

BIOPSYCHOSOCIAL MODEL OF INTERNET-DEPENDENT BEHAVIOR. RISK FACTORS FOR THE FORMATION OF THE INTERNET

¹Sergey Lomakin Vadimovich, ²Solovyova Yelena Anatolyevna, ³Sharapova Dilfuza Nematillayevna, ⁴Shernazarov Farrukh

¹St. Petersburg Psychiatric Hospital No. 1 named after P.P. Kashchenko
Russian Federation city of Saint-Petersburg

²City of Rostov "Narcological dispensary", Russian Federation city of Rostov

³Samarkand State Medical University Clinical orderator in the direction of psychiatry

⁴608 group students of Samarkand State Medical University Faculty of Medicine

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Abstract. *Studies in recent years show that adolescents are overly influenced by the internet, often abuse it and, in some cases, are clearly dependent on the virtual environment. At the same time, the risk factors for the emergence of internet-dependent behavior are not well understood.*

Keywords: *youth, internet-dependent, biopsychosocial model, risk factors.*

Introduction. The situation of the problem of internet addiction is the opposite today. Often the question arises, is it possible to talk about such a phenomenon in clinical categories? Is internet addiction an independent phenomenon or is it a form of implementation of already known forms of addiction, such as gambling [1-3]. The term "internet addiction" itself was introduced by New York psychiatrist Ivan Goldberg (1996) to describe a pathological, unbearable urge to use the internet. By internet addiction, he understood the violation of behavior that, as a result of the use of the Internet and computer, has a detrimental effect on the daily, educational, social, work, family, financial or psychological spheres of human activity.

Local researchers of internet addiction [4-7] propose to consider internet addiction in three options: 1) pathological craving for the internet, as a form of related behavior in understanding it as a disorder of deviant behavior (relevant for adolescents); 2) internet addiction syndrome, behind which many other personal and/or mental disorders with a certain nosological dependence are hidden; 3) internet addiction as an independent nosological unit due to the characteristic features (processuality) that have a certain dynamics (processuality) of psychopathological diseases and the mutual pathogenic influence of the internet environment. Many researchers say that internet addiction often manifests itself at a young age — among adolescents and young people, which makes it difficult for them to socialize, hindering their ability to make a career, build a family [8-12].

Computer games are played by every second guy and every fifth girl between the ages of 14-25. On average, 39% of young people in the 14-25 age group play computer games. Note that the larger the respondents, the less they play. The highest level of interest in games falls on adolescents aged 14-17 years-at this age 55% play. From the age of 18, young people play 30% less. Young people aged 14-25 prefer to play online than offline — 41% and 17%, respectively [13-17].

According to the study • 90% of girls and 85% of guys have their own smartphones; 63% of girls and 48% of guys use a smartphone for more than 3 hours a day • 54% of girls and 40% of guys have their own tablets; 92% of girls and 86% of guys use mobile internet • messengers on smartphones are 72% girls and 60% guys; 32% girls and 42% guys play computer games every day. Generally accepted criteria for addictive behaviors that are very relevant for internet addiction qualifications [14-18]: abuse of a particular type of activity; impossibility of subjective control of activities; the presence of improper adaptation due to the abuse of activities that affect reading, performance, interpersonal relationships; increase tolerance to the amount of time spent on activities; State of cancellation: psychological discomfort (irritability, decreased mood, depression, increased aggressiveness, etc.); objective overeating with activities, squeezing other aspects of social life. However, internet addiction is qualitatively different from other forms of non-chemical addiction by accessing the infinite possibilities of the virtual world. A number of features of the internet as a potential addictive agent stand out [19-24]: the possibility of many anonymous social interactions; virtual realization of fantasies and desires with the establishment of feedback; finding the necessary "interlocutors" who meet the desired requirements; the possibility of establishing a connection at any time and stopping it; unlimited access to Information, Various entertainment, games. The Virtual world is dynamic, in which you can realize your hidden desires, possess a situation, overcome difficulties, feel like a hero, experience all emotions [25-28].

In this case, bilateral contacts and interactions appear, which form the illusion of communication with the real world. At the same time, the real world is perceived as uninteresting, boring and often hostile. Emotions, interests, cognitive sphere, energy and value system are focused on the virtual world. An internal psychological space is formed, which expands its influence on the assessment of external phenomena [29-31]. Relations with reality will subside. With no other addiction, it is not achieved to combine mental functions such as internet addiction. Insufficient belief in its inviolability, extreme immunity, reassessment of intellectual, volitional, physical and other capabilities makes a dependent person incapable of contact with reality [32-34].

Recently, the risk of the emergence of internet-dependent behavior has been considered within the multi-factor biopsychosocial model of dynamic interaction of biological, psychological and social factors [35]. Many researchers consider the family to be one of the main sources of drug development. Most of the research focuses on chemical dependence: a number of researchers consider surfactant dependence to be a "family symptom" [36-38]. There are separate works devoted to the influence of family factors on the formation of internet addiction [39]. It has also been found that low-level family activity is positively correlated with internet addiction in adolescence [40]. It has been found that in families with multiple conflicts, the level of parental involvement has decreased, which leads to insufficient parental control. This, in turn, is a harbinger of the emergence of internet addiction in a teenager [41].

