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A study to assess the internet gaming addiction and its relation with physical health problems among early adolescents at selected high schools in Krishna District, Andhra Pradesh

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Abstract

India has the largest population of adolescents in the world. The future of India is shaped by this age group. Internet Gaming Addiction is one of the major problems of this generation. Early identification of this problem and associated physical health problems is very essential to diagnose, as it is characterized by uncontrollable and persistent playing of video and computer games, which is harmful to individual's well being. The objective of this study is to assess the Internet Gaming Addiction (IGA) and its relation with Physical Health Problems among early adolescents at selected High Schools in Krishna District, Andhra Pradesh. Systematic Random Sampling method was used to select the sample of 500 early adolescents. The data collection was done by using self administered standard tool i.e., Modified Internet Addiction Test (IAT) by Dr. Kimberly Young and self administered standard tool on Pediatric Quality of life Inventory (Teen Report Ages 13-18). Data obtained was tabulated and analyzed in terms of objectives of the study using descriptive and inferential statistics. The data showed that early adolescents with no internet gaming addiction were 195(39%), mild internet gaming addiction was seen in 140(28%), moderate internet gaming addiction was in 136(27.2%) and severe internet gaming addiction was in 29(5.8) with 73.3448 mean value and 2.85702 standard deviation. No internet gaming addiction had no correlation with physical health problems among early adolescents. Mild, moderate and severe internet gaming addiction had significant correlation with physical functioning at 'r' value 0.181, -0.297 and 0.551 at $p < 0.05$ level of significance. There was statistically significant association with their demographic variables such as age, gender, class of study, presently residing with, father's education and have you attended any health awareness programme.

Keywords: Internet gaming addiction, early adolescents, physical health problems

Introduction

The initial idea of internet as a way of "data communication" was first proposed in the early 1960s by a group of American computer scientists who saw great potential value in allowing scientists to share information on research and development in scientific fields.

In the New York Times, in 1995, an article entitled "The lure and addiction of life online first raised the concern of a wide public about the potential harms of uncontrollable internet use. Internet gaming and video games have assumed a central role in our children's daily lives. Internet gaming is a booming market. In 2012, more than one billion individuals played computer games, which fulfilled the 8% growth of the computer games industry in the same year. 92% of children under the age of 18 years play video games regularly and sixty five percent of college students reported playing video and online games regularly. Studies have shown that out of the percentages 6-15% can be characterized as internet gaming addiction^[1]. Over the last decade, the concept of internet gaming addiction has grown in terms of its acceptance as a legitimate clinical disorder often requiring treatment. Hospitals and clinics have emerged with outpatient treatment services for internet gaming addiction. Addiction rehabilitation centers have admitted new cases of internet gaming addicts and college campuses have started support groups to help students who are addicted^[2].

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Significance of the study

According to Internet World Stats, as of June 2019, the number of internet users worldwide is about 4.53 Billion. India has second largest internet users with 560 Million. People over the age of 40 years formed the lowest share, while youngsters in the age group of 12-15 years made up a good 14% share of the total internet user base. India had over 560 Million internet users this year ranking second in the world in terms of number of people with internet access [3].

Review of Literature Related to Internet Gaming

Addiction: Vamsi Krishna Undavalli *et al.*, (2019) A cross-sectional study was conducted at Chinna Avutapalli, Krishna District, AP, India on prevalence of Internet gaming disorder, a technological hazard. The aim of the study was to know the prevalence and the various factors associated with the development of Internet Gaming Addiction (IGD) among adolescents. A Sample was 400 students from high schools of english version of DSM-5 short (9 item) dichotomous scale with cut-off points of five or more criteria was used for diagnosing the IGD. Results showed that the overall prevalence of IGD was 3.50% among the school children and it was high among male students 8.8% and female students 0.8% and it was statistically significant. It was concluded that the prevalence difference between age groups, gender, class of the students and availability of smart phone with internet facility act as an important risk factor for the occurrence of IGD among adolescents [4].

