

RESEARCH

Relationship between Alexithymia and Sleep Quality in University Students

Üniversite Öğrencilerinde Aleksitimi ve Uyku Kalitesi İlişkisi

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Abstract

Sleep quality is a significant issue for university students because of its impacts on academic performance. It is worth noting that the relationship between alexithymia and sleep quality should be studied. The aim of this study is to investigate the relation between alexithymia and sleep quality in university students. The present study was conducted with 1192 university students. Participants were evaluated using the sociodemographic data form, Toronto Alexithymia Scale-20 (TAS-20) and Pittsburg Sleep Quality Index (PSQI). The obtained data were subjected to statistical analysis. The study included 1192 participants. Of the participants 54% were women. The average age was 21.94±3.31 years. The participants were separated into two groups such as "good sleep quality" and "poor sleep quality," according to their PSQI scores. A statistical difference was found between two groups in terms of TAS-20 with a total of, Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally-Oriented Thinking. A statistically significant and positive correlation was found between the PSQI and Body Mass Index (BMI), as well as TAS-20 total score. BMI and TAS-20 were revealed to be significant predictors of poor sleep quality. The present study reveals that alexithymia and sleep quality may be related. It is important for future studies to focus on the factors that mediate this relationship.

Keywords: Alexithymia, sleep quality, student, university

Öz

Üniversite öğrencilerinde akademik performans üzerine etkileri nedeniyle uyku kalitesi önem arz eden bir durumdur. Aleksitimi ve uyku kalitesi arasındaki ilişkinin araştırılması gerekliliği dikkat çekmektedir. Bu çalışmada üniversite öğrencilerinde aleksitimi ve uyku kalitesi arasındaki ilişkinin araştırılması amaçlanmaktadır. Mevcut çalışma halen üniversite öğrencisi olan 1192 katılımcı ile gerçekleştirilmiştir. Katılımcıların değerlendirilmesi sosyodemografik veri formu, Toronto Aleksitimi Ölçeği-20 (TAS-20) ve Pittsburg Uyku Kalitesi İndeksi (PUKİ) ile yapılmıştır. Elde edilen veriler istatistiksel analize tabi tutulmuştur. Çalışmaya 1192 katılımcı alındı. Katılımcıların %54'ü kadındı. Yaş ortalaması 21.94±3.31 yılıdır. Katılımcılar PUKİ skorlarına göre "iyi uyku kalitesi" grubu ve "kötü uyku kalitesi" grubu olmak üzere iki gruba bölündü. İki grup arasında TAS-20 toplam, Duyguları Tanıma Zorluk, Duyguları Söze Dökme Zorluk, ve Dışa-Dönük Düşünme açısından istatistiksel olarak fark saptandı. PUKİ ile Vücut Kitle İndeksi (VKİ) ve TAS-20 total skor arasında istatistiksel olarak anlamlı ve pozitif yönlü korelasyon saptandı. VKİ ve TAS-20 kötü uyku kalitesi için anlamlı yordayıcı faktörler olarak bulundu. Mevcut çalışma aleksitimi ile uyku kalitesi arasındaki yakın bir ilişki olabileceğini düşündürmektedir. Gelecekte planlanacak çalışmaların bu ilişkiye aracılık eden faktörler üzerine yoğunlaşması önem arz etmektedir.

