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Проблемное использование социальных сетей: можем ли мы говорить о зависимости?

А.Е. Абдрахманова^{1,2}, И.С. Ефремов^{1,2,3}, Т.Р. Гизатуллин², А.Р. Асадуллин^{1,3}

¹Башкирский государственный медицинский университет, Уфа, Россия

²Республиканская клиническая психиатрическая больница, Уфа, Россия

³Национальный медицинский исследовательский центр психиатрии и неврологии им. В.М. Бехтерева, Санкт-Петербург, Россия

Автор, ответственный за переписку: Илья Сергеевич Ефремов, efremovilya102@gmail.com

АННОТАЦИЯ

В статье представлены материалы российской и зарубежной литературы, указывающие на сходство между определёнными типами поведения в социальных сетях и аддиктивным поведением, а также демонстрирующие негативные последствия проблемного использования социальных сетей для физического, психического и социального благополучия пользователей. Рассмотрены биологические, личностные и социальные факторы, предрасполагающие к проблемному использованию социальных сетей. Приведены данные о коморбидности социальносетевой зависимости с другими видами зависимого поведения и психическими расстройствами, такими как технологическая, пищевая, покупательская зависимости, депрессия, мания, тревожное расстройство, эпизоды психотических переживаний.

Ключевые слова: социальные сети, зависимость, интернет-зависимость, Фэйсбук, поведение в социальных сетях.

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Dysfunctional use of social networks: can we talk about addiction?

Anastasiia E. Abdrakhmanova^{1,2}, Ilia S. Efremov^{1,2,3}, Tagir R. Gizatullin²,
Azat R. Asadullin^{1,3}

¹Bashkir State Medical University, Ufa, Russia

²Republican Clinical Psychiatric Hospital, Ufa, Russia

³V.M. Bekhterev National Medical Research Centre for Psychiatry and Neurology, St.-Petersburg, Russia

Corresponding author: Ilia S. Efremov, efremovilya102@gmail.com

ABSTRACT

The article presents materials from Russian and foreign literature indicating the similarity between certain types of behavior in social networks and addictive behavior, as well as demonstrating the negative consequences of problematic use of social networks for the physical, mental and social well-being of users. Biological, personal and social factors predisposing to problematic use of social networks are considered. The data on the comorbidity of social media addiction with other types of addiction behavior and mental disorders, such as technological, eating, consumer addiction, depression, mania, anxiety disorder, episodes of psychotic-like experiences are presented.

Keywords: *social media, addiction, internet addiction, Facebook, behavior in social media.*

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Social networks are an integral part of modern life. As of October 2021, there were 2.9 billion monthly active users of Facebook and 2.3 billion users of YouTube [1]. These indicators are constantly growing, which cannot but be the reason for discussions about the impact of social networks on the physical, mental, and social well-being of people [2, 3].

The behavior of some users of social networks is of concern, as it resembles behavior patterns for various types of chemical and non-chemical addictions [4, 5]. Although, at present, the problematic use of social networks is not recognized as an independent nosological unit, and it is not included in the current International Classification of Diseases, 10th Revision (ICD-10) [6] and the updated ICD-11 [7], many authors use the terms “addiction to social networks” and “problematic/excessive use of social networks.”

Griffiths (2005) argues that any behavior that meets the six criteria common to all types of addiction (noticeability, mood change, tolerance, withdrawal symptoms, conflict, and relapse) can be defined as addiction from a practical point of view [8]. According to the classification by Egorov (2015), dependence on social networks is a behavioral addiction and is included in the group of Internet addictions, which, in turn, refers to technological addictions. It is understood that the Internet implements addiction but not its object [9].

This article reviews the thematic scientific literature of the last 5 years.

MATERIALS AND METHODS

The search for information was performed in the PubMed and Google Scholar databases using the queries “social media addiction” and “Facebook addiction.” Inclusion criteria were meta-analyses, systematic reviews, randomized clinical trials, cohort studies, case-control studies, uncontrolled studies, and literature reviews investigating social media addiction, published from January 1, 2017, to November 27, 2021. The exclusion criteria were descriptions of individual cases/case series and expert opinions on the above subject.

