

Relationship between Use of Social Media and Depression among Female Teenagers in Buraidah, AlQassim, Saudi Arabia

Sarah Ali*, Hind Ayed Al Harbi and Syed Raziur Rahman

Qassim University, Medical Laboratories C.A.M.S, Hayal Ofuq Buraidah, Qassim Reigon 52387, Saudi Arabia

*Corresponding author: Sarah Ali, Qassim University, Medical Laboratories C.A.M.S, Hayal Ofuq Buraidah, Qassim Reigon 52387, Saudi Arabia, Tel: 0096650583729738; E-mail: dr_sarahrazi@rocketmail.com

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Abstract

Introduction: While media use is an integral part of the daily life of teenagers, there are a number of risks associated with social media use, specifically, negative effects on mental health. Teenagers, who are regular media users, have lots of friends, get along well with their parents, and are happy at school, but lack of close friends is the strongest predictors of depression and negative self-views. Our study was based on association between social media users and depression in female teenagers in Buraydah city Qassim Reigon, K.S.A.

Methods: It was cross sectional study designed to examine both exposure (social media) and disease outcome (depression) simultaneously for each subject. It was conducted among female teenagers, aged between 13-17 years in Buraydah city, which is located in the central part of Saudi Arabia, during the period of January to July 2014. Study sample; Female teenager (16-19) from high schools in Buraydah. 80 female teenagers were selected randomly. Descriptive statistics; demography, family history, use of social media, and Analytical statistics; Prevalence of depression (outcome); Association between use social media and depression were estimated

Result: The mean age in study group was 16.27 ± 1.46 years. 35% have diagnosis with depression and 48 (60%) addicted users (≥ 5 h/day) of social media, out of which only 20 (41.67%) had depression.

Conclusion: This study showed that people, who spend a lot of time using social media, do not always have depression. Out of 48 participants who used social media more than 5 hours daily it is only 20 (41.67%) who had depression ($p < 0.2915$ not significant).

Keywords: Social media; Depression; Teenagers; Buraidah

Introduction

Social media refers to interaction among people in which they create, share, and/or exchange information and ideas in virtual communities and networks. Andreas Kaplan and Michael Haenlein define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content." Furthermore, social media depend on mobile and web-based technologies to create highly interactive platforms through which individuals and communities share, co-create, discuss, and modify user-generated content. They introduce substantial and pervasive changes to communication between organizations, communities, and individuals.

Social-media technologies take on many different forms including magazines, Internet forums, weblogs, social blogs, microblogging, wikis, social networks, podcasts, photographs or pictures, video, rating and social bookmarking.

By applying a set of theories in the field of media research (social presence, media richness) and social processes (self-presentation, self-disclosure), Kaplan and Haenlein created a classification scheme in their Business Horizons (2010) article, with seven different types of social media[1,2]:

- Collaborative projects (for example, Wikipedia)
- Blogs and microblogs (for example, Twitter)
- Social news networking sites (for example, Digg and Leakernet)
- Content communities (for example, YouTube and DailyMotion)
- Social networking sites (for example, Facebook)
- Virtual game-worlds (e.g., World of Warcraft)
- Virtual social worlds (e.g. Second Life).

Social media are dynamic and interactive computer-mediated communication tools that have high penetration rates in the general population in high-income and middle-income countries. However, in medicine and health care, a large number of stakeholders (eg, clinicians, administrators, professional colleges, academic institutions, ministries of health, among others) are unaware of social media's relevance, potential applications in their day-to-day activities, as well as the inherent risks and how these may be attenuated and mitigated.

Depression is defined as a cluster of specific symptoms with associated impairment. The clinical and diagnostic features of the disorder are broadly similar in adolescents and adults (panel) [3-5]. The two main classification systems (international classification of diseases-10 [ICD-10] and the American diagnostic and statistical manual of mental disorders-IV [DSM-IV]) define depression similarly, although DSM-IV makes one exception for children and adolescents, whereby irritable rather than depressed mood is allowed as a core diagnostic symptom. Nevertheless, depression in adolescents is more

often missed than it is in adults, possibly because of the prominence of irritability, mood reactivity, and fluctuating symptoms in adolescents. Depression can also be missed if the primary presenting problems are unexplained physical symptoms, eating disorders, anxiety, and refusal to attend school, decline in academic performance, substance misuse, or behavioral problems. Most teenagers surveyed who are regular media users have lots of friends, get along well with their parents, and are happy at school. However, lacks of close friends are the strongest predictors of depression and negative self-views amongst teenagers who are the heaviest media users. So we studied association between social media users and depression in female teenagers in Buraydah city.

