Original Article

Evaluation of the Relatıonship between the Cybercondry Levels of University Students and Irrational Beliefs

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Abstract

Aim: The aim of this study is to examine the relationship between university students' level of cyberchondria and their irrational beliefs.

Method: The descriptive research was conducted with 404 students studying at the health science departments of a foundation university. The data were collected by "Student Introduction Form", "Cyberchondria Scale" and "Irrational Beliefs Scale".

Results: It was determined that the total score that the students got from the Cyberchondria Scale was 69.75, and the mean score of the Irrational Beliefs Scale was 135.06. When the relationship between the students' Cyberchondria scale and its sub-dimensions and the mean ranks they got from the Irrational Beliefs scale and its sub-dimensions were examined, there was a weak positive relationship between the anxiety-increasing factors sub-dimension of the Cyberchondria scale and the need for approval sub-dimension of the Irrational Beliefs Scale (r = 0.20), and a weak negative correlation (r = -0.25) was found between the emotional irresponsibility sub-dimension. A weak positive correlation was observed between the compulsion-hyperchondria subscale of the Cyberchondria scale and the need for approval, high expectations, and blame tendency of the Irrational Beliefs Scale (r = 0.20, r = 0.22, r = 0.31), a weak negative correlation was found between emotional irresponsibility sub-dimension (r = -0.20). A weak positive correlation was observed between the total rank of the Cyberchondria scale and the sub-dimensions of the Irrational Beliefs Scale for the need for approval and blame disposition (r = 0.21, r = 0.23), a weak negative correlation was found with the emotional irresponsibility sub-dimension (r = -0.23)

Conclusion: The conclusion of the study shows that there is a positive and significant relationship between university students' level of cyberchondria and their irrational beliefs.

Keywords: Student, cyberchondria, irrational beliefs.

Introduction

More people can easily access health-related information with the increase in internet usage with the developing technology over the years. 45% in the world at the end of 2015; It has been determined that approximately 3.2 billion people are internet users and most of them live in developing countries (Internationa1 Telecommunication Union, 2015; Internet Usage Statistics, 2020). In Turkey, this ratio 51%; that is, 40 million people have been determined to be internet users (The World Bank, 2020). TURKSTAT's "2015 Household Information Technology Usage Survey" is based on the Internet usage rate in Turkey is 55.9%. (TURKSTAT, 2015a) According to research conducted in the USA in 2011 89% of internet users and 60% of them in the last month have made health information research on the internet (Engaging Patients and Families: How Consumers Value and Use Health IT, 2014). According to TURKSTAT data; in Turkey in the last 3 months, 66.3% of people using the internet are stated to search for information on health-related issues (TURKSTAT, 2015b). Recently, the term "cyberchondriasis" derived from the words "cyber" and "hypochondriasis" has been used to explain the negative consequences of searching for health information on the internet (Starcevic & Berle, 2013; Hart & Bjorgvinsson, 2010). The exacerbation of health anxiety as a result of a repeated search for medical information on the Internet has been termed "cyberchondria", people who obsessively research health information about certain symptoms, whether real or imaginary, on the internet are defined as "cyberchondriacs" (Taylor & Asmundson, 2004; Oxford Dictionaries, 2021).

Cyberchondriacs can easily access unfiltered health information through search engines. Although people seeking health information on the Internet report that they pay attention to the reliability of websites in practice, they pay little attention to this in practice, and users rarely remember the websites from which they obtain information (Eysenbach & Kohler, 2002). Quality health information can be found on the internet, but it is stated that this information should generally be evaluated in the context of incomplete/insufficient health information because most of the information is often incomplete and incorrect (Purcell et al., 2002).

Researchers have concluded that the quality and accuracy of the information on health-related sites are questionable (Kunst et al., 2002; Rajani et al., 2007). Therefore, using the internet to obtain health-related information may increase the risk of individuals being exposed to conflicting, incorrect, or outdated information.

According to Fox's research, 46% of people who search the internet about health think that they should get expert help in line with the information they find. About a quarter of White and Horvitz health-related Internet searchers, Berezovska et al. found that approximately 30% of people searching the Internet about health caused the use of health services. (Fox & Duggan, 2013; White & Horvitz, 2009; Berezovska et al., 2010). In the literature conducted by Ertaş et al. with students of health sciences faculty, it was concluded that the cyberchondria levels of women and students who regularly use drugs were higher (Ertas et al., 2020).

