

Effect of Excess Use of Cell Phone on Adolescent's Mental Health and Quality of Life

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Abstract

The aim of the present study was to examine the effect of excess use of cell phone on adolescent's mental health and quality of life. 100 male students of class 11th and 12th were randomly selected from Faizabad city of Uttar Pradesh. Semi structured interview schedule, mental health and quality of life questionnaire were administered individually to all participants. Mean, SD and t-value on various dimensions of mental health and quality of life were calculated to see the difference between experimental and control groups. It was found that limited users of cell phone have better mental health and quality of life than unlimited users of cell phone. Findings of the present study have significant contribution on adolescent's mental health and quality of life.

Key- Words: *Cell phone, Excess use, Mental-health, Quality of life, Adolescent*

INTRODUCTION:

Today's environment conforms that adolescents are using various new information and communication technologies almost every time. New communication technology reference to the types of devices most commonly used and preferred for communication and entertainment purposes including computers with internet, cell-phones and television(Dehmler,2009).The cell-phone is one of the advanced device that all most every adolescents use with maximum period (Rogers, 2006; Willoughby, 2008).They use cell-phone to communicate with friends and messages for entertainment and social networking (Rogers, 2006).

Most popular new medium for adolescents is cell-phones in recent years. Adolescent's cell-phones ownership has rapidly increased. It was estimated that 16 million adolescents own cell-phones

(multimedia intelligence, 2008). Research on adolescents' television viewing habits is also extensive. Adolescents are spending maximum time on televisions programs (Verma, 2012). Adolescents of modern period are spending unnecessary and maximum time with cell phone. They are heavy users of this medium. It seems difficult for them to do their daily activities in due time, poor fragmented sleep, late bed time and early wake up, seriously affect their mental health, learning capacity and quality of life (Fallone, 2006). As adolescents use of this medium increased, research has been conducted to explore its effect on their mental health and quality of life.

Cell phone radiation has capability to damage the structure of cells in the body that has strong effect on human health. It can increase the risk of cancer. Thyroid gland and bone becomes sensitive in the time of radiation. Radiation also exposes leukemia, which is a kind of cancer. Other types are lung, skin, thyroid, brain, breast, stomach, cancer, nervous system disorder and brain tumor (Hardell and Others IARC). researcher have noticed that continuous use of cell phone affects adolescents health outcomes, including behavioral changes effects on the immunological system, reproductive effects, changes in hormone levels, headaches, irritability, fatigue and cardiovascular effects.

Hardell (2002) concluded, "For people who have used cell phones for ten years or longer, and when they are used mainly on one side of the head, the risk of malignant brain tumor is doubled and is even higher for person with first use before the age of 20 years".

Ahlbom, (2009); Khurana, (2009); Han, (2009); Kohil, (2009); Croft, (2009); Abdus-Salam, (2008); Kundi, (2008) have reported, on the basis of their long term studies, that radiation from cell phone significantly contributed the risks for cancer in adolescents as well as in adults. Narayanan, (2010) found that memory retention and retrieval were significantly affected in mobile phone exposer. Daniels, (2009); Fragopoulou, (2010) also reported same results, but these results have been conducted on rats and mouse. In human Eliyahu, (2006) and Maier, () have also found same results.

The effect of radiation exposer from cell phone on central nervous system such as Alzheimer, migraine has been found positive association with substance abuse such as anxiety, insomnia and depression, when they are without their cell phones. Frequent cell phone use has been associated with stress, sleep disturbance and symptoms of depression (Labode, 2011).

Cell phone also becomes the cause of accident when a person is engaged with driving and at the same time talking on cell phone with someone. Adolescents are the population group at the greatest risk from cell phone use while driving a motor cycle or a car (Farmer and Others, 2010; Willson and Stimpson, 2010; Copeland, 2011).

Mcknight-Eily, Eaton, Lowry, Croft, Cantrell and Perry, (2011) examined the relationship between in sufficient sleep and health risk behavior on US high school students and found that in sufficient sleep was associated with higher odds current use of cigarette and alcohol, felling sad or hopeless, physical fighting, not being physical active, using computer or laptop more than three hour per day and drinking soda. Adolescents reported in sufficient sleep, which was associated with many risk behavior.

