 8 or higher indicated insomnia symptoms.

PSQI

It measures subjective sleep quality. It consists of 19 self-rated questions and five questions rated by the bed partner. It is divided into seven components: Subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction. These component scores are added to a total PSQI score with a range of 0–21. While PSQI scores of above 5 are taken as abnormal, higher scores indicate worse sleep quality. The Turkish adaptation of the scale was done by Agargun et al.[24]

PSQ

Is a 14-item questionnaire used to measure how stressful situations in a person's life are perceived. The Turkish validity and reliability study of the scale were performed by Eskin et al.[25]

Coping with Stress Scale

The 66-item original scale, developed by Lazarus and Folkman (1984), was adapted for the Turkish university students, by Şahin and Durak (1995), and transformed into a 30-item short form.[26] The scale is based on the assumption that individuals have unchanging coping strategies in different situations. The coping methods were separated into two-factor subscales as "problem-oriented/active/effective coping" and "emotion-oriented/passive/ineffective coping."[27]

ICRE2

It was developed by Fraley et al.[28] to measure attachment dimensions. The validity and reliability study of Turkish version was carried out by Selçuk et al.[29] The scale has a total of 36 seven-point Likert-type scales measuring 18 anxiety and 18 avoidance sub-dimensions. There is substance. Descriptive and confirmatory factor analyzes. It has been shown that FEI-2 has a two-factor structure representing attachment avoidance and anxiety behaviors.

Statistical Analysis

Statistical analysis was performed using the SPSS for Windows (version 20.0; SPSS Inc., Chicago, Illinois). The Shapiro–Wilk test was used to determine whether the data were normally distributed. Continuous data were expressed as mean±standard deviation or median (minimum-maximum) while categorical data were presented as the number of patients and percentages. Student's t-test or Mann–Whitney U-test was used to compare parametric and non-parametric continuous variables, respectively. Pearson Chi-square and Fisher's exact tests were used for statistical evaluation of the categorical variables. Correlation analysis was performed by Pearson or Spearman's correlation test. $P<0.05$ was considered statistically significant.

Results

The average age of patients was 39.4±13.8 years. Most of the patients (32, 80%) were female. While the mean duration of the insomnia complaints of the patients was 50 months, the mean duration of the insomnia diagnosis was 2 months. The mean ISI score of the patients was 19.5±5.5 (Table 1).

There was no significant difference between the groups in terms of age, gender, and marital status ($p=0.165$, $p=0.790$, and $p=0.138$, respectively). Working rates were higher in the control group ($p<0.001$). There was a significant difference between the groups in terms of PSQI and PSQ scores. While the mean PSQI score of the patients with chronic insomnia was 14.3±3.7, the mean PSQI score of the controls was 2.2±1.9 ($p<0.001$). While the mean PSQ score of the patients was 31.0±8.9, the mean PSQ score of the controls was 19.6±10.5 ($p<0.001$) (Table 1). Coping styles were compared between patients with chronic insomnia and controls in Table 2. Self-confident and optimistic styles were significantly higher in the control group ($p=0.036$ and $p=0.001$, respectively), whereas submissive style was significantly higher in patients with chronic insomnia ($p=0.002$).

Attachment styles were compared between the groups in Table 3. Anxious attachment was significantly different between the groups ($p=0.022$). Anxious attachment score of

Table 1. Comparison of sociodemographic characteristics between groups

	Insomnia (n=40)	Control (n=40)	p
Age (year)	39.4±13.8	35.6±10.2	0.165
Gender (female, %)	32 (80)	30 (75)	0.790
Marital status (married, %)	18 (45.0)	20 (50.0)	0.138
Education status (n, %)			
Primary	15 (37.5)	8 (20.0)	0.191
High school	6 (15.0)	8 (20.0)	
University	19 (47.5)	24 (60.0)	
Occupational status (works-%)	16 (40.0)	36 (90.0)	**<0.001**
Duration of insomnia complaints (month) – median (min–max)	50.0 (6–180)	–	NA
Duration of insomnia diagnosis (month) – median (min–max)	2 (0–156)	–	NA
ISI	19.5±5.5	1.7±2.4	**<0.001**
PSQ	31.0±8.9	19.6±10.5	**<0.001**
PSQI – total	14.3±3.7	2.2±1.9	**<0.001**

ISI: Insomnia severity index; PSQ: Perceived stress questionnaire; PSQI: Pittsburgh sleep quality index; NA: Not applicable.

