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The Impacts of Excessive Use of Social Media on Iranian Adolescents' Health: A Qualitative Study

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Abstract

Background: The widespread use of social media (SM) is an emerging phenomenon in today's world, especially among adolescents.
Objectives: The present study was designed to examine the impacts of excessive use of SM on adolescents' health.
Methods: This was a qualitative study conducted in 2018 on 27 high school students (14 boys and 13 girls) in Tehran, Iran. To explain the experience of using SM, six open-ended questions along with some follow-up questions were asked through in-depth interviews by two interviewers. The content analysis with an inductive approach was used to analyze the data.
Results: The mean age of the students was 16.5 ± 1.34 years. The mean duration of having a smartphone was 3.11 ± 0.97years. Moreover, the duration of using smartphone in a day was 4 ± 1.5 hours. In this study, the themes emerged from 1,273 phrases, sentences, or semantic units separated from the interviews. After refining the semantic units, 861 refined units were created; these phrases of sentences or paragraphs appeared in the form of 7 themes, 18 main categories, and 38 sub-categories. The themes included the reasons for using SM (educational and non-educational, avoidance of negative emotions), emotional (changes in moods, academic failure), social (problems with family and society, relationships with relatives, cultural changes), physical (sensorineural hearing loss, changes in the sleep cycle, musculoskeletal pain), sexual (sexual fantasies, high-risk sexual behaviors), mental health (changes in mental powers and processing, loss of concentration), and the process of using SM (beliefs in the use and pattern of using SM).
Conclusions: Most of the complaints and impacts were related to emotional health, mostly with the experience of mood changes and academic failure and social health, respectively. The results indicated the need for planning educational and social interventions to increase media literacy in adolescents.

Keywords: Social Media, Health Dimensions, Adolescents

1. Background

Online interactions are growing rapidly today, and people are sharing their interests with each other, especially through social media (SM), which creates dynamic contact and interaction (1). SM has become a global consumption phenomenon and their use has increased in recent years (2). These media include Facebook, Twitter, LinkedIn, Telegram, and WhatsApp platforms, and so on, creating a private profile as well as a list of contacts that people can share their ideas and information. Adolescents and adults can be present here and make new connections through SM (3, 4); in fact, over 90% of adolescents use SM regularly (5).

Factors such as the need to express oneself, the need to belong to, and interpersonal competencies are the main reasons for using SM in adolescents. Personality traits and self-confidence are also effective in the use, amount, and pattern of SM (3, 6). In addition, factors of being user-friendly and the immediate effect of satisfaction have caused students to spend a lot of time on SM (1).

Social media addiction can be a potential mental health problem. However, due to the novelty of this phenomenon, there is little scientific evidence to prove it (2). In one study, Meena et al. (1) found that 24.74% of adolescent students had almost minor problems, while 2.02% of them had serious problems with the addictive usage of SM. Of many problems resulting from the excessive use of Internet and SM are academic problems, social disorders, reduced productivity in the workplace, and physical problems caused by sedentary lifestyles. These problems display the need to do research in this area to assess its different dimensions and raise the alarm in the field

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of adolescents' lifestyle as such (1). As SM provides basic human needs such as security, communication, and self-perception according to Maslow's model, it is very difficult, especially for adolescents, to plan to quit, and it has become a part of their lifestyle (7).

Studies have often pointed out the effect of this excessive use on the psychological dimension, and most psychological studies have been done in the field of Internet addiction (1, 8). However, social relationships not only affect mental health but also affect health behavior, physical health, and even mortality risk (8). On the other hand, as the excessive use of SM is sedentary behavior, it increases the risk of health problems (8).

The definition of the WHO of health has led to the expansion of health dimensions (9). Hence, the need to know the wider dimensions of the impact of excessive use of SM on health is felt necessary, especially among adolescents. Opponents to this type of media claim that its drawbacks outweigh the benefits; those in favor of SM state that it is a beneficial entertaining leisure activity, no matter what the drawbacks are. Due to the controversy around this topic, the use of SM is constantly questioned, and research into the use of SM among adolescents is still in its infancy (5).

2. Objectives

Therefore, the current study was conducted to explain the impacts of excessive use of SM on teenagers' health.

3. Methods

The present study was a qualitative content analysis conducted to understand high school students' experience with the excessive use of SM in Tehran in 2018 (March-November). The participants were students who were studying at one of the schools in Tehran and were willing to participate in the study. The high schools of districts 15 and 8 served as a representative of Tehran high school students. Only those students were taken into account that were interested in participating in the research. The participants were selected using purposive and snowball sampling with maximum variation in terms of gender, age, and all grades. Sample size would be determined based on the availability of time, resources, and respondents' availability, voluntary participation in the research, and data saturation. Totally, 27 high school students, including 14 boys and 13 girls, participated in this study three students drop out because of recording.