Thomee, and others, (2011) conducted a study to see the relationship between mobile phone use and stress, sleep disturbances and depression in young adolescents of 20-24 years olds students. It was found that over mobile phone use was associated with sleep disturbances and symptoms of depression. Over use was associated with stress, sleep disturbances and high accessibility stress and symptom of depression for both men and women. It was concluded that unlimited mobile phone use was a risk factor for mental health for young adults.

Beranuy, Obserst, Carbonell and Chamarro, (2009) made an attempt to examine the problematic Internet and mobile phone use and their clinical symptoms in 365 undergraduate students at Ramon Llull University Barcelona (Spain). Results indicated that psychological distress was related to maladaptive use of internet and mobile phone; female scored higher than males on the mobile phone questionnaire, showing more negative consequences of its maladaptive views.

“Mental health is a state of well-being in which every individual realizes his/her own potential, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his/ her communication (Jang & Others 2000).

Surgeon general’s reports on mental health defined mental health as “successful performance of mental function, resulting in productive activities, fulfilling relationship with others people, and the ability to change and cope with adversely” (1999).

Mental health encompasses positive aspect of well-being and healthy functioning as well as negative aspect of mental disorder of dysfunction. Ideally, a comprehensive overview of adolescents’ mental health would reflect both positive and negative aspect. Exposure to new media (cell phone) can have adverse consequences for mental health status. Mental health issues are a serious concern among adolescents with the influence of new technologies; they are facing various mental problems, depression being the most common. Data from the 2004 national health institute survey (NHIS) found that over 1 to 10 adolescents ages 12-17 had serious behavioral or mental health difficulties. Male adolescents were slightly more likely to have these mental health difficulties than female. Studies have also suggested that 20 to 25% of youth have symptoms of emotional distress. Excessive use of new mediums inhibits mental functioning of adolescents. They become passive to perform their mental activities. Passiveness is activities lower down the quality of life of adolescents. They also reduced their family and friend and relationship with other peoples. This type of behavioral pattern affects mental health of adolescents. Researcher has not mentioned any study regarding influence of new media and mental health of adolescents. Present study fills up the gap, by examining the relationship between new technology use and mental health of adolescents.

New media (cell phone) have an influence on the mental health of today’s adolescents. Sexuality also has a bearing on the mental health and quality of life of a youth. Adolescents who have strong emotional ties in the family will generally be more resilient than those who do not. In a study it was found that 10-15% of adolescents are experiencing some form of diagnosable mental problems during their teen ages. Cell phone in isolation can have a strong bearing on adolescent’s mental health. Some anti-social habits such as smoking, drug use as well as their diet, can affect their mental health and quality of life.

According to Medilexicon's [medical dictionary](#), mental health is "emotional, behavioral, and social maturity or normality; the absence of a mental or behavioral disorder; a state of psychological well-being in which one has achieved a satisfactory integration of one's instinctual drives acceptable to both oneself and one's social milieu; an appropriate balance of love, work, and leisure pursuits".

Quality of life is a broad multidimensional concept that usually included subjective evaluation of both positive and negative aspect of life .Although, health is one of the important domains of overall quality of life. The concept of health related quality of life and its determinants have evolved since the 1980 to encompass those aspects of overall quality of life that can be clearly shown to effect health- either physical or mental.

On the individual level, quality of life includes physical or mental health perception and their correlation- including health risk and condition, functional status, social support, and socioeconomic status.

Quality of life can be defined as a multidimensional construct that reflects one's self perception of enjoyment and satisfaction with life. It has been observed that overweight children have reported lower quality of life than non overweight children. This study suggested that lower quality of life for overweight children is related to physical functioning and psychological domain. Still obese children when compared to healthy weight children are up to five times more likely to report lower global health related quality of life scores. While traditional methods to enhance the mental health and well-being of young people have utilized a problem focused paradise throw a lance of positive mental health and development.

WHO defined Quality of life as "the perception that an individual has of his or place in life, with in the context of the culture and system values in which he/she lives and in relation to the objectives, expectations, standards, and concerns of this individuals "(WHO, 1994). This definition is broad. In order to discuss some important aspects of it more specifically in relation to health, a narrower perceptive can be considered, throw the notion health related quality of life (Mozes, Maor and Shmueli,1999; Apolone and Mosconi,1998; Guyatt, Feeney, and Donald,1993). Health related quality of life can be defined "as an integrative measure of physical and emotional well-being, level of inference, social relationship and their relationship to salient features of their environment" (WHO Quality of life, 1995). Adolescent's health is a complex and relatively unexplored component.