Table 2. Comparison of coping styles between groups

	Insomnia (n=40)	Control (n=40)	p
Self-confident	2.0±0.7	2.3±0.5	**0.036**
Submissive	1.7±0.6	1.3±0.5	**0.002**
Optimistic	1.6±0.6	2.0±0.6	**0.001**
Helpless styles	1.1±0.6	0.9±0.7	0.194
Seeking for social support	1.6±0.6	1.8±0.6	0.242

Table 3. Comparison of attachment styles between groups

	Insomnia (n=40)	Control (n=40)	p
Avoidant attachment	65.3±28.0	60.1±14.3	0.298
Anxious attachment	64.7±23.2	53.1±20.8	0.022

patients was 64.7±23.2, while it was 53.1±20.8 in the control group. Avoidant attachment scores were not significantly different between groups.

Correlation analysis was performed to demonstrate the association between ISI score with PSQ, attachment, and coping styles (Table 4). ISI score was significantly correlated with PSQ score (r=0.607, p=0.001). Among attachment styles, anxious attachment was significantly correlated with ISI score (r=0.266, p=0.017). When we examined the coping styles, self-confident, submissive, and optimistic styles were significantly correlated with ISI score.

Discussion

Because of the different diagnostic and screening methods, the prevalence of insomnia varies from 6% to 76.3%. The environmental factors affect the prevalence of insomnia. Sociodemographic factors such as sex, age, marital status, income, education and occupation, and somatic or psychiatric conditions are associated with insomnia.

Sex differences are widely mentioned in the sleep literature. In a study, it was shown that insomnia in women is 1.5 times higher than in men.[30] Similarly, we found that insomnia was more common in women. Because females are more likely to mention their somatic symptoms.[31] In the previous studies, it was shown that females with insomnia attend to hospital more than males.[32,33]

In a study of the 5021 participants, 51.7% were female, 14.8% were aged 18–24 years; 47.6% were aged 25–44 years; 29.3% were aged 45–64 years, and 8.3% were older than 64 years.[34] Similarly, participants with 39.4±13.8 years mostly reported insomnia in our study. In a study, it was shown that insomnia was higher in unemployed people and housewives than people with a regular salary.[35] Similar to this data, only 16 (40.0%) patients were working in our study.

There are studies on cognitive processes and interpersonal factors that play a role in insomnia. Attachment styles are an important issue when explaining these concepts. Insecure attachment is related to hyperarousal trait and emotional factors, so it can lead insomnia.[36,37] Subjects with insomnia symptoms had higher score on the anxious attachment compared to controls in our study. This finding is in line with the

Table 4. Correlation analysis between ISI and PSQ scores, attachment, and coping styles

