

Adverse Health Effects of Internet Addiction among Preparatory Schools Students

Mayada Mohammed El Sheshtawy⁽¹⁾, Sahar Ahmad Shafik⁽²⁾,
Aliaa Mohammed El-afandy⁽³⁾, Eman Mohammed El Sherbeny⁽⁴⁾

⁽¹⁾Nursing Specialist - AL Mansoura University

⁽²⁾Professor of Community Health Nursing –EL-Fium University

⁽³⁾Assistant professor of Community Health Nursing, Faculty of Nursing- Helwan University

⁽⁴⁾Lecturer of Community Health Nursing Faculty of Nursing-Beni Suif University

Abstract: Internet addiction creates psychological, social, school and work problems and difficulties in a person's life, especially for adolescents. Aim of the study: To assess adverse health effects of internet addiction among preparatory schools students. Design: A descriptive study design was used in this study. Setting: Study was conducted in three preparatory schools in El Mansoura City. Sample: 160 students were chosen by multi stage random sample in this study. Tools: One tool are designed,: Interview questionnaire consists of four parts designed to assess demographic characteristics, students achievement related to school performance, Internet Addictive Behavior Scale and its bio psychosocial effect and students' knowledge related to internet. Result: The current study shows that, 60% of the student suffer from high level intranet addiction, while 10% had low level ,Regarding to total effect of internet addition on school achievement there were 30% of students had highly negative affect, although 18.8% of them had slightly negative effect, Regarding to total bio psychosocial effect 60% of students had highly negative effect of health. Regarding to total knowledge conclude that 55.0% of students had unsatisfactory knowledge and 45% of them had satisfactory knowledge. Conclusion The present study concluded that there were statistically significant positive relation between total knowledge,internet addiction scales and student socio-demographic regarding sex , age, numbers of family members , and family income;except place of residence. and there were statistical significance positive correlation between internet addiction knowledge, effect of internet on bio psychosocial, effect of internet on school achievement. And total internet addiction score. Recommendations: Continuous educational program for students about adverse health effect of internet addiction.

Keywords: Internet addiction, adverse health effect, preparatory schools students.

I. INTRODUCTION

The internet has become such a worldwide phenomenon that is has developed its own culture with a unique language, values, and standards. Many people cannot go for more than a few days without using the internet that it become a means of accessing information, interpersonal communication and entertainment. However, as the internet has moved into homes, schools, internet cafes, and businesses, the prevalence of internet addiction has been increasing rapidly especially among school students .(1)

Internet addiction can be defined as an inability to control one's use of the internet despite negative consequences and which persists over a significant period. Research indicates that the actual addiction is associated with the use of specific online activities which means each addiction is characterized by specific patterns of maladaptive behaviors.(2)

According to 2018 census , approximately 40 % Of Egyptians population age from 10 to 29 years old .So ,the young people are important catalysts for development and change in society component depending on investment in this age group which provides an unprecedented opportunity to accelerate growth , reduce poverty and paints the positively shape the country's future.(3)

The world is witnessing the latest rise in the number of internet user as by the end of 2017 the number of people constitute are 4.3 billion people. It's noteworthy that young people are the most affected age groups using the internet. 830 million or 80% at 104 countries around world where it confirmed that 35% of them in between 15 and 24 years, where 13% of youth in the developed country compared to 23% of them in the developing country. Internet addiction have significant physical, psychosocial impairment leading to low work performance, relationship problems, loneliness, self-destructive behaviors and several physical, psychiatric disorder such as weight gain, eye problems, depression, anxiety, social phobias and attention deficit hyperactivity disorder. (4)

In addition, (5) indicated that, a great part of people with addictive behaviors also suffer from underlying psychiatric problems that must be identified and treated. In such cases, treating the internet addiction alone and ignoring the depression or other underlying psychiatric problem might temporarily resolve one particular addiction, but the person will often develop problems in another area. However, if the underlying problem that caused this addiction is not identified and dealt with the person may then develop another compulsive problem such as gambling or compulsive disorders. Therefore, this study aimed to assess the adverse health effect of internet addiction among preparatory school Students.

