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INVESTIGATION OF FACTORS RELATED TO CYBERCHONDRIA LEVELS OF HEALTH MANAGEMENT AND BANKING AND INSURANCE DEPARTMENT STUDENTS: AN EMPIRICAL ANALYSIS

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ABSTRACT

In recent years, the internet has become a primary source of information and communication on nearly every topic imaginable and health information is no exception. More and more people are turning to the internet for answers regarding their health concerns, and for many, this has turned into an unhealthy obsession. The excessive examination of health information on the internet and the resulting increase in health anxiety has been given the name "cyberchondria". This study aimed to reveal the effects of health education on the expression of cyberchondria by comparing two undergraduate departments, one of which received health education at the undergraduate level and one of which did not receive health education. A total of 418 participants took part in the study. The T-test and Mann-Whitney-U test were used to evaluate the differences between the two variables, while One-Way Analysis of Variance (ANOVA) and the Kruskal-Wallis test were used to evaluate the differences between three or more variables. The independent variables in this study, which consisted of a range of demographic information, showed no statistically significant difference between the departments. However, when the mean scores of the departments were examined, it was observed that the students who had received health education had lower scores on the Cyberchondria Severity Scale (CSS). This supports the results obtained in some previous studies. As a result, it can be concluded that the availability of accurate and formal health education is an important factor in reducing the levels of cyberchondria.

Keywords: Cyberchondria, Health Anxiety, Health Education, Online Health Research, Online Research

SAĞLIK YÖNETİMİ VE BANKACILIK VE SİGORTACILIK BÖLÜMÜ ÖĞRENCİLERİNİN SİBERKONDRİ DÜZEYLERİYLE İLGİLİ FAKTÖRLERİN İNCELENMESİ: AMPİRİK BİR ANALİZ

ÖZ

Son yıllarda internet, sağlık bilgileri de dahil olmak üzere akla gelebilecek hemen hemen her konuda birincil bilgi ve iletişim kaynağı haline gelmiştir. Giderek daha fazla insan sağlık sorunlarıyla ilgili cevaplar için internete yönelmektedir. Birçokları için bu sağlıksız bir saplantıya dönüşebilmektedir. İnternetteki sağlık bilgilerinin gereğinden fazla incelenmesi ve buna bağlı olarak sağlık kaygısının artmasına "siberkondri" adı verilmiştir. Bu çalışma, biri lisans düzeyinde sağlık eğitimi alan ve biri sağlık eğitimi almayan iki lisans bölümünü karşılaştırarak sağlık eğitiminin siberkondrinin üzerindeki etkilerini ortaya koymayı amaçlamıştır. Çalışmada toplam 418 katılımcı yer almıştır. İki değişken arasındaki farkları değerlendirmek için T-testi ve Mann-Whitney-U testi, üç ve daha fazla değişken arasındaki farkları değerlendirmek için Tek Yönlü Varyans Analizi (ANOVA) ve Kruskal-Wallis testi kullanıldı. Bir dizi demografik bilgiden oluşan bu çalışmada bağımsız değişkenler, bölümler arasında istatistiksel olarak anlamlı bir farklılık göstermemiştir. Ancak bölümlerin puan ortalamaları incelendiğinde sağlık eğitimi alan öğrencilerin Siberkondri Şiddet Ölçeği (CSS) puanlarının daha düşük olduğu görülmüştür. Bu, daha önce yapılan bazı çalışmalarda elde edilen sonuçları desteklemektedir. Sonuç olarak sağlık eğitiminin bulunmasının siberkondri düzeylerinin düşürülmesinde önemli bir faktör olduğu sonucuna varılabilir.

Anahtar Kelimeler: Siberkondri, Sağlık Kaygısı, Sağlık Eğitimi, Çevrimiçi Sağlık Araştırması, Çevrimiçi Araştırma

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INTRODUCTION

In today's world, the internet reigns as one of the biggest technological developments in the last few decades, used by billions of people worldwide and utilized in virtually every field. Due to its uniquely global reach, countless studies have been carried out across the world investigating various facets of people's internet usage. According to the Global Digital Report published in 2018, approximately 53% of the world's population (4 billion people) are internet users, and this rate increases by a mean of 7% each year (We Are Social, 2018). In 2020, a Household Information Technologies (IT) Usage Survey was conducted by TUIK to determine the internet usage of people living in Turkey. From this survey, it was determined that 79% of people between the ages of 16-74 living in Turkey are internet users. This result showed an increase of approximately 4% compared to the previous year (TÜİK, 2020).

The concept of cyberchondria causes a new health behavior because it expresses the anxiety caused by the search for excessive health information on the internet (Harding et al., 2008). Various definitions of cyberchondria have been made in academic literature. One of the most accepted of these definitions was made by McElroy and Shevlin, who define cyberchondria as: "increase in self anxiety as a result of an excessive examination of online health information" (McElroy & Shevlin, 2014). In another definition, White and Horvitz describe cyberchondria as "an unnecessarily increased level of anxiety in people as a result of the examination of research on the internet and other literature information" (White & Horvitz, 2009).

The emergence of the Covid-19 epidemic in the world has had various consequences. One of these consequences is that people begin to carry out many of their basic activities online in order to minimize the spread of the virus through social contact. The increase in the use of the Internet also increases the level of cyberchondria of people. For this reason, it is thought that the Covid-19 epidemic indirectly causes an increase in the levels of cyberchondria (Cerniglia et al., 2017; Duan et al., 2017; Eidi et al., 2020; Guessoum et al., 2020; Özdemir et al., 2020; Sun et al., 2020).