Babita Kayastha, *et al.*, (2018) A descriptive study was conducted at Mangalore on High School students to assess the level of Internet Addiction (IA) among adolescents. A descriptive approach was used to assess the level of IA and its impact among high school students. A conceptual framework was based on Roy's Adaptation model. The study revealed that majority 70.5% of the adolescents were normal users 23% had mild addiction, 6% had moderate addiction and 0.5% had severe addiction. The majority 73% of samples had a mild impact, 16.5% had a moderate impact and 10.5% had no impact. Some of their demographic variables like age, class of study and occupation of fathers have significant associations with both IA and impact of IA [5].

Review of literature related to internet gaming addiction & physical health problems in adolescents:

Israel Oluwasegun Ayenigbara (2018) Conducted a study on gaming disorder and effects of gaming on health. A literature review was performed in web of science, Google and spring link data basis as well as in World Health Organization material on gaming disorder. Results showed that multiple system physical health disorders were found to be associated with long term video gaming activity. The health problems most cited included visual, musculo-skeletal, obesity and epileptic seizures. The study concluded that gaming addiction had characteristics of other addiction including deleterious physical and mental health consequences [6].

Jayalakshmi G and Vijaya Kumar R (2017) A study was conducted on Online Gaming Addiction among adolescents in Pondicherry, India. The study was aimed to determine the effects of online games addiction on physical and mental health of adolescents in and around Pondicherry population. Among the studied 584 adolescents, 172 (29%) adolescents met 8 out of the 14 criteria and considered as addicted to online games. Results showed correlation between online games addiction and less physical activity, sleep disturbance,

nervousness, abnormalities in social functioning and depressed mood were significant. It was concluded that online gaming has caused significant changes in the way adolescents communicate and interact [7].

Statement of the problem:

A Study to Assess the Internet Gaming Addiction and Its Relation with Physical Health Problems Among Early Adolescents at Selected High Schools in Krishna District, Andhra Pradesh.

Objectives of the study

1. To assess the internet gaming addiction among early adolescents.
2. To assess the physical health problems among early adolescents
3. To find out the relationship between the level of internet gaming addiction and physical health problems among early adolescents.
4. To find out the association between the level of internet gaming addiction and physical health problems and selected demographic variables among early adolescents.

Hypothesis

At 0.05 level of significance

H₁: There will be a significant relationship between the level of Internet gaming addiction and physical health problems among early adolescents.

H₂: There will be a significant association between the level of Internet gaming addiction and physical health problems and selected demographic variables.

Assumptions

The study assumes that

1. Early adolescent students use internet excessively for the gaming, social networking and entertainment purpose.
2. Early adolescent students have some physical health problems due to over usage of internet gaming.

Delimitations

1. The study was limited to early adolescents studying at selected High Schools in Krishna District, Andhra Pradesh.

Methodology

Research Approach and Design: The research approach was quantitative approach with descriptive-correlation design.

Variables

Independent Variable: Early Adolescents

Dependent Variable: Internet Gaming Addiction and physical health problems

Extraneous Variable: selected demographic variables

Research Setting: The study was conducted at selected High Schools, Krishna District, Andhra Pradesh.

Population: The population for this study was early adolescents, studying at High Schools, Krishna District, Andhra Pradesh.

Sample: The sample was 500 early adolescents.

Sampling Technique: Systematic Random Sampling Technique was used to select the sample.

Development and Description of the Tool: Tool consisted of three parts,

Part (I): Consisted of self administered structured questionnaire on socio demographic data

Part (II): Consisted of self administered standard tool- Modified Internet Addiction Test (IAT) by Dr. Kimberly Young.

Part (III): Consisted of Self administered standard tool on Pediatric quality of life inventory (Teen Report Ages 13-18).

Scoring key

Scoring key was prepared for part I by coding of the socio demographic variables.

In part II- Internet gaming addiction was assessed by modified Internet Addiction Test. It consists of 20 items that measures mild, moderate, and severe level of internet gaming addiction. This scale has five point Likert scale from (1- rarely, 2- occasionally, 3-frequently, 4-often and 5-always) with a minimum score of 20 to maximum score of 100.

Part-III- It consists of a standard tool- Pediatric quality of life inventory version 4.0 (Teen Report Ages 13-18) developed by Dr. James W Varni. It consists of 23 items with 4 multidimensional scales (physical functioning- 8 items, emotional functioning -5 items, social functioning -5 items and school functioning – 5 items) and 3 summary scores (physical health summary score- 8 items and psychosocial health summary score -15items and total scale score -23 items).