The purpose of the study: is to study the biological, social and personal-characteristic factors that affect the formation of internet addiction.

Materials and methods. Chen internet addiction test (CIAS) malygin V. L, Feklisova K., Kettell hspq survey; MPDO pathocharacterological survey," body image I " technique (M. Feldenkreis,) ASV poll 2 (Justickis V., Eidemiller V. G.), projective method "mother and child" (Melnikova M. L.); projective methodology "family sociogram" (Eidemiller E. G.); Guildford's

methodology for the study of social intelligence; msceit methodology for the diagnosis of emotional intelligence. All children who participated in the study were educated in a comprehensive school, without a psychiatric or chronic somatic diagnosis. Some children's histories have consulted a neurologist for various reasons. All adolescents are from socially prosperous families with an average or above-average income level. Parents of all children under investigation had higher or secondary special education. All families live in Moscow or the Moscow region. The study was conducted by the method of questioning one of the children and parents. The following methods were used to perform research tasks: 1. Kimberly Young's internet addiction screening test has been modified for parents' child-related surveys and adolescent self-diagnosis.

Research results. 180 teenagers were examined. Of these, 50 (27,7 %) were found to have abused the internet. 9 (5%) adolescents found signs of formed internet addiction. Neuropsychological studies of 30 adolescents with internet addiction have shown that, compared to conditionally healthy adolescents, more often ($p < 0,05$), there is a smooth interhemispheric interaction, functional weakness of interhemispheric commissures and the Left front of the brain, which is manifested by spatial Praxis, auditory-motor coordination, control disorders. and the regulation of activities. The functional deficiency of interhemispheric interactions increases the load on the first and third blocks of the brain and, accordingly, causes fatigue. Thus, adolescents prone to internet addiction, characterized by increased fatigue, can use the internet as a way to stay active and concentrate, since the constant appearance of new stimuli increases the level of concentration. In turn, strenuous activity on the internet helps to get more tired and tired, thereby forming a kind of vicious circle of the dependent state. On the other hand, insufficient inclusion in the functional system of the front parts of the left hemisphere reduces planning, regulation of their activity and time spent on the network. Less advanced functions C. N. S. development in adolescence can and should continue, but the lack of an active lifestyle, limiting actual communication as a result of Internet dependence, complicates development processes. Studies of body image in adolescents with internet addiction have shown that they have a more formal symbolism of emotional tissue in their body than adolescents in the control group.

The body image of adolescents "I" is characterized by weak differentiation and reflects their tendency to separate mentality from emotion, the presence of problems in the field of communication, a lack of self-confidence. Insufficient development of the body sphere can hinder the development of the emotional and emotional sphere, in particular, emotional intelligence. Studies among 111 families of adolescents with internet addiction have shown that in families of adolescents with internet addiction, a type of education with hyperprotection or hypoprotection characteristics is recorded significantly more often. In these families, in general, with a low level of prohibitions, the number of sanctions significantly exceeds the number of sanctions in families in the norm group, which indicates inconsistency and ambivalence in the upbringing of a teenager's parents. Adolescents who are addicted to the internet demonstrate the characteristics of infancy in their relationship with their mother, overestimating their closeness to her. The identified characteristics of family relationships can contribute to the adolescent's escape to the virtual environment.

A study of the characteristic features of 80 adolescents with internet addiction revealed their following distinctive features. Adolescents with internet-dependent behavior are characterized by a decrease in regulation and the voluntary sphere, which are characterized by

impulsiveness, excessive activity on weak excitatory stimuli. They are characterized by anxiety, distraction, insufficient concentration, difficulty in self-control of both behavior and emotions. They are often prone to affective response and have excitability and general personal frustration. It is difficult for them to organize their activities, time, the procedure for performing work. Analysis of the prevalence of stress types has shown that among adolescents with internet addiction, the types of excitability (12,76% and 0,94%, respectively), introvert (8,5% and respectively), asthenoneurotic (6,38% and respectively) and unstable (4,25% and 0,94%, respectively) compared to the control group. Thus, adolescents with an exciting and introverted character are perhaps the most vulnerable to the virtual environment. A study of the emotional intelligence of 94 adolescents with internet-dependent behaviors found a significant decrease in it compared to the control group (49,25 and 51,42, $p < 0,05$, respectively). Reliable differences are determined by section a (perception of the emotions of others) and Section e (ability to capture the general mood around), which are included in the "ability to detect emotions" component. The study of social intelligence (Guilford test) found that internet-dependent adolescents reliably recognize less of the different meanings of other people's verbal messages, making it difficult to properly understand what people say to each other (speech expression) in the context of a particular situation, specific relationships.