CAN ADDICTION BE SUGGESTED?

According to a review article by Kurniasant et al. (2019), the behavioral pattern of Internet overuse (including social media overuse) is similar to psychoactive substance addiction regarding the

development of tolerance, abstinence syndrome, repeated attempts to reduce or stop “using,” and negative consequences for everyday life [10].

People with drug addiction have a deficit of neuronal bonds in the brain regions responsible for reward and impulsivity (A.R. Asadullin et al., 2018) [11]. Based on data on the nucleus accumbens' role in the reward and pleasure system, Montag et al. (2017) studied the relationship between the volume of gray matter in the nucleus accumbens and the activity of using Facebook on 62 volunteers. The evidence showed that a high frequency of checking a Facebook page on a smartphone is directly related to smaller volumes of gray matter in the nucleus accumbens [12]. The importance of this brain segment in the reward system is confirmed by studies of other models of addictive behavior. For example, there are scientific data on the relationship between the gray matter volume of the nucleus accumbens and dependence on alcohol [13] and cocaine consumption [14].

In a review by Burhan and Moradzadeh (2020), comments, likes, or social media posts are considered positive stimuli in a feedback mechanism operating through the dopamine reward system [15]. The need for “dopamine reinforcement” is probably due to the low ability of brain regions to synthesize a neurotransmitter independently. Andrew Westbrook et al. (2021) also reported a correlation between a lower dopamine synthesis capacity of the shell and a higher proportion of interactions with social applications in a smartphone [16].

Genetic research is focused on searching for genetic markers of “internet addiction.” Aryani and Lesmana (2019), in a review article, report a molecular genetic link between serotonergic and dopaminergic neurotransmission and “Internet addiction” through the *DRD2/ANKKI* Taq Ia dopamine polymorphism and catechol-O-methyltransferase *Val158* and the gene encoding the nicotinic subunit of the α_4 *CHRNA4* acetylcholine receptor [17]. Kibitov et al. (2019) in a pilot study of genetic markers of the risk of “Internet addiction” risk identified preliminary genetic markers, namely functional polymorphism *rs6265* of the brain neurotrophic factor gene, increases the probability of occurrence of “Internet addiction” by 2.7 times, the polymorphism in exon 3 *VNTR 48bp* of the dopamine receptor type 4 gene (*DRD4*) reduces the probability of “Internet addiction” by 67.5%, and the protective effect of the *rs2229910* polymorphism

of the neurotrophic tyrosine kinase receptor type 3 (*NTRK3*) gene was also confirmed [18].

The increase in tolerance and the withdrawal syndrome are universal components of all variants of addiction. Saurav Basu et al. (2021) assessed social media addiction of Delhi Medical College students. Their study revealed that most students could not reduce the time spent on social media, despite the desire to do so, indicating the development of tolerance and impaired control [19]. In a study of the behavior of 172 social media users, Stieger and Lewetz (2018) noted withdrawal symptoms (increased attraction, boredom, decreased positive affect, and negative affect) in study participants after stopping social media use for 7 days [20].

Distortion of the perception of time outside of contact with the subject of addiction is a distinctive feature of addictive behavior that has clinical significance [21]. Turel et al. (2019), using a randomized two-group design, demonstrated that after abstaining from social media, both people who were low risk and at risk for social media addiction rated time periods longer than they were. There was no such effect on the control group. In general, the perception of time being longer after abstaining from social networks was more pronounced among users at risk [22].

COMORBIDITY WITH OTHER TYPES OF DEPENDENT BEHAVIOR AND MENTAL DISORDERS

Tang and Koh (2017) examined the prevalence of social media addiction and its comorbidity with other behavioral addictions and affective disorders among 1,110 college students in Singapore. Social media addiction was associated with food addiction (3%), shopping addiction (5%), as well as food and shopping addiction (1%). The comorbidity rates for social media addiction and affective disorder were 21% for depression, 27.7% for anxiety disorder, and 26.1% for mania. Compared with the general sample, students with social media addiction demonstrated higher rates of comorbidity with other behavioral addictions and affective disorders [23].