	ISI	Avoidant attachment	Anxious attachment	PSQ	Self-confident	Submissive	Optimistic	Helpless	Seeking for social support
ISI	–	0.135	0.266	0.607	-0.254	0.278	-0.380	0.128	-0.112
	0.135	0.232	**0.017**	**0.001**	**0.023**	**0.012**	**0.001**	0.258	0.322
Avoidant attachment	0.232	–	0.239	0.453	-0.467	0.391	-0.204	0.409	-0.285
	0.266	0.239	**0.032**	**0.001**	**0.001**	**0.001**	0.069	**0.001**	**0.010**
Anxious attachment	**0.017**	**0.032**	–	0.425	-0.401	0.363	-0.010	0.336	0.037
	0.607	0.453	0.425	**0.001**	**0.001**	**0.001**	0.929	**0.002**	0.744
PSQ	**0.001**	**0.001**	**0.001**	–	-0.491	0.390	-0.548	0.260	-0.450
	-0.254	-0.467	-0.401	-0.491	**0.001**	**0.001**	**0.001**	**0.020**	**0.001**
Self-confident	**0.023**	**0.001**	**0.001**	**0.001**	–	-0.337	0.471	-0.172	0.190
	0.278	0.391	0.363	0.390	-0.337	**0.002**	**0.001**	0.127	0.091
Submissive	**0.012**	**0.001**	**0.001**	**0.001**	**0.002**	–	-0.304	0.641	-0.098
	-0.380	-0.204	-0.010	-0.548	0.471	-0.304	**0.006**	**0.001**	0.385
Optimistic	**0.001**	0.069	0.929	**0.001**	**0.001**	**0.006**	–	-0.119	0.383
	0.128	0.409	0.336	0.260	-0.172	0.641	-0.119	0.294	**0.001**
Helpless styles	0.258	**0.001**	**0.002**	**0.020**	0.127	**0.001**	0.294	–	0.002
	-0.112	-0.285	0.037	-0.450	0.190	-0.098	0.383	0.002	0.989
Seeking for social support	0.322	**0.010**	0.744	**0.001**	0.091	0.385	**0.001**	0.989	–

ISI: Insomnia severity index; PSQ: Perceived stress questionnaire.

previous studies showing the relationship between sleep disorders and insecure attachment.[38] Palagini et al.[39] showed that patients with chronic insomnia had more anxiety and depressive symptoms than the control group, even though they did not have any DSM-5 diagnoses. Avoidant attachment was not significantly different between groups. This may be the result of the suppression tendency of avoidant attachments.[40,41]

In our study, negative coping style scores were higher in patients with chronic insomnia compared to the control group, while positive coping style scores were found to be lower. This result supports the hypothesis that chronic insomnia patients are more likely to use negative coping styles and less likely to use positive coping styles. In a recent study, it was shown that "avoidance and suppression," which are negative coping styles, are significantly associated with insomnia in patients with type 2 diabetes.[42]

Insecure attachment may affect the severity of physiological and emotional responses to stressful life events by creating a tendency to hyperarousal in people with insomnia. This shows that insecurely attached individuals have cognitive hypervigilance and use hyperactivation strategies in stress situations.[43,44] In a study, when insecure attachment was examined separately as anxious and avoidant, it was shown that perceived stress was higher in anxiously attached individuals, and that there was no such relationship in avoidant attachments.[45] However, in our study, anxious and avoidant attachment was correlated with perceived stress scores.

It has been shown in studies that those with anxious attachment have higher stress levels. It should also be kept in mind that the effect of anxious attachment on stress may be through factors such as coping styles, self-perception, and stress perception. When examined in terms of these parameters, it was found that those with anxious attachment had a more negative self-perception, they did not use effective coping styles, and their perceived stress was higher; therefore, it can be said that their response to stress is more severe. In literature, there were studies that showed the relationship between increased levels of anxious, avoidant attachment, and increased levels of negative self-concept. People with negative self-perceptions may be more helpless, more submissive, and less optimistic toward stressful life events. When individuals encounter a stressful life event, they evaluate whether they have the resources to cope with this event; this, in turn, shapes their next behavior.[46] In our study, both of the anxious and avoidant attachment were correlated with perceived stress score, submissive and helpless coping style. Anxious attachment was negatively correlated with self-confident style while avoidant attachment was negatively correlated with self-confident and seeking for social support.

Conclusion

Unhelpful cognitive processes and interpersonal factors are important factors that predispose, trigger, and maintain chronic insomnia. Understanding the relationship between insomnia, stress, coping, and attachment styles will both provide an understanding of the disease process and will guide the treatment.

Disclosures

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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