Research finding related to excess and for a long duration use of cell phone, supported the view of harmful effect of health related behavior of adolescents. Present study examines role of unlimited use of cell phone on mental health and quality of life of adolescents.

METHOD

Participants:

The present study was conducted in Faizabad city of Uttar Pradesh. 100 male students of class 11-12 have participated in this study. They were selected on the basis of random

sampling technique. Researcher classified 50 students as unlimited users of cell phones in experimental group and 50 students as limited users of cell phone in control group.

Measures:

Interview Schedule:

A semi structured interview schedule was prepared by the researcher to collect information about usage of cell phone by the adolescents. After collecting their views they were categorized as limited and unlimited users of cell phone.

Mental Health:

Mental health questionnaire, developed by the Dwarka Prasad and S.K. Verma (1983) was used in this study. It contains 51 items dealing with inadequacy, depression, anxiety, sensitivity, anger and tension. Scoring was bipolar in nature and more the score better was the mental health.

Quality of Life:

Adolescent's quality of life questionnaire developed by Edwards (2002) was used in this study. 5 contextual and 5 perceptual items were mentioned in this questionnaire to assess the quality of life of adolescents having non disability high score indicates better quality of life.

Procedure:

Researcher visited, first of all to intermediate colleges of study area to short out students who are using cell phone for a long duration and unlimited time. After searching these adolescents with the help of interview schedule other more information regarding usages of cell phone by them was also collected individually. Researcher approached those students who were less users of cell phone and with the help of interview schedule information were collected from them individually. After that mental health questionnaire and quality of life questionnaire one by one administered individually to all participate. At last, researcher thanked principal, teachers and students who have participated and supported in data collection.

Results:

Mental health and quality of life of unlimited and limited users of cell phone were examined. Table-1 presents mean, SD and t-values of various dimensions of mental health and quality of life.

Table-1: Means, SDs and t-values of Mental Health and Quality of Life for the Groups of unlimited (n=50) and limited (n=50) users of cell phone

Variables	Unlimited users of cell phone		Limited users of cell phone		t-values
	Mean	SD	Mean	SD	
Mental Health					
Inadequacy	16.10	3.95	14.34	2.50	2.1
Depression	13.34	3.89	15.62	3.45	2.81*
Anxiety	16.78	3.10	14.26	2.89	3.61**
Sensitivity	10.32	4.06	12.65	2.35	2.2
Anger	17.21	4.65	13.63	3.21	2.6
Tension	16.54	3.32	14.34	4.32	1.8
Quality of Life					
Perceptual	65.5	4.6	75.1	6.8	2.06
Conceptual	64.8	3.9	73.6	5.7	1.9
*p<.05**p<.01					

Above table shows that unlimited users of cell phone obtained higher mean and SD scores (mean=16.10 and SD=3.9) than limited users of cell phone where mean was 14.34 and SD was 2.50. On the basis of mean score, it can be said that unlimited users of cell phone have high inadequacy than limited users of cell phone. On the dimension of depression unlimited users have obtained less mean and SD (mean=13.34 and SD=3.89) than limited users of mean and SD (mean=15.62 and SD= 3.45). The obtained t-value 2.81 was significant at .05 levels. On the dimension of anxiety unlimited users of cell phone have shown higher mean and SD value (mean=16.78 and SD=3.10) than limited users of cell phone where mean was 14.26 and SD was 2.89. Calculated t-value 3.61 was significant at .01 levels. It shows that unlimited users have high level of anxiety in their activities. Dimension of sensitivity was strong in limited users than unlimited users of cell phone because of higher mean values. However, these values were not significant. It shows that unlimited and limited users have not clear cut difference on sensitivity. Unlimited users have shown much more anger and tension than limited users in their daily activities. On these two dimensions means and SD values (anger: mean=17.21 and SD=4.65; tension: mean=16.54 and SD=3.32) of unlimited users were much

higher than mean and SD values (anger: mean=13.63 and SD=3.21; tension: mean=14.34 and SD= 4.32) of limited users, t-values was not significant.