Anahtar sözcükler: Aleksitimi, uyku kalitesi, öğrenci, üniversite

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SLEEP is one of the indispensable activities having a significant impact on the mental and physical health of people (Dewald et al. 2010). Reduced sleep quality is known to have a negative impact on cognitive functions, learning capacity, academic performance, mood, reaction time, and neurobehavioral functions (Walker and Stickgold 2004, Owens and Weiss 2017). However, there are numerous physical and emotional elements influencing the complex sleep quality, which is a prerequisite condition of optimal mind-body functioning (Shim and Kang 2017, Berhanu et al. 2018, Gundogmus et al. 2020). Sleep deprivation is a growing issue in all age groups in the modern world (Asghari et al. 2012, Shim and Kang 2017). The significance of sleep quality is highlighted even more in some special groups such as students when academic success is required (Waqas et al. 2015). Therefore, sleep quality of students and related variables are one of the important topics covered by researchers (Waqas et al. 2015, Almojali et al. 2017, Dinis and Bragança 2018, Gundogmus et al. 2020). However, age and living conditions of the students are major elements affecting the decrease in sleep quality and complicating treatment (Waqas et al. 2015, Almojali et al. 2017, Dinis and Bragança 2018). The variables influencing sleep quality must be defined because they have an effect on students' academic performance (Dinis and Bragança 2018).

Alexithymia is a personality structure characterized by an inability to recognize and express emotions, a lack of imagination or a fantastic world, trouble relating with others, a lack of positive feelings, and an excess of negative emotions (Taylor 1994, Haviland and Reise 1996). Although alexithymia is not a psychiatric disorder (Swiller 1988), its prevalence in the general population is estimated to be around 10% (de Zwaan et al. 1995), and it has been shown to have a relationship with physical and mental disorders (Leweke et al. 2012, Ricciardi et al. 2015). It is well recognized that the absence of emotional awareness associated with alexithymia reduces one's quality of life and impairs one's ability to connect with others and form meaningful and close relationships (Kennedy and Franklin 2002, Gündoğmuş et al. 2019). Furthermore, it has been evaluated whether alexithymia influences sleep quality. Studies have shown a relationship between alexithymia and sleep, using both subjective and objective measures (Bazydło et al. 2001, Bauermann et al. 2008, Murphy et al. 2018). However, this relationship was assumed to be linked to a variety of mental disorders considering that alexithymia mediates the symptoms (Rehman et al. 2018). There have been few studies that examine this relationship in a partially homogeneous group of university student population, for whom the sleep quality is significant (Ma et al. 2020). Therefore, it is important to concentrate on the relationship between alexithymia and sleep quality in university students.

The present study aims to investigate the relationship between alexithymia and sleep quality in a large population of university students, based on the hypothesis that alexithymia has an effect on sleep quality and predicts sleep quality.

Method

Sample

The present cross-sectional study's sample comprises of 1192 volunteer university students who took part in the study between February and March 2021. The study was conducted with students from Istanbul Gelişim University and University of Health

Sciences. The inclusion criteria for the study were determined as being over the age of 18, being a university student, volunteering to be included in the study, not having any major psychiatric disorder (e.g., psychosis, bipolar, etc.), not having an organic disease that could affect sleep quality, and not being in a situation that could cause sleep disruption (for example, during exam period, working on shift, etc.) and filling in the forms submitted online.

The study was approved by the Ethics Committee of Gelişim University (26.03.2021-2021-10). The study's stages were all developed in compliance with the requirements of the Declaration of Helsinki. Students who were invited to participate in the study provided informed consent online. All participants were informed of the study's nature, objective, and process, as well as the anonymity and confidentiality of their data.

Measures

Socio-demographic data form

This form was developed by the researchers based on their knowledge of the literature and in accordance with the study's hypotheses. Demographic data of the participants, such as gender, age, university department, university year, living arrangements, economic status, height, and weight, were inquired. In addition, for the exclusion criteria, participants' characteristics such as mental and physiological disorders, treatments, exam periods, and shift work were inquired.

Pittsburgh Sleep Quality Index (PSQI)

This scale was used to evaluate the sleep quality of the participants. It was developed as a self-report¹⁹ item by Buysse et al. in 1989 to determine sleep quality, presence, and severity of sleep disorders in individuals. Cronbach's Alpha value of the original scale was calculated to be 0.83 (Buysse et al. 1989). The scale has seven sub-dimensions, and each dimension is scored between 0-3. The score obtained from the scale varies between 0-21, with an increase in score indicating poor sleep quality. A total score of greater than 5 is interpreted as "poor sleep quality." The Turkish validity and reliability study of the scale was carried out by Ağargün et al. in 1996. The Turkish version of the scale was found to have a value of Cronbach's Alpha of 0.80 (Agargun 1996).

