

Impact of Using Social Media on Mental Health among University Medical Students in Abha City, Southern Saudi Arabia

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Abstract

Background: During the past 10 years, the rapid development of social networking sites (SNSs) such as Facebook, Twitter, Snap chat, games and so on has caused several profound changes in the way people communicate and interact. SNSs are often defined as Web-based platforms that allow individuals to create their own personal profile and build a network of connections with other users. Today they have more than one billion active users, and, it is clear that during the past 10 years, online social networking has caused significant changes in the way people communicate and interact, affecting their mental and psychological health

Aim: to assess social media utilization and its impact on mental health among medical college students in Abha city.

Methodology: A cross sectional approach was used targeting college of medicine students in Abha city. Data were collected using structured questionnaire which was developed by the researchers after intensive literature review and expert consultation. The questionnaire was uploaded online using social media platforms by the researchers and their

relatives and friends to be filled out by the medical student population in Abha city.

Results: The study included 311 students whose ages ranged from 17 to 29 years old with mean age of 22.8 ± 2.1 years. Females were 64.6% of the participants and 90.7% of the students were not married. About 28.6% of the students were in the pre-clinical grades and 14.5% were interns. Those who use social media platforms for less than one hour daily were 2.6% of the students while 50.5% use it for 6 hours daily. As for used social media platforms, Snap chat and Twitter were the most used. Poor mental health was detected among nearly half of the students.

Conclusions & recommendations: In conclusion, the study revealed that medical college students used social media platform intensively with reported high insomnia rate and poor mental health for half of them.

Key words: Social media, utilization, students, mental health, adults, addiction

Background

Social media has been defined as internet-based and networked communication platforms that allow both personal and public communication (1). This definition includes social media platforms such as Facebook, Twitter and Instagram. These platforms have become mainstays of popular culture (2). Based on the upward trend in social media utilization rates, it is estimated that by 2021, over 3 billion people will be using it (3).

Social media use in education implies using online social media platforms in academic settings. This ranges from elementary and secondary school to post-secondary education (4-6). Social media is becoming more accessible and easier to use, meaning that the age of students who are able to understand and use social media is getting younger and younger (7). Unfortunately, students mostly use social media for purposes other than learning and spend a very long time using the social media platforms daily (8). It was noticed that 94% of adults worldwide create a social account and used it at least once (9). Nearly 73% of adults use social media (10).

Mental health is defined as a state of well-being in which every individual realizes his or her own potential, ability to cope with the daily stresses of life, and productivity (11). "Facebook depression" is a term resulting from children's use of social media. A report by the American Academy of Paediatrics defines Facebook depression as "depression that develops when teens and preteens spend time on social media sites and then begin to exhibit classic symptoms of depression due to the intensity of the online world" (12). The pattern of social media platforms use is related to youth mental health. The current study was conducted to assess social media utilization in all forms and its impact on mental health among medical college students in Abha city.

Methodology

A cross sectional approach was used targeting college of medicine students in Abha city during the academic year 1441-1442 (1128 male students and 504 female students). Data were collected using structured questionnaire which was developed by the researchers after intensive literature review and expert consultation. The questionnaire data included student's personal data such as age, gender, and academic level. Students' social media utilization was assessed in the second section of the questionnaire including duration of use per day, availability and monthly cost of internet, and the most used social media platforms. Students' mental health was assessed using a developed tool consisting of 10 items covering students' concentration ability, self-confidence, ability to make decisions and useful actions besides enjoying doing missions (4 items). The other 6 items covered negative statements including being under pressure, anxious, unhappy, and feeling worthless. Students' attitude was measured using 10 questions with multiple answers format. All items were answered using 5 a point Likert scale ranging from strongly disagree (1 point) to strongly agree (5 points). The questionnaire

was uploaded online using social media platforms by the researchers and their relatives and friends to be filled in by the medical student population in Abha city. A pilot study was conducted to assess tool applicability and reliability. The tool reliability coefficient (Alpha Cronbach's) was assessed and equalled 0.86.

