

Nomophobia: Differential Diagnosis and Treatment

Nomofobi: Ayırıcı Tanı ve Tedavisi

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Abstract

Developing communication technologies have enabled mobile phones to develop and perform many functions. Common and frequently used mobile phones can cause some behaviors and emotions in humans. Nomophobia is one of these disorders and is called fear of people being away from mobile phones. Nomophobia was found to be related with some demographic variables (young age), personality characteristics (extraversion), emotions (fear of missing out), and needs (need for touch). From a clinical psychology viewpoint, depression, anxiety and stress were examined in the etiology of nomophobia. Diagnostic criteria for nomophobia were developed and nomophobia was proposed to be included in psychiatric disorders in DSM-5. In this study, nomophobia and a range of psychological disorders such as separation anxiety disorder, obsessive compulsive disorder, panic disorder, impulse control disorders and addictions were compared in terms of differential diagnosis criteria. In addition to being risky in terms of physical health of the person, nomophobia negatively affects psychological health. Nomophobia increases stress and it is associated with depression and anxiety disorders. Moreover, it can cause insomnia and it adversely affects the academic success of the young adult group. Cognitive behavioral treatment interventions and existential psychotherapy approaches are known to be effective in the treatment of nomophobia.

Keywords: Nomophobia, anxiety disorders, differential diagnosis, therapy

Öz

Gelişen iletişim teknolojileri cep telefonlarının da gelişmesine ve birçok fonksiyonu yerine getirmesine olanak sağlamıştır. Yaygın ve sık olarak kullanılan cep telefonları, insanlarda bazı davranış ve duygu bozukluklarına yol açabilmektedir. Nomofobi de bu bozukluklardan biridir ve insanların cep telefonlarından uzak kalma korkusu olarak adlandırılmaktadır. Nomofobi çeşitli demografik değişkenler (genç yaş), kişilik özellikleri (dışadönüklük), duygular (gelişmeleri kaçırma korkusu) ve ihtiyaçlar (dokunsal ihtiyaç) ile ilişkili bulunmuştur. Klinik psikoloji açısından nomofobinin kökenlerinde depresyon, kaygı ve stresin etkisini araştırılmıştır. Nomofobinin tanı ölçütleri geliştirilmiş ve bir psikiyatrik tanı olarak DSM-5'e kabul edilmesi için öneriler geliştirilmiştir. Bu çalışmada nomofobi; ayrılık kaygısı, obsesif kompulsif bozukluk, panik bozukluk, dürtü kontrol bozukluğu ve bağımlılık gibi ruhsal rahatsızlıklarla ayırıcı tanı ölçütleri açısından karşılaştırılmıştır. Nomofobinin trafikte ve günlük hayatta kişinin fiziksel sağlığı açısından riskli yönleri olmasının yanı sıra, psikolojik sağlığı da olumsuz olarak etkilediği bilinmektedir. Stresi artırdığı, depresyon ve kaygı bozuklukları ile ilişkili olduğu, insomniaya sebep olabildiği ifade edildiği gibi, genç yetişkin grubun akademik başarısını da olumsuz yönde etkilediği bilinmektedir. Nomofobinin tedavisinde bilişsel davranışçı tedavi müdahalelerinin ve varoluşçu psikoterapi yaklaşımının etkili olduğu belirtilebilir.

Anahtar sözcükler: Nomofobi, anksiyete bozuklukları, ayırıcı tanı, tedavi

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RAPID development of technology has greatly influenced our daily activities and behaviors. Mobile phones as an information and communication technology tool have also undergone major changes in recent years. In particular, mobile phones have become an important tool in everyday life (Gezgin and akır 2016). Among the reasons for this is the fact that mobile phones facilitate communication technologies; providing users with flexibility, mobility and personalization services (King et al. 2014) and facilitating daily life, calling for help when needed, and locating others (King et al. 2010).