Score Interpretation

To assess the level of internet gaming addiction IAT scale has a minimum score of 20 to maximum score of 100. On the basis of the total score the individual samples are placed into one of the four categories.

Scores: 0-19 - no internet gaming addiction

20-39-mild internet gaming addiction (average online users)
40-69-moderate internet gaming addiction (experiences frequent problems)
70-100-severe internet gaming addiction

(has significant problems)

To assess the physical health problems, Pediatric quality of life inventory has 23 items which are reversely scored and linearly transformed to a 0-100 scale, so that the higher scores indicate better health related quality of life. To reverse score, the 0-4 scale items are scored as follows 0=100, 1=75, 2=50, 3=25 and 4=0. The physical health summary score is the same as physical functioning scale score. The total scale score is computed as the sum of all the items over the number of items answered on all the scales. Thus the higher scores indicate better health – related quality of life.

Score of < 50 – Significant physical health problems (poor quality of life)

51-75 – Frequent physical health problems (moderate quality of life)

>75 – Has occasional or no physical health problems (good quality of life)

The content validity and reliability of the tools was established by experts and test retest method.

Results

The collected data was analyzed by using descriptive and inferential statics and the results were interpreted under the following headings.

Section A: Findings related to analysis of demographic variables of early adolescents.

Section B: Level of internet gaming addiction among early adolescents.

Section C: Distribution of frequency, percentage, mean and standard deviation among early adolescents according to physical Functioning - Quality of life.

Section D: Correlation between internet gaming addiction and physical health problems among early adolescents

Section E: Association of demographic variables of early adolescents and internet gaming addiction.

Section A: Findings related to analysis of demographic variables of early adolescents

Table 1: Frequency and percentage distribution of early adolescents according to demographic variables.

N=500

S. No	Demographic Variables	Frequency (N)	Percentage (%)
1.	Age		
	a.14 Years	214	42.8
	b.15Years	159	31.8
	c.16 Years	127	25.4
2.	Gender		
	a. Male	262	52.4
	b. Female	238	47.6
3.	Class of study		
	a. VIII Std	93	18.6
	b. IX Std	275	55.0
	c. X Std	132	26.4
4.	Type of Family		
	a. Nuclear family	287	57.4
	b. Joint family	175	35.0
	c. Blended family	17	3.4
	d. Single parent Family	21	4.2
5	No. of siblings		
	a. Only child	57	11.4
	b. One sibling	282	56.4
	c. Two siblings	122	24.4
	d. Three or more siblings	39	7.8

6.	Presently residing with		
	a. Family	317	63.4
	b. Far away from family	183	36.6
7.	Area of residence		
	a. Urban	159	31.8
	b. Rural	341	68.2
8.	Family income in rupees per month		
	a. Less than 5000	191	38.2
	b. 5001-10000	159	31.8
	c. 10001-15000	62	12.4
	d. 15001 and above	88	17.6
9.	Mother's Education		
	a. Non Literate	129	25.8
	b. Primary education	137	27.4
	c. Secondary education	140	28.0
	d. Graduate & Above	94	18.8
10.	Mother's Occupation		
	a. House wife	365	73.0
	b. Employed	91	18.2
	c. Unemployed	44	8.8
11.	Father's Education		
	a. Non Literate	118	23.6
	b. Primary education	136	27.2
	c. Secondary education	116	23.2
	d. Graduate & Above	130	26.0
12.	Father's Occupation		
	a. Daily wage worker	120	24.0
	b. Employed	159	31.8
	c. Unemployed	221	44.2
13.	Mode of internet Access		
	a. Mobile/Tablet/i-pad	471	94.2
	b. Personal computer	25	5.0
	c. Cyber net	4	0.8
14.	Do you have any health problems		
	a. Yes	203	40.6
	b. No	297	59.4
15.	Have you attended any health awareness programme		
	a. Yes	101	20.2
	b. No	399	79.8

