PROBLEMATIC SMARTPHONE USE: A LITERATURE REVIEW ON HEALTH ISSUES

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ABSTRACT

**Purpose** – Users are getting addicted to Smartphone sometimes due to its various functions. This addiction is taking them towards the various physical and mental health problems. The objective of this research paper is to explore the social impact of Smartphone on health of the users and to find out the various health problems arising due to the addiction of Smartphone. This paper presents an integrated conceptual framework of impact of the Smartphone addiction on health issues.

**Design/Methodology/Approach** – A review of Indian and International literatures was analyzed to identify the factors responsible for the various types of health issues due to addiction of Smartphone so that highest studied factors can be concluded for further empirical research.

**Findings** – It was revealed from various studies on Indian Literature that Anxiety and Headache are the most studied variables and most arising health issues because of excessive use of Smartphone followed by Loss of Control and sleep disturbances. While studies from International Literature revealed Depression, Anxiety and Stress are most studied variables to identify health problems followed by sleep disturbance because of Smartphone overuse. It was considered from all over the literature that Depression, Anxiety and Stress are the mostly studied factor followed by Sleep Disturbances and Headache.

**Paper Type** – Review Paper

**Key words:** Smartphone, Health Issues, Addiction.

**Introduction**

Smartphone and mobile phones are not much different but a similar product. There is no definition which can differentiate them. Smartphone is one which is having more than features as compare to mobile phone. It is a handheld computer which performs almost all the function of a computer. Smartphone is minicomputer which provides internet services as well as access to various applications. It satisfies demand of users because of its multi-functional nature so users are getting more dependent on Smartphone.

Various studies identified that overuse of mobile phone is associated with health problems such as fatigue, lack of concentration, headache, sleep disturbances and dizziness. A study conducted by scientist of Michigan found that if we use Smartphone before going bed then it may lead to the problem of insomnia/sleep disturbance (Wikipedia). Ding, D. and Li, J. (2017) expressed their views on mental, physical and social health problems arising in users of Smartphone due to excessive use and addictive behavior. Fleming, K. C. (2018) a reputed writer also wrote an article about tension of apple investors about addiction on Smartphone. The writer cited the work of others and found a statistics that 71 percent teenagers who spent 5 hours in a day on Smartphone had a high risk factor of suicide. Teenagers who used social media on heavy basis had a high risk factor of depression. It was also concluded that 85 percent teachers reported about students face more social and emotional change due to excessive use of Smartphone. Teenagers who are addicted to Smartphone take a less sleep as compare to their peers. Prabhakar, B. Y. & Hari, K. S. (2017) also concluded in his study that mobile phone includes various radiations in it which may harm to health of the users. World Health Organization also confirmed that consistent use of mobile phone may leads to negative health impact in long run because radiation in mobile phone are identified as hazard for the health of human beings. Deshpande, A. (2015) also identified that overuse of mobile phone may leads to physical and
mental health problems such as cancer, disorder of nerve system, orthopedic problems (elbow, neck and back pain), eye strains, decreased eye sights etc. Depression and behavioral addiction is also identified because of excessive use of mobile phones.

Objectives of the Study and Methodology

By considering all of issues discussed earlier, this paper makes an attempt to bring out light on the major health problems arising in the users of Smartphone and presents a refined integrated conceptual framework in the social impact of a product on public health. This framework would be helpful for researcher in further empirical research studies to find out the major health issues due to Smartphone in their research work. This paper is based on various reviews of literatures to identify which health problems are arising in Smartphone users due to its excessive use.

Developments in the conceptual framework

Most of the studies in Indian Literature focused on the association of health of Adolescent and Smartphone Addiction (Prabhakar, B. Y. & Hari, K. S. (2017); Soni, R. et al (2017); Bhatia, M. et al (2016); Goswami, V. & Singh, D. R. (2016); Davey, S. & Davey, A. (2014). A few studies have been conducted on youth health and Smartphone addiction (Deshpande, A. (2015); Bisen, S. & Deshpande, Y. (2016). Most of the studies in international literature focused on health problems such as depression, stress, anxiety, orthopedic problems due to excessive use of Smartphone or internet addiction on mobile phones.