It is stated that most individuals who do health research on the Internet look at interesting, even frightening, serious medical conditions that are less likely to occur than a certain situation that is more likely to occur. These repetitive searches made to reduce health-related anxiety cause further anxiety. Cyberchondria may be associated with difficulty distinguishing between reliable and unreliable online sources of information. This situation may also affect the individual's education level, information processing ability, and technological knowledge (Altındis et al., 2018).

The meanings attributed to the events and the comments made determine the emotional and behavioral reactions of the people. Thinking errors that mediate difficulties ranging from low-level communication conflicts to serious mental disorders are named cognitive distortions in Beck's model, and irrational beliefs in Ellis's model (Türküm, 2003). Ellis argues that all humans have two fundamental goals: the first is to stay alive, the second is to feel relatively happy while staying free from pain. Rationalism is the beliefs that facilitate the happiness and survival of the individual, support and help them achieve their basic goals and

objectives. Irrationality is defined as the beliefs that prevent happiness and survival, and from achieving their basic goals and objectives (David et al.,2010).

The Rational Emotional Behavioral Approach asserts that the reasons that negatively affect the mental health of people are not bad environmental conditions, but that they make themselves emotionally and behaviorally dysfunctional and behave irrationally. In this approach, irrational beliefs are seen as the main factor that creates emotional disturbances and mismatch in people (Ellis, 1994).

Ellis said in 1962 that 11 irrational beliefs are common among people. He says that these beliefs are basic irrational beliefs. These:

1- One must be approved and loved by almost every significant person in society.

2- In order for a person to see herself as worthy, she/he must be fully capable, competent, and successful.

3- Some people are evil, treacherous, and mean. They must feel seriously guilty and must be punished.

4- It is a terrible catastrophe when something is not the way one wishes it to be.

5- Unhappiness is caused by external factors and a person is inadequate to control them.

6- A person should be extremely concerned with dangerous and scary things and keep thinking about the possibility of it happening.

7- Certain life challenges and personal responsibilities are easier to escape than to face.

8- The person must be dependent on others and someone stronger than him/herself to trust.

9- The past life of a person is wholly the important decision-maker in her/him current behavior, and so similar effects must last forever when something significantly affects one's life.

10- The person should feel sorry for the problems and ailments of others.

11- There is always a correct, precise, and perfect solution to human problems, and if this solution is not found, it will be disastrous (Spencer, 2005).

Irrational beliefs are defined as a logically inaccurate thought that is incompatible with one's long-term goals and experimental reality (Weinrach, 2006).

It can be said that irrational beliefs have effects on mental health. The environment and self-perception of the person may have positive and negative effects on the formation of personality structure and mental health. The person can react as perceived. Misperceptions and interpretations can cause the person to develop irrational beliefs and these irrational beliefs can continue to affect the individual's life after they are formed (Collard & Fuller-Tyskiewicz, 2020). Incorrect health information reached by using technology can have negative consequences on the mental health of individuals.

In this research, it was aimed to examine the relationship between university students' level of cyberchondria and their irrational beliefs.

Research Questions

1.   What are the cyberchondria levels of university students and what are the factors associated with it?

2.   What are the irrational belief levels of university students and what are the factors associated with it?

3.   Is there a relationship between university students' levels of cyberchondria and irrational belief levels?

Materials and Methods

Research Type: It is of the descriptive type.

Sample: The universe of the study consists of all students studying at a foundation university's health sciences college in the 2019-2020 academic year. (n=2162). The sample size was determined as 326 students taking into account the sample size table with 95% reliability and a margin of error of ±0.05. The sample group consists of 404 university students who meet the following criteria. Inclusion criteria in the study;

• Being at school on research dates
• Volunteering to participate in research

Data Collection Tools: Data were collected through the General Information Form, the Cyberchondria Scale, and the Irrational Beliefs Scale.

General Information Form: It consists of nine questions, namely "age, gender, living place, cigarette, alcohol use status, the living and

togetherness of the mother and father, psychiatric diagnosis status, psychiatric medication use, presence of an individual with a psychiatric diagnosis in the family" to determine the demographic characteristics and mental state of the students.

Cyberchondria Scale: It was developed by Mcelroy and Shevlin (2014), Batigun et al. (2018) has a five similarity scale and consists of five subsections and 28 statements.The sub-dimensions that make up the scale; Factors Increasing Anxiety, Compulsion / Hypochondria, Factors Reducing Anxiety, Doctor-Patient Interaction, Non-Functional Internet Use. The increase in the scores obtained from the total or each of the sub-dimensions indicates that the behavior of seeking information about health increased (Batıgün et al.2018). In this study, the Cronbach-alpha coefficient of the scale was 0.96.