Methodology

Overview of the study design

Cross sectional study, was designed to examine both exposure (social media) and disease outcome (depression) simultaneously for each subject.

This study was conducted in the central part of Saudi Arabia, in teenager 15-19 years in Buraydah city, during the period of June to July 2014.

80 female teenagers, who used different types of social media daily, participated in the study, and effect of these social media on mental health (depression), and social activities was analysed.

The level of depression, was measured according to the scores obtained by depression scale, using the MOH approved form to find scale of depression. The association between using social media, parent's education, family income, knowledge and depression, was investigated.

Study samples

80 Female teenagers, (15-19 years old) from high school, who used social media daily, were randomly selected in this study.

Inclusion Criteria: All female teenagers from 15-19 years in Buraydah city

Exclusion Criteria: All female, except female teenager from 15-19 years, and male from all ages.

Data collection

Data was collected using well-structured questionnaire, with Close-ended and some open question based on Type of Social media used, Time spent per day and Behavioral pattern and Depression Scale Indicators. Permission was obtained from Schools and Informed consent was taken from, parents of female teenagers who agreed to participate in this study. Approval from departmental review committee was also obtained.

Statistical analysis

The data was entered in EXCEL version 2007 statistical software and analyzed in epi info version 7. Assessment of qualitative variables was done with descriptive statistics using mean and standard deviations for continuous variables.

Descriptive statistical: (demography, family history, use social media and knowledge).

Analytic statistical: Prevalence of Exposure; family history, knowledge, uses social media and demography; Prevalence of depression (outcome).

Results

Table 1 shows the demographic characteristic of sample, the mean age of sample 16.27 ± 1.45 . Parent's education, bachelor 58.75% of samples. 43.75% have monthly household income $\geq 20,000$ SR. 60% of participants spend more than five hours online daily.

Demographic characteristics	
Age in years (mean \pm STD)	16.27 \pm 1.4581
Parents education	
Primary	1 (1.25%)
Intermediate	7 (8.75%)
High	13 (16.25%)
Bachelor	47 (58.75%)
Masters	6 (7.50%)
phD	5 (6.25)
Monthly household Income: (SR)	
$\leq 5,000$	7 (8.75)
$\leq 10,000$	16 (20%)
$\leq 15,000$	20 (25%)
$\geq 20,000$	35 (43.75%)
No. of hours online: (h)	
<3 h	5 (6.25%)
3 h	14 (17.50%)
5 h	13 (16.25%)
>5 h	48 (60%)

Table 1: Demographic characteristics of study sample.

Types of social media use	Frequency (%)
Twitter	40 (50%)
Face book	7 (8.75%)
Instgram	44 (55%)
What's app	52 (65%)
Youtube	24 (30%)

Table 2: Distribution of social media used.

Table 2 shows distribution of types of social media used by participants, 65% used What's app, followed by Instgram (55%). Least used was Facebook (8.75%).