Adolescents with internet-dependent behavior significantly poorly identify the emotional state of other people and the surrounding space, reduce sensitivity to the nature and shades of human relationships, which makes it difficult for them to interact with other people and, accordingly, adapt in society. It should be noted that the internet space itself has its own unique characteristics: avoidance of flow and experience, anonymity, security, has a stimulating effect, promotes the appearance of disinhibition (D. M. Greenfield, 1999) and altered state of consciousness. Conclusions. Thus, the emergence of internet addiction in adolescents is due to biological factors (C. N. S. of congenital functional insufficiency) and are associated with the peculiarities of family upbringing (the style of double upbringing, insufficient emotional closeness), which in turn contributes to the formation of personal characteristics in the form of excitability, emotional instability, personal frustration.. as well as the underdevelopment of emotional and social intelligence.

These personality traits prevent adolescents from social adaptation in time, exacerbate interpersonal conflicts and help them escape into the internet space, which in turn has a certain specific effect. The principles of treatment of internet-dependent behavior should be based on the bio-psycho-social mechanisms of the formation of this type of addiction: neuropsychological and pharmacological correction of functional insufficiency C. N. S.; correction of maladaptive personality traits (teaching emotion regulation skills, developing emotional sphere and communication skills; developing the function of programming one's own activities); deviant parenting styles in the family and psychological correction of interpersonal relationships.

As can be seen from, the strongest communication is observed in the area of emotional acceptance-in the area of rejection of the child by the parent and autonomy and control of the child's behavior. Hypoprotection reflects an insufficient level of child support in the family. It is about how much effort, attention and time parents spend on raising a child. In this case, there is a situation in which the adolescent is in the center of attention of the parent, whose "hands do not reach him." The child often "disappears from sight". It is only "taken" from time to time when

something serious happens. Entertainment reflects an excessive level of satisfaction of the needs of the child.

In this case, parents strive to maximally and critically satisfy any needs of a teenager. Any desire of a teenager is the law for them. In entertainment, parents subconsciously design their previously unmet needs for children and seek ways to replace them through educational actions. Ignoring the needs of the child-this type of upbringing disorder is characterized by insufficient desire of the parents to satisfy the needs of the child. In this case, mental needs, especially emotional contact, contact with the parent, the need for acceptance and love, are more affected. It is often combined with hypoprotection. Requirements-lack of obligations-a form of violation of the system of requirements for a teenager. Requirements-obligations-this is a list of daily obligations of the child to himself and other family members.

Thus, in the families under study, the following picture appeared, which describes the relationship between parents, adolescents and the Internet: with very high values of the factors of hostile, inconsistent, autonomous (fenced or distanced) behavior of parents, and with a very low value of the proximity factor, we observe a high level of internet dependence of adolescents. With above-average values of hostility and inconsistency factors, an autonomy factor and close proximity to the average, we see adolescents ' over-interest in the Internet (risk of internet addiction). In families with low factors of hostility and inconsistency and regulatory importance in terms of factors of intimacy and autonomy, we observe the typical attitude of adolescents towards the internet. The factors of "directivity" and "criticism" in parents ' behavior were expressed in an interesting way (these factors are related to education, control, prohibitions and rewards). The highest rates of these factors are in the group of teenagers who are overly passionate about the internet (but not addicted to the internet). In a group of adolescents with internet addiction, the extremely low value of these factors is most likely due to parental distancing and neglect (hypoprotek). In a typical Internet user group, these factors tend to be close to the averages associated with giving adolescents independence while retaining some elements of parental control.

Correlational analysis has shown that anxiety (primarily in the field of social relations) and neurotic tendencies (primarily the emotional spectrum) are related to the susceptibility to internet-dependent behavior, as mediated communication in virtual reality likely allows for decreased depression, stress expressed in anxiety, phobic and aggressive conditions. The conclusion is a stable formation of the considered aspects of the parent-child relationship, that is, the style of family upbringing, the features of the interaction of parents and the emotional climate in the house, and the child is formed from the moment of its appearance in the family, if they are not consciously corrected, accompany the relationship of children and parents throughout. The adolescent proves to be vulnerable to various forms of addiction as the exercise of behavior of abstinence. He can choose one of the socially acceptable diction, such as internet addiction. In correctional work with a person addicted to the Internet, special attention should be paid to the formation of sources of emotional warmth and acceptance, a sense of security, increased self-esteem and self-esteem, as well as the stimulation of a gradual harmonious separation from parents. Of particular importance is the work of psychocorrection, aimed at correcting (if possible) the style of family upbringing with parents, as well as solving interpersonal and interpersonal problems of adult family members. Conclusions. The study also showed the need for correction in the following direction: a) to reduce the level of anxiety and increase the effectiveness of behavior; B) to attract specialists from the

relevant specialties (neurologists, neuropathologists) to correct the psycho-physiological state of a dependent person. This study identified the need for an integrated approach to solving the problem of internet addiction. The following psychocorrectional support can be offered to a teenage family that has sought psychological support for an internet-related behavioral problem. The complex approach proposed to work with adolescents with internet addiction is based on research carried out taking into account biological, psychological and Social Risk Factors and the modern biopsychosocial health model.

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