Studies have been carried out in Turkey and throughout the world assessing various factors for their ability to reduce levels of cyberchondria. These studies provide a range of insights on the topic. Some studies aim to scale the development and verification of cyberchondria (Barke et al., 2016; Batigun et al., 2018; Jokić-Begić et al., 2019; McElroy et al., 2019; McElroy & Shevlin, 2014; Selvi et al., 2018); others aim to examine the relationship between cyberchondria and general health anxiety (Altındiş et al., 2018; Aulia et al., 2020; Başoğlu, 2018; Bati et al., 2018; Doherty-Torstrick et al., 2016; Fergus, 2013; Hart & Björgvinsson, 2010; Muse et al., 2012; Norr et al., 2015; Starcevic, 2017); while still other studies examine the relationship between cybechondria and internet use (Dagar et al., 2019; Deniz, 2020; Elciyar, 2017; Starcevic & Berle, 2013; White & Horvitz, 2009). There also exist numerous studies examining levels of cyberchondria and various related factors (Ertaş et al., 2020; Fergus, 2015; Norr et al., 2015; Uzun, 2016). In addition to these, some studies have been carried out which select participants by isolating individuals with certain diseases or ailments (Güleşen, 2019; Titrioğlu, 2019; Tüter, 2019). The majority of participants in these studies are undergraduate students and healthy individuals. In addition, the original of the CSS was created by applying it to undergraduate students who are healthy individuals. In this study, the participants were determined by reference to previous studies and the sample group of the first study carried out to create the scale (McElroy & Shevlin, 2014). For this reason, it is important for the participants to have these characteristics in order to obtain more accurate results. Many of these studies include variables too that associate cyberchondria, such as health anxiety, excessive concern about health, excessive internet use, and trust in the internet. In this study, besides the purpose of the research, these variables were also included in the questionnaire, data were collected and alyzed.

Although the relationship between cyberchondria and the presence of health education has been indirectly mentioned in prior literature, the lack of a study directly investigating this effect motivated the design of this study. Considering that the concept of cyberchondria is a state of extreme anxiety caused by searching for health information on the internet, it was thought that the state of having health information would directly affect cyberchondria. Therefore in this study, a comparison was made between a department that received health education at the undergraduate level and a department that did not receive health education, focusing primarily on the effects of health education on cyberchondria levels. What kind of health education the participants received is explained in the material-method section.

1. Materıal and Methods

The research is derived from Sefer AYGUN's master's thesis titled "Investigation of Factors Related to Cyberchondria Levels of Health Management and Banking and Insurance Department Students", conducted at a foundation university in Istanbul in the October-January 2020-2021 academic year. The research is a cross-sectional and descriptive study.

1.1. Population and Sample

The universe of the research consists of 600 students in total. 400 of these participants are students from the Department of Health Management and 200 are students from the Department of Banking and Insurance, all continuing their education at the determined university. The quota sampling method was used to isolate the sample, while the sample size was determined with the use of Raosoft and Creative Research Systems web bases (Creative Research Systems, 2020; Raosoft, 2020). Quota sampling; It is a research method that requires only samples with certain characteristics in the community in order to reflect certain characteristics of the community that is the subject of examination and research. Characteristics are often created based on criteria such as geographic region, gender, age, social class. However, the determination of the selected samples is possible by selecting the number of individuals determined by the researcher without probability (Dawson & Trapp, 2001). Based on the 95% confidence interval, the sample size was calculated as at least 235 students, and 418 people were reached, meeting the predetermined quota. The sample has 95% representativeness and 5% margin of error.

The main hypothesis of the study is that a difference exists between the levels of cyberchondria observed in students of the Department of Health Management as compared to the levels observed in students of the Department of Banking and Insurance. The sub-hypotheses of the research are as follows.

- There is a difference between the levels of the Compulsion sub-factor, one of the sub-factors of CSS, observed in Health Management Department students and the levels observed in Banking and Insurance Department students.
- There is a difference between the levels of the Distress sub-factor, one of the sub-factors of CSS, observed in Health Management Department students and the levels observed in Banking and Insurance Department students.
- There is a difference between the levels of the Excessiveness sub-factor, one of the sub-factors of CSS, observed in Health Management Department students and the levels observed in Banking and Insurance Department students.
- There is a difference between the levels of the Reassurance sub-factor, one of the sub-factors of CSS, observed in Health Management Department students and the levels observed in Banking and Insurance Department students.

- There is a difference between the levels of the Mistrust of Medical Professionals sub-factor, one of the sub-factors of CSS, observed in Health Management Department stu-dents and the levels observed in Banking and Insurance Department students.

1.2. Assessment Tools and Procedures

Data collection tools

The data in the study was collected through a questionnaire consisting of two parts. The first part of the questionnaire consisted of 10 questions specifying sociodemographic features, which were prepared based on previous studies on the subject. The second part of the questionnaire consisted of the 33 questions that make up the Cyberchondria Severity Scale (CSS). Sociodemographic questions are a blend of questions used in previous studies (Altındiş et al., 2018; Başoğlu, 2018; Bati et al., 2018; Güleşen, 2019; McElroy & Shevlin, 2014; Titrioğlu, 2019; Tüter, 2019; Uzun, 2016).