Anxiety

Anxiety refers to fear, feeling of nervousness, to worry about uncertain things or unease about any perspective. Smartphone addiction leads to anxiety because it produces various blue rays and radiation which are harmful for the health of the users. It was revealed that more time spent on staring the Smartphone screen leads to anxiety (Leonard, J. 2015). Again Bhatia, M. et al (2016) concluded in their study that 29.41 percent female students were dealing with anxiety due to overuse of internet. 44.51 percent male students were also faced anxiety due to the same reason. It was suggested by authors that the proper measures should be adopted to overcome this problem. Deshpande, A. (2015) also considered the nature of using mobile phone may be necessary or addiction but it always leads to the problem of anxiety. Nehra, R. et al (2012) found that 69.8 percent young adults were facing anxiety due to excessive mobile phone use. Soni, R. et al (2017) indicated in their study that use of Smartphone help to identify the level of anxiety. It was find out that anxiety was main factor between excessive Smartphone uses and sleep disturbances. It was concluded in the study that anxiety is main factor which leads to the problem of sleep disturbances. Ding, D. & Li, J. (2017) also stated in his study that anxiety is main health issue which is arising from the overuse of Smartphone. Elachi, J. D. et al (2016) has considered that from the various studies which he analyzed, nine studies suggested that main problem arising from Smartphone use was anxiety. It was said that overuse of Smartphone leads to mental disorder which constructs anxiety. Lee, Y. K. et al (2014) also suggested that even compulsive use of Smartphone creates mental health problems and anxiety is one from those problems. Wanajak, K. (2011) has also considered that social impact of use of internet identified anxiety as the main factor.

Depression

Excessive use of Smartphone leads to depression because users avoid physical activities and social interaction. Deshpande, A. (2015) observed that either mobile phone has been used for compulsion or it is addiction both leads to health problem like depression. Nehra, R. et al (2012) conducted a study on excessive use of mobile phone in young adults. It was concluded in his study that 69.8 percent young adults were facing depression due to excessive use of mobile. Soni, R. et al (2017) also identified that use of Smartphone found the level of depression. It was also find out that depression was the main factor among overuse of Smartphone and sleep quality of adolescents. Author concluded that overuse of Smartphone tends to depression which automatically leads to sleep disturbances. Ahmed, A. et al (2011) also added that 15.2 percent youngsters said that they felt depressed when their cell phone was not in the hand. Ding, D. & Li, J. (2017) also argued that excessive use of Smartphone is an integral part of life. The excessive use leads to so many mental health problems and depression is one of them. Elahi, J. D. et al (2016) analyzed various reviews on problematic Smartphone use and find out that ten studies included that depression was main problem of excessive use of Smartphone. Depression was directly related to Smartphone addiction. Kim, J. H. et al (2015) observed that use of mobile phone is a positive factor for depressed people. Depressed people use mobile phone to overcome their negative vibes and communicate to other people to decrease the level of depression. Kwon, Y. S. & Peak, K. S. (2016) again focused that Smartphone addiction is positively correlated to depression. It was find out that 29.9 percent respondents were suffering from depression. 16 percent were having mild depression, 11.9 percent were having moderate depression and 2 percent were facing severe depression. Thomee, S. et al (2011) suggested that there was high association between use of mobile phone and depression in men and women. 24 percent men and 28 percent women were suffering from disease like depression. Wanajak, K. (2011) also concluded that internet use leads to various physical and mental health problems and depression is considered as main problem of health.
Stress