Toronto Alexithymia Scale-20 (TAS-20)

This scale was used to evaluate the alexithymic characteristics of the participants. It was developed by Bagby et al. in 1994. Cronbach's Alpha value of the original scale was calculated to be 0.81 (Bagby et al. 1994). The scale consists of 20 five-point Likert-type items evaluating three sub-dimensions: "Difficulty Identifying Feelings", "Difficulty Describing Feelings" and "Externally-Oriented Thinking". The score that can be obtained from the scale varies between 20-100, with an increase in the score indicating high alexithymic characteristics. The Turkish validity and reliability study of the scale was conducted by Sayar et al. in 2001 (Sayar et al. 2001). According to the Turkish version, it has been suggested that a score of 51 or less can be categorized "non-alexithymia" a score of 52-58 can be categorized "borderline status" and a score of 59 or above can be categorized "alexithymic". The Cronbach's Alpha coefficient was found to

be 0.78 in the internal reliability evaluation of the Turkish version (Güleç and Yenal 2010).

Procedure

Power analysis was performed with the G*power software to calculate the sample number of our study, and when α error: 0.05, power: 0.80, and effect power: 0.15 were calculated for our study, the sample number was found to be 551 for each group and 1102 in total. The study was conducted with 1192 participants considering possible setbacks.

Participants were requested to fill out online forms consisting of three screens, the sociodemographic data form one screen, the PSQI one screen, and the TAS-20 one screen, which lasted roughly 5 minutes, via instant message application groups used by students for announcements. Only university student groups have received contact links. Participants were also requested to confirm that they were, indeed, students during the online consent process. Only consented participants were able to fill out the form. The participants were ensured to fill in the sociodemographic data form, PSQI and TAS-20. The system prevented repeated participation with the log in requirement and by keeping track of the participants' e-mail addresses. Participants who filled out the forms incorrectly or incompletely, had a major psychiatric diagnosis, or had an organic disease impacting their sleep quality were excluded from the study. The scales were assessed accurately, and statistical analyses were performed in accordance with the guidelines established for them.

Body mass index (BMI) was calculated using the weight and height data of the participants. According to the literature, participants were classified as "underweight" with a BMI of <18.5 , "normal" with a BMI of $18.5 \leq \text{BMI} < 25$, "overweight" with a BMI of $25 \leq \text{BMI} < 30$, and "obese" with a BMI of ≥ 30 (Flegal et al. 2013).

Statistical analysis

Statistical analyzes of study data were performed with SPSS 22.0 (IBM Inc., Chicago, IL, USA) and AMOS 24.0. Kolmogorov-Smirnov, kurtosis, and skewness values of the data and its conformity to normal distribution were tested. Descriptive data were presented as frequency and percentage for categorical variables and mean and standard deviation for continuous variables. Student's T-test analysis was employed after conformity to normal distribution was tested in the comparison of continuous variables between the two groups classified as "good sleep quality" and "poor sleep quality". The chi-square test was used to compare categorical variables between two groups: "good sleep quality" and "poor sleep quality." The relationship between the two numerical variables was analyzed with the Pearson Correlation test after testing its conformity to the normal distribution.

In accordance with the aim of the study, logistic regression analysis was employed in conjunction with basic statistics to identify predictors of "poor sleep quality." Structural Equation Model (SEM), a multivariate analysis model, was applied to validate the theoretically constructed model in accordance with the hypothesis that alexithymia has an impact on sleep quality. The statistical significance was accepted as $p \leq 0,05$.