Fekih-Romdhane et al. (2021) analyzed data from a survey of 1,007 college students. They concluded that social media addiction contributed significantly to psychotic experiences (abnormal sensations, perceptual deceptions, ideas of persecution, and magical thinking) [24].

PREDICTORS FOR THE DEVELOPMENT OF DEPENDENCE ON SOCIAL NETWORKS

Andreassen et al. (2017) focused their work on the relationship between the addictive use of social networks, narcissism, and self-esteem. The results of a survey of 23,532 Norwegians revealed that the lack of relationships, low income, low self-esteem, and narcissism were associated with higher scores on a social media addiction scale [25]. Marengo et al. (2021) detected a positive relationship between the frequency and intensity of positive feedback from Facebook users and feelings of happiness, which was partly mediated by increased self-esteem [26].

Cudo et al. (2020) identified predictors of Facebook addiction in a sample of 382 people from Poland. In particular, they studied the role of self-control, evaluating it through self-restraint (a high level of self-control, namely a tendency toward cogitation and desire to control) and impulsivity (a low level of self-control, which is a tendency to act spontaneously, without thinking). A high level of impulsivity is considered a predictor of Facebook addiction [27].

Impulsivity has been studied in conjunction with other chemical and non-chemical addictions. In a meta-analysis of 97 studies, Kalea, Stautzb, and Coopera (2018) concluded that impulsivity is associated with an increased risk of smoking and greater nicotine dependence [28]. In addition, Minhas et al. (2021) revealed a significant association between food addiction and the consequences of alcohol abuse in a study of 730 adults from Hamilton with occasional and regular alcohol abuse. Both addictions have similar associations with specific impulsive personality traits [29]. In a comparative study of psychological traits of 20 adolescents addicted to cannabinoids and 20 adolescents addicted to the Internet, Malygin et al. (2018) distinguished pronounced motor impulsivity and low self-control as common characterological features that are typical for both groups of addicts [30].

Obsessive use of social media is positively associated with high levels of social anxiety [31]. The role of personal anxiety as a predictor of Facebook addiction was reported by Xie and Karan (2019). Intensive use of Facebook and broadcasting personal information on the social network (status updates, sharing photos/videos) contribute to the emergence of dependence

on Facebook and anxiety outside the social network [32]. The data are consistent the study by Rothen et al. (2018) on a sample of 676 Facebook users that certain types of social media activity (status updates, games through the Facebook app, use of notifications) are associated with problematic Facebook use. The authors conclude that it is important not to overuse the term “addiction”; only the actions performed on social networks are decisive in concluding about potentially dysfunctional use of the Internet platform [33].

A higher level of social media addiction among women than men is confirmed in a meta-analysis by Su et al. (2020), probably due to biological, physiological, and social factors [34]. The influence of cultural aspects on the prevalence of social media addiction is reported in a meta-analysis by Cheng et al. (2021), where the prevalence of social network addiction in collectivist countries is 2 times higher than in individualistic countries [35].

CONSEQUENCES OF DEPENDENCE ON SOCIAL NETWORKS

Yu et al. (2021), having studied the prevalence of social media addiction and its health consequences in a sample of 390 students at the University of Hong Kong, concluded that 21.5% of the students participating in the study met the criteria for social media addiction. Students with addiction showed longer sleep latency, more sleep disorders, lower academic performance, lower levels of life satisfaction, and higher levels of depression than students without addiction [36].

The bidirectionality of some of the factors associated with social media addiction is reported by Eiman and Isaac (2021). They established that depression and anxiety, which predispose to the development of dependence on social networks, can simultaneously be the result of this dependence [37]. Addictive behavior in social networks (Facebook, Twitter) affects the ability to plan time, as proven in a study by Ugochukwu et al. (2021) [38].