According to the Turkey Statistical Institute data, 96.9% of households have mobile phone or smartphones in Turkey concerning April 2016 (TUIK 2016). According to the Information Technology Communications Authority Q2 2018 market report, the number of mobile phone subscribers in Turkey has exceeded 79.5 million (BTK 2018). These data indicate the prevalence of mobile phone use in our country. While the functionality and capacities of mobile phones increase, their problems and negative effects on individuals are also increasing (Hong et al. 2012).

Studies on developing technology that can cause psychological disorders through mobile phones should be evaluated from the perspective of clinical psychology. The aim of this study is to examine the nomophobia, nomophobia-related variables and nomophobia treatment from clinical psychology framework. For this purpose, this study is a first in terms of national literature.

Definition and its relationship with clinical psychology

Cell phones commonly and frequently used by most people can cause some emotional and behavioral disorders in humans. One of these disorders is nomophobia. Nomophobia is the abbreviation of “no mobile phobia”. With its original name, it can be expressed as a phobia of feeling without a cell phone in our language (King et al. 2010). Nomophobia was first reported by King et al. (2010) in a case report with agoraphobia and panic disorder. In this study, researchers described nomophobia as a disorder of the 21st century and expressed the condition as a state of discomfort and anxiety when a person is away from the cell phone or away from a connection with a computer (King et al. 2010). Afterwards, this definition was updated by King et al. (2014) and was defined as a group of behaviors and symptoms related to mobile phone use and it was defined as phobia of being without a mobile phone.

Researchers use different variable names associated with nomophobia to perform similar studies. Researchers study the cell phone behaviors and their negative effects by using different but related names such as excessive use of mobile phones (Toda et al. 2006), mobile phone addiction (Siddiqui ve Ali 2015, Samaha ve Hawi 2016, Kim ve ark. 2017), smartphone addiction (Elhai et al. 2017), problematic cell phone use (Bianchi and Phillips 2005), problematic smartphone use (Elhai et al. 2016, Kuss et al. 2018) and nomophobia (King ve ark. 2010, King ve ark. 2014, Bragazzi ve Del Puente 2014, Yıldırım ve ark. 2015, Yasan-Ak ve Yıldırım 2018, Yıldız Durak 2019).

Demographic characteristics of related persons

In the literature, there are some opinions about the fact that nomophobia is related to some demographic and psychological variables. It appears that the young age (18-25) is more risky in terms of nomophobic features than older ages (Bianchi and Phillips 2005, Bragazzi and Del Puente 2014, Yıldız Durak 2019). The findings are not consistent in

terms of the relationship between gender and nomophobia. Although Yasan-Ak and Yildirim (2018) and Yildirim et al. (2016) found that female university students showed more nomophobia than males, there are studies indicating that there is no difference between genders (Dixit et al. 2010, Gezgin et al. 2016). Low self-esteem has also been associated with problematic cell phone use, (Bianchi and Phillips 2005, Elhai et al. 2017), nomophobia (Argumosa-Villar et al. 2017) and smartphone addiction (Park and Lee 2014).

Personality characteristics of related persons

Among the personality traits, extraversion was positively (Bianchi ve Phillips 2005, Bragazzi ve Del Puente 2014, Elhai ve ark. 2016, Argumosa-Villar ve ark. 2017), whereas the conscientiousness was negatively (Argumosa-Villar et al. 2017) associated with the problematic use of mobile phones. Among the other personality traits, the excessive reassurance seeking was related to the problematic phone use (Elhai et al. 2016), while the excitement seeking was related to the excessive use of mobile phones (Bragazzi and Del Puente 2014).

Bragazzi and Del Puente (2014) suggested that impulsivity is associated with excessive cell phone use. In support of this, Siddiqui and Ali (2015) concluded that impulsivity predicted behavioral dependence on cell phone use. These investigators examined impulsivity in three dimensions (Barratt 1994). These dimensions are attentional impulsivity, motor impulsivity and impulsivity related to unplanning. Attentional impulsivity means not being able to concentrate. While motor impulsivity refers to unpredictable behaviors and lack of persistence, impulsivity related to unplanning is expressed as the inability to predict behaviors that will fail in self-control (Barratt, 1994). Siddiqui and Ali (2015) reported that three types of impulsivity predicted cell phone dependence.