The inclusion criteria were to be members of SM, using this network more than two hours a day (10), willingness, and ability to participate. After obtaining the consent of school principals and obtaining verbal consent of the individual, the interviews were conducted. For data gathering, an interview guide was developed that included open-end questions about the effects of SM on health dimensions in the form of semi-structured questions (see the appendix). These six questions were asked based on research objectives followed by probing questions, and also were piloted by three students. The interviewers (two public health students, a male and a female, after spending a course on qualitative studies) after introducing themselves and the goal of study face to face attempted to keep the interview to the point and apply minimal interference in the interview process and student reaction and sense noted during the interview.

A repeated interview was not carried out. This qualitative research was conducted based on a conventional content analysis approach. According to Shannon and Hsieh, when the aim of research is to describe a phenomenon or problem, conventional content analysis is usually applied. This approach is usually used when research literature on a problem or phenomenon is scanty. Indeed, researchers are immersed in the data, and the categories emerge, so the researcher avoids using preconceived categories. The interviews were recorded, transcribed, reviewed, coded, and immediately analysed. In order to carry out conventional content analysis (11), the interviews were read word by word to derive codes. This means that the exact words from the text that emerge to capture the main concepts were highlighted. Then, researchers made notes through initial analysis and provided labels for codes. This means this process resulted in creation of the initial coding schemes. The tree code was organized and introduced by two data coders, and some were returned to participants to comment. Next, codes were sorted into sub-categories, categories, and themes based on relations between them. It must be mentioned that in inductive content analysis, the concepts are derived from the data, which its processes are represented as three main phases: preparation, organizing, and reporting.

Guba and Lincoln's precision criteria (cited in Hsieh and Shannon) (11) in qualitative research were used to ensure the reliability and accuracy of the data. Credibility was assured by the prolonged engagement of the researcher with the participants of the study and also sufficient time allocation for data collection. Conformability was assured by observing revision, and dependability was considered by confirming the extracted codes to other participants. To transfer the study findings, the data were carefully implemented and entered into written form, and the audio files were saved and stored to make it easier for others to track. Also, the transferability of the findings of the study was provided through a sampling technique with maximum diversity. Next, the Ethics Committee of Semnan University of Medical Sciences approved the study, and oral consent was obtained (code: IR.SEMUMS.REC.1395. 83). Withdrawal from the study at any time, voluntariness of participation in the research, confidentiality of the infor-

mation, as well as the legal permission and Helsinki codes, were considered.

4. Results

The mean duration of having a smartphone was 3.11 ± 0.97and the mean duration of using the smartphone during a day was 4 ± 0.91. Telegram, WhatsApp, Instagram were the most popular SM platforms used by participants. Table 1 shows the demographic characteristics of the participants.

Generally, in this study, the themes emerged from 1,273 expressions, sentences, or the semantic units of the interviews. After refining them, 861 refined units were created. The sentences or paragraphs appeared in the form of 7 themes: 18 main categories and 38 sub-categories. The findings in this study are shown in Table 2.

A) Reasons for using SM: Non-educational use includes entertainment and filling leisure time, such as 'friend holism', online gaming, searching for beautiful or sad texts, listening to people, chatting and flirting with the opposite sex, watching movies, pursuing fashion, subscribing to music channels, photos, news, novels, comedies, uncensored movies, and psychology channels, etc. Chatting, interacting with people and friends, and being in the center of attention in these spaces were mentioned as the reasons for the presence of SM.

"I will share the things I cannot say to my mom with people in SM, they understand better than my mom who just nags" (int. 4, female 15 years).

B) Emotional health: In this section, the majority of students reported mood changes after using SM, including aggression, depression, and isolation, which are mostly due to love failure. "I tried to change multiple partners all the time so that I could handle the discomforting sense when my relationship breaks down". Actually, I lost all my pride after currying favor with my partners (int. 6, female 17 years). "I was once very interested in a girl, but when I went to see her, she was very ugly, and I was feeling disgusted and sorry for whom I had shared my feelings with. I was not okay for several months later" (int. 20, male 17 years).

Academic failure was seen among the majority of students, especially at the beginning of their smartphone purchase. Due to the neglect of their school lessons and life and the strong desire to just lie in bed and wander aimlessly through SM, there was a kind of addiction formed in them. "I do not want any fun anymore. My biggest fun is the cellphone. When my family calls and I am in these networks, I shout my parents, I want to be in my privacy" (int. 8, female 15 years).