CSS was first developed in 2014 by Eoin McElroy and Mark Shevlin. CSS is a 5 point Likert type scale consisting of 5 sub-factors and 33 propositions. The study assessing the validity and reliability of the original scale was conducted on 208 university students. The Cronbach's Alpha value of the scale was 0.94; Cronbach's Alpha values of the subscales are: Compulsion: 0.95, Distress: 0.92, Excessiveness: 0.85, Reassurance: 0.89, Mistrust of Medical Professional: 0.75 (McElroy & Shevlin, 2014). Adaptation of the CSS to Turkish and demonstration of its validity and reliability was done by Süleyman Utku UZUN on Pamukkale University employees in 2016 (Uzun, 2016).

Variables of the study

The dependent variable of the study was the cyberchondria score obtained from CSS and scores obtained from its sub-factors. The independent variable was determined as demographic characteristics such as age, gender, department, class, internet use status, trust in the internet, research on health services, types of health problems sought, and chronic disease histories. Among the research variables, the class variable represents the state of receiving health education, which is the main hypothesis of the research. Health education in the relevant department that receives health education is given with the following; Medical First Aid, Essential Health Knowledge and Medical Terminology, Health and Social Sciences, Medical Documentation, Health Public, Hospital Management, Health Insurance, Communication Skills and Communication in Healthcare, Epidemiology, Ethics in Health and Social Responsibility, Health Tourism, Health Services Management, Health Law, Quality Management in Health Services, Efficiency in Health, Patient Safety, Health Informatics, Health Informatics Systems in Hospital Management and Risk Management in Health Services is given through theoretical courses.

1.3. Analysis of Data

The SPSS 25 program was used for statistical analysis and normality analysis of the data. In order to determine whether each variable within the data were suitable for normal distribution, the Skewness-Kurtosis value range, Kolmogorov-Smirnov test, Histogram/Stem-and-Leaf-Plot/Q-Q graphs and Observed Value results were applied. Cronbach's Alpha analysis was used to determine the reliability of the study. The comparison of the two variables was made using the T-test and the Mann-Whitney-U test. Evaluation of the relationship between three or more variables was done using One Way Analysis of Variance (ANOVA) and the Kruskal-Wallis test.

The magnitude of differences between the variables was calculated using the effect size formula (Cohen, 1988).

1.4. Limitations of the Study

It was not possible to obtain more accurate data within the scope of the research due to the limitations created by the COVID-19 pandemic. Therefore, the research was carried out on students of only one university. It could not be carried out with other university students who did not receive health education. More accurate data will be collected if the study is carried out according to the status of receiving health education on a university basis, not on a departmental basis. In this way, the effect of direct health education would be revealed. In the research, some studies carried out on the Faculty of Medicine are shown as a reference. However, in this study, it was difficult to reach the students of the Faculty of Medicine due to the pandemic conditions. For this reason, although the curricula of the Faculty of Medicine are not exactly the same, the Health Management Department, which is similar in terms of receiving basic health education, has been included.

1.5. Ethical Considerations

The research statements, planning, rationale, purpose, approach and methods of the study were evaluated by the Istanbul Medipol University Non-Interventional Clinical Research Ethics Committee Department on 04.09.2020 and the research was found ethically and scientifically appropriate.

2. Results

According to the analysis of the data for suitability for normal distribution, the Compulsion sub-factor was not found to be suitable for the normal distribution for each variable. CSS and other sub-factors were found to be suitable for normal distribution for each variable. In the study, students were asked about their department, age, gender and class in order to determine their demographic characteristics. The descriptive statistics results of the obtained data and the differences in the analyzed data are shown in Table 1. Cronbach's Alpha analysis was performed to determine the reliability of the research. The coefficients for CSS (0.90), Compulsion - Distress - Excessiveness - Reassurance - Mistrust of Medical Professional sub-factors (0.91-0.86-0.78-0.72-0.45, respectively) were obtained.

A minimum of 33 points and a maximum of 165 points can be obtained from CSS. It was observed that the cyberchondria scores of the students in our study varied between 43 - 149 and the mean score was 76.7. It was determined that 97 participants in the research had an average of 76 and below, and 321 participants had an average of 77 and above.

2.1. Analysis of Statistical Discrepancy

Approximately three-quarters of the 418 participants (75.6%) were students from the Department of Health Management and the rest (24.6%) were students from the Department of Banking and Insurance. The majority of the participants were female (75.4%). It was observed that the number of participants who used the internet for 4-5 hours each day (73.2%) was significantly higher than the number of those who used the internet for 0-1 hours (1.7%). When the difference analyzes were made, no difference was observed in CSS results between the students of the Health Management Department and the students of the Banking and Insurance Department. Therefore, when analyzing the differences of other independent variables, the sections were not evaluated separately. In addition to these, one of the main variables of the

research; detailed statistical analysis of department, age, gender, class and internet use (daily) are shown in Table I.

Table 1. Difference of basic research variables.