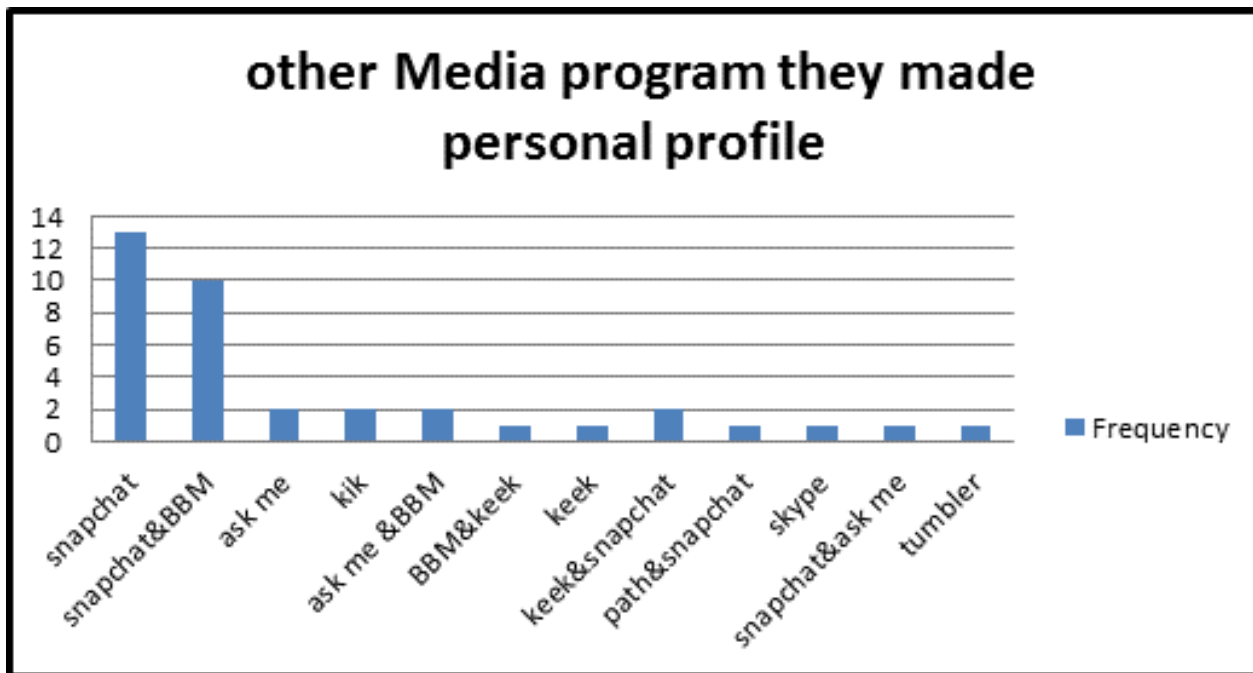


Figure 1: Other media programs used by participants.

Figure 1 shows, that most of the Participants used more than one type of Social Media network for communication.

Mean Scores of Depression	Frequency (%)
0-14: no depression	52 (65%)
15-25: depression	28 (35%)

Table 3: Distribution of Self-Reported Symptoms of Depression; Scores.

Table 3 shows distribution of self-reported symptoms of depression and their scores, 35% of teenagers had symptoms of depression based on according to their answers, according to Standard Depression Scale.

Online daily	Depression	No depression	Total
<3 hours	2	3	5
3 hours	2	12	14
5 hours	4	9	13
>5 hours	20	28	48
Probability less than 0.2915 not significant			

Table 4: Association between keeping online daily and depression scores.

Table 4 shows association between hours of keeping online daily and depression. 60% of teenagers, keeping online for 5 hours & more than 5 h daily, were not having depression, while 39% of them was had depression.

Association between use of Different types of Social Media and Depression Scores

Use What's app	Diagnosis		Total	Odd of Depression	Probability of association with Depression
	Depression	No depression			
Use	19	33	52	Odd ratio =1.21	P=0.69 Not significant
Don't use	9	19	28		P=0.69 Not significant
Total	28	52	80		

Table 5.1: Association between use of what's app and depression scores.

Use Twitter	Diagnosis		Total	Odd of Depression	Probability of association with Depression
	Depression	No depression			
Use	15	25	40	Odd ratio =1.24	P=0.63 Not significant
Don't use	13	27	40		
Total	28	52	80		

Table 5.2: Association between use of Twitter and depression scores.

Use Instagram	Diagnosis		Total	Odd of Depression	Probability of association with Depression
	Depression	No depression			
Use	19	25	44	Odd ratio =2.28	P= 0.08 Not significant
Don't use	9	27	36		
Total	28	52	80		

Table 5.3: Association between use instagram and depression scores.

Use face book	Diagnosis		Total	Odd of Depression	Probability of association with Depression
	Depression	No depression			
Use	2	5	7	Odd ratio =0.7	P= 0.7 Not significant
Don't use	26	47	73		
TOTAL	28	52	80		

Table 5.4: Association between use of Face book and depression scores.

Use youtube	Diagnosis		Total	Odd of Depression	Probability of association with Depression
	Depression	No depression			
Use	2	5	7	Odd ratio =0.5	P=0.2 Not significant
Don't use	26	47	73		
Total	28	52	80		

Table 5.5: Association between use of Youtube and depression scores.

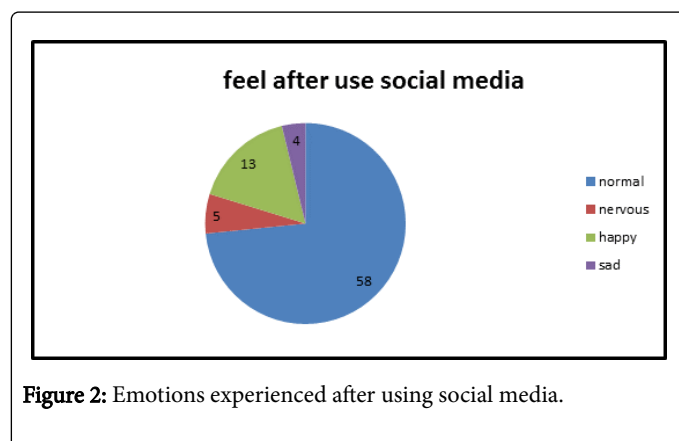


Figure 2: Emotions experienced after using social media.

