

Assessment of Semi-Structured Clinical Interview for Mobile Phone Addiction Disorder

Seyyed Salman Alavi, PhD¹
 Mohammad Reza Mohammadi, MD¹
 Fereshteh Jannatifard, Bsc¹
 Soroush Mohammadi Kalhori, Bsc²
 Ghazal Sepahbodi, Msc¹
 Mohammad BabaReisi, Msc¹
 Sahar Sajedi, Msc¹
 Mojtaba Farshchi, Msc¹
 Rasul KhodaKarami, Msc¹
 Vahid Hatami Kasvaei, Msc¹

1. Psychiatry and Psychology Research Center, Tehran University of Medical Sciences, Tehran, Iran.
2. Young Researchers and Elite Club, Roudehen Branch, Islamic Azad University, Roudehen, Iran.

Corresponding author:

Mohammad Reza Mohammadi, MD
 Psychiatry and Psychology
 Research Center, Roozbeh
 Hospital, South Kargar Street,
 Tehran, Iran.
 Tel: +98 21 55413540
 Fax: +98 21 55421959
 Email: Mohammadimr@tums.ac.ir

Objective: The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) classified mobile phone addiction disorder under "impulse control disorder not elsewhere classified". This study surveyed the diagnostic criteria of DSM-IV-TR for the diagnosis of mobile phone addiction in correspondence with Iranian society and culture.

Method: Two hundred fifty students of Tehran universities were entered into this descriptive-analytical and cross-sectional study. Quota sampling method was used. At first, semi-structured clinical interview (based on DSM-IV-TR) was performed for all the cases, and another specialist re-evaluated the interviews. Data were analyzed using content validity, inter-scoring reliability (Kappa coefficient) and test-retest via SPSS18 software.

Results: The content validity of the semi-structured clinical interview matched the DSM-IV-TR criteria for behavioral addiction. Moreover, their content was appropriate, and two items, including "SMS pathological use" and "High monthly cost of using the mobile phone" were added to promote its validity. Internal reliability (Kappa) and test-retest reliability were 0.55 and $r = 0.4$ ($p < 0.01$) respectively.

Conclusion: The results of this study revealed that semi-structured diagnostic criteria of DSM-IV-TR are valid and reliable for diagnosing mobile phone addiction, and this instrument is an effective tool to diagnose this disorder.

Key words: Addictive Behavior, Assessment, Cellular Phone, Clinical Interview, Students

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Most people think that addiction is just related to the use of chemical substances such as alcohol, nicotine, cocaine and heroin. However, the psychological approach suggests that everything that can stimulate and increase energy in people can be considered as an addictive behavior and it is not restricted to substance abuse (1). Every time a habit changes into a compulsive behavior such as gambling, substance abuse, alcohol, playing computer games, chatting, or searching in websites, it can be considered as addiction (2). In the fourth version of the diagnostic and statistical manual for mental disorders (DSM-IV-TR), mobile phone addiction is categorized under "impulse control disorder not otherwise specified" (NOS) (3). For the first time, Peele (1975) exposed his view about addictive behavior based on this point of view that addiction is not just related to substance addiction, and what makes people become addicted to any particular behavior may be considered as an addiction (4-5). Based on Peele's view, some authors developed the idea that addiction does not necessarily have to involve the abuse of a chemical

intoxicant or substance. Therefore, they created diagnostic criteria for behavioral addictions including addiction to the internet and dependence on mobile phones etc. (6-7). In behavioral addiction and particularly in mobile phone addiction, people are not dependent on substance abuse, but are dependent on using a device. According to Peele's theory, some experts considered many diagnostic criteria for behavioral addiction, which are as follows:

1. When a particular activity becomes the most important activity in the person's life
2. Trying to reduce, control or stop a specific behavior
3. Most of the time, the person performs a specific behavior and when that behavior is not done, a behavior starts again.
4. The individual must do their marital responsibilities, educational and family duties or social relations, but the specific behavior is done obsessively.
5. Reduction in important social activities, work or entertainment behaviors