Data analysis

After data were extracted, it was revised, coded and fed into statistical software IBM SPSS version 22 (SPSS, Inc. Chicago, IL). All statistical analysis was done using two tailed test. P value less than 0.05 was considered to be statistically significant. For mental health items, the total summation of the discrete scores of the different items was calculated after reversing the scores of the negative statements. A student with a score less than 60% (30 points) of the maximum score (50 points) was considered to have poor mental health while good mental was considered if they had a score of 60% of the maximum or more. Descriptive analysis based on frequency and percent-distribution was done for all variables including demographic data, Social media utilization data, and mental health assessment items. Crosstabulation was used to assess distribution of students' social media utilization by their personal data and to assess mental health according to social media utilization. Relations were tested using Pearson chi-square test.

Results

The study included 311 students whose ages ranged from 17 to 29 years old with mean age of 22.8 ± 2.1 years. Females were 64.6% of the participants and 90.7% of the students were not married. About 28.6% of the students were in the pre-clinical grades (1-6) and 14.5% were interns. GPA was 3.5-4.5 for 47.6% of the students.

Table 1 illustrates Social media use among University students in Abha city. Those who use social media platforms for less than one hour daily were 2.6% of the students, 13.5% use it for 2-3 hours while 33.4% use the platforms for 4-5 hours and 50.5% use it for 6 hours daily or more. Network was available all during the day among 86.5% of the students. About 49% of the students pay about 100-300 SR as internet cost monthly. As for used social media platforms, Snap chat and Twitter were the most used (64.3% for each) followed by WhatsApp (58.5%), and Instagram (47.3%).

On relating social media use with students personal data (Table 2), 49.5% of students aged less than 25 years used it for more than 6 hours daily compared to 52% of those aged above 25 years ($P=0.663$). About 50% of both male and female students used social media for 6 hours or more daily. As for academic level, 53.3% of interns used the platforms for more than 6 hours daily while 42.7% of the students in the pre-clinical grades used it for the same duration. Exactly 60% of the students whose GPA was less than 2.5 spent more than 6 hours on social media compared to 41.3% of those whose GPA was 4.5-5 with recorded statistical significance ($P=0.049$).

Regarding students attitude, Table 3 illustrates that 87.8% of the students agreed that social media is a useful medium for them and 74% of them agreed that social media provides space for games while 70.4% reported that information from social media promotes self-awareness. Only 30.9% of the students documented no improvement in social life since they started using social media.

Mental health, depression is illustrated in Table 4 which indicates that 78.5% of the students reported that they feel able to make decisions, 75.6% said they can concentrate on what they do and 65.9% reported that they enjoy their daily activities. On the other hand, 51.1% of the students usually feel that they are under pressure and 28.6% reported that they feel unhappy or depressed. Exactly 25.7% of the students agreed that they feel that they cannot overcome their difficulties. In total, good mental health was detected among 168 (54%) of the students (Figure 1).

Table 5 demonstrates Distribution of students' mental health according to social media utilization. Exactly 58.4% of the students who use social media for less than 6 hours daily had good mental health compared to 49.7% of those who used it for more than 6 hours daily, with recorded statistical significance ($P=0.049$). Good mental health was also insignificantly higher among those who use the internet for free than others who pay more than 500 SR monthly (52.3% vs. 37.5%, respectively; $P=0.750$). Good mental health was recorded among 54% of Snap Chat users compared to 44.4% of those who use YouTube ($P=0.643$).

Table 1. Social media use among University students in Abha city

| Social media use | No | % | |
|-----------------------------------|------------------|-----|-------|
| Daily use of social media | <1 hour | 8 | 2.6% |
| | 2-3 hours | 42 | 13.5% |
| | 4-5 hours | 104 | 33.4% |
| | 6 hours/ more | 157 | 50.5% |
| Network availability over the day | Rare | 8 | 2.6% |
| | Most of the day | 34 | 10.9% |
| | All over the day | 269 | 86.5% |
| Net cost per month | Free | 44 | 14.1% |
| | <100 SR | 59 | 19.0% |
| | 100-300 SR | 153 | 49.2% |
| | 300-500 SR | 47 | 15.1% |
| | >500 SR | 8 | 2.6% |
| Used social media platform | Snap chat | 200 | 64.3% |
| | Twitter | 200 | 64.3% |
| | WhatsApp | 182 | 58.5% |
| | Instagram | 147 | 47.3% |
| | YouTube | 9 | 2.9% |