Sometimes Smartphone could be use as a stress reduction technique and sometimes it leads to so much stress due to its various consequences. Soni, R. et al (2017) has considered excessive Smartphone use leads to stress among adolescents. It was suggested that training in schools, competitive psychological examinations should be conducted to avoid the stress. Davey, S. & Davey, A. (2014) also identified stress as main factor of Smartphone overuse. Bhatia, M. et al (2016) observed that depression, stress and anxiety had a positive correlation at high level due to internet addiction. Cha, S. S. & Seo, B.K. (2018) argued that use of social networking sites was the main reason to relieve stress among respondents. It was concluded that 66.5 percent respondents said that use of social networking site was a fun for them and it also reduced stress level. It was also observed that 48.3 percent participants took gaming as a stress reduction activity. Elachi, J. D. et al (2016) also suggested that use of Smartphone leads to mental disorder such as depression, anxiety and stress. Jeong, S. H. et al (2016) indicated that respondents who were having great stress had a more likely chance to get addicted to Smartphone. Lee, Y. K. et al (2014) also added that Smartphone addiction and techno-stress are positively related to each other. Thomee, S. et al (2011) found that overuse of mobile phone is highly associated with stress. It was found out that 10 percent men and 19 percent women were having stress due to overuse of mobile phones. Wang, J. L. et al (2015) considered that stress was the main factor of problematic Smartphone use.

Sleep Disturbances

Smartphone use at the time of sleep consist insomnia. Various studies have concluded that Smartphone users to bed late and awakened by late night and spend more time on phone. Due to this they face problems in their sleep pattern. Bhatia, M. et al (2016) revealed that 25 percent respondents said that they were online at late night. Deshpande, A. (2015) also observed that addiction of mobile phone can lead to insomnia/sleep disturbances. It was said that poor pattern of sleep or sleep disturbances is one of the common health issue seen in addictive users. Soni, R. et al (2017) found that depression and anxiety were main factor between excessive use of Smartphone and sleep patterns. It was indicated that excessive use of Smartphone tends to depression/anxiety which may lead to sleep disturbances. Ahmed, A. et al (2011) revealed that 4.8 percent respondents always disturbed their sleep because of late night usage of their cell phones. Al-Khlaifi, T. & Meo, S. A. (2004) conducted a study on usage of mobile phone and health issue. It was considered that 4 percent respondents were having disturbance in their sleep due to high usage of mobile phones. Cha, S. S. & Seo, B.K. (2018) also focused that 31.7 percent respondents were facing the problem of sleep disturbance. Thomee, S. et al (2011) also found that high mobile phone usage was associated with sleep disturbance. 15 percent women and 20 percent men were having the problem of sleep disturbance due to high usage of mobile phone. Wanajak, K. (2011) also observed the problem of sleep disturbance and use of sleeping pills to sleep well due to internet addiction among respondents.

Headache

Headache is main problem arising from excessive use of Smartphone. Bhatia, M. et al (2016) found that 20.59 percent females and 27.44 percent males were facing the problem of headache due to mobile phone use. Goswami, V. & Singh, D. R. (2016) also found that excessive use of mobile phone leads to health problems such as headache and anger. Nehra, R et al (2012) also revealed that 23.1 percent respondents were facing headache problems due to excessive mobile phone use. Davey, S. & Davey, A. (2014) also concluded headache as a symptom due to excessive Smartphone use. Al-Khlaifi, T. & Meo, S. A. (2004) also concluded that 21.6 percent respondents were facing headache problems due to excessive mobile phone use. Wanajak, K. (2011) also observed that 34.06 percent respondents were facing headache problem due to excessive internet use.

Tolerance

Tolerance refers to dependency syndrome that how many hour you are spending on Smartphone, how more time you want to spend on it and amount of money and feature you want to spend and get for the Smartphone. Goswami, V. & Singh, D. R. (2016) considered that excessive use of cell phone in teenagers leads to tolerance. Nehra, R et al (2012) also identified that 42.5 percent respondents were having symptom of tolerance like need for high value cell phone and need more hours for usage. Nikhita, C. S. et al (2015) also observed that 26.51 percent respondents had symptom of tolerance. Lee, H. et al (2014) also focused that tolerance is main factor to identify the dependency on cell phones such as thinking all the time about Smartphone. Sut, H. K. et al (2016) also found that tolerance as always tried to control the time spend on Smartphone but not successful to do it.