Mean and SD values (perceptual: mean=75.1 and SD=6.8; contextual: mean=73.6 and SD=5.7) of limited users on perceptual and contextual dimension of quality of life were higher than unlimited users mean and SD values (perceptual: mean=65.5 and SD=4.6; contextual: mean=64.8 and SD=3.9).

Graphic presentation of mental health dimension and quality of life were presented in figure 1 and 2. These figures also conforms the findings of present study.

Figure-1: Graphical Presentation of Mean on Mental Health of Unlimited and Limited users of cell phone

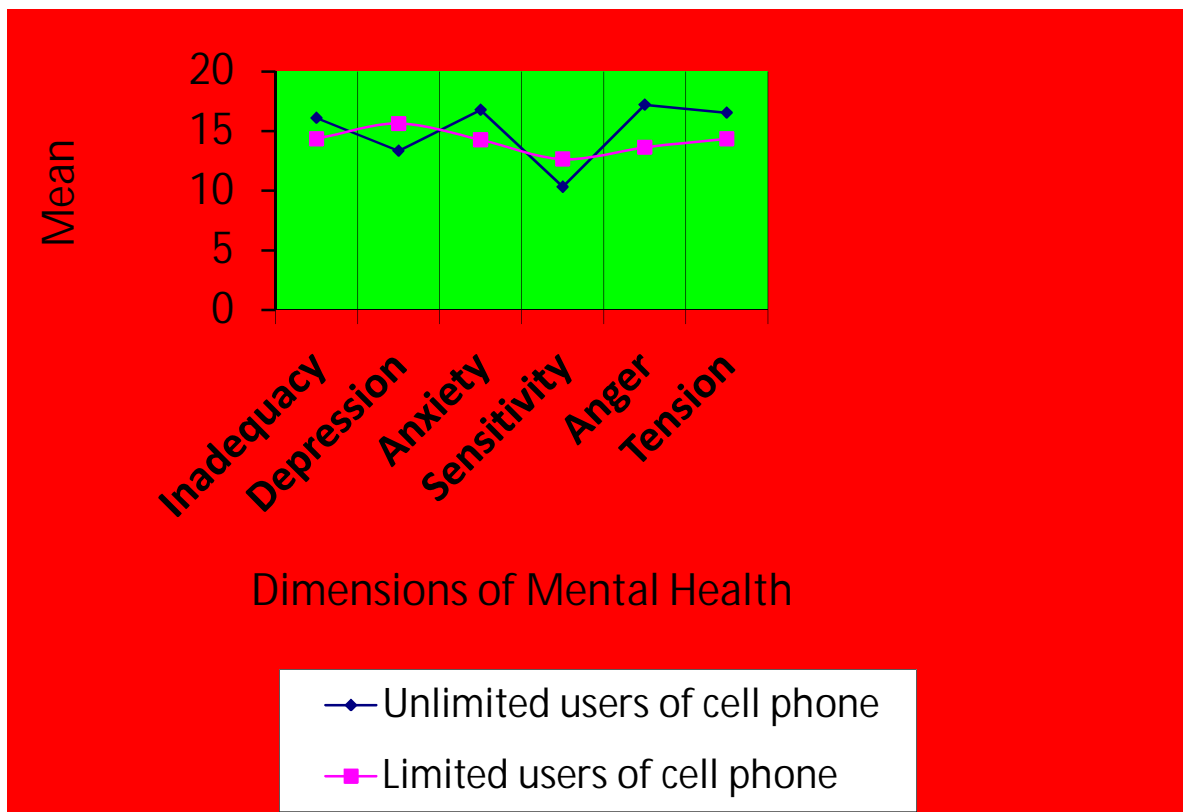


Figure-2: Graphical Presentation of Mean on Quality of Life for Unlimited and Limited users of cell phone