Variables	N (%)	CCS X̄ (Ss)	Compulsion X̄ (Ss)	Distress X̄ (Ss)	Excessiveness X̄ (Ss)	Reassurance X̄ (Ss)	Mistrust of Medical Professional X̄ (Ss)
Departments							
Health Management	316 (75.6)	2.30 (0.51)	1.18 (0.59)	2.41 (0.82)	3.11 (0.71)	2.53 (0.75)	1.86 (0.85)
Banking and Insurance	102 (24.4)	2.38 (0.64)	1.66 (0.89)	2.58 (0.85)	2.94 (0.77)	2.56 (0.08)	1.96 (0.95)
Test Statistic		-1.20[1]	13508[2]	-1.85[1]	2.08[1]	0.-37[1]	0.-93[1]
p-Value		0.231	0.010	0.064	0.038	0.706	0.351
Effect Size		0.003	0.126	0.008	0.010	<0.001	<0.001
Age							
17-20	223 (53.3)	2.28 (0.49)	1.38 (0.03)	2.47 (0.82)	3.03 (0.72)	2.48 (0.73)	1.81 (0.89)
21-24	195 (46.7)	2.36 (0,60)	1.53 (0.05)	2.43 (0.84)	3.11 (0.73)	2.60 (0,82)	1.97 (0.85)
Test Statistic		-1.51[1]	20761[2]	0.50[1]	-1.19[1]	-1.51[1]	-1.79[1]
p-Value		0.130	0.403	0.616	0.232	0.132	0.073
Effect Size		0.005	0.040	<0.001	0.003	0.005	0.007
Gender							
Female	315 (75.4)	2.32 (0.53)	1.13 (0.60)	2.47 (0.83)	3.13 (0.73)	2.55 (0.77)	1.79 (0.84)
Male	103 (24.6)	2,32 (0,60)	1.64 (0.08)	2.37 (0.82)	2.89 (0.70)	2.47 (0.79)	2.18 (0.93)
Test Statistic		0,01[1]	13817[2]	1.07[1]	2.92[1]	0.88[1]	-3.97[1]
p-Value		0,986	0.018	0.284	0.004	0.376	<0.001
Effect Size		<0.001	0.116	0.002	0.020	0.001	0.036
Class							
1st Class - 2nd Class	223 (53.3)	2.32 (0.51)	1.40 (0.58)	2.49 (0.83)	3.09 (0.75	2.53 (0.75)	1.85 (0.91)
3rd Class - 4th Class	195 (46.7)	2.32 (0.59)	1.50 (0.79)	2.40 (0.83)	0.05 (0.69)	2.54 (0.82)	1.92 (0.83)
Test Statistic		-0.04[1]	21469[2]	1.13[1]	0.53[1]	-0.19[1]	-0.82[1]
p-Value		0.964	0.816	0.257	0.595	0.848	0.407
Effect Size		<0.001	0.011	0.002	<0.001	<0.001	0.001
Using Internet (Daily)							
0-1 Hour	7 (1.7)	2.17 (0.64)	1.46 (0.65)	2.21 (0.90)	3.08 (1.03)	2.26 (0.61)	1.33 (0.47)
2-3 Hour	105 (25.1)	2.27 (0.49)	1.40 (0.60)	2.41 (0.70)	2.95 (0.70)	2.55 (0.76)	1.86 (0.92)
4-5 Hour	306 (73.2)	2.34 (0.56)	1.46 (0.72)	2.47 (0.87)	3.11 (0.72)	2.53 (0.79)	1.91 (0.87)
Test Statistic		0.94[3]	0.15[4]	0.49[3]	2.00[3]	0.45[3]	1.54[3]
p-Value		0.389	0.926	0.608	0.136	0.634	0.216
Effect Size		0.004	0.007	0.002	0.009	0.002	0.007

X̄: Mean. Ss: Standard Deviation. 1 T-test. 2 Mann-Whitney-U test. 3 One-Way Analysis of Variance (ANOVA). 4 Kruskal-Wallis test.

Among the variables that reveal the internet-doctor relationship in the research in the variable "The internet is as knowledgeable as doctors", there was a statistically significant difference in CSS and the sub-factors Excessiveness, Reassurance and Mistrust of Medical Professional. A statistically significant difference was found only in the sub-factors Excessiveness and

Reassurance in the variable "Researching information about the doctor before the examination". A statistically significant difference was found in CSS and Excessiveness, Reassurance and Mistrust of Medical Professional sub-factors in the variable "Researching information about the doctor after the examination". In addition to these, detailed statistics of research variables related to internet-doctor relationship are shown in Table II.

Table 2. Difference of research variables related to the internet-doctor relationship.

Variables	N (%)	CCS X̄ (Ss)	Compulsion X̄ (Ss)	Distress X̄ (Ss)	Excessiveness X̄ (Ss)	Reassurance X̄ (Ss)	Mistrust of Medical Professional X̄ (Ss)
The internet is as knowledgeable as doctors							
Yes	126 (30.1)	2.45 (0.56)	1.52 (0.77)	2.51 (0.84)	3.28 (0.66)	2.70 (0.79)	2.11 (0.92)
No	292 (69.9)	2.26 (0.53)	1.42 (0.65)	2.42 (0.82)	2.98 (0.73)	2.46 (0.76)	1.79 (0.84)
Test Statistic		3.27[1]	17623[2]	0.99[1]	3.93[1]	2.81[1]	3.41[1]
p-Value		0.001	0.474	0.319	<0.001	0.005	0.001
Effect Size		0.025	0.035	0.002	0.035	0.018	0.027
Researching information about the doctor before the examination							
Yes	379 (90.7)	2.33 (0.54)	143 (0.66)	2.47 (0.83)	3.11 (0.72)	2.56 (0.78)	1.86 (0.85)
No	39 (9.3)	2.19 (0.61)	1.62 (0.93)	2.25 (0.82)	2.70 (0.67)	2.26 (0.73)	2.10 (1.13)
Test Statistic		1.51[1]	6776.5[2]	1.53[1]	3.35[1]	2.33[1]	-1.25[1]
p-Value		0.132	0.369	0.127	0.001	0.020	0.114
Effect Size		0.005	0.043	0.005	0.026	0.012	0.003
Researching information about the doctor after the examination							
Yes	271 (64.8)	2.37 (0.54)	1.45 (0.65)	2.49 (0.82)	3.17 (0.71)	2.60 (0.79)	1.19 (0.84)
No	147 (35.2)	2.22 (0.55)	1.45 (0.75)	2.38 (0.84)	2.88 (0.72)	2.42 (0.74)	1.75 (0.93)
Test Statistic		2.67[1]	18665.5[2]	1.30[1]	4.00[1]	2.27[1]	2.16[1]
p-Value		0.008	0.264	0.193	0.001	0.023	0.031
Effect Size		0.016	0.054	0.040	0.037	0.012	0.011

X̄: Mean. Ss: Standard Deviation. 1 T-test. 2 Mann-Whitney-U test. 3 One-Way Analysis of Variance (ANOVA). 4 Kruskal-Wallis test.