Irrational Beliefs Scale: Validity and reliability studies of the scale developed by Jones (1969) were conducted by Yurtal in 2001. The scale is a five-point Likert type and consists of 45 questions.. The scale consists of eight sub-dimensions: "Need for Approval", "High Expectations", "Blame Tendency", "Emotional Irresponsibility", "Excessive Anxiety", "Dependence", "Helplessness" and "Perfectionism". Higher scores on the scale indicate that irrational beliefs increase (Yurtal, 1997). In this study, the Cronbach-alpha coefficient of the scale was found to be 0.74.

Data Collection: The data were collected via google forms in about 15-20 minutes.

Data Evaluation: Statistical analyses were performed using IBM SPSS for Windows Version 22.0 package program. Number, percentage, mean, and standard deviation were used as descriptive tests. Whether the numerical variables showed normal distribution was examined by the Kolmogorov Smirnov test. It was determined that the data did not show normal distribution (p=0.00). Spearman Rank Differences were investigated using Correlation analysis to determine the relationship between the scores obtained from the Cyberchondria Scale and the scores of the Irrational Beliefs Scale. The analysis of the difference between sociodemographic data and scale scores was evaluated using the Mann-Whitney U, Kruskal Wallis test. The level of significance was taken as p <0.05.

Ethical Aspect of the Research: Before starting the research, the ethics committee permission to work with the students in the institution from the Istanbul Medipol University Non-Interventional Clinical Research Ethics Committee was obtained by the decision numbered 10840098-604.01.01-E.65123 and the students who participated in the study were approved via google forms.

Results

The mean age of the students participating in the study is 19.60 ± 1.99 years, 84.4% of them are women. 72% of the students live with their families, 90.1% of them live together with their parents. It was determined that 30.5% of the students were using cigarettes and 23.3% were using alcohol, 18.3% had a psychiatric diagnosis, 11.4% used psychiatric drugs, and 18.3% had individuals with a psychiatric diagnosis in their family (Table 1).When the total and subdivisions of the Cyberchondria Scale are evaluated in the score meanss; students scored a total score of 69.76±23.13 on the scale; 13.38±5.17 points from the sub-dimension of "factors that increase anxiety", 13.25±5.10 points from the subdivision of "factors that reduce anxiety", It was found to score 12.58±5.96 points from the sub-dimension of "compulsion-hypercondria", 10.49±3.99 points from the sub-dimension of "doctor-patient interaction", and 17.71±5.47 points from the sub-dimension of "dysfunctional internet use". (Table 2) When the mean rank of the students from the Cyberchondria Scale was compared with their individual characteristics, it was found that there was no statistically significant difference between the descriptive characteristics of the students and the mean rank of the Cyberchondria scale (p>0.05), (Table 1).When the mean points and subdivisions of the Irrational Beliefs Scale are examined; scale total score 135.06±8.55, "Subscale of Approval" score 18.10±3.19, "High Expectations Subscale" score 20.12±3.07, "Blame Trend Subscale" score 13.18±2.95, "Emotional Irresponsibility Subscale" score 22.65±3.81, The "Extreme Anxiety Subscale" score was 15.51±2.48, the "Subscale of Dependence" score was 15.44±1.90, the "Subscale of Desperation" score was 17.25±2.76, and the "Subscale of Excellence" score was 12.81±2.01. (Table 2). When the mean ranks of the Irrational Beliefs scale of the students were compared with

their individual characteristics, there was a statistically significant difference between the cigarette and alcohol consumption of the students and the mean ranks of the Irrational Beliefs scale; It was determined that the mean rank of the students who used alcohol was statistically significantly higher than those who did not (p<0.05). It was observed that the mean ranks of the Irrational Beliefs Scale of the students with a psychiatric diagnosis were significantly higher at the advanced level compared to the other students (p<0.01), (Table 1). When the relationship between the students' Cyberchondria scale and its sub-dimensions and the mean ranks they got from the Irrational Beliefs scale and its sub-dimensions were examined, there was a weak positive relationship between the anxiety-increasing factors sub-dimension of the Cyberchondria scale and the need for approval sub-dimension of the Irrational Beliefs Scale (r = 0.20), and a weak negative correlation (r = -0.25) was found between the emotional irresponsibility sub-dimension. A weak positive correlation was observed between the compulsion-hyperchondria subscale of the Cyberchondria scale and the need for approval, high expectations, and blame tendency of the Irrational Beliefs Scale (r=0.20, r=0.22, r=0.31), a weak negative correlation was found between emotional irresponsibility sub-dimension (r=-0.20). A weak positive correlation was observed between the total rank of the Cyberchondria scale and the sub-dimensions of the Irrational Beliefs Scale for the need for approval and blame disposition (r=0.21, r=0.23), a weak negative correlation was found with the emotional irresponsibility sub-dimension (r =-0.23). There was no correlation between the other sub-dimensions. (r<0.20) (Table 3)

