Factors leading to Internet addiction in 700 chat users visiting South Indian Chat rooms

Dr. Prasan Norman 1*, Karthikeyan Elavarasan 2, Thirunaaukarasu Dhandapani

DOI: https://doie.org/10.0924/Cjebm.2024724432

ABSTRACT

BACKGROUND

Internet addiction has become a major public health problem in the world. Researchers have formulated diagnostic criteria for Internet addiction, but it is not included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)

PURPOSE

This study aims to find the factors leading to Internet addiction in south Indian chat rooms which has increased during the period of COVID-19 pandemic

METHODS

It is a cross-sectional study done in South Indian Chat rooms. Chat users between the ages of 18 and 60, who agree to participate were included. Descriptive statistics were used to present the data. Data were analyzed and expressed as a proportion. Chi-square was used to find out the association. P value was also calculated.

IMPORTANT FINDINGS

Of the 216 participants who had internet addiction 63.9% of the participants quoted individual factors as a factor 62% of the participants said they liked online gaming in chat room 31% of the chat room users added cyber relationships as a factor. About 7.4% of the chat room users said they frequented chat rooms as they did not have a steady job and 2.3% of the chat room users said they came to chat rooms looking for cyber sex

CONCLUSION

Internet addiction has become a menace in recent times. The factors leading to such addictions should be curbed. Stringent rules must be imparted to combat such factors.

KEY WORDS: Internet addiction, Individual factors, Cyber relationship, Chat rooms

INTRODUCTION

Corona Virus lockdown has significantly affected most of our lives. We have sensed a change in our lifestyle to which we have adapted considerably. (1) Though the lockdowns have

^{1*} Professor, Department of community Medicine, Karpaga Vinayaga Institute of Medical Sciences, Madhuranthakam

² Associate Professor, Department of community Medicine, Karpaga Vinayaga Institute of Medical Sciences, Madhuranthakam

disappeared, we still cling to the habits we had during lockdowns like watching sitcoms, game shows, and chatting online to vile away time. During the lockdown, most of us turned to the internet as a mode of letting out. Many apps like Zoom, Google Classroom, and Microsoft Teams were accessed for online learning. People started spending time online not only for Online learning but also for entertainment. With the number of Over the Top (OTT) platforms increasing people found it easy to slip into a couch and watch movies, sitcoms, and sports over their flat-screen televisions or mobile phones, or Tablets.

Many new chat sites have emerged which could be accessed over mobile phones. And when confined to their homes people found it easy to access chat sites and meet people who have the same thoughts i.e., meet someone to chat with. With the recent evil, of online gambling taking a toll on many, chat rooms also have included many games in their apps where chat users can indulge in gaming with their chat buddies online. A study conducted in India shows internet addiction to be 1.3% in the general population. (2) Few other studies showed Higher rates of 11.8%, 8.8%, and 8% have been reported in college populations, and lower rates in adolescence (0.7%). (3-6) The Telecom Regulatory Authority of India recently reported that over 422 million people are actively using the Internet, with sustained growth in this figure over time. (7) Though access to the Internet leads to many advantages like improved communication, access to information, and entertainment, excessive use could lead to negative consequences in daily life like preoccupation with Internet activities, increasing tolerance, development of psychological dependency, and withdrawal symptoms, inability to reduce Internet use, Internet use to cope with negative moods and reduce stress; and replacing other activities like relationships with recurrent Internet use despite awareness of the deleterious consequence. (8)

Internet addiction has worsened during covid era. Many people have started spending more time online. People have started replacing physical contacts with virtual ones. This study was conducted to show that some factors that are preferred by people which lead to internet addiction, in the long run, can prove disastrous not only to individuals but indirectly to the whole family too. Taking the above into consideration this study was conducted to determine the factors that lead to internet addiction in South Indian chat rooms during the Covid period.

MATERIALS AND METHODS

This Cross-sectional study was started on February 2021. It was completed in the month of May 2022. Many South Indian chat sites were visited. Since most of the chat users frequent more than one chat site to chat, the most common chat sites which were frequented were chosen. Hence Ten South Indian chat sites were visited during the study period. A pilot study consisting of fifteen chat users was conducted in an online chat room after getting permission from the chat room owner. After the pilot study, all fifteen volunteers were briefed about the study and were asked to visit various chat rooms and interview other chat users who were willing to participate in this study.