Table 2. Distribution of students social media use by their personal data

| Personal data | Total (%) | Daily use of social media | | | | P-value |
|-----------------------|-------------|---------------------------|--------|-----------|-------|---------|
| | | < 6 hours | | > 6 hours | | |
| | | No | % | No | % | |
| Age in years | | | | | | |
| < 25 years | 184 (59.2%) | 93 | 50.5% | 91 | 49.5% | .663 |
| > 25 years | 127 (40.8%) | 61 | 48.00% | 66 | 52.0% | |
| Gender | | | | | | |
| Male | 110 (35.4%) | 54 | 49.1% | 56 | 50.9% | .911 |
| Female | 201 (64.6%) | 100 | 49.8% | 101 | 50.2% | |
| Marital status | | | | | | |
| Non married | 282 (90.7%) | 142 | 50.4% | 140 | 49.6% | .357 |
| Married | 29 (9.3%) | 12 | 41.4% | 17 | 58.6% | |
| Academic level | | | | | | |
| Pre-clinical | 89 (28.6%) | 51 | 57.3% | 38 | 42.7% | .220 |
| Clinical | 177 (56.9%) | 82 | 46.3% | 95 | 53.7% | |
| Intern | 45 (14.5%) | 21 | 46.7% | 24 | 53.3% | |
| GPA | | | | | | |
| <2.49 | 10 (3.2%) | 4 | 40.0% | 6 | 60.0% | .049* |
| 2.5-3.49 | 49 (15.8%) | 26 | 53.1% | 23 | 46.9% | |
| 3.5-4.49 | 148 (47.6%) | 63 | 42.6% | 85 | 57.4% | |
| 4.5-5 | 104 (33.4%) | 61 | 58.7% | 43 | 41.3% | |

P: Pearson X2 test

* P < 0.05 (significant)

Table 3. Distribution of students' attitude regarding social media platforms use in Abha city

| Students attitude data | Agreement rate | |
|--|----------------|-------|
| | No | % |
| Social media is a useful medium for university students | 273 | 87.8% |
| I prefer spending more time on social media | 161 | 51.8% |
| I prefer making friends on social media | 111 | 35.7% |
| Information from social media promotes user self-awareness | 219 | 70.4% |
| Information from social media enhances communication skills | 191 | 61.4% |
| Social media provides space for games | 230 | 74.0% |
| Social media affects my health (physical & psychological) | 202 | 65.0% |
| Online social networks distract me from my real life | 184 | 59.2% |
| I spend more time on social media than on real social relationships | 184 | 59.2% |
| There has been no improvement in social life since I entered on social media | 96 | 30.9% |

Table 4. Description of mental health of university students in Abha city

| Mental health items | <i>Disagree</i> | | <i>Neutral</i> | | <i>Agree</i> | |
|---|-----------------|----------|----------------|----------|--------------|----------|
| | <i>No</i> | <i>%</i> | <i>No</i> | <i>%</i> | <i>No</i> | <i>%</i> |
| I can concentrate on what I do | 26 | 8.4% | 50 | 16.1% | 235 | 75.6% |
| I feel I am doing a useful job | 49 | 15.8% | 63 | 20.3% | 199 | 64.0% |
| I feel able to make decisions | 33 | 10.6% | 34 | 10.9% | 244 | 78.5% |
| Enjoy my daily activities | 44 | 14.1% | 62 | 19.9% | 205 | 65.9% |
| I suffer from insomnia as a result of anxiety | 132 | 42.4% | 60 | 19.3% | 119 | 38.3% |
| I always feel being under pressure | 87 | 28.0% | 65 | 20.9% | 159 | 51.1% |
| I feel that I cannot overcome my difficulties | 145 | 46.6% | 86 | 27.7% | 80 | 25.7% |
| I feel unhappy or depressed | 148 | 47.6% | 74 | 23.8% | 89 | 28.6% |
| I lost self confidence | 177 | 56.9% | 65 | 20.9% | 69 | 22.2% |
| I feel like a worthless person | 222 | 71.4% | 52 | 16.7% | 37 | 11.9% |