Decreased Eyesight

Continues staring on the screen definitely leads to the problem of decreases eye sight. Bhatia, M. et al (2016) found that 39.70 percent females and 43.90 percent male respondents were facing eye sight problem due to internet addiction. Deshpande, A. (2015) also found that excessive use of mobile phones lead to eye strains in the eyes of users. It was observed that eye strain is a common health problem in the users who spent a lot of time on staring at the screen due to text and games. Cha, S. S. & Seo, B. K. (2018) also revealed that 30.2 percent respondents were having dry eye and decreased visual acuity due to excessive use of Smartphone. Wanajak, K. (2011) also observed that 67.5 percent respondents were facing the problem of eye strains because of excessive mobile phone use.
Loss of Control

Some studies concluded that Smartphone users lose their control if someone disturbs them while using Smartphone. Bisen, S. & Deshpande, Y. (2016) identified that loss of control on Smartphone use is a main factor which effect mental health of the users in negative manner. Goswami, V. & Singh, D. R. (2016) also found loss of control as main factor in addictive users of cell phones. Nehra, R et al (2012) also concluded that 23.1 percent respondents were facing loss of control problem over excessive use of cell phone. Nikhita, C. S. et al (2015) also revealed that 43.86 percent respondents were out of control when they were in a position to not you mobile phones.

Neck/Back/Elbow Problems

Constant use of mobile phone creates the orthopedic problems because of the posture made during use of phones. Deshpande, A. (2015) said that orthopedic problems were also aroused due to mobile phone usage such as elbow problem due to text claw and neck problem due to posture while texting. Davey, S. & Davey, A. (2014) also concluded the orthopedic problems in his study as a factor to identify addiction. AlAbdulwahab, S. S. et al (2017) also considered neck problem as a main factor in Smartphone users. It was found that no one from the respondents had neck problem. Wanajak, K. (2011) also revealed that 37.3 percent respondents were having back pain problem due to excessive internet use.

Fatigue

Smartphone addiction leads to fatigue problem in the users. Deshpande, A. (2015) concluded that excessive use of mobile phone leads to development of fatigue in the users. Goswami, V. & Singh, D. R. (2016) also added that respondents who had an excessive use of mobile phone were more prone to fatigue. Davey, S. & Davey, A. (2014) also identified fatigue as a main health cause due to excessive Smartphone use. Al-Khlaawi, T. & Meo, S. A. (2004) conducted a study to find the association among mobile phone users and health problems. It was found that 3 percent respondents were feeling fatigue due to excessive mobile phone use. Wanajak, K. (2011) also indicated that 23.72 percent respondents were feeling fatigue due to high level of internet addiction.

Isolation

Users of mobile phones automatically get socially isolated because they always would like to spend more time on phones rather than spending time with their family, friends and society. Bhatia, M. et al (2016) considered that 29 percent respondents were being isolated and they didn’t have any interaction with society and friends. Deshpande, A. (2015) also argued that excessive use of mobile phone may lead to social isolation among the users. Prabhakar, B. Y. & Hari, K. S. (2017) also suggested that excessive Smartphone use may tend to social isolation to users of Smartphone. Wanajak, K. (2011) also identified social isolation as a main factor in users of mobile phones.

Driving Accidents

Smartphone addiction leads to driving accidents. Some accidents are because people use Smartphone while driving and some occurs because people use this digital device while crossing the roadside. Goswami, V. & Singh, D. R. (2016) considered that use of mobile phone while driving is one of the main cause of road accidents. Davey, S. & Davey, A. (2014) also identified that use of mobile phone while driving is a serious matter which need to be taken serious by the users as well as government. Kuss, D. J. et al (2018) also suggested that dangerous driving is a main consideration in problematic Smartphone use and it must be considered in scale. Use of Smartphone while driving was considered as a dangerous factor for health of Smartphone users.

Dizziness

Continuous use of Smartphone creates the problem of dizziness because radiations harm the function of human beings Nehra, R. et al (2012) revealed that 69.8 percent participants were facing the problem of dizziness due to excessive use of mobile phone. Davey, S. & Davey, A. (2014) added that dizziness is main factor which was aroused due to excessive use of mobile phone. Al-Khlaawi, T. & Meo, S. A. (2004) also observed the association among mobile phones and health problems. It was considered that 2.4 percent respondents faced dizziness while using mobile phone in excessive manner.

