

ORIGINAL ARTICLE

Relationship Between Internet Addiction With Risk of Obesity and Quality of Life Among Adolescent in Indonesia

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ABSTRACT

Introduction: Gained weight and quality of life have been related with internet addiction. It happened because the internet addiction were tend to do sedentary behaviors with quite long and had bad relation with social and psychosocial sides. **Methods:** The aims of this research to find relations internet addiction with potential of gained weight and quality of life with cross sectional approached. About 524 students from grade XI and X became respondents in this research. Data analysis was used with chi-square as statistical test. **Results:** The result showed there were a significant relationship internet addiction with potential of gained weight and quality of life p value 0,000 and 0,028 ($p \text{ value} < \alpha = 0,05$), $p \text{ value} = 0,024$ in gender, $p \text{ value} = 0,004$ in fat descendant, and $p \text{ value} = 0,030$ on consuming food while using internet. **Conclusion:** This research can be a literature of internet addiction with potential of gained weight and quality of life. However, the next research can be expected with a long term research due to determine the cause and effect and do the experimental research as a recovery process in internet addiction.

Keywords: Internet addiction, Potential of gained weight, Quality of life

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INTRODUCTION

Internet has become essential to human existence (1). The internet allows people to access information and communicate without regard to geography or time constraints. It is estimated that 39 percent of the global population, or seven million people, use the internet daily, with North America (85 percent) and Asia (32 percent) having the highest penetration rates (1). However, this figure continues to rise; in 2018, the number of active Internet users in the world surpassed 4 million, or 54.4% of the global population (2). The internet has become a part of the lives of people of all ages, especially adolescents and young adults relative to older adults (2,3). 100 percent of 10 to 44-year-olds who use the Internet correspond with other Internet users (3). Internet addiction is not included in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) (1,4) but was added to the International Classification of Diseases,

Eleventh Revision (ICD-11) in 2013 by the World Health Organization. Individuals with internet addiction have a propensity to engage in sedentary behaviors, such as excessive sitting and screen-gazing, that promote excessive weight gain and lead to obesity (1–3.5–7).

Due to excessive internet use, the prevalence of obesity has increased by up to 30 percent in certain regions of China (1). At least one in ten five- to 17-year-old children is obese or overweight due to internet use (5). In 1990, the prevalence of obesity among children ages five to nineteen in Turkey was 0.6%. In 2015, there was a 1100 percent increase reaching 7.3 percent (5). A person with internet addiction who has gained weight to the point of obesity is likely to have major issues with their social relationships, surroundings, physical and mental health, where the four components correspond to quality of life (7). According to empirical data maintained by China, 13 to 15-year-old adolescents have poor to below-average quality of life ratings (8). Sudden death or suicide resulting from internet addiction in which individuals feel their quality of life is inferior to that of their peers (Wo Wang et al., 2019).

Efforts to avoid internet addiction in Indonesia have not yet been successful, and many places have changed their functions, such as rooms that are no longer a place to relax but rather a place where youngsters may communicate, shop online, meet face-to-face with friends, etc. Physically virtual spaces are difficult to detect, let alone intervene in, making it extremely difficult for parents to regulate their children's internet use, especially if they have teenagers (8). Based on the preceding description, the researcher wishes to determine whether internet addiction can result in excessive weight gain, obesity, and a decline in quality of life. Because there are little or no studies on the association between internet addiction and weight increase and quality of life in Indonesia.

MATERIALS AND METHODS

This study employs quantitative research methodologies with a cross-sectional design, which measures and observes data on independent and dependent variables just once which was approved by the affiliated university's Institutional Review Board (SKE/11-055/II/2021). This study's participants were students in classes ten and eleven at SMA Negeri 92 in Jakarta. 524 kids and students are enrolled in class X and class XI together. The criterion for responses consist of SMA Negeri 92 Jakarta students that are addicted to the internet. In this study, researchers employed a non-probability strategy, utilizing purposive sampling as the sample method. A link to a Google Form questionnaire was utilized to gather data, which was then disseminated to students by school counselors and guidance teachers. The Chi-square test was used to evaluate the data.

RESULTS

According to table I, the most gender in women is 328 (62.8 percent), respondents who do not have obese offspring are 334 (63.7 percent), and 313 consume food while using the internet (59.7 percent). Meanwhile, 378 respondents (72.1 percent) accessed the internet for more than 5 hours per day, with the maximum expenditure paid Rp. 70,000-100,000 by 199 respondents (38.0 percent). A total of 444 respondents (84.7 percent) do not need to visit an internet café (warnet) to acquire internet connection, and the function that respondents most frequently use is chatting with 219 respondents (41.8 percent).