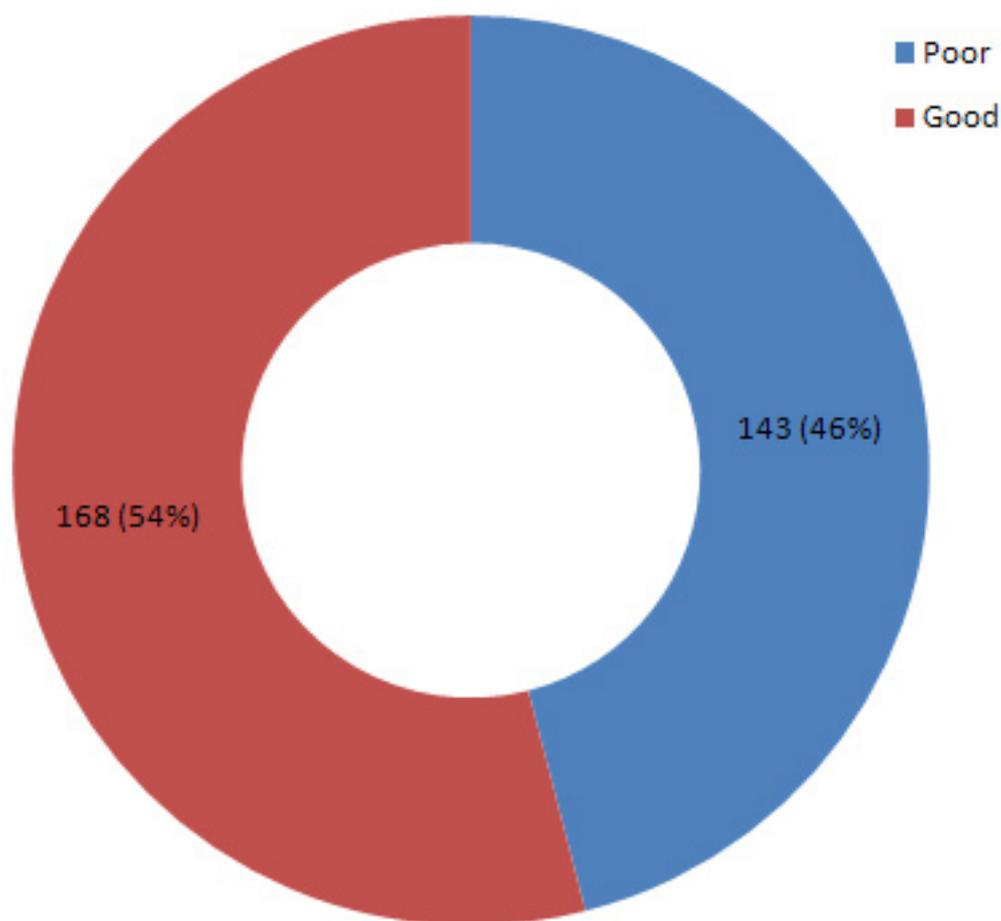
Figure 1. Overall mental health among university students in Abha city

Table 5. Distribution of students' mental health according to social media utilization rate

| Personal data | | Mental health | | | | P-value |
|-----------------------------------|------------------|---------------|-------|------|-------|---------|
| | | Poor | | Good | | |
| | | No | % | No | % | |
| Daily use of social media | < 6 hours | 64 | 41.6% | 90 | 58.4% | .049* |
| | > 6 hours | 79 | 50.3% | 78 | 49.7% | |
| Net cost per month | Free | 21 | 47.7% | 23 | 52.3% | .750 |
| | < 100 SR | 27 | 45.8% | 32 | 54.2% | |
| | 100-300 SR | 66 | 43.1% | 87 | 56.9% | |
| | 300-500 SR | 24 | 51.1% | 23 | 48.9% | |
| | > 500 SR | 5 | 62.5% | 3 | 37.5% | |
| Network availability over the day | Rare | 4 | 50.0% | 4 | 50.0% | .450 |
| | Most of the day | 19 | 55.9% | 15 | 44.1% | |
| | All over the day | 120 | 44.6% | 149 | 55.4% | |
| Used social media platform | WhatsApp | 87 | 47.8% | 95 | 52.2% | .643 |
| | Twitter | 97 | 48.5% | 103 | 51.5% | |
| | Instagram | 72 | 49.0% | 75 | 51.0% | |
| | Snap chat | 92 | 46.0% | 108 | 54.0% | |
| | YouTube | 5 | 55.6% | 4 | 44.4% | |

Discussion

Regardless of the benefits of social media, it's important to know that social media can never be an alternative for real-world human relations. It requires in-person contact with others to set off the hormones that alleviate stress and make you feel happier, healthier, and more positive. Incongruously for a technology that's designed to bring people closer together, spending too much time using social media can actually make you feel more lonely and isolated and exacerbate mental health problems such as anxiety and depression (13, 14).