6. Continue to perform a behavior despite of knowing that behavior creates physical, psychological, economic and social problems
7. Tolerance: The need to increase the frequency of the specific behavior to attain the desired effect or diminished effect with the behavior of similar intensity
8. If the person cannot perform the behavior, he may present with restless symptoms, and this symptom should continue for a minimum of one month or for longer (8)

Griffiths has also presented diagnostic criteria for behavioral addiction:

Salience: Domination of a person's life by an activity

Euphoria: A buzz or a high is derived from the activity

Tolerance: The activity has to be undertaken to a progressively greater extent to achieve the same buzz

Withdrawal Symptoms: Cessation of the activity leads to the occurrence of unpleasant emotions or physical effects

Conflict: If the activity leads to conflict with others or self-conflict (interpersonal conflict)

Relapse: Resumption of the activity with the same frequent attempts to abstain negative life consequences, and negligence of job, educational or career opportunities (9)

The mobile phone addiction is a new phenomenon, and because diagnostic criteria of mobile phone in our country may be different from other communities, it is necessary to examine the diagnostic criteria based on our culture. Also, diagnosis based on clinical interview is probably the best method to diagnose mobile phone addiction. However, these criteria and their relationship with related problems in other countries have been discussed (10). Since no criteria have been set for mobile phone addiction in Iran and no research has been done on this topic yet, we aimed to conduct this study in behavioral sciences. Finally, there is an urgent need for the development of a valid and reliable diagnostic instrument to assess mobile phone dependency that can be used by clinical psychologists and psychiatrists. The primary aim of this study was to assess the Persian version of the semi-structured diagnostic questionnaire of mobile phone dependency in students of Tehran universities.

Materials and Method

This was a descriptive-analytical research conducted on students studying at Tehran universities between (2014 -2015). Two hundred fifty students were selected using quota sampling method. Research samples were selected from mobile phone users at Tehran universities (Tehran University, Medical Sciences University, Shahid Beheshti University and Islamic Azad University (Oloom Tahghighat Branch). At first, students were selected from each university based on the calculated sample size. The inclusion criteria were as follows: Being a student during the study, using a mobile phone at least once a day for the past year and

using it for at least an hour per day. The students with severe physical or psychological problems or apparent disability, and those who were under treatment due to a specific psychiatric disorder during the past year were excluded.

Data were collected using the following methods:

1. Demographic Information Questionnaire: This questionnaire included features such as age, sex, and educational level, marital status, duration of the use of the mobile phone, the reasons for using it, and the time spent using the mobile phone during the day.
2. Semi- structure Interview based on DSM-IV-TR for Mobile Phone Addiction Diagnosis: This semi-structured interview was carried out by a specialist to diagnose mobile addiction.

The diagnostic criteria for mobile phone addiction were extracted from different psychology and psychiatry contexts during 2000-2014.

After the translation, scientific edition was done and two factors were added to the final interview items. Next, the last version was administered on the sample group. Finally, to attain research aims we used the content validity method (view of psychiatrists and clinical psychologists), reliability (Kappa coefficient) and external reliability (test-retest). All processes of the execution and statistical analyses were performed by a statistical counselor and via SPSS 18 software.

Result

Two hundred fifty students participated in this study. Their age ranged from 18 to 25 years with an average of 24.06 ± 4.8 (mean \pm SD). The majority of them (76.5) were single, 51.2 were female and 91.2% had a mobile phone. Table 1 summarizes some characteristics of the samples based on the demographic questionnaires.

According to the results and diagnostic psychiatric interviews, 87% of the participants were not addicted and 13% were addicted to mobile phone, respectively. There were some problems with the primary form of the interview and it needed revision. Therefore, after consulting with expert psychologists, the research supervisor and the scientific counselor, the second form of the interview was prepared and confirmed.

The second form of the interview included two new items. In our country due to the cultural considerations, the majority of the interpersonal communications are via SMS. In addition, the cost of mobile phone use in Iran is higher than other countries. The two added factors manifested to addiction to the mobile phone. Ten experts approved the face and content validity.

Moreover, interview reliability agreement evaluation coefficient, and the inter scorer reliability (Kappa coefficient) between the two interviewers was 0.55 and test-retest was 0.48, showing that the diagnostic interview for mobile addiction had an adequate validity and reliability (p-value<0.05).

