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Investigation of correlation between Internet addiction and parent–child relationship in girls’ adolescence in the COVID-19 pandemic

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Abstract:

BACKGROUND: Today, the increasing process with the using internet is a kind of disease among adolescents, especially in the COVID-19 pandemic. The activities such as learning–educational process and online games will become one of the problems for families. This study aimed to determine the relationship between internet addiction and parent–child relationships in high school girls in Isfahan.

MATERIALS AND METHODS: This descriptive-correlational study was conducted in girls’ high school in Isfahan, Iran. One hundred and sixty students and one of their parents had participated through cluster sampling method. They filled out the Young Internet Addiction Questionnaire and the Fine *et al.*’s Child-Parent Questionnaire (PCRS). Data were analyzed using descriptive statistical tests and Pearson correlation test. The significance level of the data was considered 0.05.

RESULTS: The mean score (standard deviation) of internet addiction was 52.15 (5.67). 62.5% of the participants were not addicted to the use of the internet. The mean score of the parent–child relationship was 118.24 (85.35). The results of the Pearson correlation test show that there is a significant negative correlation between parent–child relationships and Internet addiction in adolescent girls ($P < 0.01$).

CONCLUSIONS: Therefore, in the girl high school students who have a stronger parent–child relationship, the rate of Internet dependence is lower. Due to the current situation of the COVID-19 pandemic in terms of Internet addiction and the parent–child relationship, the present study can help nurses, teachers, and educational planners to provide a suitable information for appropriate intervention.

Keywords:

Adolescent, internet addiction disorder, parent–child relationship, parents

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Introduction

The development and advancement of human knowledge cause a crisis for a while. Coronavirus is the hottest emerging phenomenon that has proven its presence in various countries including Iran.^[1] Therefore, to minimize the impact of the virus, the World Health Organization has urgently provided information to identify the disease and its prevention methods.^[2]

One of the significant changes that have taken place is the learning-education process.^[3]

The educational activities have been changed through COVID-19 pandemic. In addition, the use of the Internet for online games, chat, and watching movies is common among adolescents.^[3,4] Paul *et al.* conducted a global study, and its results showed that Iran with 31% of internet users is in 25th place in Asia in terms of internet use and 68 in the world.^[5] Although the

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use of the internet is beneficial, it will lead to Internet addiction when students surf indiscriminately. Internet addiction is the excessive use of the Internet that leads to disorders such as mental and emotional disease, also, it has adverse effects on the academic, professional, and social performance of adolescents.^[6]

Using the Internet in adolescents can be a way to deal with negative emotions. The Internet provides an unreal life for people, in which they can expand their imaginations without restriction.^[7] In addition, features such as easy access, anonymity, viewing negative patterns, and receiving positive feedback pave the way for risky behaviors in adolescence.^[8]

Various studies have shown a positive relationship between Internet addiction and adolescents' risky behaviors.^[9] Thus, using the Internet is like a double-edged sword, it can be both rewarding and dangerous for teens. Adolescents with Internet addiction have lower self-esteem and lower life satisfaction.^[10] In addition, they have less social growth and the quality of their social relationships decreases,^[11] and their academic performance also decreases.^[12] Therefore, determining the factors related to internet addiction seems necessary.

Factors that lead adolescents to Internet addiction include living in a suburban area, limited and sometimes negative communication, and unhealthy relationships with peers, and starting to use the Internet at a young age.^[13] Since children spend most of their time at home in the COVID-19 period, the parent–child relationship can be one of the most important causes of Internet addiction in adolescents.^[14] Parental support (especially mothers) and proper parent–child relationships can play a preventive role in Internet addiction.^[15]

Based on the review of databases related to medical sciences and review of available texts (Science Direct, Google Scholar, PubMed, SID), with the keywords Internet addiction, adolescents, parent–child relationship in Persian and English so far in Iran Studies, a study has been conducted to investigate the relationship between different variables with Internet addiction, but no study has been conducted on the relationship between Internet addiction and the parent–child relationship in female adolescents from the adolescent perspective. On the other hand, this study was conducted at a time when online education and access to the Internet were increasingly used by students, which in itself can initiate many changes in parent–child relationships in adolescents and also because this study in the period. The prevalence of COVID-19 has been provided and can provide basic information for future studies and comparisons of adolescent Internet addiction during and after coronation. Therefore, this study was conducted to

investigate the relationship between Internet addiction and the parent–child relationship in adolescents during COVID-19.