All the chat room users who were between the age group of 18 and 60, and agreed to participate in the study were included. Chat users have a habit of using multiple chat ids. Such chat users were identified with the help of the chat room owners and only one response was recorded. The rest were excluded from this study. Data were collected by interview method using a semi-structured questionnaire consisting of demographic variables, descriptive variables, and Kimberly Young's questionnaire for internet addiction

Once a volunteer has approached and finished questioning a chat user, the answers will be checked by the chief investigator and finalized. As there were many instances when the same

chat user was approached more than once as there is an option to change the chat user name/identity, care was taken to avoid repetitions. In a study by Krishnamurthy S CS. internet addiction: Prevalence and risk factors: A cross-sectional study among college students in Bengaluru, the Silicon Valley of India, the prevalence was 34%. Taking this as prevalence, with 5% absolute precision, and 5% non-response rate, the sample size was found to be 345. (8) All those who were willing to participate in the study were taken in for the study. In this study, ten South Indian chat rooms from various chat sites were surveyed. 700 chat users agreed to participate in the study. The Internet addiction questionnaire by Kimberly Young was used to test Internet addiction in chat room users. There were many instances when various chat users refused to answer all the questions in the questionnaire. Such entries were excluded from the study. There are many types of internet addiction but a few are always talked about. like Computer gaming, Cybersex addiction, online relationships, etc. Such was considered as the Descriptive variables used to identify the factors leading to Internet addiction in south Indian Chat rooms were Alcoholism, Lack of a steady Job Individual factors, Cyber relationship addiction, Internet gaming, and Cyber-sex. (9)

STATISTICS

Numbers and codes were assigned to each variable. Data entry was done in an Excel spreadsheet (Microsoft Office 2010). Data was later transformed into SPSS (Statistical Package for Social Sciences) software. Descriptive statistics were used to present the data. Data were analyzed and expressed as a proportion. Chi-square was used to find out the association. P value was also calculated.

RESULTS

For this study, 10 South Indian chat rooms from various chat sites were surveyed.

All the participants in the age group of eighteen to sixty from these ten chat sites were included in this study. It was really hard to ascertain the age group as no one was willing to give their age. The word of the chat room owner and the other volunteers was considered to be final. Thus, a total of seven hundred participants participated in this study

The majority of participants in our study were in the age group of 41 to 50 years [fig-1] of which 52% of the participants were males [Fig-2]. 34.71% of the female chat room users have a steady job when compared with the 21% of the male chat users. Though the literacy status is almost equal in the primary school and mid-school levels, a decline was noted (1.57%) in the higher secondary and college level in females. [Table 1] 56% of the chatters said they consume alcohol when they chat every weekend. Shy people, who lack self-esteem, have poor social skills, defensive pessimism, and have problems relating to their life have more risk of having an addiction to new technologies, since the use of the Internet and social networks allows one to communicate without having to interact face to face. Only 19.9% of the participants felt individual factors were the reason they frequented chat sites and 5 (0.7 %) stated that they visited chat sites with the thought of finding partners for cybersex

Out of the 700 participants who took part in this study, 67 (9.6%) of them had cyber relationship addiction (the Excessive use of social networking sites to create relationships rather than spending time with family or friends). [Table 1]

Table: 1- Internet Addiction and Cyber Relationship Addiction

Cyber relationship Addiction	Internet Addiction (%)	No Internet Addiction (%)	Total
Presence	67(31%)	O (0%)	67
Absence	149(69%)	484(100%)	633
Total	216(100%)	484(100%)	700

[Fisher's exact test-P value-0.0001, chi-square -166.020a, df-1, p<0.001]

17 chat room users (2.4%) agreed that they were without a job and hence frequent chat sites to kill time [Table-2]

Table: 2- Internet addiction and not having a steady Job

Not having a steady Job	Internet Addiction (%)	No InternetAddiction (%)	Total
Presence	16(7.4%)	1(0.2%)	17
Absence	200(92.6%)	483(99.8%)	683
Total	216(100%)	484(100%)	700

[Fisher's exact test-P value-0.0001, chi-square -32.680a, df-1, p<0.001]

In this study, 216 (30.9%) suffered from Internet addiction. Of those who had Internet addiction, 132(18.9%) chat only when they are drunk/under the influence of alcohol causes the users felt that they could sing and chat without inhibitions if under the influence. Individual factors had the highest Prevalence of factors leading to internet addiction, 139(19.9%), followed by cyber relationship addiction 67(9.6%)