One point that can be evaluated in terms of clinical psychology is studying emotions and needs in researches trying to understand and explain nomophobia. For example, Elhai et al. (2016) concluded that low emotional self-control and tactile need variables are associated with problematic smartphone use in their research. In addition, Przybylski, Murayama, DeHaan and Gladwell (2013) determined the effect of Fear of Missing Out (FoMO) in their work. Przybylski et al. (2013) suggested that the fear of missing out is related to the overuse of social media. The fear of missing out is that people feel concerned because they think that others have higher quality experiences and they are missing out these experiences. People feeling FoMO do not know what they miss out in reality but they feel concerned that they are deprived of higher quality experiences. This concern may cause people to want to follow the experiences of others and thus spend more time on social media (Aydın 2018). Clayton et al. (2015) found that in a laboratory study, the fear of missing out in university students was related to problematic smartphone use.

In terms of clinical presentation, the problematic use of mobile phones with depression and anxiety is also tried to be revealed. Elhai et al. (2017) found in their systematic review that depression, stress, and anxiety were consistently related to problematic smartphone use. In another study investigating how problematic cell phone use is maintained, Elhai et al. (2016) found that the relation between problematic use of mobile phones, and depression and anxiety was mediated by the fear of missing out and tactile needs. Kim et al. (2017) suggested a relationship between smartphone addiction and

adult attachment anxiety. These investigators have come to the conclusion that loneliness and depression play a mediating role in the relationship between telephone addiction and adult attachment anxiety. These findings may indicate that nomophobic behavior may be comorbid with depression and anxiety.

In the studies that examined the relationship between attachment styles and nomophobia, it was determined that people with anxious attachment style and persons with avoidant attachment styles had nomophobic features. Since people with anxious attachment style are concerned about face-to-face conversations and think about what they mean, they are more comfortable in communicating with social media and mobile phones, but because they are very sensitive to the feedback they receive through social media, they are able to develop internet and mobile phone addiction (Oldmeadow et al. 2013, Hart et al., 2015). It is stated that people with avoidant attachment style may be dependent on their mobile phone because they can keep their distance with people when they use mobile phone and internet (Nitzburg and Farber 2013).

In another study conducted in Turkey, it has been found that people who are vertically collectivist, i.e., those who sacrifice their own goals and objectives for others, have more nomophobic features. On the contrary, it is stated that people who are horizontally collectivist, who are in mutual solidarity and who do not sacrifice themselves for the purposes of others show less nomophobic characteristics (Arpaci 2019). In short, it can be said that those who sacrifice themselves for others are establishing more anxious relationships so that they become nomophobic in this direction.

Recommended diagnostic criteria

Based on such studies, Bragazzi and Del Puente (2014) conducted a study to introduce nomophobia as a new diagnosis in DSM-5, the last edition of the diagnostic and statistical manual of mental disorders. These researchers suggest that the use of mobile phones has changed the way people perceive their daily habits and behaviors as well as change their perception of identity and truth. It is stated that since the communication provided by mobile phones does not require being face to face; it interferes with social interactions, causes unstable behaviors and negative feelings, leads to social isolation and causes economic problems. In addition to these, studies show that there are physical and psychological damages caused by radiation-related damages, car accidents and techno-stress (such as the use of new technological devices) (Bragazzi and Del Puente 2014). According to these researchers, nomophobia should be included in DSM-5 in specific phobia under anxiety disorders.

The diagnostic criteria of nomophobia are expressed as “The use of the mobile phone as a protective shield or temporary object to avoid social communication and this use is done in an impulsive manner”. The following symptoms are listed for this criterion:

- (a) To use regularly a mobile phone and to spend considerable time on it, to have one or more devices, to always carry a charger with oneself;
- (b) To feel anxious and nervous at the thought of losing one’s own handset or when the mobile phone is not available nearby or is misplaced or cannot be used because of lack of network coverage, flattened battery, and/or lack of credit, and try to avoid as much as possible the places and the situations in which the use of the device is banned (such as public transit, restaurants, theaters, and airports);
- (c) To look at the phone’s screen to see whether messages or calls have been received;

- (d) To keep the mobile phone always switched on (24 hours a day), to sleep with the mobile device in bed;
- (e) To have few social face-to-face interactions with humans which would lead to anxiety and stress; to prefer to communicate using the new technologies;
- (f) To incur debts or great expense from using the mobile phone” (Bragazzi ve Del Puente 2014).