Uram et al. (2020), in a study of 309 Internet users from Poland aged 18–70, revealed statistically significant relationships between FoMO (Fear Of Missing Out) and Facebook addiction and life satisfaction [39]. This is consistent with the data obtained by Burcin et al. (2020) in a survey of 845 students studying at the Faculty of Education at Sakarya University. The authors concluded that dependence on social

networks is a direct predictor of the development of FoMO [40].

The adverse effects of social media addiction are also noted in labor productivity. For example, Majid et al. (2020), studying data from a survey of 378 nurses in Pakistan, concluded that social media addiction leads to distraction from tasks, which is further exacerbated by envy, social anxiety, and rumination [41].

A study by Zivnуска et al. (2019) on a sample of 326 full-time employees found a negative relationship between social media addiction and work-family balance and a positive relationship between social media response and job burnout [42].

Alimoradi et al. (2019), studying the scales completed by 938 women from Iran, concluded that dependence on social networks is directly and indirectly related to sexual function and sexual disorders [43]. Chima et al. (2020), in their study on a sample of 314 first-year students, reported that social media addiction negatively affects the sexual behavior of young people [44].

CONCLUSIONS

Analyzing the available sources of thematic literature, we can conclude that the signs of problematic use of social networks and addictive behavior are similar. However, to include problematic social media use in the addiction section, more research is required to confirm the nature and mechanism of this addiction. It is also essential to separate user behavior patterns in social networks, developing clear criteria for the terms “normal,” “problematic,” and “dependent” behavior. “Internet addiction,” in general, and addictive behavior in social networks, in particular, should not be considered only from the standpoint of pathology. They are unique as they can be both an example of adequate affection, which contributes to the self-improvement of users, and a disorder of dependent behavior leading to psychosocial maladjustment [45].

Biological, personal, and social factors become predictors of problematic use of social networks. The study of the quantitative value of each of them will help to predict and develop measures to prevent addiction to social networks among modern users.

Addiction to social networks has comorbidity with other types of addictive behavior and mental disorders, such as technological, food, and shopping addictions, such as depression, mania, and anxiety

disorder. There is evidence of a relationship between social media addiction and psychotic experiences.

Dependence on social networks entails negative consequences for the physical, mental, and social well-being of users.

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ОБ АВТОРАХ

Абдрахманова Анастасия Евгеньевна, врач-ординатор;
ORCID: <http://orcid.org/0000-0001-8298-8072>;
e-mail: anastasiamosyakova@yandex.ru

Ефремов Илья Сергеевич, асс., мл. научный сотрудник;
ORCID: <http://orcid.org/0000-0002-9994-8656>;
eLibrary SPIN: 9983-8464; e-mail: efremovilya102@gmail.com

Гизатуллин Тагир Рафаилович, докт. мед. наук, проф.;
ORCID: <http://orcid.org/0000-0002-1075-5648>;
eLibrary SPIN: 2540-6220; e-mail: UFA.RKPB1@doctorrb.ru

Асадуллин Азат Раилевич, докт. мед. наук, проф.;
ORCID: <http://orcid.org/0000-0001-7148-4485>;
eLibrary SPIN: 3740-7843; e-mail: droar@yandex.ru

AUTHOR'S INFO

Anastasiia E. Abdrakmanova, resident doctor;
ORCID: <http://orcid.org/0000-0001-8298-8072>;
e-mail: anastasiamosyakova@yandex.ru

Ilya S. Efremov, Assistant, junior researcher;
ORCID: <http://orcid.org/0000-0002-9994-8656>;
eLibrary SPIN: 9983-8464; e-mail: efremovilya102@gmail.com

Tagir R. Gizatullin, Dr. Sci. (Med.), Professor;
ORCID: <http://orcid.org/0000-0002-1075-5648>;
eLibrary SPIN: 2540-6220; e-mail: UFA.RKPB1@doctorrb.ru

Azat R. Asadullin, Dr. Sci. (Med.), Professor;
ORCID: <http://orcid.org/0000-0001-7148-4485>;
eLibrary SPIN: 3740-7843; e-mail: droar@yandex.ru