Prevalence of Individual factors (20.1%) and not holding a regular job \setminus (29.4%) was high in the age group of 18 to 20 years and Cyber relational addiction had a higher prevalence (23.9%) at the age of 50 to 60 years. Cybersex liking was seen more in the age group of 26 to 30 years

Prevalence of Individual factors and cybersex were seen more in females and the Prevalence of not holding a steady job and Cyber relationship was higher in males

FACTORS LEADING TO INTERNET ADDICTION

The history of Internet gaming with chat buddies was more than 134(62%) in participants with Internet addiction when compared to those with no addiction, which is statistically significant [Table-3]

Table: 3- Internet Addiction and Internet gaming

History Of Internet gaming	Internet Addiction (%)	No Internet Addiction (%)	Total
Yes	134(62%)	248(51.2%)	382
No	82(38%)	236 (48.8%)	318

Total 216(100%) 484(100%) 700

[Chi square-7.023^a, df-1, p=0.005]

History of alcohol consumption while chatting was a whopping 61% in participants with internet addiction but it was not statistically significant

Prevalence of Individual factors was high, 138(63.9%), in participants with Internet addiction [Table-4] and is statistically significant

Table: 4-Internet addiction and Individual Factors

Individual factors	Internet addiction (%)	No Internet addiction (%)	Total
Presence	138(63.9%)	1 (0.2%)	139
Absence	78(36.1%)	483(99.8%)	695
Total	216(100%)	484(100%)	700

[Fisher's exact test-P value-0.0001, chi-square -380.589^a, df-1, p<0.001]

0.7% of the chat room users with internet Addiction had a liking to cybersex and 31% of the participants were involved in cyber relationships. Not having a steady job 16 (7.4%) was seen more in chatters with internet addiction when compared to others. It is statistically significant [Table-5]

Table: 5-Internet addiction and Cybersex

Cybersex	Internet Addiction (%)	No Internet Addiction (%)	Total
Presence	5(2.3 %%)	O (0%)	5
Absence	211(97.7 %%)	484(100%)	695
Total	216(100%)	484(100%)	700

[Fisher's exact test-P value-0.0027chi-square -11.284^a, df-1, p>0.001]

In this study, Individual factors (63.9%) were the leading factor that causes Internet addiction in chat room users followed by Internet gaming (62%) and cyber relationship addiction (31%)

DISCUSSION

Internet addiction is defined as excessive use of the Internet accompanied by withdrawal, tolerance, and negative repercussions⁽¹⁰⁾

In this study, Individual factors (63.9%) top the list which is closely followed by Internet gaming (62%) on websites as the two main factors leading to internet addiction in South Indian chat rooms. In a study by Sulki Chung, the people addicted to the internet had higher levels of depression, compulsivity, and aggressiveness as well as lower family cohesion⁽¹¹⁾ In another study by Ascensión Fumer ⁽¹²⁾ it was noted that the individual factors had more influence over internet addiction. It was noted that Many people have the habit of turning to the internet when they feel lonely or have mixed emotions. Chat users were more likely to agree with each other about an individual's personality in one-on-one interactions than in group interactions. Since the true behavior of chatter can be covered up in a chat room, participants felt it easy to open up to strangers and share their feelings. ⁽¹³⁾ Several features of computer-mediated communications are particularly attractive to persons who see themselves as low in social competence; computer-mediated communication interactions give people greater flexibility in -self-presentation than face-to-face communication. One may omit or edit the information they feel is harmful. There is also a greater opportunity to fabricate, exaggerate or intensify the positive aspects of one's self. ⁽¹⁴⁾.