Table 5 illustrates that there was no significant association between Using Different types of Social Media and Depression. As shown by the

Odds of Depression ratio, among users and Non-Users, with the Probability of association P value. If $P < 0.05$, this was considered as significant (Figure 2).

Discussion

65% of female teenagers have used what's app, 50% used twitter, 55% used instagram and 8.75% used facebook, compared to a study done among American teenagers, 71% of them used facebook, 52% used instagram, 41% Twitter [6].

There is no significant association between excessive use social network and depression, with 52 (65%) of participants having no depression and only 28 (35%) reported depression, $p=0.69$, in this study, in contrast to a study done in - The Relationship between Excessive Internet Use and Depression: A Questionnaire-Based Study of 1,319 Young People and Adults. Across the whole data sample, there was a close relationship between internet addiction tendencies and depression, such that internet addiction respondents were more depressed. There was a significant difference between the internet addiction and the non-internet addiction group in their levels of depressive symptoms, with the non-internet addiction group firmly in the non-depressed range, and the internet addiction group in the moderately-to-severely depressed range ($F(1, 34)=22.35; p<0.001$) [7].

In this study, 5 (6.25%) of teenagers used Social media for less than 3 hours, 14 (17.5%) spent 3 hours on social media, 13 (16.25%) spent 5 hours on social media, while 48 (60%), used social media more than 5 hours. Out of these 48 (60%) only 20 (41.67%) have reported having depression. In this study, overuse (3 hour and more) of Social media has been observed in 75 (93.8%) teenagers, which is higher than reported by other studies, while addiction (more than 5 hours) was observed in 48 (60%) of teenagers. A cross-sectional study design was employed to survey students at three Irish secondary schools, with a sample of 474 completing a questionnaire. 202 (44%) ($n=460$) accessed the Internet using a shared home computer. Two hours or less were spent online daily by 285 (62%), of whom 450 (98%) were unsupervised. 306 (72%) ($n=425$) reported frequent usage of SNSs, 403 (95%) of whom were Facebook users. 42 (10%) males and 51 (12%) females experienced bullying online, while 114 (27%) reported inappropriate contact from others. Concerning overuse and the risk of addiction, 140 (33%) felt they accessed SNSs too often. This study showed that overuse of social media has been a source of bullying, and depression among teenagers. It also showed that teenagers are addicted to overuse of social media for more than 3 hours per day (60%) and also unsupervised. It also depicts use of multiple forms of social media, which is similar to this study [8].

In this study, no significant association was found between using Social media and depression, but it was observed that a higher number of self-reported depression (based on the depression scores) teenagers were associated with use of WhatsApp, Instagram and twitter. 28 (35%) participants had depression, though not significant but show that Social media can be related to depression as depicted by two other studies examined associations between social networking and depressive symptoms among youth. In Study 1, 384 participants (68% female; mean age=20.22 years, $SD=2.90$) were surveyed. In Study 2, 334 participants (62% female; M age=19.44 years, $SD=2.05$) were surveyed initially and 3 weeks later. Results indicated that depressive symptoms were associated with quality of social networking interactions, not quantity. There was some evidence that depressive rumination moderated associations, and both depressive rumination

and corumination were associated with aspects of social networking usage and quality. Implications for understanding circumstances that increase social networking, as well as resulting negative interactions and negative affect are discussed [9].

Note. Study 1 correlations are shown below the diagonal and Study 2 correlations are shown above the diagonal * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$ (two-tailed).

In our study we found a mixed pattern, 72.5% of participants felt normal after using social media, 16.25% felt happy, 6.25% felt nervous, and 5% felt sad. Most of the participants were not having depression, while 35% of them had depression. This is in contrast to most studies which showed a strong association between social media overuse and depression. This could be explained by Inborn differences in race, geographical distribution, religious practices and beliefs, and small sample size [10,11].

Conclusion

- There is no significant association between excessive use social network and depression, with 52 (65%) of participants having no depression and only 28 (35%) reported depression, $p=0.69$, in this study.
- In this study, overuse (3 hour and more) of Social media has been observed in 75 (93.8%) teenagers, which is higher than reported by other studies, while addiction (more than 5 hours) was observed in 48 (60%) of teenagers.
- In our study we found a mixed pattern, 72.5% of participants felt normal after using social media, 16.25% felt happy, 6.25% felt nervous, and 5% felt sad. Most of the participants were not having depression, while 35% of them had depression.
- According to result participants who use social media more than 5 hours daily only 20 out of 48 had depression ($p<0.2915$ not significant).

Despite limitation of this study, the result of this study contributes to understand circumstances that can make social networking more

useful and to eliminate the negative interactions and negative effect. For further studies, are needed in this study population to understand better the positive and negative influences of social networking on health.

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