It was observed that the majority of the participants did not conduct research on alcohol (98.3%) or smoking and drugs (96.9%) on the internet. In the variable "Searching for Information About the Diet on the Internet", there was no statistically significant difference in either CSS or any of the sub-factors. However, statistically significant differences were found in other variables relating to the subjects researched on the Internet, either in CSS or in at least one of the other sub-factors. In addition to these, detailed statistics on research variables related to the topics researched on the Internet are shown in Table III.

Table 3. Differences of research variables relating to the subjects researched on the internet

Variables	N (%)	CCS X̄ (Ss)	Compulsion X̄ (Ss)	Distress X̄ (Ss)	Excessiveness X̄ (Ss)	Reassurance X̄ (Ss)	Mistrust of Medical Professional X̄ (Ss)

Searching for Information About the Disease on the Internet							
Yes	337 (80.6)	2.36 (0.54)	1.46 (0.70)	2.52 (0.82)	3.14 (0.71)	2.55 (0.90)	1.88 (0.85)
No	81 (19.4)	2.16 (0.50)	1.41 (0.60)	2.14 (0.80)	2.79 (0.74)	2.47 (0.68)	1.90 (0.99)
Test Statistic		2.97[1]	13614[2]	3.73[1]	3.90[1]	0.85[1]	-0.15[1]
p-Value		0.003	0.970	<0.001	<0.001	0.391	0.874
Effect Size		0.020	0.001	0.032	0.035	0.001	0.000
Searching for Information About the Treatment on the Internet							
Yes	223 (53.3)	2.34 (0.49)	1.42 (0.66)	2.42 (0.78)	3.16 (0.67)	2.58 (0.73)	1.19 (0.82)
No	195 (43.7)	2.30 (0.60)	1.47 (0.73)	2.48 (0.88)	2.96 (0.77)	2.48 (0.83)	1.86 (0.94)
Test Statistic		0.80[1]	21126[2]	-0.71[1]	2.80[1]	1.21[1]	0.57[1]
p-Value		0.424	0.599	0.473	0.005	0.224	0.567
Effect Size		0.001	0.025	0.001	0.018	0.003	<0.001
Searching for Information About the Diet on the Internet							
Yes	131 (31.3)	2.32 (0.52)	1.46 (0.68)	2.40 (0.73)	3.11 (0.72)	2.50 (0.74)	1.91 (0.90)
No	287 (68.7)	2.32 (0.56)	1.44 (0.69)	2.47 (0.87)	3.05 (0.73)	2.55 (0.80)	1.87 (0.87)
Test Statistic		-0.10[1]	18644[2]	-0.85[1]	0.74[1]	-0.65[1]	0.44[1]
p-Value		0.917	0.887	0.394	0.457	0.514	0.654
Effect Size		<0.001	0.006	0.001	<0.001	0.001	<0.001
Searching for Information About the Alcohol on the Internet							
Yes	7 (1.7)	2.38 (0.69)	2.07 (1.00)	2.28 (0.84)	2.80 (1.03)	2.19 (0.80)	2.80 (1.06)
No	411 (98.3)	2.32 (0.02)	1.44 (0.68)	2.45 (0.83)	3.07 (0.72)	2.54 (0.78)	1.87 (0.87)
Test Statistic		0.31[1]	1052.5[2]	-0.53[1]	-0.98[1]	-1.18[1]	2.80
p-Value		0.757	0.201	0.591	0.323	0.236	0.005
Effect Size		<0.001	0.062	<0.001	0.002	0.003	0.018
Searching for Information About the Cigarettes and Drugs on the Internet							
Yes	13 (3.1)	2.50 (0.64)	2.00 (0.98)	2.52 (0.91)	3.12 (0.88)	2.33 (0.81)	2.46 (1.05)
No	405 (96.9)	2.31 (0.54)	1.43 (0.67)	2.45 (0.83)	3.07 (0.72)	2.54 (0.78)	1.87 (0.87)
Test Statistic		1.19[1]	2043[2]	0.32[1]	0.25[1]	-0.95[1]	2.38[1]
p-Value		0.231	0.149	0.743	0.799	0.338	0.017
Effect Size		0.003	0.070	<0.001	<0.001	0.002	0.013

X̄: Mean. Ss: Standard Deviation. 1 T-test. 2 Mann-Whitney-U test. 3 One-Way Analysis of Variance (ANOVA). 4 Kruskal-Wallis test.

Among the research variables related to chronic disease status; while there was a statistically significant difference only in CSS and Compulsion sub-factors in the "The State of Having a Chronic Disease" variable, there was no statistically significant difference in either CSS or sub-factors in the "The State of Having a Chronic Disease in the Family" variable. In addition to these, detailed statistics of research variables related to chronic disease status are shown in Table IV.