Table1. Summary of the Demographic Information in Study Participants

Demographic Characteristics of Mobile Phone Users		(%)
Sex type	Male	48.8
	Female	51.2
Marital status	Single	76.5
	Married	23.5
Mobile phone possession	Yes	91.2
	No	8.3
The time spent on the mobile phone	Less than 6 month	0.5
	6 month to 1 year	0.9
	1 to 2 year	2.8
	2 year or more	95.9
The number of times the person used the mobile phone each day?	less than 1 hour	26.7
	1-2 hour	25.8
	2 hours and more	47.5

Discussion

Based on the results of this study, the clinical diagnostic interview for addiction to mobile phones has appropriate validity and reliability, and this interview demonstrated that we could evaluate mobile phone addiction with acceptable precision. However, despite the existence of many studies in the field of mobile addiction in the recent years, there is no consensus among the specialists about the diagnostic criteria of mobile addiction.

However, in general, this disorder creates psychological, social, educational and occupational problems in people's lives. In addition, according to the viewpoint of the authors, in the diagnosis of mobile addiction, the economic and cultural factors should be considered with the emphasis on using SMS and paying a high cost for it. Also, the following items should be considered in the diagnosis of mobile phone addiction:

1. To diagnose mobile phone addiction, it is important to pay attention to dysfunction in social status, occupational and interpersonal relationships, and social levels.
2. In mobile phone addiction, no psychological disorders such as hypomania, manic or other axis I disorders should be diagnosed (11).
3. There are differences in the use of mobile phones for work and entertainment.
4. There are differences between amateur and expert mobile phones user. In the interview and screening of the addicted and non-addicted mobile phone users, this should be done with caution and under the supervision of psychology and psychiatry experts to ensure interview validity.
5. The addiction levels of the students whose duration of daily mobile phone use was five hours and above were higher compared to other students (12).

Similarly, in the research of Zurkefly and Baharudin (2009), and Choliz (2012), those students who used

mobile phone for five hours or two hours in a day (13-14) were determined as mobile phone addicts.

As a result, more researches should be conducted on mobile phone addiction because this disorder consists of a sum of problems that should be investigated fully in the scientific literature. Mobile phone addiction should be prevented through utilizing effective treatments. Many researches have been conducted on adolescents' mobile addiction because they are at a greater risk to develop this disorder.

Thus, specialists can help adults to learn more and more about the appropriate use of mobile phones, computer games and other electronic devices (15). It is of prime importance that experts, educational authorities, psychologists and sociologists hold seminars and scientific congresses to evaluate all aspects and consequences of using mobile phones. Then the results should be presented to country administrators. Taking this approach, they can reach an understanding of the problem and find a solution for it (16).

Moreover, cognitive-behavioral therapy, which is used to treat drug addiction disorders, emotional disorders and eating disorders, may also be useful and effective in treating mobile phone addiction (17). Four fundamental aspects should be considered in the treatment of behavioral addiction such as drug addiction:

- A) Individual's prior psychopathology status
- B) Differential reinforcement
- C) Maladaptive cognitions
- D) Social support network (16, 18).

Psychiatrists and psychologists involved in the field of mental health should be aware of psychological problems caused by addictive behaviors including symptoms such as anxiety, depression, aggression, and academic and career dissatisfaction.

Limitation

This study had several limitations. At first, since our samples were students, we could not generalize the results to all groups of our society (for example children or adults). Second, there is not a strong consensus on the diagnostic criteria of mobile phone addiction, and the results should be interpreted with caution.

Conclusion

Knowledge should be gained from research on the problematic use of this technology as it can give rise to a behavioral pattern with addictive characteristics. Hardly any diagnostic interviews have evaluated the possible problematic use of mobile phones, and none were done on Iranian adolescent population. It should be noted that the construct of mobile phone addiction is really plausible and merits inclusion in DSM-IV-TR as a type of technological addiction (19) and since the excessive use of technology devices can make changes in mental health, identity (20-22), social relationships and so on, therefore, more research needs to be done in this area.

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Conflict of interest

None declared

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