Results

The study included 1192 participants. The average age of the participants was 21.94 ± 3.31 years. Of the participants 54% (n=644) were female, and 46% (n=548) were male. The participants were separated into two groups such as "good sleep quality" and "poor sleep quality," according to their PSQI scores. These two groups were compared. Of the participants 37,8% (n=450) were classified as having "good sleep quality," while 62.2% (n=742) were classified as having "poor sleep quality." The comparison of the participants according to their descriptive sociodemographic data and sleep quality status is presented in Table 1. The two groups were statistically similar in terms of age, gender, income status, person with whom the student lived, faculty and height ($p > 0.05$). However, the variables of university year ($\chi^2 = 2.587$, $p = 0.010$), body weight ($t = -2.209$, $p = 0.027$), BMI ($t = -2.358$, $p = 0.019$) and body composition ($\chi^2 = 12.848$, $p = 0.005$) were statistically found to be different.

Table 1. Comparison of socio-demographic characteristics of the participants according to sleep quality

Variable	Sleep Quality			χ^2/t	df	p
	Total participant	Good (n=450)	Poor (n=742)			
Age; year, mean \pm SD	21.94 \pm 3.31	22.08 \pm 2.97	21.85 \pm 3.50	1.161	1190	0.246
Gender; n (%)				0.497	1	0.481
Female	644 (%54)	249 (%55.3)	395 (%53.2)			
Male	548 (%46)	201 (%44.7)	347 (%46.8)			
Income status; n (%)				4.662	2	0.097
Low	281 (%23.6)	91 (%20.2)	190 (%25.6)			
Middle	535 (%44.9)	208 (%46.2)	327 (%44.1)			
High	376 (%31.5)	151 (%33.6)	225 (%30.3)			
Lives with; n (%)				4.686	3	0.196
Family	460 (%38.6)	173 (%38.4)	287 (%38.7)			
Friends	291 (%24.4)	97 (%21.6)	194 (%26.1)			
Alone	98 (%8.2)	37 (%8.2)	61 (%8.2)			
Hostel	343 (%28.8)	143 (%31.8)	200 (%27.0)			
Faculty; n (%)				6.892	6	0.331
Medicine	130 (%10.9)	52 (%11.6)	78 (%10.5)			
Economics and Administration	67 (%5.6)	24 (%5.3)	43 (%5.8)			
Education	300 (%25.2)	122 (%27.1)	178 (%24.0)			
Engineering	370 (%31.0)	148 (%32.9)	222 (%29.9)			
Health Sciences	166 (%13.9)	54 (%12.0)	112 (%15.1)			
Junior technical college	90 (%7.6)	28 (%6.2)	62 (%8.4)			
Other	69 (%5.8)	22 (%4.9)	47 (%6.3)			
Year at School; year, mean \pm SD	3.00 \pm 1.58	3.15 \pm 1.66	2.90 \pm 1.53	2.587	1190	0.010**
Height; cm, mean \pm SD	170.82 \pm 9.21	170.62 \pm 8.83	170.94 \pm 9.44	-0.592	1190	0.554
Weight; kg, mean \pm SD	67.05 \pm 14.56	65.92 \pm 12.53	67.74 \pm 15.63	-2.209	1101	0.027*
Body Mass Index ; kg/m ² , mean \pm SD	22.81 \pm 3.63	22.51 \pm 3.09	23.00 \pm 3.91	-2.358	1108	0.019*
Body Composition; n (%)				12.848	3	0.005**
Underweight	93 (%7.8)	34 (%7.8)	59 (%8.0)			
Normal	832 (%69.8)	335 (%74.4)	497 (%67.0)			
Overweight	224 (%18.8)	74 (%16.4)	150 (%20.2)			
Obese	43 (%3.6)	7 (%1.6)	36 (%4.9)			

*:p \leq 0.05, **:p \leq 0.01

The comparison of the clinical data of the participants based on their sleep quality status is presented in Table 2. Therefore, between the two groups a statistically significant difference was discovered in terms of TAS-20 total ($t=-10.989$, $p<0.001$), Difficulty Identifying Feelings ($t=-12.167$, $p<0.001$), Difficulty Describing Feelings ($t=-8.191$, $p<0.001$), and Externally-Oriented Thinking ($t=-2.427$, $p=0.015$) and alexithymia states ($\chi^2=70.863$, $p<0.001$).