Internet gaming has been the past time for many. This study shows an increase [61%] in interest in internet gaming when seen in previous studies. In a study by Zeliha Traş in Turkey, it was proved that Internet addiction and loneliness are predictors of internet gaming disorder. (15) People in various age groups have the habit of indulging in online gaming in their free time. All the chat sites have various games from board games like Ludo to card games like UNO. A study by Mark Griffiths states that though internet gaming and internet addiction is a littlestudied phenomena, there is enough evidence to state that the former feeds the latter. And excessive video game playing can have potentially damaging effects upon a minority of individuals who display compulsive and addictive behavior, and who will do anything possible to "feed their addiction." (16) Chat users can play against each other as they continue chatting. It is known that addictions activate a combination of sites in the brain associated with pleasure, known together as the "reward center" or "pleasure pathway" of the brain. (17,18) When activated, dopamine release is increased, with opiates and other neurochemicals. Over time, the associated receptors may be affected, producing tolerance or the need for increased stimulation of the reward center to produce a "high" and the subsequent characteristic behavior pattern needed to avoid withdrawal. (19) Internet behaves like a variable ratio reinforcement schedule. A variable ratio schedule is a schedule of reinforcement where behavior is reinforced after a random number of responses. This kind of schedule results in high, steady rates of response. An example of the variable ratio reinforcement schedule is gambling. (20) These Chat sites support unpredictable and variable reward structures. The reward experienced is intensified when combined with mood-enhancing/stimulating content like various social rewards, identification with a hero, immersive graphics, a big sound when the chat user enters a room, and vehicles like Luxury cars, Airplanes that zip through to announce the chat user's arrival. All the above mentioned can make a chat user spend more time gaming in a chat site and trying to level up. This gives the chat users a sense of satisfaction, like a goal achieved. Strict rules should be laid for online gaming. Registration through phone numbers or national identification cards should be made mandatory for entering chat rooms and not mail ids as users can create multiple fake mail ids. The age limit for enrolling in chat rooms can be increased and national identification cards could be used as proof.

Vol. 20, No. 1. (2024) E ISSN: 1672-2531

Cyber relationship addiction was in 31% of chat users with internet addiction. The same was noted in a study by Ursa Majorsy, Indria Hapsari, Vega Valentine, and Aprilia Maharani Ayuningsi where a study conducted in Indonesia showed a 31.6% cyber relationship motive contributing to internet addiction in adults. (21) There is a slight male predominance in this study. This is defined as addiction to social networking, chat rooms, texting, and messaging to the point where virtual, online friends become more important than real-life relationships with family and friends. Serious relationship problems in 53% of Internet addicts surveyed resulted in marital discord, separation, and in some cases even led to divorce proceedings explains how online affairs differ dynamically from real-life affairs with the potential to be more seductive says Bahadir Bozoglan in his paper titled Psychological, Social,

and Cultural Aspects of Internet Addiction ⁽²²⁾ This could be because of causes, such as neglect of personal life, mental preoccupation, escapism, mood modifying experiences, tolerance, and concealing the addictive behavior. ⁽²³⁾ Recently it has become a common occurrence where you could see a group, a couple even individuals buried deep in their mobile phones/tablets/laptops instead of having a conversation or reading a book.

Lack of a steady job was given as a reason for online addiction by 7.4% of internet addicts. This is considerably lower when compared to a study by Henrique Pereira et al where the prevalence was 13,3%. It also states that Male participants showed higher scores of Internet addiction and poor job satisfaction⁽²⁴⁾ False sense of satisfaction, laziness to look for a job, and spending free time online have led to most of them being unemployed. Dr.Kimberley Young in her paper Internet Addiction: Symptoms, Evaluation, And Treatment state that one of the negative consequences of Internet addiction is occupational problems. ⁽²⁵⁾ Low cost/free online games to while away time, OTT platforms that give endless hours of entertainment, and being dependent on the parents for finance, boarding, and food are a few reasons why the unemployed have an internet addiction. ⁽²⁶⁾ No matter whether the chat users earn or not, they still can spend time online and still have a place to board, eat and entertain themselves. Such people should be made to understand their future by their parents, elders, and friends. Strict measures can also be undertaken to make these chat room users understand that no pay leads to no freeloading

Cybersex addiction was the last factor with 2.3% leading to internet addiction. Cybersex addiction can be understood as a severe form of Internet addiction. Its increasing incidence is attributed to the anonymity and easy accessibility provided by the Internet ⁽²⁷⁾ A study by Marcus R. Squirrell states that 27% of subjects experienced severe depression,

30% experienced high anxiety, and 35% felt depressed with their involvement in cybersex. ⁽²⁸⁾ Center for Online Addiction states the following: "Gender significantly influences the way men and women view cybersex. Women prefer Cybersex because it hides their physical appearance, removes the social stigma that women shouldn't enjoy sex, and allows them a safe means to concentrate on their sexuality in new, uninhibited ways. Men prefer cybersex because it removes performance anxiety that may be underlying problems with premature ejaculation or impotence and it also hides their physical appearance for men who feel insecure about hair loss, penis size, or weight gain. ⁽²⁹⁾ People engaging in cyber-sex with others online could fulfill desires and fantasies that one would otherwise resist in real life. These were the reasons stated by the chat users when questioned as to why they preferred the above.