Table 4. Differences of research variables related to chronic disease status

Variables	N (%)	CCS X̄ (Ss)	Compulsion X̄ (Ss)	Distress X̄ (Ss)	Excessiveness X̄ (Ss)	Reassurance X̄ (Ss)	Mistrust of Medical Professional X̄ (Ss)
The State of Having a Chronic Disease							
Yes	32 (7.7)	2.53 (0.64)	1.97 (0.91)	2.64 (0.90)	3.05 (0.73)	2.71 (0.76)	1.97 (0.87)
No	386 (92.3)	2.30 (0.54)	1.40 (0.65)	2.43 (0.82)	3.07 (0.73)	2.52 (0.78)	1.88 (0.04)
Test Statistic		1.92[1]	3966.5[2]	1.34[1]	-0.18[1]	1.36[1]	0.59[1]
p-Value		0.062	<0.001	0.179	0.851	0.175	0.552
Effect Size		0.008	0.172	0.008	<0.001	0.004	<0.001
The State of Having a Chronic Disease in the Family							
Yes	182 (43.6)	2.31 (0.51)	1.44 (0.65)	2.40 (0.81)	3.11 (0.69)	2.49 (0.75)	1.90 (0.82)
No	236 (56.4)	2.33 (0.57)	1.46 (0.72)	2.49 (0.84)	3.04 (0.75)	2.57 (0.809	1.87 (0.92)
Test Statistic		-0.40[1]	21406.5[2]	-1.10[1]	0.92[1]	-0.98[1]	0.26[1]
p-Value		0.686	0.952	0.268	0.357	0.326	0.792
Effect Size		<0.001	0.002	0.002	0.002	0.002	<0.001

X̄: Mean. Ss: Standard Deviation. 1 T-test. 2 Mann-Whitney-U test. 3 One-Way Analysis of Variance (ANOVA). 4 Kruskal-Wallis test.

CONCLUSIONS AND EVALUATION

In this section, only the significant differences in the CSS and sub-factors of health education status and the mean score of the CSS are discussed, focusing on our main hypothesis. In other words, the discussion was carried out only on the class variables of the participants. In this way, the focus of the subject was not distracted. At the same time, confusion was avoided and a short and clear discussion was held.

The increase in internet use in recent years has led to many novel trends in human behavior and psychology, and cyberchondria is among the more prevalent of these shifts. As a result, studies on the factors in and effects of cyberchondria have seen a great increase in the last five years. Many of these studies use CSS to measure severity: the higher the CSS score, the higher the person's cyberchondria level. A minimum of 33 points and a maximum of 165 points can be obtained from CSS. In this study, it was seen that the mean score of the students who were chosen as part of the sample ranged between 43±149 and the mean score was 76.7. The mean score of this study is comparable to other similar studies conducted in Turkey. Consider Başoğlu's (Başoğlu, 2018) study on women aged 15-49 living in the city center of Edirne in 2018 (Mean: 89.42), Selvi et al.'s (Selvi et al., 2018) study on university students in 2018 (Mean: 75.74), and the study conducted by Elciyar's (Elciyar, 2017) with university students in 2017 (Mean: 86). However, the mean score of this study is higher than the mean score of other studies carried out abroad. Consider the study conducted by Norr et al. (Norr et al., 2015) on 526 people who were predetermined internet users in 2015 (Mean: 74.9), Fergus (Fergus, 2014) applied on

539 adults who were internet users in 2014 (Mean: 69.1) and Barke et al. (Barke et al., 2016) The mean score of this study is also higher than that of a study they applied to 500 people in Germany via the internet (Mean: 60). This situation is explained by stressful situations and events that cause problematic internet use such as the increase in the time individuals spend at home, spending more time on the internet, and the pandemic period (Cerniglia et al., 2017; Duan et al., 2020; Eidi et al., 2020; Guessoum et al., 2020; Özdemir et al., 2020; Sun et al., 2020). The parallelism of this study with the studies in Turkey is explained as follows. Various projects were carried out in Turkey in 2010, such as the Fatih project, to increase students' use of the Internet and to actively use the Internet in education. As a result of these projects, an increase was observed in students' internet usage. Considering that the studies that are shown as examples for studies in Turkey were carried out in 2016 and later, it is thought that the reason why the average of this study is higher than other studies in the world and that it is parallel with other studies in Turkey is the projects carried out (Ekici & Yılmaz, 2013).

Of the students who participated in this study, 316 were students of the Department of Health Management and 102 were students of the Department of Banking and Insurance. From the analyses made by considering the department variable, it was observed that there was no statistically significant difference in CSS, Distress, Reassurance and Mis-trust of Medical Professional sub-factors ($p>0.05$). A statistically significant difference was observed in Compulsion and Excessiveness sub-factors ($p<0.05$). For the CSS sub-factors of Distress, Excessiveness, Reassurance and Mistrust of Medical Professionals, the mean score of the Banking and Insurance Department students was higher than the mean score of the Health Management Department students. In the Compulsion sub-factor, the mean score of the Health Management Department students was higher than the mean score. When the studies in the literature were examined, it was concluded that there was a significant difference between the departments in the study performed by Ertaş et al. (Ertaş et al., 2020) on the students of the Faculty of Health Sciences. In 2020, the study by Aulia et al. (Aulia et al., 2020) in 2020 on individuals with illness anxiety determined that there was no statistically significant difference between the individuals' cyberchondria levels and their health education levels. In the study conducted by Bati et al. (Bati et al., 2018) on students in 2018, it was concluded that there was no statistically significant difference between the faculties of the students and their health anxiety levels, but the overall cyberchondria scores of the students studying at the Faculty of Medicine were lower than those of the students studying at other faculties. This result suggests that cyberchondria levels among students studying at the Faculty of Medicine are influenced by their easier access to health information, health resources and services in comparison to other students, as well as their regular contact with experts, research assistants, and faculty members in clinical education processes. It is thought that these advantages in obtaining information about health problems and medical resources may be effective in mitigating their cyberchondria. In this study, it can be extrapolated that the scores of the Banking and Insurance Department students in CSS, Compulsion, Distress, Reassurance and Mistrust of Medical Professional sub-factors may have been higher than the Health Management Department students' scores due to the lack of health related education, and as a result, these students tended to react with more anxiety to the health problems they encountered. In this study, the Department of Health Management, which is a department with health education, does not have the same health education as the Faculty of Medicine. However, the Department of Health Management is similar to the Faculty of Medicine in terms of providing basic health education with the theoretical courses mentioned in the introduction part of the article. For this reason, it is necessary to include the relevant study in the discussion.