The community health nurse has a crucial role in the seamless provision of comprehensive health services to school students regarding prevention of internet addiction through health promotion and disease prevention by analytic assessment, cultural competencies and program planning to help them to change their unhealthy related practice regarding internet usage. To that end, school nurses facilitate normal development and positive student response to interventions promote health and safety including a healthy environment. (6)

1.1 Significance of the study

In the age of globalization information and technology, find that the Middle-East and Africa had rates of internet users from 17.3% to 23.6%, While the Arab world is facing area of growth in the number of internet users by the end of 2018, According to the reports and statistics of site of international world state 2016 note that continuation of Egypt pioneering to Arab world in the number of internet users, represent 34.800.000 (40%) users or more (7)

The effects of internet addiction gradually minimize the people activities and pursuits that occupied a person's time before the Internet became an issue. The effects of internet addiction can also cause real damage to a person's mental and physical health, A meta-analysis indicated that problematic internet use is associated with lower well-being, and many researchers agree that internet addiction negatively affects the individual's positive view of life among adolescents (8).

1.2 Aim of the study

This study aims to assess adverse health effects of internet addiction among preparatory schools students. through:-

- 1- Assess the effect of internet addiction on students school achievement.
- 2- Assessing the bio psychosocial effect of internet use on their health to detect educational needs.
- 3- Assessing the preparatory school student's knowledge related to use of internet.

Research questions:

- Are the over use of internet among students affected on their school achievement?
- Are the over use of internet among students affected on their bio psychosocial status?
- Are the student have any knowledge about internet addiction?

II. SUBJECTS AND METHODS

2.1 Research design:

A descriptive research design was utilized in this study.

2.2 Research setting:

The study was conducted in El Mansoura city, in where the educational administrations are divided into two sectors east and west. In which east sector is consist of 25 governmental preparatory school, three of whom have been selected in current study these were :Shagret El Dorr Banat school, El-Eidadia El-Hadisa school and Ibn Loqman Banen school.

2.3 Subjects:

The study sample included 160 students.

2.4 Sampling technique:

A multistage random sample technique was used in this study for selecting of the study sample, 10% of the total number of preparatory schools (3 schools) chosen, the first and second study year chosen from all school grades, : two classes of the selected grade will be chosen randomly, all students in the selected classroom chosen.

2.5 Tools of data collection:

one tool will be used for collecting the data of this study:

Tool I: Structured Interviewing Questionnaire:

One tool was used for collecting the data of this study an interview questionnaire.

(Appendix I): the investigator designed the questionnaire based on literature review and approved by supervisors, it was written in sample Arabic language, and it consists of four parts:

Part I: students demographic characteristics; it covered items such as (age, gender, residence, number of family member, family income, school Settings) (Q1-Q11).

Part II: students achievement related to school performance to detect their needs includes questions as (Reduce the time allocated for study, Prefer to sit online more than the usual lessons taught, Prefer to be in the Computer lab more than attend the school, Prefer to spend more time online than attending private lessons). (Q12-Q18).

Scoring system: for each item range from 1- 3 ; never (1), usually (2) and always (3),The highest score indicate the highest effect.

Total score was calculated as:

- Highly negatively affected 60% -> 75%
- Moderately negative affected 30 -> 60%.
- Slightly negative affected 1 -> 30%.

Part III A- Internet Addictive Behavior Scale according to (9): asking students several questions to detect severity of their addiction as, using the Internet for longer than intended, Neglected of schoolwork to spend more time online (Q19-Q33).

Scoring system: Ratings for this items range from 0-1 where yes (1) and no (0).

Total scoring system:

- Low addiction >30% of total addiction score.
- Moderate addiction 30 % -> 60% of total addiction scores.
- High addiction < 75% of total addiction score.

B- Assessing the physical effect of internet use on school students: asking student several questions as Lack of sleep periods and therefore inability to focus or wake up early, Chronic or recurrent headaches..., (Q24-Q41).

C - Assessing social effect of internet use on school students: asking the student several questions as Prefer to talk to friends by the Internet more than communicate directly, Visits to relatives, social gatherings and families are less because of Internet occupied..., (Q42-Q49).

D- Assessing cultural effect of internet use on school students: It includes question covered items as: Justify excessive use of the Internet as the same as others, See that the Internet is very important in life..., (Q50-Q53).