These researchers pointed out that the symptomatic criterion (c) of nomophobia can be seen as call-tone anxiety (ringxiety, which is the abbreviation of ringer and anxiety words). It was stated that “ringxiety can assume sometimes intriguing and particular clinical forms of presentation, from the sensation of hearing “phantom ring tones” or “false mobile sounds” or confusing the sound of a cell phone ringing with a sound similar to it” (Bragazzi and Del Puente 2014). In a study conducted in India with medical interns about ringer anxiety, findings showed that “imaginary shaking sound” or “phantom call” were found to be highly correlated with smartphone addiction and stress (Mangot et al. 2018).

Differential diagnosis

Nomophobia, which is a situation that there is no mobile phone and the person is disproportionately scared of that condition, is considered as a specific phobia in the literature (American Psychiatry Association 2014). Due to the fact that nomophobia has not been included in DSM-5, it is compared with other psychopathologies by considering similarities and differences with them for its’ possible diagnostic criteria. This comparison is important for future nomophobia studies.

Nomophobia is discussed on the basis of separation anxiety. It is a feeling that the baby experiences when s/he is away from the attachment figure whom s/he is connected with (Bowlby 1969). Adults can also experience separation anxiety when they are away from their attachment figure; moreover, they can connect to specific materials not only because of their important characteristics, but also as an extension of their identities, and may experience separation anxiety in their absence (Ball & Tasaki 1992, Sivadas & Machleit 1994). Nowadays, considering that mobile phones and social media applications are perceived as an extension of the person, it can be stated that staying away from mobile phone may trigger separation anxiety (Han et al. 2017). In the possible diagnostic criteria of nomophobia, person’s anxiety about being away from mobile phone is mentioned. This concept can be handled with separation anxiety; however, separation anxiety is not a sufficiently inclusive concept in order to deal with nomophobia. Therefore, it should be included as a specific phobia rather than separation anxiety.

In the literature, nomophobia was compared with obsessive compulsive disorder which is another psychopathology under the category of anxiety disorders. Obsessive compulsive disorders include persistent, involuntary, worrisome and recurrent thoughts or obsessions, as well as compulsive behaviors in order to reduce the anxiety caused by obsessive thoughts (American Psychiatry Association 2014). It is stated that in the course of time, the use of mobile phones has led to compelling or compulsive behaviors. The most important criterion that distinguishes nomophobia from the category of obsessive compulsive behaviors is that compulsive behaviors are carried out in order to move away from anxiety; however, mobile phone use can be regarded as a pleasant activity (Şar & Işıklar 2012).

Panic disorder is another category of anxiety disorder compared with nomophobia. It is characterized by frequent and recurrent panic attacks. Panic attack may include some physical symptoms such as breathing difficulty, heart rhythm disorder/palpitations, nausea, fainting, dizziness; also, some psychological symptoms such as anxiety, being horrified, feelings of terrible and losing control, fear of death (American Psychiatry Association 2014). In a study published by Spear-King and colleagues in 2014, symptoms of nomophobia and panic disorder were examined and compared. It has been stated that when patients with panic disorder carry their mobile phones with them, this has become a security behavior and mobile phone has a function of removing panic attack symptoms. For this reason, people with panic disorder have exhibited signs of nomophobia in the conditions that make them apart from their mobile phones. The result of the study emphasizes that people with panic disorder can show nomophobic symptoms, in other words, both disorders can be comorbid with each other. Nevertheless, possible diagnostic criteria of nomophobia include specific phobia characteristics and differ from physical and psychological symptoms of panic disorder.