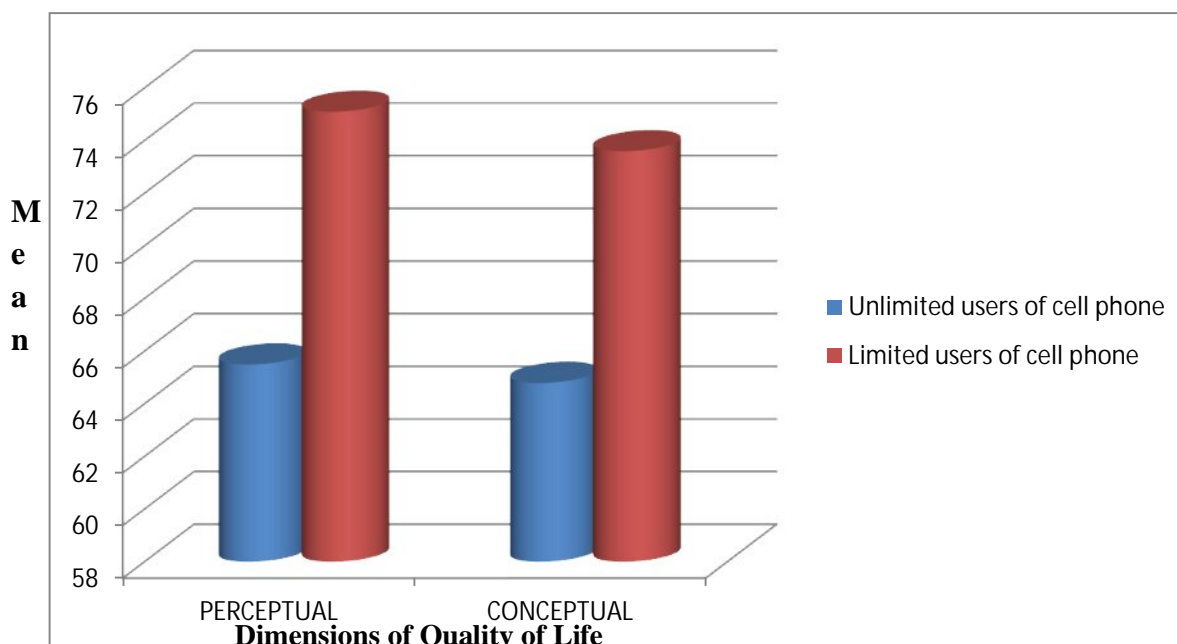


Figure 1 and 2 shows that curve of unlimited users on inadequacy, limited users

On depression, curve of anxiety of unlimited users, and curve of anger and tension dimensions of unlimited user were higher. It means these mental activities were much higher in respective respondents. On the other hand curve of limited users on quality of life were higher on both dimensions than unlimited users. These curves clearly indicates that limited users have better mental health and quality of life than unlimited users of cell phone

Discussion:

Over the past decade, new advancement in media technology has become increasingly paramount importance in daily routine of adolescents. The present study demonstrated high influential effect of cell phone on adolescent's mental health and their quality of life. Cell phone significantly contributed in adolescent's mental health and their quality of life. The present study findings also showed a negative impact of the excessive use of cell phone on adolescent's mental health and their quality of life. This constitutes a major drawback because good mental health and proper quality of life is essential for normal activities especially in adolescents.

The findings of this study were found similar to other psychological studies conducted in this area (Mcknight-Eily and others, 2011; Beranuy and others, 2009; Thomee and others, 2011; Dadre, 2008). Dadre, (2008) found that adolescents who excessively use their cell phone are more prone to ill mental health or poor mental health. Findings of present study have shown much similarity with Dadre's findings. The present study has shown clear-cut different but these differences did not reached statistical significance. The finding of the present study

leads to acceptance of hypothesis of negative impact of excessive use of cell phone on adolescent's mental health and quality of life. Since the majority of the adolescents who have their personal cell phone, the prevalence of their related problems is expected to be high.

Cell phones are the most important electronic device on the globe; it is creating significant problems before the adolescents. More than 75% of adolescents have their own cell phones and one third of them text more than 100 messages per day. Adolescents are spending much time on cell phone which is harmful for their health as stated and found in studies. Findings of the present study also support these views and findings.

The findings of the present study can be discussed by using stimulation- habituation assumption. This assumption assumes that cell phone stimulates the idea of adolescents by producing advances and interesting information which is liked by them. After stimulation they cultivate a habit to spend much more time with cell phone. They type of habit strengthen continues and adolescents become habitual to spend maximum time with cell phone. This habituation develops many health and behavioral problems in adolescents. They show many difficulties in their daily activities and arrgestment with family members.

There is an urgent need to minimize the adolescents' use of cell phone. They should be advised to spend their energy in reading and other extracurricular activities such as walking, playing games.

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