Table 2. Comparison of clinic characteristics of the participants according to sleep quality.

Variable	Sleep Quality			χ^2/t	df	p
	Total participant	Good (n=450)	Poor (n=742)			
Toronto Alexithymia Scale;						
mean \pm SD	17.30 \pm 5.93	14.85 \pm 5.06	18.78 \pm 5.93	-12.167	1062	<0.001**
Difficulty Identifying Feelings;						
mean \pm SD	13.84 \pm 3.03	12.96 \pm 2.77	14.37 \pm 3.07	-8.191	1023	<0.001**
Difficulty Describing Feelings;						
mean \pm SD	25.30 \pm 3.59	24.98 \pm 3.85	25.50 \pm 3.40	-2.427	1190	0.015*
Externally-Oriented Thinking;						
mean \pm SD	56.45 \pm 9.55	52.80 \pm 8.61	58.66 \pm 9.42	-10.989	1013	<0.001**
Alexithymia; n (%)				70.863	2	<0.001**
Non-alexithymic	361 (%30.3)	190 (%42.2)	171 (%23.0)			
mean \pm SD	375 (%31.5)	150 (%33.3)	225 (%30.3)			
Alexithymia; n (%)	456 (%38.3)	110 (%24.4)	346 (%46.6)			
Non-alexithymic	7.35 \pm 3.32	4.26 \pm 1.41	9.22 \pm 2.69	-41.543	1169	<0.001**

*: $p\leq 0.05$, **: $p\leq 0.01$

Table 3. Correlations between Pittsburgh Sleep Quality Index and Toronto Alexithymia Scale-20, age, year at school, body mass index

Variable	Pittsburgh Sleep Quality Index	
	r	p
Age	-0.017	0.566
Body Mass Index	0.057	0.050*
Year at school	-0.029	0.309
Toronto Alexithymia Scale-20		
Difficulty Identifying Feelings	0.391	<0.001**
Difficulty Describing Feelings	0.234	<0.001**
Externally-Oriented Thinking	0.048	0.101
Total	0.335	<0.001**

*: $p\leq 0.05$, **: $p\leq 0.01$

The correlations between the participants' PSQI and TAS-20 total and sub-dimensions, age, university year, and BMI variables are presented in the Table 3. Accordingly, a statistically positive relationship was discovered in terms of PSQI and BMI ($r=0.057$, $p=0.050$), TAS-20 total score ($r=0.335$, $p<0.001$, Figure-1), Difficulty Identifying Feelings ($r=0.391$, $p<0.001$), and Difficulty Describing Feelings ($r=0.234$, $p<0.001$) scores.

The regression model that emerged in the logistic regression analysis performed to examine the variables thought to have an effect on poor sleep quality in line with the basic statistics was evaluated as statistically significant ($\chi^2 (9)=124.467$, $p<0.001$). BMI

($p=0.019$, $OR=1.1047$, $95\% CI 1.008-1.087$) and TAS-20 ($p<0.001$, $OR=1.076$, $95\%CI 1.060-1.092$) were detected to be significant predictors for poor sleep quality according to the model. Values related to the logistic regression model are presented in Table 4.

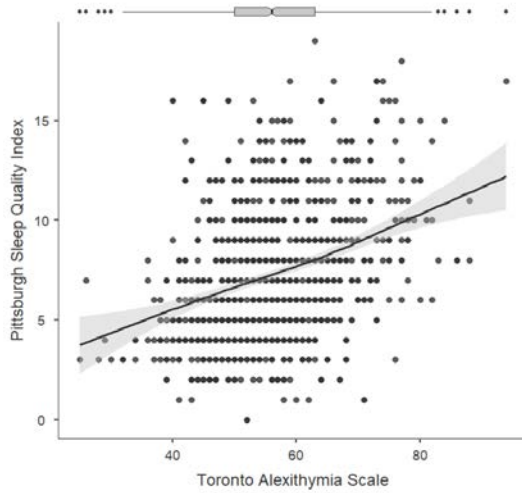


Figure 1. The relationship between the Pittsburgh Sleep Quality Index and the Toronto Alexithymia Scale