Nomophobia can negatively affect person's daily life, business life, educational background and personal relationships; since, s/he cannot stay away from smart phone. Thus, it is considered as an impulsive behavior category, specifically as an impulse control disorder (Siddiqui & Ali 2015, Yıldız Durak 2019). Nomophobia is similar with impulse control disorder in terms of pre-action tension and relaxation while performing the action (American Psychiatric Association 2014). On the other hand, the effects of impulsive behaviors in the impulse control disorders such as pyromania, kleptomania, pathological gambling are quite different from those of mobile phones. In this case, impulsivity can be regarded as a symptom of nomophobia rather than as an impulse control disorder. With the technology of mobile phones, it becomes possible to receive feedback quickly and to participate in a conversation instantly. These behaviors can increase the impulsiveness in the interactions and the desire to constantly control the mobile phone (Bragazzi & Del Puente 2014, Yıldız Durak 2019).

Nomophobia is related with internet addiction. Internet addiction was consisted under the category of addictions in DSM-5 and included cyber sexual engagement, online video games, gambling, shopping and trying to be active in social networks (King et al. 2012). Although, nomophobia shows comorbid features with internet addiction, it is differentiated from internet addiction subtypes since internet addiction is not specific to mobile phone. Nomophobia is also considered as an addiction/abuse. In order to be able to talk about substance abuse, person should show signs of withdrawal when there is no substance and to get more substance over time to feel the same effect, that is, develop tolerance. Also, in order to talk about abuse, person should face problems in business life or in daily relations (American Psychiatric Association 2014). Due to nomophobia, some people can experience problems in their daily life; however, there is not a process of tolerance, withdrawal or addiction. Nevertheless, there is a process of connection between person and mobile phone. This process of connection can be explained by the behavioral approach. According to this approach, if a favorable result is obtained after a behavior (positive reinforcement) or an unpleasant situation disappears (negative reinforcement), the likelihood of that behavior being performed by the individual increases and this may cause dependency (Farber et al. 1980, Cüceloğlu 2016). From this point of view, people who use smart phones may be connected to them because they can get away from the worrying situations and enjoy with their mobile phones (Şar and Işıklar 2012).

The effects of nomophobia

When the physical effects of problematic mobile phone use are examined, it is stated that nomophobia is a situation that endangers human health especially in traffic. Talking or texting with someone when driving is found to be very risky in terms of traffic accidents (Cazzulino et al. 2014). Moreover, pedestrians are distracted while they are interested in their mobile phones; thus, they are endangering their lives (Schwebel et al. 2012, Thompson et al. 2013). In addition to the dangers of the mobile phone use in traffic, using the mobile phone in the same position may cause neck and back pain (Shan et al., 2013, Xie et al. 2017) and hand dysfunction problems (İnal et al. 2015).

Nomophobia also affects one's psychological health negatively (Harwood et al. 2014). Phobia of being away from mobile phone is reported to increase stress and the symptoms of depression and anxiety (Yen ve ark. 2009, Thomee ve ark. 2011, Harwood ve ark. 2014, Lemola ve ark. 2015, Elhai ve ark. 2016, Elhai ve ark. 2017, Wolniewicz ve ark. 2018). However, the literature indicates that there is a mutual relationship; therefore, it can also be suggested that individuals with symptoms of depression and anxiety may develop nomophobia (van den Eijnden et al. 2008, Thomee et al. 2011). In addition to depression and anxiety, nomophobia adversely affects sleep quality (Al-Khlaiwi and Meo 2004, Cain and Malcom 2019) and can cause insomnia (Yogesh et al. 2014). People with nomophobia are reported to experience rejection, loneliness, insecurity, low self-esteem when they received fewer calls and messages from mobile phones rather than control group (Spear-King et al. 2014).

Adolescents and young adults with nomophobia may experience pressure to be online on their mobile phone, which may result in engaging in mobile phone instead of listening lectures and studying. Engaging in mobile phone continuously can decrease academic motivation and academic success (Dixit et al. 2010, Samaha and Havi 2016), and decreases one's work productivity (Montag and Walla 2016, Duke and Montag 2017). There may be a two-way relationship between nomophobia and academic failure. People with low academic achievement may develop nomophobia in order to avoid negative emotions, duties and responsibilities related to their academic life (Kardefelt-Winther 2014).

