Social Network Addiction (SNA) Related Depression among Students at Kyaukse University, Mandalay Region, Myanmar

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This is a cross-sectional study conducted to the university students at Kyaukse University from June to November, 2015. In total, 400 students who were aged between 16-23 years were randomly selected and interviewed with pretested structured questionnaires. The aim of this study was to determine the prevalence of social network addiction and the prevalence of depression. Furthermore, this study also found out social network addiction related to depression among students. Among the students, 110 students (27.5%) addicted to social network and 70 students (17.5%) suffered from depression. According to this study, there was a significant association between social network addiction and depression. Among the students, moreover, 42.7% of social network addicted users suffered from depression (χ^2=66.881, p<0.001). The students addicted to SN, SN using hours more than 4 hours per day, using Facebook and who had the history of smoking suffer from depression.

Key words: Social network, Addiction, Depression, University students, Myanmar

INTRODUCTION

The excessive use of new technologies especially online social networking (SN) may be particularly problematic to young people.[1] SNSs are virtual communities where users can create individual public profiles, interact with real-life friends, and meet other people based on shared interests. SNS usage patterns from both consumer research and empirical research indicate that overall, regular SNS use has increased substantially over the last few years. SNSs are pre-dominantly used for social purposes, mostly related to the maintenance of established offline networks, relative to individual ones. However, recent evidence suggests that individual may feel compelled to maintain their online social networks in a way that may, in some circumstances, lead to using SNSs excessively.[1] For this study, Social Network Addiction (SNA) refers to someone spending too much time using Facebook, Twitter and other forms of social media- so much so that it interferes in other aspects of daily life.[2]

Globally, the total population is 7.219 billion and active internet users are 3.038 billion. Moreover, active social media users are 2.126 billion and this is the 29% of the world's population.[3] According to regions, about 45.6% of the world internet users are from Asia and 54.4% are from other regions of the world.[4] In Asia, the country which has the most internet users is China and the second is India.[3] In Myanmar, the total population is 51.4 million and active internet users are 2.6 million which is 5% of the total population. Moreover, active social media users are 3.8 million.[3]

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International estimates of internet addiction widely vary. In a multicenter study, the prevalence of adolescent's internet addiction was reported between 7.9% and 22.8%.[5] SNA prevalence in China study showed that 34% of Chinese college students aged 19 to 28 suffered SNA.[6] Ilam study revealed that prevalence of internet addiction among university students was 43.7%.[7] Another study reported the internet addiction prevalence among Korean adolescents were 1.6% and 38% had the potential for internet addiction.[8] In addictions, some studies reported that the prevalence of internet addiction was 26%.[9] In fact, every one in eight US adults is addicted to internet.[10] Moreover, there are 1.44 billion Facebook users in the world. Among them, about 936 million people are log on Facebook daily. Among Facebook users, 50% of the young adults who are the age of between 18-24 years are logged on the Facebook in the morning daily.[11] The data about the prevalence of internet addiction in Myanmar are not available yet.

Reports indicated that most of these conditions are highly prevalent among younger age groups. The prevalence of adolescent's internet addiction was reported between 7.9% and 22.8%.[5] About 50% of internet users who are aged between 18 and 25 are firstly logged in Facebook every morning as soon as they waked up.[11] University students have wider and easier access to the internet connection by means of mobile devices. Therefore, they can easily connect to the social network sites wherever they go. As a consequence, the internet users do not need to be at home to use the internet. They can easily connect to the internet outside the houses such as in the cafes, restaurants, universities and even though.[12] Myanmar is also one of the countries with increasing trend in internet users. Mobile internet users study in Myanmar indicated that 72% of the participants used mobile internet daily. Most of the participants (38%) were the age of between 16-24 years old.[13] In Myanmar, however, the data for SNA and related to

depression has not been investigated widely yet. This study was conducted with the objectives of assessing the prevalence of SNA, the prevalence of depression and determining the SNA related depression among university students.
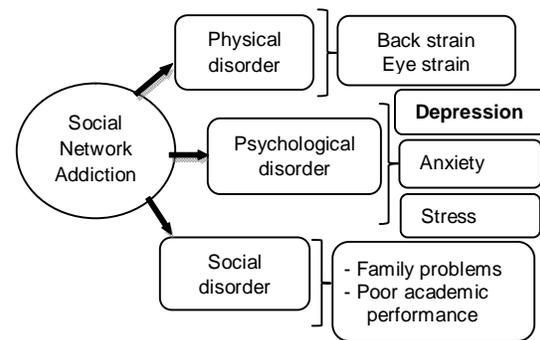
Conceptual framework

Fig. 1. Conceptual framework of the study

The conceptual framework of the study is shown in Fig. 1.

MATERIALS AND METHODS

A cross-sectional, descriptive study was conducted in 400 university students including 166 males and 234 females with age ranged 16-23 years in Kyaukse University from June to November, 2015.