C) Social health: Some students also had problems with social health. Problems were related to family and relative relationships, and problems with society, and also cultural changes have occurred. The majority of the students had problems with their families, even some sensed a distance between themselves and their families. They also reported that they no longer would perform their previous responsibilities at home. According to the students' reports, their families were deeply concerned about their children's relationship with the opposite sex. However, a few also found the family groups in SM beneficial, and some noted their parents' dependency on SM. One of them said, "Sometimes I turned off the Wi-Fi, but my dad would go on the Internet by his smartphone data" (int. 19, male 16 years).

Some also noted that they had become generally more silent at parties. Most students often indicated a lack of interest in a relationship with friends, lower social activity as well as isolation, whereas some students pointed out an increase in their public relationships. Furthermore, the participants faced some problems at school, got to school late, and sometimes their cellphones were seized by their school officials. Another problem was leaving aside the entertainment they used to have such as sports (mostly football) or even computer games, which would make them become lazy. One of them said, "I am dead in the morning because of the overwhelming use of virtual networks" (int.15, male 14 years).

Some students followed fashion and celebrities in SM and noted some changes in the way of their dress and clothing and their speaking and even had more tendency to smoke hookah.

D) Physical health: Although adolescents did not have their cellphone for a long time, some of them experienced physical problems due to their excessive and addictive use. These include sensory-nervous problems, including vision and eye problems such as eye irritation, double vision, headaches, dizziness, anorexia, numbness in the fingers and chest due to long sleep on the chest and stomach. Their sleep patterns changed as they slept late and overslept in the morning. Having insomnia and siesta in class was another problem. "I always arrive at school on time but now I sleep in class! And sometimes I even dream" (int. 15, male 14 years). Musculoskeletal problems were also evident, mostly related to upper limb neck pain, hand numbness, back pain, as well as laziness, and lethargy.

F) Sexual Health: Students felt that their presence in SM would increase their libido because of having increased access to the opposite sex, dating, and having easy access to sexual and stimulating images and porn videos.

On the other hand, some students had intercourse with someone who had been familiar with through SM, while others started to masturbate. "Because of my interest in communicating with the opposite sex, I installed the Telegram. I feel the Telegram has involved my feelings more than my wisdom, I cannot give it up" (int. 8, female 15 years).

E) Mental Health: Some students mentioned that their memory would decline after the over-use of SM on their

Table 1. Demographic Characteristics of the Participants

Demographic Variables	Mean and Frequency	
	Boys	Girls
Age	16.07 ± 1.2	16.23 ± 1.09
	16.14 ± 1.13	
Grades		
First	0	0
Second	1 (7, 1)	0
Third	4 (28, 6)	4 (30, 8)
Fourth	4 (28, 6)	4 (30, 8)
Fifth	3 (21, 4)	3 (23, 1)
Sixth	2 (14, 3)	2 (15, 4)
Duration of having smartphone	3 ± 0.78	3.23 ± 1.16
	3.11 ± 0.97	
Duration of using smartphone daily	4.14 ± 0.86	3.84 ± 0.98
	4 ± 0.91	

Table 2. Emerged Themes, Categories, and Sub-Categories

Themes	Categories	Sub-Categories
Reasons for using SM	Educational and non-educational, avoidance of negative emotions	Fun, communication and interaction, exchange of lesson information, exchange of scientific information, loneliness, boredom
Emotional health	Changes in moods, academic failure	Depression, aggression, sensitivity, addiction to SM, boredom and discourage, not paying attention to lessons
Social health	Problems with family and society, relationships with relatives, cultural changes	Family conflict, separating family members from each other, declining relationships with relatives, problems with friends, problems at school, problems in social relationships, changing lifestyles and leisure activities, changes in the way of speaking
Physical health	Sensorineural, change in sleep cycle, musculoskeletal	Eye problems, headaches, damaging patterns of cellphone use which affects eye health, the effect of going to sleep late at night on sleep pattern, consequences of going to sleep late at night, upper limb problems, low back pain
Sexual health	Sexual fantasies, high-risk sexual behaviors	Stimulating and increasing libido, masturbation, having sex
Mental health	Changes in mental powers and processing, loss of concentration	Improving memory performance, earning new perspective, updating mind inputs, memory loss
Process of using SM	Beliefs in the use of SM, the pattern of SM use	Wrong belief, the formation of right belief, the extreme use of SM, control over SM

cellphone, while others said that it would make their minds open and add further input to their mind and that they were able to analyze daily events better. One student said, "My reading has improved; I memorize something fast now" (int. 25, male 16 years).