E- Assessing economical effect of internet use on school students It includes question covered items as Increasing the value of electricity and telephone bills, Increase spending on computer accessories and computer maintenance..., (Q54-Q58).

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F- Assessing psychological effect of internet use on school students The modified version of internet addictive behavior scale, the stress scale 14 questionnaire which included self-report sub-scale designed to measures the negative emotional states of stress...(Q59-Q72).

Scoring system: for each item range from 1- 3 ; never (1), usually (2) and always (3), the highest score indicate the highest effect. For each domain regarding effect of internet addiction on physical, psychological, total effect score was calculated as

- Highly affected 60% - >75% of total
- Moderately affected 30% -> 60%.
- Slightly affected 1% -> 30%

Part IV: Assessing students' knowledge: It includes question covered items as the knowledge related to internet as internet addiction meaning, purpose of using internet, optimal use of the internet .., (Q73-Q85)

Scoring system: for all knowledge items, correct answer was scored 1 and incorrect answers were scored 0. Total knowledge score was calculated as

- Correct 60%-75%
- Incorrect > 60%.

2.6 Validity

Tools are submitted to a panel of five reviewers and experts of community health nursing from Cairo and Helwan University; they examined and reviewed the tools for the face and content coverage, clarity, length, and formatting of tools, redesigning and modifications was done according to panel recommendations

2.7 Reliability

Reliability test for questionnaire items were done by cronbach alpha test. The result was 0.80.

2.8 Pilot study

The pilot study was carried out on 10 % from the sample (16) preparatory school students, to ensure clarity and determine the time required to complete data collection tools. According to the result of the pilot study no modifications were needed. So they were included in the actual study sample.

2.9 Field work

The actual Field work was started from the middle of February until the middle of May 2018for the data collection for a period of three months , the investigator visit the included schools, two days weekly in two periods of time from 9:00 am to 12:00 pm. The investigator firstly explain and clarify the aim of the study to the school director, then for the school supervisor, class teacher and for the students included in the study to gain their support and to be aware of the study's importance, with the selected class from each school, the investigator distribute the questionnaire sheets for each student and asked them to answer individually to all questions.

2.10 Ethical considerations:

The study protocol was approved by the pertinent ethical committee at the faculty of nursing Helwan University, permission obtained from each student before participate in the study and after giving them a brief information about the aim of the study and about their right to refuse to participate or withdrawal from the study at any time they want, also reassure that the confidentiality of all information will be collected and will used only for the purpose of this study.

2.11 Data management:-

Data analysis was performed using IBM SPSS statistical software version 24. The data were explored. Descriptive statistics was used for continuous variables [mean and standard deviation (SD)] and frequency for categorical variables. Qualitative variables were compared using qui square test (X2) as the test of significance. Correlation coefficient (r) Pearson was used to evaluate association between studied variables. A significant level value was considered when p-value ≤ 0.05 .

Degrees of Significance of the results were:

-Non-significant (NS) if $p > 0.05$

-Significant (*) if $p < 0.05$

-Highly Significant (***) if $p < 0.01$

III. RESULTS

Table 1 Mention that , 47.4% of study sample aged equal or more than 15 years , the mean age 16.4 ± 0.824 .regarding the study sample gender 78.8 % were female , 51.2% of them the place of residence in urban area, 37.5% of them the number of family members from 5:>7 persons and 57.5% of them, the family income are enough. **Figure (1):** show that 51.2% of them had moderate negative affect of internet addiction , 30.0% of them had highly negative affect ,and 18.8% of them had slightly negative affect of internet addiction on school achievement. **Table (2):** clear that, 81.9% of students using the Internet for longer than intended , 87.5% of them suffer from a lack of degree or school activity because of the time spent on the Internet , 81.9% of them felt that life without the Internet would be dull, empty, and sad ,85.6% of them spend 3 hours or more daily on the Internet , and 70.6 % want to increase the number of hours using the internet.**Figure (2):** show that, 80% of students daily usage of internet ,15% of them using the internet weekly and 5% of them using the internet monthly. **Figure (3):** present that, 45% of them had moderate effect on psychological health regarding of internet addiction, 40% of them had highly affect and 15% had slightly affect.**Table (3) :** obligate that, 70.0% of them had highly effect of physical health and Economic effect , 60.0% of them had highly effect of physical health , 55.0% of them had highly effect of cultural effect, 40.0% of them had highly effect of Psychological health and 58.8% of them represent total effect on health. **Figure (4):** show that , 58.8% of them had highly affected of internet addiction on bio-psychosocial , 32.1% of them had moderate affect and 8.1% slightly affect . **Figure (5):** show that, 55.0% of students had unsatisfactory knowledge regarding internet addiction and 45% of them had satisfactory knowledge regarding internet addiction.