The current study aimed to assess the pattern of using social media among medical college students in Abha city, also, to assess the effect of social media utilization on the students' mental health. The study revealed that all included students use social media platforms in different intensity. More than half of the sample spent 6 hours or more daily using social media which is too big a time period irrespective of high monthly cost of the internet (more than 500 SR). The most commonly used sites were Snap Chat, WhatsApp, and Twitter. Social media use was nearly equal among male and female students, among different ages, and among all students regardless of their academic level. One of the most important findings was that GPA was significantly affected by the duration of using social media. It was significantly lower among those who used the platforms for more than 6 hours daily. Many researchers have studied the pattern of using social media platform among adults including students. A study was

conducted to assess social media use among older adults by Bell C et al, 2013.(15). The study revealed that fifty-nine participants (42%) identified themselves as current Facebook users. Against what was expected, there was not a significant difference in loneliness between Facebook users and non-users for this sample. A second study was conducted in USA, 2016 to assess Social Media Use and Access to Digital Technology in US Young Adults (16). The researchers reported that in 2014, 89.42 of young adults regularly used at least one social media site. In 2016, this increased to 97.5%. Among regular users of social media sites in 2016, the top five sites were Tumblr (85.5%), Vine (84.7%), Snapchat (81.7%), Instagram (80.7%), and Linked In (78.9%).

Social media use may affect users' life style including sleep hygiene, loneliness feeling, social relations and their mental and social health. The current study revealed that 46% of the students had poor mental health which means nearly 1 out of each 2 students. About half of the students (42%) reported that they suffer from insomnia. More than half of the students feel loss of self confidence and nearly three quarters of them feel that they feel like a worthless person. Good mental health was significantly higher among those who used social media for a lesser time period (less than 6 hours daily) which means the more use of social media for a long time can affect users' mood and feelings. Also it may cause the user to objectify his/her real life situation due to the ideal world he engages in with social media which in turn affects mental health.

The Royal Society for Public Health (RSPH) conducted research and published a report looking at all aspects of social media and young people's mental health and wellbeing – both the positive and negative aspects (17). There was no doubt social media is playing a significant role in the rise of poor mental health that we are seeing in young people. The young people they surveyed in their research reported that four out of the five most popular social media platforms (Instagram, Snap chat, Facebook, Twitter) made their feelings of anxiety and depression worse. Users who reported spending more than two hours per day on platforms such as Facebook, Twitter and Instagram are more likely to report poor mental health, including psychological distress. In China, Brain imaging (MRI) studies, report that there are significant changes in the areas of the brain that regulate impulse control and decision making among individuals with an Internet gaming disorder. (18) In 2014, researchers in Austria found that participants in one of their studies reported a mood decline after using Facebook for 20 minutes, compared to people who only visited some websites in the same period of time. The study said people felt this low mood because they thought they had wasted their time using Facebook.(19). Locally, the majority of the Saudi population is under 30 years which makes them the biggest group using social media and games. Last year's social media statistics reveals that the number of internet users in Saudi Arabia rose swiftly to reach 30 million people by the beginning of 2018. The internet penetration in the country has now reached 91% (20). In 2016, a study was done in Al-Qassim region of Saudi Arabia aimed to assess the prevalence of addiction to video games and its correlation with mental health, among 276 high school students. They found addiction to video games was strongly associated with psychological distress (OR = 4.1, 95% CI = 1.80, 9.47) (21). Another study was conducted in Buraydah, Al Qassim city, Saudi Arabia to examine the relationship between use of social media and depression among 80 female teenagers who were selected randomly. About one third of the students have a diagnosis of depression and out of 48 participants who used social media more than 5 hours daily it was 20 (41.67%) who had depression. (21)

Conclusions and Recommendations

In conclusion, the study revealed that medical college students used social media platform intensively (more than 6 hours daily) with reported high insomnia rate and poor mental health for half of them. This in turn affected their education achievement due to loss of concentration during the daytime. More effort should be paid to improve the students' awareness regarding how to use social media and how to avoid being social media addicts. This can be achieved through periodic health education sessions, being included in their study courses and through national policy using all available media.

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