Table 4. Logistic regression model created to determine predictors of poor sleep quality

	B	S.E.	Wald	df	p	Odds ratio	95% CI	
							Lower	Upper
Age (increase 1-point)	-.010	.019	.273	1	0.601	0.990	0.953	1.028
Gender (male)	-.102	.137	.556	1	0.456	0.903	0.690	1.181
Body Mass Index (increase 1-point)	.046	.019	5.534	1	0.019	1.047	1.008	1.087
Lives with (family)	-.090	.171	.277	1	0.599	0.914	0.654	1.278
Lives with (friends)	-.064	.247	.068	1	0.794	0.938	0.578	1.520
Lives with (alone)	-.292	.157	3.451	1	0.063	0.747	0.549	1.016
Lives with (hostel)			2.591	2	0.274			
Income status (low)	-.266	.166	2.571	1	0.109	0.766	0.553	1.061
Income status (middle)	-.203	.178	1.299	1	0.254	0.816	0.576	1.157
Income status (high)	.073	.008	92.722	1	<0.001	1.076	1.060	1.092

Figure-2 belongs to the model developed to assess the effect of TAS-20 on PSQI. TAS-20 has been shown to have a statistically significant and moderate effect on PSQI in the right direction, according to the model. Interactions between clinical parameters are

statistically significant and a standardized regression coefficient of 0.38 between TAS-20 and PSQI was found. Model fit criteria include the goodness of fit index (GFI) of 1.000, the adjusted goodness-of-fit index (AGFI) of 0.999, minimum discrepancy function by degrees of freedom (CMIN/DF) of 0.294, the comparative fit index (CFI) of 1.000, and the root mean square error of approximation (RMSEA) of <0.001. The criteria show that the model has a perfect fit.

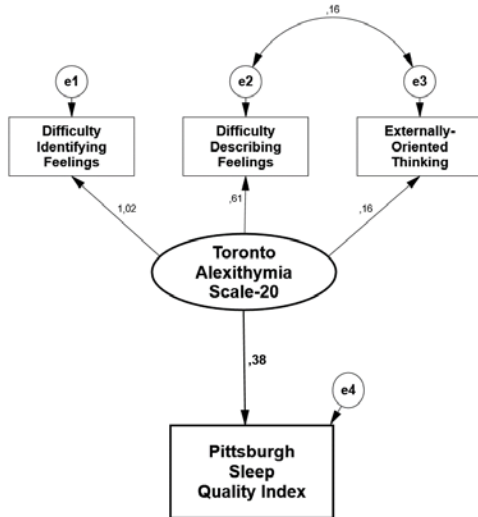


Figure 2. Figure of the structural equation model

Discussion

The most notable finding of the present study, which examined the relationship between alexithymia and sleep quality among university students, is that a relationship between alexithymia and poor sleep quality were shown in a homogeneous population. Another significant finding is that alexithymia and BMI were shown to be an independent predictors of poor sleep quality.

In the current study, it was observed that there was a positive relationship between sleep quality and alexithymia, and individuals with poor sleep quality had higher alexithymia scores. Our findings are consistent with the reports in the literature (Bazydło et al. 2001, Bauermann et al. 2008, Murphy et al. 2018, Rehman et al. 2018, Ma et al. 2020). This result could be due to a variety of reasons. Internalized psychic conflicts and the inability to express these issues may be causing increased sleeplessness at night in alexithymic individuals (Hyypä et al. 1990). Furthermore, the fact that alexithymic individuals may have a decrease in slow-wave sleep, as reported in polysomnography studies, should be regarded as an explanation for poor sleep quality (Bazydło et al. 2001). When the relationships between subjective insomnia symptoms and increased brain activity, as well as the relationships between increased brain activity and alexithymia, are considered together, the relationship between alexithymia and sleep quality may constitute an indirect cause-effect relationship (Nofzinger et al. 2004, van der Velde et al. 2013). Sleep-related symptoms such as sleepwalking and nightmares may be a reason for poor sleep quality in alexithymic individuals. (Bauermann et al. 2008).