IV. DISCUSSION

Internet addiction are an integral part of current modern lives and known to be very popular among preparatory school students. Preparatory students are among the age groups most targeted by communication technologies (10). They are more interested in possessing internet mobile phones on which they spend time and dedicate much of their thinking, increasing their social inclusion and connectedness as well as providing a sense of security as they can contact others in times of distress or emergency(11).

1- Part 1: studied school personnel characteristics

Regarding to socio demographic characteristics of students. The current study showed that the mean age group was 16.4 ± 0.824 . This was conforming by (6) a study conduct in Madinah, Saudi Arabia about " assess the pattern of use of internet mobile phones, accompanying behavior and related health hazards among preparatory female students at Taibah schools" , Found that , heir studied sample mean age was 16.2 ± 1.2 years. Also , the study agree by (12) a study conduct in South African about "The use of internet mobile phones by South African preparatory students, Issues in Informing Science and Information Technology". Found that , the mean age of their studied sample was $15.70 \pm SD = 1.97$ years.

According to the research question (1): Are the over use of internet among students affected on their school achievement??

Part II: studied of school students achievement:

Regarding to total effect of internet addiction on school achievement, more than half of student had moderate negative affect of school achievement, one thirds of them had highly negative affect of school achievement and less than one fourth of them had slightly negative effect of school achievement. the study agree with (13) a study conducted in Sanandaj about "Exploring factors on internet addiction in students" found that , 55% of student had moderate negative affect of school achievement , 33% of them had highly negative affect of school achievement and 12 % of them had slightly negative effect of school achievement. From the investigator point of view, the over interesting of internet using

by students, Parents preoccupation with their children and lack of teacher's observation for students led to students' addiction to the Internet, which led to an impact on the academic achievement level.

Regarding to student internet addiction scale .the majority of student using the internet for longer than intended, lack of degree or school activity because of the time spent on the internet, using the internet necessary in the field of study, felt that life without internet would be empty ,sad and spend 3 hours or more daily on the Internet .This result comes with (14) a study conducted, Saudi Arabia, about "The effect of use the smartphone in internet addiction among preparatory students in Riyadh" found that , the 85% of student using the internet for longer than intended, lack of degree or school activity because of the time spent on the Internet, using the Internet necessary in field of study, and spend 3 hours or more daily on the Internet. From the investigator point of view, 70 % of studied sample used the internet for more than three years in daily manner lead to internet addiction.

According to the research question (2):Are the over use of internet among students affected on their bio psychosocial status??

Part III: Studied School Students Bio psychosocial Effect of Internet Addiction:

Regarding internet addiction effect of physical effect ,the current study indicated that less than half of studied sample always complain from chronic or recurrent headache, lack of sleep periods , eye pain and problems vision , and tenth of student always marked change in weight increase or decrease and imbalance in the rate of eating up or down . Also, the study agree by (15) a study conducted in Tehran about "Internet addiction and general health of dormitory students" found that , 50% of student complained from chronic or recurrent headache, lack of sleep periods , eye pain and problems vision , and 10% of student always marked change in weight increase or decrease and imbalance in the rate of eating up or down .Also the study agree by (16) a study conducted in Tarkio about ".knowledge and attitude regarding health hazards of intent at addiction users" .found that , 52% of student complained from chronic or recurrent headache, lack of sleep periods , eye pain and problems vision , and 12% of student always marked change in weight increase or decrease and imbalance in the rate of eating up or down Moreover this current study found that, more than half of student highly affected of physical problems due to use the internet for long time. This results in agreement with(17) Study conducted in Iran , about " Internet addiction and modeling its risk factors in medical students" found that , 61% of student highly affected of physical problems due to use the internet for long time. Also , the study agree with (18) a study conducted in Indonesian about Internet Addiction among Indonesian Students: Physical and Psychosocial Behavior Problems" found that , 65% of student highly affected of physical problems due to use the internet for long time. In addition, (19) a study conducted in Tehran about "Smartphone internet addiction among preparatory students in Tehran schools " found that , 60% of student highly affected of physical problems due to use the internet for long time .From the investigator point of view , Continued student use the internet leads to many health problems specially physical problems .