Materials and Methods

Study design and setting

This descriptive correlation study is a part of the master's thesis in nursing with ethics code IR.MUI.RESEARCH.1398.458 has been approved and financially supported by Isfahan University of Medical Sciences.

Study participants and sampling

Study participants were the 14–18 years high school girls and one of their parents. Inclusion criteria included adolescent girls between 14 and 18 years old, studying in public secondary schools in Isfahan, internet access, without any psychiatric illness, and adolescent and their parents' satisfaction with participating in the study.

Data collection tool and technique

Data were collected through a three-part questionnaire including demographic characteristics, Young Internet addiction questionnaire, and parent–child relationship questionnaire. Demographic characteristics part provides basic information, including grade point average (GPA), previous semester GPA, and the way of Internet connection.

Young Yang Internet Addiction scale was used to measure Internet addiction, which has twenty questions. This questionnaire is designed to measure the dependence of individuals on the Internet or computer by Kimberly Young. The questionnaire is scored by the Likert method from 1 (Rarely) to 5 (Always). The range of scores of the questionnaire is from 20 to 100, the higher score, the more dependence, and addiction. A score of 20–49 indicates a normal Internet user (no internet addiction), a score of 50–79 indicates a user with mild Internet addiction, and a score of 80–100 indicates a user with an Internet addiction.^[9,16]

The Parent–Child Relationship Assessment Questionnaire (PCRS): This questionnaire conducted by Mark A. Fine, Jay. R. Moorland, and Andrew Shoebill (1983) made the use of it to investigate the parent–child relationship. This tool consists of 24 items that are used to measure the quality of parent–child communication. The questionnaire is scored on a 7-point Likert scale. Items 9, 13, and 14 are scored in reverse, and then the scores of the options are added up and divided by the number of options for each factor (average of each subscale). The total score is the sum of the average of the subscales. The minimum possible score will be 24 and the maximum 168. A score between 24 and 48: weak child–parent relationship, a score between 48 and 96:

moderate child-parent relationship, and a score above 96: strong child-parent relationship.^[17]

Young's Internet Addiction Questionnaire validity was confirmed in Persian by Imani and Shiralinia *et al.* in 2011, and its reliability was determined to be 0.81% with Cronbach's alpha (15). Furthermore, the Parent-Child Relationship Assessment Questionnaire reliability was determined to be 0.93 for the father-child relationship and was 0.92 for the mother-child relationship.^[17]

Ethical consideration

The study was conducted by obtaining the necessary Introduction letter from the University of Medical Sciences and also the code of ethics from the ethics committee (code of ethics: IR.MUI.RESEARCH.1398.458).

Method and analysis

First, the study permit was obtained from the Isfahan University of Medical Sciences, and the ethical permit for the study was obtained from the Regional Committee for Ethics in Research of Isfahan University of Medical Sciences. Sampling was started in April 2020. Using a random sampling method, one of the six education districts of Isfahan was selected, and that area was considered as a cluster. After receiving the list of girls' secondary schools, two schools were randomly selected, and one class was randomly assigned from each educational level in each school. Then, the students were given a consent form and a parent-child relationship questionnaire for one of their parents to fill out at home; all the students in the class filled out an Internet addiction questionnaire. Descriptive tests and Pearson correlation tests were used to investigate the relationship between Internet addiction and the parent-child relationship, significance level ($P < 0.05$) was considered.

Results

One hundred and sixty students of 180 had inclusion criteria, and their average age was 15.9 years. Participants were 60% in the first level of education, 14% in the second level of education, and 26% in the third level of education. Nearly 52.5% (84 people) were studying in the experimental field and 47.5% in the humanities (76 people). The mean of their GPA of the previous semester was 18.73 of 20. About 98% (158 people) of the participants used a mobile phone, and 2% (2 people) were connected to the Internet by computer. 66% (107 people) used SIM card data connection, and 34% (53 people) connected to the net with Wi-Fi. Table 1 shows the average scores of Internet addiction, and the parent-child relationship of the participants.