This hypothesis supports that the dreams remembered by alexithymic individuals are repetitive as just a daytime experience, possibly due to the narrowness of the fantasy life, or are highly disturbing due to the lack of symbolization and failure of ego defenses. (Parker et al. 1998). However, the fact that mental and physical disorders are associated with both alexithymia and sleep disorder may be a reason for our encounter with this result. (Leweke et al. 2012, Ricciardi et al. 2015). It is also important to note that alcohol-psychoactive substance use and/or psychotropic drug use due to mental problems may have a negative effect on sleep quality even if the diagnosis is not formed here, and the prevalence of these conditions in alexithymic individuals may be another reason (Thorberg et al. 2009, Hamidi et al. 2010). It should be considered that lower sleep quality reports reported by alexithymic individuals may reflect the presence of subjective sleep problems or preoccupation with sleep-related symptoms.. Furthermore, the relationship between alexithymia and perception, as well as evidence that low perceptual accuracy is associated with poor sleep quality, raise the possibility that alexithymia is the mechanism causing sleep disruption (Murphy et al. 2018). However, the direction of causality is unclear and at the same time, it is possible that poor perception accuracy leads to high alexithymia, which leads to poor sleep quality and an increased risk of psychiatric disorders, or that poor sleep quality affects perceptions leading to alexithymia and mental health problems. The mechanism of alexithymia causing sleep disturbance still remains unclear. Aside from the fact that there is a lot of evidence linking alexithymia and poor sleep, it should be considered that some psychiatric symptoms may mediate this relationship (Freeman et al. 2017). For example, poor sleep quality may be associated with anxiety and depressive symptoms, rather than alexithymia (Murphy et al. 2017). However, this is a long-debated topic, and there are studies that suggest alexithymia may be correlated with poor sleep quality independent of psychiatric symptoms (Murphy et al. 2018). It is not possible to express an opinion on this issue because we did not evaluate the possible variables that effect the relationship between alexithymia and sleep quality in university students in the present study. It should be remembered that physical symptoms of alexithymic individuals may also have an effect on sleep quality (Ricciardi et al. 2015). Different perceptions of physical symptoms will almost certainly have a negative effect on sleep quality. Therefore, future studies employing longitudinal designs to study the relationship between alexithymia, perception, and sleep using both subjective and objective measures of perception and sleep quality would be beneficial.

BMI was discovered to be another variable affecting sleep quality in our study, in addition to alexithymia. The relationship between weight gain and sleep quality has long been studied and consistently demonstrated (Rahe et al. 2015, Fatima et al. 2016). Therefore, it is possible to state that the results of our study are compatible with the literature. This result could be due to both physical and mental causes. Firstly, the negative impacts of the physiological effects of weight gain such as breathing and mobility on sleep quality are inevitable (Hargens et al. 2013). However, there could be another reason why the psychological effects of weight gain, such as anxiety, depression, and being disliked, are associated with sleeplessness (Araghi et al. 2013, Fatima et al. 2016).

The findings of the present study should be weighed against their limitations as well as their strengths. The fact that our study is conducted during the Covid-19 pandemic via online methods is a significant limitation. Another issue is that the assessment

methods utilized were self-report scales, which may have led to participant manipulation. Although online forms were utilized to set inclusion and exclusion criteria, they do not substitute the psychological evaluation to be performed. Finally, the fact that the study population was composed of university students can be regarded as a barrier to generalize the findings.

Conclusion

Our study has revealed a relationship between alexithymia and poor sleep quality. It is obvious that alexithymic characteristics should be considered when developing therapeutic approaches for sleep quality. It is possible to think that future studies' concentration on characteristics mediating the association between alexithymia and sleep quality will be beneficial in treatment planning.

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