464

CONCLUSION

This study has thrown light on the risk factors in the individual and their Internet usage. Misuse of the Internet may be an individual's choice, but the current study relates to the role of factors and the environment in which individuals make their choice. Since these factors are related to chatting apps and sites, prevention efforts require a social policy approach. Hence strategies should target both changing individuals' behaviors and setting the public health goal of reducing harmful Internet use at the country level. In 2019, the World Health Organization announced the inclusion of internet gaming disorder in the International Classification of Diseases-11 and identified it as a health problem that requires a public health initiative. Further research is needed on intervention policies that specifically target individuals and the risks based on the public health model. The findings of this study may help in the planning of suitable strategies geared toward the prevention of internet addiction.

RECOMMENDATION

People feel that spending time online browsing/chatting could make their emotions go away. Although digital technology provides avenues to connect socially, overindulgence or overuse of the internet can be harmful in the long term. The familiarity principle suggests that we find people whom we are familiar with nicer, more friendly, and more trustworthy; since the familiarity effect does not necessarily involve direct interaction, people can find in online chats a means to satisfy their need for social contact with friendly people, at least at the beginning of the interaction which leads to a relationship. ⁽³⁰⁾ Such individuals should take care to keep a log of their online interaction hours and by themselves reduce them.

The chatters should interact more with their neighbors, relatives, or friends and reduce their online hours. If the need arises meeting a therapist should also be thought about. Strict rules should be laid for online gaming. Registration through phone numbers or national identification cards should be made mandatory for entering chat rooms and not mail ids as users can create multiple fake mail ids. The age limit for enrolling in chat rooms can be increased and national identification cards could be used as proof.

The Internet is a great place to meet new people and meet old friends but is not healthy to start an online relationship. Such a relationship could very well replace real-life relationships. Online relationships could be interesting as they work like a bubble without the regular stress and commitment of real-life relationships. But this could lead to short-term hooks up instead of long-term relationships that get implied in real life too

Wanting to spend time online with a person who is not physically present is deceitful. This not only spoils intimate relationships but also destroys the family. Stress has to be put on such individuals to spend quality time with the family, go on tours, or frequent a restaurant for a good time out with the spouse.

Everything said and done, it takes a strong self-aware, self-disciplined individual to escape the clutches of internet addiction. No use blaming the internet or the chat sites. It's up to one's self to understand the boundaries and draw a line when and where it's necessary.

Author Declarations

Competing interests: The authors declare that they have no competing interests.

Ethics approval and consent to participate: Ethics clearance was granted by the Institutional Ethics Review Committee of Karpaga Vinayaga Institute of medical sciences.

Reference number - KIMS/F/2020/24

Funding: Self-funded

BIBLIOGRAPHY

- 1. Rawat D, Dixit V, Gulati S, Gulati S, Gulati A. Impact of COVID-19 outbreak on lifestyle behavior: A review of studies published in India. Diabetes Metab Syndr. 2021;15(1):331–6
- 2.Sharma MK RGBVTKTD. technology addiction survey: An emerging concern for raising awareness and promotion of healthy use of technology. Indian J Psychol Med. 2017; 39: p. 495-499.
- 3..adav P BGPCMR. Internet addiction and its correlates among high school students: A preliminary study from Ahmedabad, India. Asian J Psychiatry. 2013;(6): p. 500-505.
- 4. Vyjayanthi S MSAMGS. Gender differences in the prevalence and features of internet addiction among Indian college students. Medica Innovatica. 2014;(3): p. 65-70.
- 5.Krishnamurthy S CS. nternet addiction: Prevalence and risk factors: A cross-sectional study among college students in Bengaluru, the Silicon Valley of India. Indian J Public Health. 2015;(59): p. 115-121.
- 6.Goel D SAKR. A study on the prevalence of internet addiction and its association with psychopathology in Indian adolescents. Indian J Psychiatry. 2013;(55): p. 140-143.
- 7. The Indian Telecom Services Performance Indicators. New Delhi.; 2017.
- 8. Chakraborty K BDKK. Internet addiction: consensus, controversies, and the way ahead. East Asian Arch Psychiatry. 2010;(20): p. 123-132.
- 9.Bennett T. Thriveworks. [Online].; 2020 [cited 2023 January 07. Available from: https://thriveworks.com/blog/internet-addiction/.
- 10.K.S Y. Internet Addiction: Diagnosis and treatment considerations. J. Contemp. Psychother. 2009;(39): p. 241–246.
- 11. 1. Chung S, Lee J, Lee HK. Personal Factors, Internet Characteristics, and Environmental Factors Contributing to Adolescent Internet Addiction: A Public Health Perspective. Int J Environ Res Public Health. 2019 Dec;16(23):4635.
- 12. Fumero A, Marrero RJ, Voltes D, Peñate W. Personal and social factors involved in internet addiction among adolescents: A meta-analysis. Computers in Human Behavior. 2018 Sep 1;86:387–400.
- 13. Wells PMMSM. Interpersonal Perception in Internet Chat Rooms. Journal of Research in Personality. 2002;(36): p. 134–146.
- 14. Martha C shaw DB. Internet Addiction: Definition, Assessment, Epidemiology and?Clinical Management. CNS drugs. 2008;(22): p. 353-365.
- 15. Zeliha T. Internet addiction and loneliness as predictors of internet gaming disorder in adolescents. Educ Res Rev. 2019 Jul 31;14(13):465–73.