The results show that the mean (standard deviation) of total Internet addiction in participants was 52.15 (05.67),

and 62.5% of high school adolescent girls participating in the study were normal Internet users. 36.9% had mild internet addiction, and only one person had severe internet addiction. The mean parent-child relationship was 118.24 (85.35), and the majority had a strong relationship with their parents.

The results showed that there is a significant negative relationship between parent-child relationship and Internet addiction in adolescent girls ($P < 0.01$). Therefore, in female students, the stronger the parent-child relationship, the less the Internet dependence, and the weaker the parent-child relationship, the higher the internet dependence.

Discussion

In the present study, most of the participants were considered normal Internet users. This is while only 36% of the participants had mild internet addiction. The results of Sadati Baladehi and Taghi Pour Javan study showed that out of 350 participants in that study, 87 of the participants were normal Internet users, sixty of them were mildly addicted to the Internet, and 39 were severely addicted.^[11] The results of this study are the same as the present study. In a study conducted in Malaysia, the results showed that almost half of the participants were addicted to the Internet.^[18] The differences in the results may be due to research methodologies such as various questionnaires, sampling methods, and cultural diversity among communities even in the same country.^[19] In addition, the lower level of Internet addiction in this study may be related to the cultural and social characteristics of Iranian society. Iranian families are conservative and still have oversight and guidance about their children's cyber behavior.

Based on the results of this study, there is a significant negative relationship between the parent-child relationship with Internet addiction. This is in line with the results of the Shahraki and Ismaili studies, and adolescents who use the Internet more have

Table 1: Evaluation of the mean score of internet addiction and parent-child relationship in adolescent girls in secondary school (n=160)

Research variables	Range of scores	n (%)	Mean±SD
Internet addiction			
Normal internet user	20-49	100 (62.5)	52.15±5.67
Mild	50-79	59 (36.9)	
Severe	80-100	1 (0.6)	
Child-parent relationship			
Weak	24-48	3 (1.9)	118.24±85.35
Medium	49-96	33 (21.6)	
Strong	97-168	124 (77.5)	

SD=Standard deviation

fewer parent-child relationships.^[20] In a study in China, Xin *et al.* also found that a negative parent-child relationship with a disturbed student-teacher relationship increases the risk of Internet addiction,^[21] showing that parent-child relationships shape the awareness of high school adolescents. The better the relationship, the more information adolescents have and the less internet addiction is seen among them.^[22] The problem of adolescents' dependence on the Internet and their relationships with their parents can be twofold. Internet addiction and its negative consequences, which sometimes affect adolescents "mental, physical, social relationships, and academic achievement, increase their parents" anxiety. On the other hand, parental anxiety affects the parent-child relationship and encourages adolescents to use the Internet.^[23]

Limitation and recommendation

One of the restrictions was convincing school officials to study and access samples during school holidays, as well as filling out questionnaires online. It is suggested that this study be performed and compared with samples of male adolescents and also during and after the outbreak of COVID-19 disease, and the results are compared.

Conclusions

According to the research results, Internet addiction is a growing phenomenon, especially among adolescents, which requires more attention and development of measures and planning for timely prevention and treatment. Therefore, appropriate education, awareness, and culture to make optimal use of the Internet is a useful solution for this important issue. Therefore, in summarizing the above, it can be acknowledged that the need for intervention studies to improve the parent-child relationship and reduce Internet addiction in adolescents seems necessary. Therefore, it is suggested that interventional studies be conducted in the form of education, family therapy, and cognitive-behavioral therapies. Among the limitations of this study was the complex administrative process for obtaining a sampling permit in education. Another limitation can be suggested to examine only adolescent girls. In subsequent studies, both sexes should be examined simultaneously.

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Conflicts of interest

There are no conflicts of interest.

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