ORIGINAL ARTICLE

Effects of Social Media use on Depression in Adolescents

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ABSTRACT

Background: Depression is a psychological disorder which impairs your mental health in a negative way and in extreme cases it also causes physical symptoms. There are many cases of depression. Overall prevalence of depression is about 50%[1].
Aim: To determine relationship among social media use and depression in adolescents.
Study Design: cross sectional study
Methods: Sample size was calculated with epitool calculator. Sample size will be 323 by using finite population of 1000 with 95% confidence interval and 5% level of significance. All students of a particular semester (convenient sampling) was enrolled for this study. The students were asked to fill questionnaire which contains scale PHQ-9 (Patient health questionnaire-9) a valid scale to measure depression[2,3]. Data was gathered and analyzed by SPSS version 23 for results.
Result: 351 people participated in this survey, mean age was 21.58 SD 2.46, male to female ratio was almost equal. Average timing of social media use was(3h15mins) (SD=1.42), 82 people was suffering from mild depression, 166 with moderate depression, 75 people have moderately severe depression and 8 people was found to have severe depression scoring. Finally, no of hours people using social media was tested against depression in the form of chi-square value which was significant.
Conclusion: It was observed in this study that people using social media are prone to develop depression because they self-compare themselves to other people; however, this relationship was not linear to inference any exact limit of social media use. Depression Could be due to other causes due to physical and mental effects of computers and mobile phone use.
Keywords: Depression, Social media.

INTRODUCTION

Social Media: The online services where people can communicate with each other by different ways like liking, commenting and sharing are collectively known as social media. This includes blogs, networking platforms, virtual worlds. There are various sites like Facebook, Twitter, Instagram YouTube[6]. Social media is becoming an addiction in adults. Facebook is most common among them. With influx of android mobiles and 3g and 4g networking availability across the board there is increase usage of social media in our society.

More than 3 billion individuals use internet and have interaction with social media site and about 37 million social media users in Pakistan. These figures are increasing day by day. Depression is a condition of general emotional dejection, social withdrawal, persistent feeling of sadness and lack of interest or pleasure in previously rewarding or enjoyable activities. It is typically marked by varying degree of despair, loneliness, inactivity, guilt, loss of concentration, sleep disturbances and sometime suicidal tendencies[7]. About 300 million people around the world have depression. It is one of leading mental disorder in world and by 2020 it would be on 2nd rank of global burden of diseases stated by WHO in 2001[8].

Prevalence of depression in Pakistan is about 44% of the entire population. Depression and social media Social media is bringing many problems in our society, depression could be one of problems caused by it. Social media is almost addiction in adults and there are more chances of social media effects on them. Social media was supposed to be a mean to communication but it is misused in society as source of entertainment. People compare each other on social media and because of this comparison they have chance to get depression and other psychiatric and physical effects. However, little evidence in the form of research studies is present in Pakistan population to find relationship between these two factors. At the same time many studies with contraindicating facts are present in literature. So we focused to find relationship between these factors as well as study Pakistani Population. Apart from depression Kanyinga (2018) reported results in sleep duration reduction in students using social media[9]. Additionally, social media usage also effects learning process[10].

METHODOLOGY

Participants: Students of different departments of Punjab Universities as they have less likely chance of depression because of other environmental factors.
Inclusion Criteria: Students of 18-30 age
Exclusion Criteria: Age >30 & age <18 population other than students Measures:

The questionnaire consisted of four separate sections. Demographic information, about life satisfaction, social media usage and depression scale. Demographic measures were age, gender, income and course. Life satisfaction questions consists of six questions with simply yes and no response. Social media usage consists of two open ended questions. First was purpose of social media usage secondly, total duration they use different forms of online sites Last part consist of depression scale consisting of 9 statements regarding their daily life activities interest having maximum of 27 and four responses of each statement "not at all" was graded and "nearly every day" was graded 3. Data Analysis Descriptive analysis were used to check demographic variables using statistical package for social science SPSS 23 version. Result Demographic statistics The average age of students participating in survey is (M= 21.58 S=2.46). Male to female ratio was approximately was same (Female n=179, Male n=173). There were approximately equal amounts of participants in each class between the data sets (Statistics n=40, Botany n=39, Geological Engineering n=31, English n=52, Computer Science n=40, Medical n=33, Pre Medical =35, Physics= 50, Electrical Engineering n=31). The average income of participants is (M =17632.19 SD=13566.779). Questions about life satisfaction could not confer valuable results except question of feeling of sadness as a result of using social media. 217 participants responded "yes" having frequency of 61.8%. Rest of question are unremarkable with approximate equal frequencies. Third section consists of social media usage question. The average time spend by students on social media is 3.25(3h15mins) (SD=1.42) which is greater than average time spend globally. Most of participants spend time from .5 to 2.5 hours 202(57.5%), from 3 to 5 hours participants were 124(35.3%), from 5.5 to 7.5 hours participants were 25(7.1%) Last section is depression scale patient health questionnaire-9. Average score of participants PHQ-9 scale was 11.66. Total score of participants was divided into 5 category according to original grading of depression severity. First is minimal or none (0-4) n=20, people. Second is mild depression (5-9), about 82 people suffered