Regarding the student Social effect, more than half of student sometimes prefer to accompany people have the same hobby of using the internet , more than half of student sometimes feel lonely when in between the family because of the constant preoccupation with the internet and prefer to discuss own problems with friends online rather than family member. This finding is congruent with (1) a study conducted in London about" common health effects of internet addiction amongst students" found that , 32.7% suffered from social problems as well 35.5% student sometimes feel lonely and between family because of constant preoccupation with the internet and prefer to discuss problems with friends online rather than family.

Regarding cultural effect of internet addiction the present study showed that ,more than two thirds always reported that the internet used is very important in life , and sometimes feel much more respect and attention on the internet then in others .This result agreed with (20) an Empirical study conducted in Malaysia about ,"Negative and Positive impact of internet Addiction on Young Adult" found that , 68% student always reported that the internet always used is very important in life ,and sometimes feel much more respect and attention on the internet than in others . From the investigator point of view this could be alarming the degree of technology harm that even effect on students language, writing style and cultural effect.

Regarding to psychological health the study finding indicated that nearly three quarters of students sometimes find it difficult to relax after using the Internet long , found inclined to easy disturb if did not get an internet source, no longer

tolerate interrupting others for actions such as using the Internet, and feel annoyed and disturbed in case of interruption of internet service. In contrast, (21) a study conducted in U.S about "assess the relationship between internet addiction and psychological, social, cultural and economic to school students". Found that, 75% of students sometimes find it difficult to relax after using the Internet long, found inclined to easy disturb when did not get an internet source and feel annoyed and disturbed in case of interruption of internet service.

As well as the same study was reported by;(22) a study conducted in Pakistan about "assess the problem behaviors resulting from internet addiction used by student" found that, 70% of student psychological change regarding internet addiction. From the investigator point of view this could reflect the internet addiction effect of student psychological, social, cultural and economic status.

According to the research question (3 Are the students having any knowledge about internet addiction?)

Part IV: Studied School Students Knowledge Regarding of Internet Addiction:

Regarding to student total knowledge, the current study revealed that, more than half of students unsatisfactory knowledge and less than half of them satisfactory knowledge regarding internet addiction, the study agree by(23) a study conducted in New York about "how to recognize the signs of Internet addiction and a winning strategy for recovery" found that, 55% of student have unsatisfactory knowledge and 45% of them satisfactory knowledge regarding internet addiction. From the investigator point of view the majority of student unsatisfactory knowledge regarding internet addiction regarding to the most of student not participate any training program about hazard of internet addiction.

V. CONCLUSION

In the light of the results of the current study result and answers of the research questions, it could be concluded that:

About two thirds of the student suffer from high level of internet addiction, more than half of students had moderate negative affect of internet addiction on school achievement, Regarding to total bio psychosocial effect more than two thirds of students had highly effect of social and Economic effect, about two third of them had highly effect of physical health, more than half of them had highly effect of cultural effect, more than one third of them had highly effect of Psychological health and nearly two third of them represent total highly effect on health, more than half of students had unsatisfactory knowledge degree regarding internet use and There were statistical significance positive correlation between internet addiction knowledge, effect of internet on psychosocial, effect of internet on school achievement and total internet addiction score.

VI. RECOMMENDATIONS

In the light of the current study findings the following recommendations are suggested:

Continuous educational program for preparatory students about adverse health effect of internet addiction. Counseling and awareness program to students and family at deferent level to overcome internet addiction problems. and Further research to assess the role of the school health nurse in Providing adequate health education.