- 16. 1. Griffiths M. 8 INTERNET AND VIDEO-GAME ADDICTION. In: Essau CA, editor. Adolescent Addiction [Internet]. San Diego: Academic Press; 2008 [cited 2023 Apr 5]. p. 231–67. (Practical Resources for the Mental Health Professional). Available from: https://www.sciencedirect.com/science/article/pii/B9780123736253500103
- 17. DJ. L. The Compass of Pleasure How Our Brains Make Fatty Foods, Orgasm, Exercise, Marijuana, Generosity, Vodka, Learning, and Gambling Feel So Good. In The Compass of Pleasure.: Viking Adult; 2011.
- 18. MD GM. In the Realm of Hungry Ghosts: Close Encounters with Addiction. In.: North Atlantic books; 2010.
- 19. Ko C-H LGCHSYJYYMJLWCea. Brain activities associated with gaming urge of online gaming addiction. Journal of Psychiatric Research. 2009; 43(7): p. 739–47.
- 20. Young KS NdAC. Internet Addiction: A handbook and guide to evaluation and treatment. New Jersy: John Wiley & Sons Inc; 2011.
- 21. Majorsy U. CONTRIBUTION OF CYBER-RELATIONSHIP MOTIVE TO INTERNET ADDICTION IN ADULTS. ANALITIKA. 2017 Dec 26;9:91.
- 22. Bozoglan B, editor. Psychological, Social, and Cultural Aspects of Internet Addiction: [Internet]. IGI Global; 2018 [cited 2023 Apr 5]. (Dwivedi A, editor. Advances in Human and Social Aspects of Technology). Available from: http://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/978-1-5225-3477-8
- 23. K Y. Facebook Addiction Disorder? The Center for Online Addiction Bradford usa; 2009.
- 24. Pereira H, Feher G, Tibold A, Esgalhado G, Costa V, Monteiro S. The Impact of Internet Addiction and Job Satisfaction on Mental Health Symptoms among a Sample of Portuguese Workers. International Journal of Environmental Research and Public Health. 2021 Jun 29;18:6943.
- 25. Young DKS. Internet Addiction: Symptoms, Evaluation, And Treatment.
- 26. YOUNG K. The Unemployed and Video Game Addiction: New Trends in the Workforce. [Online].; 2016 [cited 2023 January 11. Available from: https://netaddiction.com/video-game-addiction/.
- 27. Ram D. CYBER SEX ADDICTION: AN OVERVIEW. Indian Journal of Private Psychiatry (special suppliment on e-psychiatry). 2012 Sep 1;55–73.
- 28. Squirrell MR. Psychological characteristics of individuals who engage in online sexual activity (OSA).
- 29. .S S. Internet addiction and relationships: the psychology behind it. MOJ Addict Med Ther. 2017; 3(1): p. 11-13.
- 30. .Bornstein RF,LDR,&GDJ. The generalizability of subliminal mere exposure ef-fects: influence of stimuli perceived without aware-ness on social behavior. Journal of personality and social psycology. 1987;(53): p. 1070-1079.

467