Section B: Level of internet gaming addiction among early adolescents

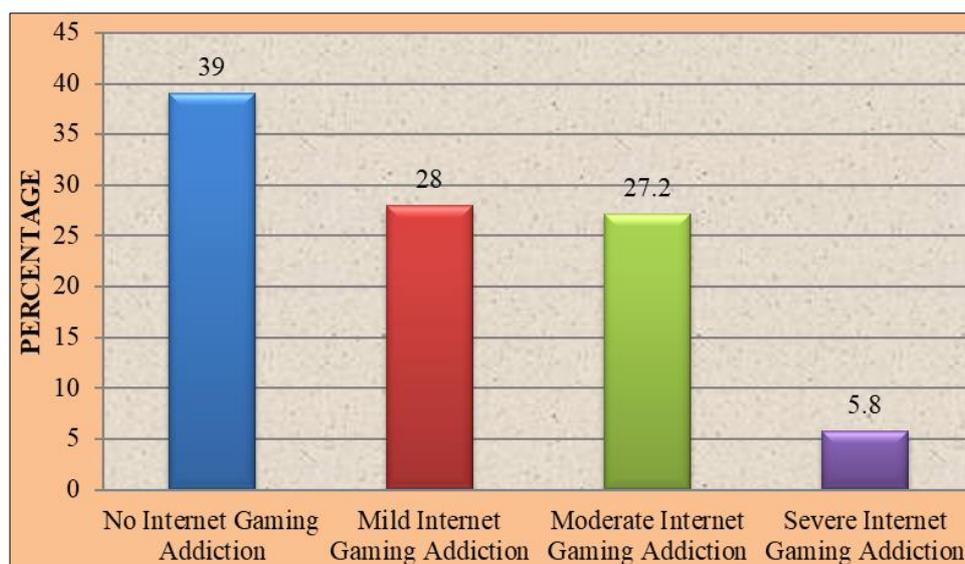


Fig 1: Percentage distribution of early adolescents according to internet gaming addiction

Early adolescents with No internet gaming addiction were 195(39%) with mean value 10.3077 and standard deviation 4.02796. Mild internet gaming addiction were 140(28%) with mean value 27.6521 and 5.78732 standard deviation.

Moderate internet gaming addiction were 136(27.2%) with mean value 49.3456 and 7.67814 standard deviation. Severe internet gaming addiction were 29(5.8%) with mean value 73.3448 and 2.85702 standard deviation.

Section C: Distribution of frequency, percentage, mean and standard deviation among early adolescents according to physical Functioning - Quality of life.

Table 2: Physical Functioning - Quality of Life
N=500

Categories	Frequency (F)	Percentage (%)	Mean	Std. Deviation
Poor quality of life	94	18.8	36.5027	8.61275
Moderate quality of life	243	48.6	63.6317	8.11559
Good quality of life	163	32.6	85.4870	6.45573

The above table 2 represents the physical functioning quality of life among early adolescents. Results showed that early adolescents with poor quality of physical functioning were 94(18.8%) with 36.5027 mean value and 8.61275 standard deviation. Moderate quality of physical functioning were 243(48.6%) with 63.6317 mean value and 8.11559 standard deviation. Good quality of physical functioning 163(32.6%) with 85.4870 mean value and 6.45573 standard deviation.

Section D: Correlation between internet gaming addiction and physical health problems among early adolescents
No internet gaming addiction had no correlation with physical health problems among early adolescents. Mild, moderate and severe internet gaming addiction had significant correlation with physical functioning at 'r' value 0.181, -0.297 and 0.551 at $p < 0.05$ level of significance.

Section E: Association of demographic variables of early adolescents and internet gaming addiction.
There was significant association between internet gaming addiction with selected demographic variables among early adolescents were found with age, gender, class of study, presently with, father's education and have you attended any health awareness program at $p < 0.05$ level.

Conclusion

1. The findings of the study revealed that early adolescents with No internet gaming addiction were 195(39%), Mild internet gaming addiction was seen in 140(28%), Moderate internet gaming addiction was seen in 136(27.2) and severe internet gaming addiction was seen in 29(5.8%) with 73.3448 mean value and 2.85702 standard deviation.
2. No internet gaming addiction had no correlation with physical health problems among early adolescents. Mild, moderate and severe internet gaming addiction had significant correlation with physical functioning at 'r' value 0.181, -0.297 and 0.551 at $p < 0.05$ level of significance.

Recommendations

The following recommendations were made based on the results of the study.

1. A similar study can be conducted in different age groups.
2. A similar study can be conducted in different states.
3. A comparative study can be conducted between male and female adolescents in different settings.

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