Table 1: Sociodemographic Characteristics of Students in the Study Sample (n =160)

Characteristics	No.	%
Age		
- 11 >14	18	11.3
- 14 >15	66	41.3
- 15 <	76	47.4
Mean \pm SD	16.4\pm0.824	
Gender		
- Female	126	78.8
- Male	34	21.2
Residence:		
- Urban	82	51.2
	78	48.8

- Rural		
Number of family members:		
- 3> 5	53	33.1
- 5>7	60	37.5
- More than 7	47	29.4
Family income :		
- Enough	92	57.5
- Not enough	47	29.4
- Enough and saved	21	13.1

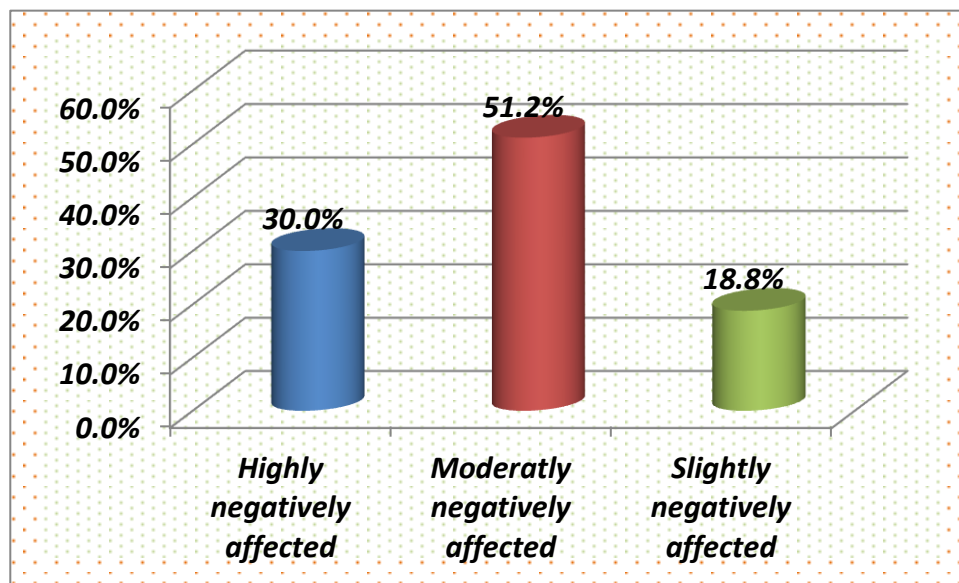


Figure 1 : Percentage Distribution of Total Effect of Internet Addition on School Achievement among Studied School Students.

Table 2: Percentage Distribution of Student Regarding Internet Addiction Behavior Scale Measure (n =160)

Item	Yes		No	
	No	%	No	%
A- Internet addiction test:				
using the Internet for longer than intended	131	81.9	29	18.1
Neglected of schoolwork to spend more time online	109	68.1	51	31.9
complain about the amount of time spend online	108	67.8	52	32.5
suffer from a lack of degree or school activity because of the time spent on the Internet	140	87.5	20	12.5
verified email before something else intend to do	65	40.6	95	59.4
felt that life without the Internet would be dull, empty, and sad	131	81.9	29	18.1
feel that mind is busy even when you are out of service or away from it	97	60.6	63	39.4
trying to reduce the time you spend on the Internet and fail	97	60.6	63	39.4
trying to hide how much time you are online	49	30.6	111	69.4
prefer to spend more time online even while you are with others	95	59.4	65	40.6
become depressed, moody or nervous when the Internet is out of service or when you are away from the Internet	46	28.7	114	71.3

using the Internet is necessary in your field of study	120	75.0	20	25.0
spend 3 hours or more daily on the Internet	137	85.6	23	14.4
the sites do you like to visit regularly				
Scientific sites.	65	40.6	95	59.4
Entertainment Sites	40	25.0	120	75.0
Religious sites	16	10.0	144	90.0
sexy sites	18	16.9	142	38.1
Online Chat Sites	12	7.5	148	29.5
Shopping Sites	20	12.5	140	87.5
want to increase the number of hours using the internet	113	70.6	47	29.4