from it. Third is moderate (10-14) 166 participants fall in this category. Forth one is moderately severe (15-19)75 participants. Last one is severe (20-29), 8 participants suffered from it. Finally association between use of social media sites and depression severity was established. Value of (p<.05) indicates positive relationship.

Table 1: PHQ-9 Severity of depression on y-axis and number of people falling (in form of frequency) on x-axis.

	Frequency	%age	Valid%	Cumulative%
0-4	20	5.7	5.7	5.7
5-9	82	23.4	23.4	29.1
10-14	166	47.3	47.3	76.4
15-19	75	21.4	21.4	97.7
20-27	8	2.3	2.3	100
	351	100.0	100.0	

Table 2: Time(t) duration in hours used by students on y-axis and depression scoring with categories on y-axis.

Time vs depression severity Cross tabulation

Count

		0_4	5_9	10_14	15_19	20_27	Total
t	.5_2.5	14	55	100	29	4	202
	3.0_5	5	23	54	39	3	124
	5.5_7.5	1	4	12	7	1	25
Total		20	82	166	75	8	351

Table 3: Chi-square to test association of no of hours using social media and depression association.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.428ª	8	.037
Likelihood Ratio	16.338	8	.038
Linear-by-Linear Association	10.625	1	.001
N of Valid Cases	351		

a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is .57.

DISCUSSION

Social media usage alone is a poor predicator of depression. We cannot precisely predict users of social media will have depression. However no of hours spent on social and depression were significant (p<.05) as evidenced by another study by Steers in 2014 which states that people have depression after spending quality time on social media because they self-compare with close friends and strangers. Comparison could be major reason for depression. In his second study it was found that Facebook social comparison resulted with depressive symptoms in men only[11].

Facebook usage is major factor of envy and this result in many problems such as negative well-being in adolescents and depression[12].

Tandoc Jr (2015) established with result of study that social media is origin of jealously. They compare their abilities to other on social media site and are more prone to develop depression. Envy is itself a cause of depression. In second part of study it was observed that jealousy, however, when managed social media can reduce depression. So it could be the way we use social media is harmful[13].

Similarly, Primack (2017) revealed that the more social media platforms are used by an individual the more chances of them having depression. A comparison was done between persons using 0-2 social media sites and who use more than 6 sites. Results evidenced that later group had higher symptoms of both depression and anxiety[14]. Above mentioned studies and result of this study proved that more duration and more sites people use

social media make comparison and more prone to develop depression and other physical effect. Adults are advised to use these sites purposefully and for moderate duration.

However, research conducted by jelenchick (2013) using a week-long ESM data to determine effects of social media sites use and depression in adult age. The mean depression score was about only 5 and no association between social media use and any mild or moderate to severe depression[15].

There was no linear relationship between increase in duration using social media and PHQ-9 score so we could inference any information from this data. Social Media timing was measured however no scale of social media was used additionally subtypes of social media usage was not measured. Students of different disciplines were the study population. Moreover, no comparison of social media users and non-users were performed.

In the above, social media usage could lead a person to depressive symptoms and need of more studies to be done to explore exact relationship between these variables.

CONCLUSION

It was observed in this study that people using social media are prone to develop depression because they self-compare themselves to other people; however, this relationship was not linear to inference any exact limit of social media use. Depression Could be due to other causes due to physical and mental effects of computers and mobile phone use. However, the sole social media usage is not the only cause of depression that might be due some other social issues as well.

Conflict of interest: Nil

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