Dıscussion

According to the results of the research, it was determined that the cyberchondria levels of the participants were at a medium level. Similarly, in the studies conducted on university students by Altindis et al (2018)., Tiritoglu (2018), Elciyar, and Tasci (2017) and Uzun (2016), it was found that the cyberchondria levels of the participants were at medium level. In these studies conducted with university students, it is thought that this result may be encountered due to the higher rate of internet

use of the young age group. Considering the negative effects of cyberchondria, such as increasing the anxiety and worries of individuals and directing them to wrong treatment, turning into a disease in the future, wasting both individual and social resources, it is desirable that this result is not high and this result is recommended to be further reduced.In the study, it was observed that the irrational beliefs of the university students were at a moderate level. It is stated that irrational beliefs are frequently encountered during university years and negatively affect the functionality of students' daily lives (Kamae ve Weisani, 2014). It was determined that the mean rank of the students with a psychiatric diagnosis in the Irrational Beliefs Scale was higher than the other students. Many studies conducted in western countries have revealed an important relationship between irrational beliefs and psychological distress in university students (Al-Salameh, 2011; Dilorenzo et al., 2011; Robert and Harnish, 2010). Some studies have suggested that irrational beliefs are higher in a given academic year (first year) and in some faculties (eg Law and Medicine), (Lake, 2000; Sheehy and Horan, 2004). The studies carried out support our study. It was determined that students who used alcohol had higher Irrational Beliefs scores than those who did not. In studies investigating the relationship between alcohol use and irrational beliefs, it was found that individuals who use alcohol have higher irrational beliefs (Ugurlu et al. 2012; Cakmak and Ayvaşık, 2007; Syvertsen, 2005).Students were found to have a positively weak relationship between their levels of cyberchondria and their irrational beliefs. When the literature is examined, when the predictive relationships between cyberchondria and irrational beliefs of university students are examined, a limited number of studies have been found. In the study of Hamarta et al. (2009), it was found that as the level of irrational beliefs of university students increased, their level of coping with problems decreased. In the study of Can (2009), it was found that there is a positive significant relationship between the level of irrational beliefs of university students and their increased panic decision-making levels. In the literature, it is stated that students with increased levels of unwise beliefs have short-term goals instead of long-term goals, have a negative view of

the future, and take a desperate and submissive approach to deal with stress (Can, 2009; Akbag, 2000; Morris, 1992; Stead et al., 1994). In the study of Bilge and Arslan (2000), it was observed that as the level of irrational thinking of students increased, their problem-solving skills decreased, and their level of social support and help from experts, which they could not solve their problems effectively, decreased. In the study of Ertaş et al. (2020), it was determined that as the perceived health status of individuals improves, the level of cyberchondria decreases..

Table 1. Distribution of Students' Individual Characteristics (n=404)

Variables	Number	Percentage	Cyberchondria Scale		Irrational Beliefs Scale	
			Mean Rank	Test and p value	Mean Rank	Test and p value
Age (19,60±1,99; 18-25)						
Gender Female Male	341 63	84.4 15.6	199.94 216.38	Z=-1.027 p=0.304	200.18 215.08	Z=-0.932 p=0.352
Who lives with With her/his family (nuclear family) With her/his family (extended family) In dormitory Alone	291 37 49 27	72% 9.2% 12.1% 6.7%	200.37 210.66 172.10 269.43	KW=5.329 p=0.149	197.02 217.28 199.20 247.28	KW=5.709 p=0.127
Cigarette Consumption Smoking Not smoking	125 279	30.5% 69.5%	211.85 203.83	Z=-2.230 p=0.126	211.32 204.07	Z=-2.171 p=0.130
Alcohol Consumption Drinking Not Drinking	94 310	23.3% 76.7%	208.83 200.58	Z=-0.600 p=0.548	229.50 194.31	Z=-2.562 p=0.010
Psychiatric Diagnosis Status Yes No	37 367	9.2% 90.8%	224.18 200.31	Z=-1.185 p=0.236	251.30 197.58	Z=-2.670 p=0.008
Psychiatric Medication Use Yes No	46 358	11.4% % 88,6%	192,39 203,80	Z=-,624 p=0,533	229,22 199,07	Z=-1,650 p=0,099
Psychiatric Diagnosis in the Family Yes	74	18,3% 81,7%	205,18 201,90	Z=-0,219 p=0,827	216,84 199,28	Z=-1,170 p=0,242