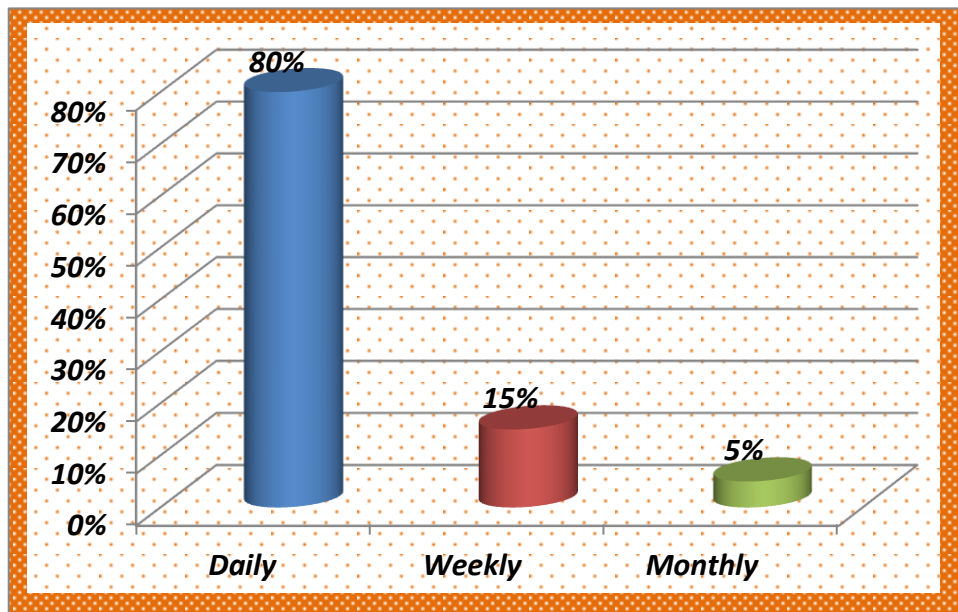


Figure 2 : Percentage of Studied Students Regarding their Average Usage of Internet.

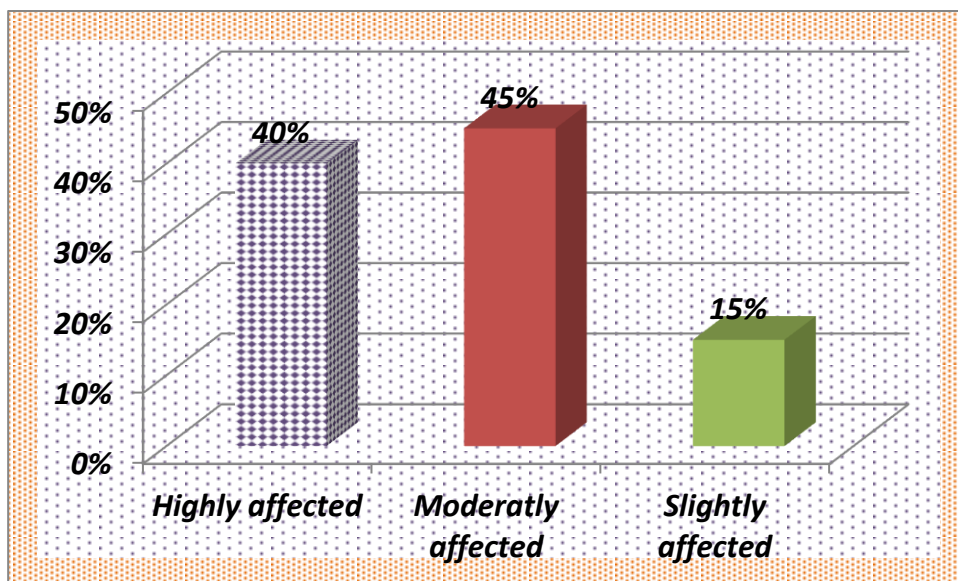


Figure 3: percentage distribution of studied students regarding effect of internet addiction on psychological health (n =160).

Table 3: percentage distribution student regarding effect of internet addiction on Bio psychosocial health (n =160).