Hearing Loss

Use of headphone for a longer time creates the hearing problems in users. Deshpande, A. (2015) concluded that excessive listening of music on phone may be a leading factor towards hearing loss. Vasudev, A. et al (2012) argued that 60 percent ENT specialists found the hearing loss may be occur and could be 5-10 percent reduced up to the age of marriage.
Loneliness

People who feel lonely they prefer to spend more time on Smartphone so they are getting lonelier. Bian, M. & Leung, L. (2014) observed that loneliness is main factor in Smartphone addiction scale. Index of addiction is directly related to loneliness. It was found that if respondents scored high in loneliness then there was more likelihood to get addicted in Smartphone. The respondents who scored high in loneliness were more addicted to Smartphone. Bian, M. & Leung, L. (2014) also argued loneliness as a main factor arising due to excessive Smartphone use. It was considered that high score in loneliness prefer to high chance to get more score in addiction scale.

Shyness

Shy people always have a high chance to get addicted to Smartphone because they find a tool in which they do not need to be social and it also decreased their chance for being face-to-face with society. Bian, M. & Leung, L. (2014) explained the role of shyness and symptom of Smartphone addiction. It was concluded that respondents who scored high in shyness had a high likelihood to get addicted to Smartphone. Casey, B. M. (2012) has also suggested that shyness should be included as a main factor in Smartphone addiction scale. It was also observed that high score in shyness index leads to high chance of addiction to Smartphone.

Annoyance

Smartphone creates annoyance in users due to its continuous use. Ahmed, A. et al (2011) concluded that 18.5 percent participants were never get annoyed if other people bother them to when they were using cell phones, 28. Percent were rarely get annoyed, 16.2 percent were occasionally annoyed and 8 percent among the participants were always annoyed if someone bother them when they were using cell phones. Cha, S. S. & Seo, B.K. (2018) also considered that 30.5 percent participants get annoyed due to the excessive use of social networking sites and games.

Table 1: Factors (contributing to health related issues from Smartphone addiction) extracted from the Review of Literature in Indian Perspective

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The Table 1 revealed that there are 14 factors extracted from Indian Literature which are mostly used in earlier studies and considered as factor regarding health problems aroused due to excessive Smartphone use. It is concluded from the table that Anxiety and Headache are the most studied variable to identify health problems followed by loss of control, Social Isolation and Sleep Disturbances because of Smartphone addiction.
There are various factors of health issues which were identified in users because of Smartphone addiction. Some of the authors have pointed out that it is not only a particular disease which occurs due to addiction, but there is an association of various health problems due to excessive use of mobile phones. The present study revealed so many factors which were studied in earlier research studies to find out the health problems arising because of Smartphone addiction. Studies from Indian literature revealed that Anxiety and Stress are the most studied variables to identify health problems aroused from Smartphone addiction, followed by Sleep Disturbances, Loneliness, and Headache. The studies concluded that it is not only a particular disease which occurs due to addiction, but there is an association of various health issues which were identified in users because of Smartphone addiction.
Headache are mostly studied factor so Indian researcher must consider these factors while doing research related health problems arising due to Smartphone addiction. While studies from all other literature except Indian Literature considered Depression, Anxiety and Stress as mostly studied factors so researcher of other countries must consider these factors while conducting this type of research. By considering all the studies of Indian as well as International Literature Depression, Anxiety and Stress are mostly studied factors followed by Headache and Sleep Disturbances which were identified in the users of Smartphone who were addicted. The results of the study would be helpful for further empirical research on health issues arising from Smartphone addiction. Most of the previous studies which are taken up in this research paper from Indian as well as International Literature are related with Social Science, Medical and Home Science, Computers in Human Behavior etc. The health issues arising from Smartphone can further be studied as almost all the human beings use Smartphone at present time. This paper would lead to explore certain new factors of health related issues and provide the way for further research.

References