No	330					
Parents Togetherness and Living Status						
Together	363	90,1%	202.10	KW=8.38	201.03	KW=7.770
Divorced/Seperated	17	4,2%	242.68	7	231.79	p=0.100
No Mother	8	2%	233.44	p=0.078	113.69	
No Father	13	3.2%	148.50		230.23	
No Parents	2	0.5%	59.75		294.25	

Table 2. Students' Cyberchondria Scale and Irrational Beliefs Scale scores (n=404)

Scales and Sub-Sizes	Minimum	Maximum	Mean	SD
Factors That Increase Anxiety	5.00	25.00	13.38	5.17
Compulsion Hypochondria	6.00	30.00	12.58	5.96
Factors That Reduce Anxiety	5.00	25.00	13.25	5.10
Physician-Patient Interaction	4.00	20.00	10.49	3.99
Non-Functional Internet Usage	6.00	30.00	17.71	5.47
Cyberchondria Total	27.00	135.00	69.75	23.13
Need for Approval	9.00	26.00	18.10	3.19
High Expectations	11.00	31.00	20.12	3.07
Blame Tendency	5.00	21.00	13.18	2.95
Emotional Irresponsibility	12.00	33.00	22.65	3.81
Excessive Anxiety	8.00	25.00	15.51	2.48
Perfectionism	7.00	20.00	12.81	2.01
Despair	9.00	25.00	17.25	2.76
Be addicted	8.00	24.00	15.44	1.90
Irrational Beliefs Total	100.00	165.00	135.06	8.55

 Table 3. Students' Cyberchondria Scale and Sub-Dimensions with Irrational Beliefs Scale and The Relationship Between Mean Rank They Got From Its Sub-Dimensions (N=404)

Scales and Sub-Sizes	Factors That Increase Anxiety	Compulsion Hypochondria	Factors That Reduce Anxiety	Physician-Patient Interaction	Non-Functional Internet Usage	Cyberchondria Total
Need for Approval	0.204**	0.209**	0.189**	0.193**	0.156**	0.217**
High expectations	0.164**	0.223**	0.159**	0.061	0.065	0.160**
Blame Tendency	0.157**	0.319**	0.153**	0.199**	0.115*	0.233**
Emotional Irresponsibility	-0.253**	-0.206**	-0.127**	-0.180**	-0.159**	-0.237**
Excessive Anxiety	-0.066	-0.095	-0.056	-0.067	0.019	-0.066
Perfectionism	0.174**	0.075	0.152**	0.095	0.112*	0.121*
Despair	0.101*	-0.013	0.043	0.043	0.114*	0.060
Be addicted	0.049	0.049	0.013	0.021	-0.027	0.039
Irrational Beliefs Total	0.161**	0.167**	0.139**	0.105*	0.115*	0.157**

*:p<0.05 **:p<0.01

Rconclusions and Recommendatıons: In this study to determine the relationship between university students' cyberchondria levels and irrational belief levels; The students' cyberchondria and irrational belief levels were found to be moderate; students were found to have a positively weak relationship between their levels of cyberchondria and their irrational beliefs. To reduce the level of cyberchondria, it is necessary to establish a mechanism to control the content of health information on the Internet and prevent misleading or false information sharing, permission must be obtained from the Ministry of Health for the health information published by health institutions or physicians on their web pages, issues that need to be considered while researching health information on the internet should be included in the press. It is important that healthcare institutions, universities, non-governmental organizations create websites where individuals can access accurate and secure health information and make them accessible for access. These regulations have an important place in reducing the anxiety level of the patients. Since excessive increases in the level of anxiety may impulsively affect the person and direct them to initiatives that will affect other irrational belief variables, it is very important to take control, make attempts to reduce the anxiety level, and be informed on this issue. Although it is a limitation that this study was conducted only in Istanbul, whether the individuals' irrational beliefs and cyberchondria levels differ according to demographic characteristics; It is also important in revealing the relationship between irrational beliefs and cyberchondria levels. It is thought that it would be useful to conduct similar research on the subject in a wider geography, with more participants and by including them in different variables.

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