CONCLUSIONS

When the data obtained in this study were analyzed, it was seen that there was no statistically significant difference in terms of general cyberchondria levels between individuals who received and did not receive health education. However, when the mean scores were examined, it was determined that the mean scores of the participants who received health education were lower than those who did not receive health education. This causes health education to be considered an important factor in reducing cyberchondria. High levels of cyberchondria may increase the likelihood of needlessly seeking healthcare services due to the increased anxiety of affected individuals. This, in turn, can lead to an increase in the number of doctor's examinations and thus a shortening of the average examination times. As a result, both patient and healthcare worker satisfaction may be adversely affected.

Overcrowding of medical facilities by people with high cyberchondria can cause those who really need it to have more trouble getting necessary medical attention. The shortening of examination times may prevent doctors from obtaining necessary information about their patients, answering patients' questions completely and providing necessary care. For this reason, it is often not possible to accurately determine the most appropriate diagnosis and treatment processes, and to involve the patient or their relatives in these processes.

RECOMMENDATIONS

Accurate interpretation and use of health information should be encouraged through the implementation of training programs aimed at increasing people's health literacy levels, both at the individual and societal level. It is thought that creating this knowledge and awareness throughout the society will help prevent the public health crisis caused by individuals seeking unnecessary medical care. At the same time, training programs should be prepared to provide health professionals with skills that will facilitate accurate information transfer and guidance to incoming patients and their relatives. The effects of cyberchondria are thought to go beyond the individual. In other words, if cyberchondria turns into a social disease, it can both affect the economy of health areas at the micro level and affect the country as a whole at the macro level. For this reason, it is thought that policies for the solution of these problems should be planned and implemented by a multidisciplinary team, which also includes expert health managers. Activities, policies and trainings to increase the health literacy level of the society can be provided by local governments, provincial health directorates or directly by the ministry of health through expert trainers. In addition to these, it is thought that the compulsory courses that will provide basic health education in all departments of universities will make a great contribution to solving this problem in the future. This result was also reached in the analysis of the study. In addition, databases that provide health information on the Internet should be audited by government agencies to provide accurate and up to date information. In addition, despite some arguments to the contrary, it is ultimately important to provide the necessary medical support to individuals with increased levels of cyberchondria.

Finally, due to the intensive health education given at the university where the study was conducted, the examples given in the departments that receive non-health education can generally be related to the health field. For this reason, in order to obtain clearer results, new studies can be carried out by changing the population and sample by comparing the university students who have received health education completely and the technical university students who have never given health education.

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EXTENDED ABSTRACT

GENİŞLETİLMİŞ ÖZET

SAĞLIK YÖNETİMİ VE BANKACILIK VE SİGORTACILIK BÖLÜMÜ ÖĞRENCİLERİNİN SİBERKONDRİ DÜZEYLERİYLE İLGİLİ FAKTÖRLERİN İNCELENMESİ: AMPİRİK BİR ANALİZ

Giriş ve Çalışmanın Amacı (Introduction and Research Purpose): Teknolojik gelişmelerin artması ile birlikte dünyada internet kullanımı da artış göstermiştir. 2018 yılında yayınlanan global dijital raporuna göre yaklaşık olarak dünya nüfusunun %53'ü (4 milyar insan) internet kullanıcısıdır ve bu rakam her yıl %7 oranında katlanarak artmaktadır. TÜİK'in 2020 yılında Hanehalkı Bilişim Teknolojileri (BT) Kullanım Araştırması'na göre Türkiye'de 16-74 yaş grubundaki bireylerde internet kullanım oranının %79 olduğu görülmüştür. Bu oran bir önceki yıla göre yaklaşık %4 artış göstermiştir. İnternetten sağlık alanında bilgi aranmasının sağlık bilgisine kolay ulaşılması, diğer hastalarla iletişim kurulması, maliyette etkinlik ve sosyal yardım gibi çeşitli yararları bulunmaktadır. Fakat bütün bu yararların yanında internetten sağlık bilgisi aramanın çeşitli zararları da bulunmaktadır. İnternetten sağlık bilgisi aranması sonucunda meydana gelen olumsuz durumu ifade etmek için son zamanlarda "siber"(cyber) ve "hipokondriyazis" (hypochondriasis) kelimelerinden türetilmiş "siberkondriyazis" (cyberchondriasis) terimi kullanılmaktadır. Bu çalışma da sağlık eğitimi alma durumunun, Sağlık Yönetimi Bölümü öğrencileri ile Bankacılık ve Sigortacılık Bölümü öğrencilerine Siberkondri Ciddiyet Ölçeği ve sosyo-demografik soru formlarından oluşan anketlerin uygulanması ve sonuçlarının karşılaştırılması ile siberkondri düzeyini etkileyip etkilemediğini ortaya koymak amacıyla yapılmıştır.