F) The Process of Using SM: Many students stated that at first they had gotten carried away and were really extremists. However, they attempted to control it, some expressed regret, some had the dual feeling of pleasure and regret of being in SM. Some believed it has more disadvantages than advantages. One student said, "Suicide is better than being in these pornographic spaces" (int. 1, female 16 years).

5. Discussion

In this study, we identified challenges that students would face in using SM excessively. Our first theme was the reasons for using SM. The main reasons for using SM included non-academic with the sub-categories of entertainment and interacting with others which can compete with their previous entertainments such as computer games, sports, etc. Similar to this, in Afshari et al. study (12), themes such as having entertainment were identified as a reason for using SM. Kuss and Griffiths's (2) study also revealed that today's generation would not imagine life without the Internet. Meena et al. (1) stated outdoor activities in adolescents were negatively affected by the use of social spaces.

Our second theme described how participants' emotional health has been affected. In fact, students experience a large drop in education due to being attracted to SM and their mood changes. However, some gradually balanced their use, while some continued to follow their previous trend. Tsitsika et al. (10) discussed the presence of two hours or more in SM would cause low activity and per-

formance in university duties in young people. Another study found that the pressure to stay online and track messages in groups reduced their focus on homework (2). In another study, Kaplan and Haenlein (13) believes that people can become addicted to using SM. Leaving cyberspace is believed to be similar to quitting drugs (2). Altogether, it seems that being in touch with SM has created a kind of addiction for young people.

The third theme identified some problems related to social health. The students were often isolated and did not like to attend parties and family gatherings. In contrast, Kuss and Griffiths (2) found that some families prefer their children to be online at home rather than wander the streets. Reduction of social participation, academic failure, and communication problems can be a sign of potential addiction (2). The model of social skills suggests that the extreme use of SM is the result of low skills in presenting oneself, which prefers online social interactions to face-to-face communication (14). In contrast to the current study, recent research has shown that sharing information on social media has increased life satisfaction and loneliness for young adults, while for older adults, it has been the opposite, indicating that the use of social media has created a variety of experiences (15).

The fourth theme developed is related to physical health. Due to the young age of the students, they did not suffer from long-term and serious complications or problems in physical health. However, the most important health problem was the disruption of the sleep cycle. In this regard, Exelmans and Van den Bulck (16) reported that a growing body of literature had investigated the effects of video gaming on sleep quality, increased sleep-onset latency and more daytime tiredness. Overall, teachers and parents should encourage children to engage in interactive activities; exercises and outdoor games give children not only more physical health but also offer them an opportunity to work as a team and coordinate their activities as a group (17).

Sexual health was the fifth theme developed in this study. People believed that seeing provocative scenes in SM, having easy access, and chat with the opposite sex lead to experience some masturbation and sex with the opposite sex, which increases the risk of facing sexually transmitted diseases (STIs) in these students. In contrast to our findings, in a systematic review, Gabarron and Wynn (18) found that SM can increase sexual health information and decrease STIs. Also, Landry et al. (6) stated SM has the potential to expand and amplify the existing peer relationships, which are well documented as influencing risk behaviors.

The sixth emerging theme concerns the effect of SM on mental health; the students made contradictory experiences and viewpoints in this regard. Some agreed, and some opposed the impact of SM on loss of brain function and memory. However, further clinical trial studies are needed to investigate these kinds of effects. In this regard, Firth stated that online world might influence attention capacities as it encourages us to divide our concentration to different media, and it may change the way of retrieving, storing, and even valuing information by the memory (19).

The seventh emerging theme is related to the process of using SM. After overusing SM and facing problems in different parts of their life, some students decided to control it by managing their time. In Throuvala et al.'s study (20), while self-control concerned with difficulty in the use of SM due to constant pressure for being online, adolescents would prefer to keep their devices physically away during doing their homework. Developing a standard questionnaire to investigate the effects of excessive use of SM on individuals' health dimensions can also be a good subject for future studies. Also, some quantitative and longitudinal studies are needed to examine the causal relationship between SM and different dimensions of health. Finally, one of the limitations of this study is that it was difficult to interview the students because some of them did not have a good articulation technique.

5.1. Conclusions

Owing to different problems that students face, especially in emotional and social health, it is recommended that media literacy should be educated as it enhances the students' control and management in terms of SM. Moreover, postponing the purchase of smartphones and setting time limits by parents for students, and raising children's self-esteem can be useful.

Supplementary Material

Supplementary material(s) is available here [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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Footnotes

Authors' Contribution: TK conceived and designed the project and drafted the manuscript. MB participated in designing the content analysis. LS re-evaluated the content analysis, revised the manuscript. AM interpreted data and revised manuscript draft. All authors read and approved the final manuscript.

Conflict of Interests: There is no conflict of interest.

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