According to table II, the analysis of internet addiction with the possibility for weight gain and lower quality of life revealed that 191 respondents (39.2 percent) experienced weight increase and 292 respondents (77.2 percent) had a decline in quality of life. Data analysis test using Chi-Square obtained P Values 0.000 and 0.028 (P Value 0.05), it can be concluded that there is a relationship between internet addiction and

the potential for weight gain and decreased quality of life with OR values of 6.287 and 0.539, which means that someone with internet addiction has the potential for weight gain 6 times and a decrease in quality of life 0.5 times.

According to table III, there are three demographic indicators associated to the potential for weight growth, including gender, obese offspring, and consuming food while using the internet, with a p value of 0.05. A p value of 0.024 with an OR value of 1.556 for gender suggests that a male or female has a 1.566-fold chance of gaining weight, with a confidence level (95 percent CI) of 1.076 - 2.250. A p value of 0.004 with an OR value of 1.718 in the obese offspring variable indicates that a person with obese kids has the potential to gain weight 1.718 times with a confidence level (95 percent CI) of 1.196 - 2.469. A p value of 0.030 with an OR value of 0.664 on the variable consuming food while using the internet suggests that a person consuming food while using the internet has the possibility to gain weight 0.664 times with a confidence level (95 percent CI) of 0.465 - 0.948.

According to table IV, three demographic indicators are connected with a deterioration in quality of life, namely gender, obese offspring, and consuming food while using the internet, with a p value of 0.05. For gender, a p value of 0.000 was found with an OR value of 2.335, indicating that a male or female has a 2.335-fold chance of experiencing a deterioration in quality of life with a confidence level (95 percent CI) of 1.515 - 3.599. A p value of 0.043 with an OR value of 1.663 in the obese offspring variable suggests that a person with obese kids has a 1.663 times greater chance of experiencing a decline in quality of life, with a confidence level (95 percent CI) of 1.039 - 2.662. A p value of 0.009 with an OR value of 1.811 on the variable consuming food while using the internet suggests that a person consuming food while using the internet has the possibility to gain weight 1.811 times with a confidence level (95 percent CI) of 1.179 - 2.783.

DISCUSSION

According to the findings of the study, 378 respondents (72.1 percent) were addicted to the internet. According to previous research, there is an annual increase in internet addiction regardless of age or gender. Additionally, it has an effect on each user (1,2,12–21). 3–7,9–11). According to Cheng and Li, countries with the following characteristics tend to have a higher prevalence of internet addiction in 2014: less life satisfaction, poorer air quality, greater time spent in traffic, and a low per capita income (1). The availability of quota packages for smartphones and the presence of Wi-Fi bolster the existence of the internet, which is becoming increasingly accessible and unrestricted (4). This view is supported by Aghasi et al., 2020,

Table I : Frequency Distribution of Respondents Based on Demographic Characteristics (n=524)

Variable	n= 524	(%)
Gender		
Man	196	37,4%
Woman	328	62,6%
Fat Descendants		
Yes	190	36,3%
Not	334	63,7%
Eating food while using the internet		
Yes	313	59,7%
Not	211	40,3%
Internet usage time		
<5 hours/day	80	15,3%
5 hours/day	66	12,6%
>5 hours/day	378	72,1%
Costs spent in one month		
IDR 10,000 – 30,000	62	11,8%
IDR 40,000 – 60,000	162	30,9%
IDR 70,000 – 100,000	199	38,0%
>Rp 100,000	101	19,3%
Place used (Warnet)		
Yes	80	15,3%
Not	444	84,7%
Features used		
Online game	77	14,7%
Chat	219	41,8%
Shopping	17	3,2%
Entertainment	211	40,3%

Table II : Internet, Weight Loss and Quality of Life (n=524)

Variable	n= 524	(%)
Internet Addiction		
Yes	378	72,1%
Not	146	27,9%
Weight		
Weight Gain	210	40,1%
No Weight Gain	314	59,9%
Quality of Life		
Quality of Life Down	418	79,8%
Quality of Life Doesn't Go Down	106	20,2%

Table III : Relationship of Internet Addiction to Potential Weight Gain and Decreased Quality of Life (n=524)

Internet Addiction	Weight				Total	OR	95% CI	P Value	
	Weight Gain		Weight Not Gain						
	N	%	N	%					
Yes	191	50,5	187	49,5	378	100			
No	19	13,0	127	87,0	146	100	6,827	4,048 – 11,513	0,000
Total	210	40,1	314	59,9	524	100			