Bio psychosocial	Highly affected		Moderately affected		Slightly affected	
	No	%	No	%	No	%
physical health	96	60.0	40	25	24	15
Social health	112	70.0	40	25	8	5
cultural effect	88	55.0	64	40	8	5
Economic effect	112	70.0	48	30	0	0
Psychological health	64	40.0	72	45	24	15
Total effect on health	94	58.8	53	32.1	13	8.1

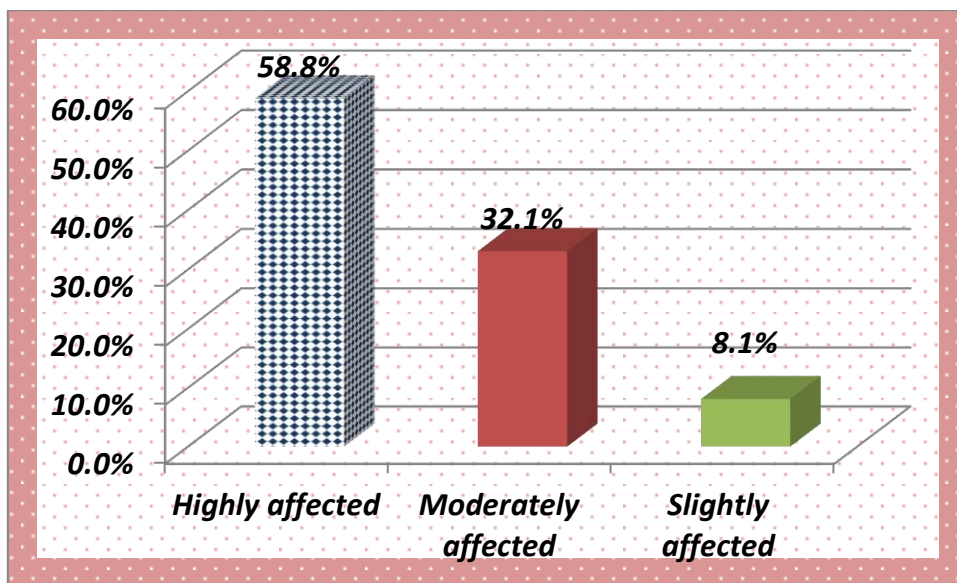


Figure 1: percentage distribution of studied students regarding effect of internet addiction on bio-psychosocial (n =160).

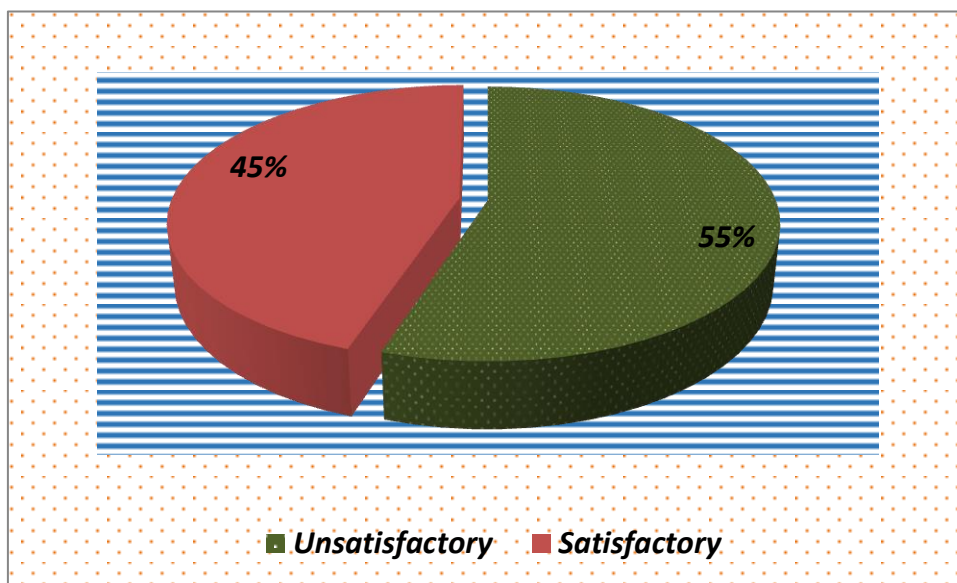


Figure 2: percentage distribution of studied students regarding total knowledge score regarding internet addiction

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