Treatment

Considering that people who cannot regulate their mobile phone use develop nomophobia, they should develop self-control skills to prevent problematic mobile phone use (Gökçearslan et al. 2016, Yıldız Durak 2019).

Cognitive behavioral interventions applied to people with internet addiction are reported to be effective (Young 2011). Since internet addiction continues through mobile phones, people with nomophobia can benefit from cognitive behavioral treatment. Cognitive behavioral treatment is also found to be effective in specific phobias (Öst 1989, Straube et al. 2006), obsessive compulsive disorders (Abramowitz 2006, Abramowitz et al. 2009, Öst et al. 2015), impulse control disorders (Dannon 2002, Dell'Oso et al. 2006) and addictions (Orzack et al. 2006, Young 2007, Du et al. 2010, Young 2011). In cognitive behavioral treatment, thoughts are considered to determine emotions (Beck 1979). Therefore, patients are expected to follow their thoughts causing nomophobia, and recognize the premise of their negative emotions (Young 2007). With awareness and

new coping skills, patients can find new ways to prevent situations causing nomophobia. Cognitive behavioral therapy requires at least 10 to 12 weeks of sessions and starts with behavioral interventions. Behavioral framework in the beginning has a great importance in terms of exposing patients with their phobia and making them experience that they can cope with it (Savařır et al. 2009). As the sessions proceed, the focus changes to cognitive processes leading nomophobia; that is, assumptions and cognitive distortions related to nomophobia. Cognitive behavioral therapy may also provide effective problem solving skills, involve psychoeducation and model the attitude of the psychotherapist (Young 2007).

Nomophobia has been associated with the fear of abducting conversations, experiences and events in the broad social environment when getting away from the mobile phone. It is stated that when an effort to establish a connection with the social environment through a cell phone becomes psychopathological, this anxiety or fear can be addressed through existential psychotherapy techniques (Tarsha 2016). According to Yalom (2001), who is an existential psychotherapist, people experiences four basic fears basically: death, freedom, isolation, and meaninglessness. In this context, it can be said that nomophobia is also associated with feelings of isolation and non-bonding. Tarsha states that (2016), if Yalom had now rewrote the book of existential psychotherapy, he would treat continuous communication with social media as a defense against the fear of existential isolation. According to existential approach, it should be questioned whether the use of mobile phone or social media is to compensate for the lack of proximity. Then, patients should be referred to the relationships that can contribute their well-being. Psychotherapists can give psychoeducation on how to deal with the feelings of loneliness and isolation, and can ask the following questions: "What do you expect to achieve in real world or in online relationships?", "What are you really getting in social media rather than your expectations?", "Where does your fear of missing something come from?", "How do you feel when you are alone?", "What are the activities you feel rewarded for?". With these confronting questions about feeling isolated, it is aimed to establish healthy and authentic relations in real life (Tarsha 2016).

Conclusion

With the rapid development of technology, mobile phones have become an important part of everyday life; such that, being away from the cell phone is considered as a specific phobia in the category of anxiety disorders. As a specific phobia, nomophobia is considered as a rising problem of the modern world (Dixit et al. 2010).

Although it has not been included in DSM-5 yet, the diagnostic criteria, affected age group, prevalence and differential criteria of nomophobia have been discussed (Bragazzi and Del Puente 2014). It has been stated that nomophobia has negative effects on physical and psychological health and also decreases the academic success of the young adult group.

Although there is not much study in the treatment of nomophobia, it has been stated that existential psychotherapy interventions and cognitive behavioral treatment interventions may be effective. Nomophobia can be considered as a relatively new specific phobia in the literature; therefore, this review study has an importance that it is one of the pioneering studies written in Turkish with a clinical psychology perspective. In future research studies, clinical psychologists in our country can examine the relationship between

nomophobia and different variables such as mood disorders, impulse control disorders, addictions, gender, emotions, personality traits and cultural factors; also, can determine the mediator/predictor factors and treatment methods.

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