Kavramsal/kuramsal çerçeve (Literature Review): Türkiye'de ve dünyada siberkondri düzeylerini azaltmak için çeşitli faktörleri değerlendiren çalışmalar yapılmıştır. Bu çalışmalar konuyla ilgili bir dizi fikir vermektedir. Literatür incelendiğinde siberkondrinin gelişimini ve doğrulanmasını ölçeklendirmeyi, siberkondri ve genel sağlık kaygısı arasındaki ilişkiyi, sibekondri ve internet kullanımı arasındaki ilişkiyi inceleyen çalışmaların olduğu görülmektedir. Bunların yanı sıra belirli hastalık veya rahatsızlıkları olan bireyleri katılımcı olarak seçen bazı çalışmalar da yapılmıştır. Literatürde siberkondri ile sağlık eğitimi arasındaki ilişkiye dolaylı olarak değinilen çalışmalar olmasına rağmen, bu etkiyi doğrudan araştıran bir çalışmanın olmaması bu çalışmanın özgün değerini oluşturmaktadır. Siberkondri kavramının internette sağlık bilgisi aramanın neden olduğu aşırı kaygı hali olduğu düşünüldüğünde, sağlık bilgisine sahip olma durumunun siberkondrileri doğrudan etkileyeceği düşünülmüştür.
Literatürde bulunan çalışmalara katılanların çoğunluğu lisans öğrencileri ve sağlıklı bireylerdir. Ayrıca Siberkondri Ciddiyet Ölçeği'nin orijinali sağlıklı bireyler olan lisans öğrencilerine uygulanarak oluşturulmuştur. Bu çalışmadaki katılımcılar da, önceki çalışmalara ve ölçeği oluşturmak için yapılan ilk çalışmanın örneklem grubu referans alınarak belirlenmiştir. Literatürdeki çalışmaların çoğu, sağlık kaygısı, sağlıkla ilgili aşırı endişe, aşırı internet kullanımı ve internete güven gibi siberkondrileri ilişkilendiren değişkenleri de içermektedir. Bu çerçevede çalışmada araştırmanın amacının yanı sıra bu değişkenler de ankete dahil edilmiş, veriler toplanmış ve analiz edilmiştir.

Yöntem ve Bulgular (Methodology and Findings): Bu araştırma, Sağlık Yönetimi ve Bankacılık ve Sigortacılık Bölümü öğrencilerinin siberkondri düzeylerini ve etkileyen faktörleri belirlemek amacıyla yapılmış kesitsel ve tanımlayıcı nitelikte bir çalışmadır. Araştırma İstanbul'daki bir vakıf üniversitesinin 2020-2021 eğitim öğretim yılının Ekim ve Ocak aylarında öğrenimine devam eden Sağlık Yönetimi Bölümü ve Bankacılık ve Sigortacılık Bölümü öğrencilerine uygulanmıştır. Araştırmanın evreni, 400 Sağlık Yönetimi Bölümü öğrencisi ve 200 Bankacılık ve Sigortacılık Bölümü öğrencisinden olmak üzere toplam 600 öğrenciden oluşmaktadır. Araştırmanın örneklemi belirlenirken kota örnekleme kullanılmıştır. Örnekleminin büyüklüğü belirlenirken ise Raosoft ve Creative Research Systems web tabanlarından yararlanılmıştır. Örneklem büyüklüğü %95 güven aralığı esas alınarak en az 235 öğrenci olarak hesaplanmış 418 kişiye ulaşılmıştır.
418 katılımcının yaklaşık dörtte üçü (%75,6) Sağlık Yönetimi Bölümü, geri kalanı (%24,6) ise Bankacılık ve Sigortacılık Bölümü öğrencilerinden oluşmaktadır. Araştırmada kadın katılımcıların çoğunlukta olduğu görülmüştür (%75.4). İnterneti her gün 4-5 saat kullanan katılımcı sayısının (%73,2) interneti 0-1 saat kullananların sayısına (%1,7) göre anlamlı derecede fazla olduğu gözlenmiştir. Farklılık analizlerinde Sağlık Yönetimi Bölümü öğrencileri ile Bankacılık ve Sigortacılık Bölümü öğrencileri arasında Siberkondri Ciddiyet Ölçeği sonuçlarında fark gözlenmemiştir. Bu nedenle, diğer bağımsız değişkenlerin farklılıkları analiz edilirken, bölümler ayrı ayrı değerlendirilmemiştir.

Sonuç ve Öneriler (Conclusions and Recommendation): Bu çalışmada elde edilen veriler incelendiğinde, sağlık eğitimi alan ve almayan bireyler arasında genel siberkondri düzeyleri açısından istatistiksel olarak

anlamlı bir fark olmadığı görülmüştür. Ancak puan ortalamaları incelendiğinde sağlık eğitimi alan katılımcıların puan ortalamalarının sağlık eğitimi almayanlara göre daha düşük olduğu belirlenmiştir. Bu, sağlık eğitiminin siberkondrinin azaltılmasında önemli bir faktör olarak kabul edilmesine neden olmaktadır.

Çalışmanın yapıldığı üniversitede verilen yoğun sağlık eğitimi nedeniyle sağlık dışı eğitim alan bölümlerde verilen örnekler genel olarak sağlık alanı ile ilgili olabilmektedir. Bu nedenle daha net sonuçlar elde etmek için sağlık eğitimi almış üniversite öğrencileri ile hiç sağlık eğitimi almamış teknik üniversite öğrencilerinin karşılaştırılılmasının yapılmasına yönelik yeni çalışmalar yapılabilir.

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