	Quality of Life				Total	OR	95% CI	P Value	
	Quality of Life Down		Quality of Life Doesn't Go Down						
	N	%	N	%					
Yes	292	77,2	86	22,8	378	100			
No	126	86,3	20	13,7	146	100	0,539	0,317 – 0,915	0,028
Total	418	79,8	106	20,2	524	100			

Table IV : Relationship between Demographic Characteristics and Decreasing Quality of Life in SMA Negeri 92 Jakarta (n=524)

Variable	Quality of Life				Total	OR	95% CI	P Value	
	Quality of Life Down		Quality of Life Doesn't Drop						
	N	%	N	%	N	%			
Gender									
Woman	279	85,1	49	14,9	328	100	2,335	1,515 – 3,599	0,000
Man	139	70,9	57	29,1	196	100			
Fat Descendants									
Yes	161	84,7	29	15,3	190	100	1,663	1,039 – 2,662	0,043
Not	257	76,9	77	23,1	334	100			
Eating Food While Using the Internet									
Yes	262	83,7	51	16,3	313	100	1,811	1,179 – 2,783	0,009
Not	156	73,9	55	26,1	211	100			

who found that economic status is the most significant factor closely related to internet access and usage (2).

According to the results of the study, 40.1% of the 210 respondents gained weight. This is consistent with previous research indicating that adolescents gain weight by becoming overweight to obese (2,5,6,11–15,22). 66 of 268 respondents were obese, according to research by Bozkurt et al. (2018) titled “Internet use patterns and Internet addiction in children and adolescents with obesity” (6). Previous research conducted in China indicated that residents who moved from rural to urban areas between the ages of seven and twenty-two and were subsequently deemed obese were weighed (15).

According to the findings of the study, 418 respondents (79.8 percent) experienced a decrease in quality of life. This is consistent with the research conducted by (1,3,4,7,9,11,16). Prior research by Alves et al., 2018 titled “Evaluation of Internet Addiction and The Quality of Life of Brazilian Adolescents From Public and Private Schools” revealed that approximately sixty percent of adolescents had never been tardy to school. Delays that occur as a result of respondents’ physical disturbances and excessive internet use, which causes a decline in quality of life (11). Meanwhile, according to a 2018 study titled “Internet Addiction Among Social Networking Sites Users: Emerging Mental Health Concern Among Medical Undergraduates of Karachi” conducted by Ahmer & Tanzil, respondents’ quality of life decreased due to wasting time on unimportant activities (4).

This study revealed that 50.5% of respondents, or 191 individuals, had both internet addiction and weight gain. According to these results, there is a significant correlation between internet addiction and the probability of gaining weight. The majority of internet-addicted respondents gain weight due to their decreased physical activity and propensity to engage in sedentary activities that have the potential to cause obesity and excess weight (11). The results of this study are consistent with those of previous studies conducted in various countries and among adolescents, which indicate that prolonged Internet use is associated with a variety of psychological disorders in children, including eating disorders, lack of physical activity, and sleep disorders (20,21,23,24). Internet usage is associated with unfavorable alterations in the body, such as an imbalance in fat distribution and weight gain (2). A lack of physical activity creates the potential for weight gain in an internet addict who tends to spend too much time in front of the computer, also known as the habit of settling in front of the screen (5,11,15). A person with internet addiction is likely to have an irregular diet consisting of snacking rather than eating main meals and drinking sugary beverages. According to Lv Ruoran et al. (2011), this is the reason why people with internet addiction tend to gain weight

(15). Using the chi-square test, it was determined that 292 respondents (77.2%) had internet addiction and a decline in quality of life, with a P Value of 0.028 (P Value = 0.05). According to Fatehi et al. (2016), the decrease in quality of life is due to a lack of exercise, as evidenced by excessive internet use and prolonged sitting in front of a screen, which causes back pain, neck and shoulder pain, and tired eyes. In addition, it has a negative impact on social interactions, as those who are addicted to the internet tend to lack social relationships with their neighbors and family members. A person with internet addiction is susceptible to psychological issues such as depression, anxiety, social phobia, and, worst of all, suicidal thoughts. This is due to the fact that people with internet addiction tend to have shorter rest hours than the average for their age group (16).

CONCLUSION

There were 524 women and men that participated in this study. 378 participants of both sexes were found to be addicted to the internet, with 191 experiencing weight increase and 292 feeling a decline in quality of life. In the study, a correlation between internet addiction and the risk for weight gain and lower quality of life was discovered. In addition, gender, obesity, and food consumption when using the internet were also connected with the possibility of weight increase and a decline in quality of life.

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