Sampling method and sampling procedure

In Kyaukse University, there were total 11 majors and the number of total students was 4764. Among them, eight majors were chosen randomly and these majors are History, Geography, Geology, Chemistry, Physics, Mathematics, Zoology and Botany. The total number of students who used SN in these eight majors was 4097. Then, sample size was chosen from these eight majors by mean of probability proportionate to size. So, the sample size was collected as 6 out of 54(1.31%) from History major, 8 out of 74(1.8%) from Geography major, 41 out of 444(10.83%) from Geology major, 86 out of 874(21.33%) from Chemistry major, 86 out of

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885(20.93%) from Physics major, 89 out of 898(21.9%) from Mathematics, 44 out of 455(11.1%) from Zoology and 41 out of 413(10.8%) from Botany major. Then, the total sample size was 400.

Data collection tool and technique

Quantitative data collection method involving face-to-face interview applying pre-tested structured questionnaire was used. Internet Addiction Scale and Self Rating Depression Scale were used in this study.

Internet addiction test

Internet addiction test was assessed by Young's 20 items Internet addiction test (IAT) which was modified by Kittinger, Correia, and Irons in 2012. Total score of this scale was 100 and cut-off point was 49.[16, 17]

20-49 =Normal internet user
50-100 =Addicted internet user

Self Rating Depression Scale (SRDS)

SRDS was developed by Ohn Hlaing as Sa Ka Sa depression scale in 1977.[18] This scale contained 20 items and four-points scale 0, 1, 2 and 3. Total score was 60 and cut-off point was 13.

Total score   =60
Cut-off point   =13
Depressive group   =14-60
Non-depressive group =0-13

Before data collection, Cronbach's alpha test was calculated for all questionnaires such as Internet Addiction Scale and Self Rating Depression Scale that used in this study. Cronbach's alpha for Internet Addiction Scale was 0.926 and Self Rating Depression Scale was 0.931 for the population.

Data entry

The coding in the questionnaires form was checked and double data entry and validation of two data files was done by using Epidata software version 3.1.

Data cleaning

Data was checked for completeness, errors and inconsistency after data collection. Data was cleaned by checking for errors and outliers.

Data management and analysis

The background information and social network utilization patterns, prevalence of social network addiction and prevalence of depression of the respondents were firstly presented by using descriptive statistics such as frequency and percent. The association between social network addiction, depression, background information and social network utilization patterns were determined by Chi-square test and p value of equal or less than 0.05 was taken as the significant level by using SPSS version 16.0.

Ethical consideration

Ethical consideration was obtained from Post-graduate Board of Studies, Defence Services Medical Academy (DSMA). After obtaining informed consents the students were interviewed by questionnaire.

RESULTS

Socio-demographic characteristics of study population

Regarding socio-demographic characteristics of the respondents, 289 respondents (72.2%) were adolescent who were age between 16-19 years old and the rest 111(27.8%) were young adult who age were between 20-23 years old. Among the students, 166 students (41.5%) are males and 234 students (58.5%) are females. Regarding years of SN used, 31(7.8%) of the students have used SN for more than 3 years, 82(20.5%) have used 2 years, 150(37.5%) have used SN from 6 months to 1 year and 137(34.2%) have used SN for less than 6 months. According to SN using hours per day, about 161(40.2%) spent on SN for less than 1 hour, 118(29.5%) of the respondents used about one hour a day for SN, 63(15.8%) spent on SN for about 2 hours,

35(8.8%) spent on SN for about 3 hours and only 5.8% of the respondents spent about 4 hours and above for SN. Regarding phone bill, 388 students (97%) of the respondents cost less than 30,000 kyats a month for phone bill and 12(3.0%) of the respondents cost more than 30,000 kyats for it (Table 1).

Table 1. Socio-demographic characteristics of the students (n=400)

Socio-demographic factors	Frequency	Percent
Age (year)		
Young adult (20-23)	111	27.8
Adolescent (16-19)	289	72.2
Sex		
Male	166	41.5
Female	234	58.5
Smoking		
Yes	7	10
No	63	90
Duration of Social network used		
<6 months	137	34.2
6 months-1 year	150	37.5
About 2 years	82	20.5
About 3 years and above	31	7.8
Social network using hours per day (hour)		
<1	161	40.2
About 1-2	118	29.5
About 2-3	63	15.8
About 3-4	35	8.8
>4	23	5.8
Phone bill per month (kyat)		
≥30000	12	3
<30000	388	97

SNA and depression prevalence among students

Regarding the prevalence of SNA and depression among the respondents, 110(27.5%) of the respondents were SN addicted users and 70 students (17.5%) of the respondents suffered from depression (Table 2).

Table 2. SNA and depression prevalence among students (n=400)

Prevalence	Frequency	Percent
SNA		
Addicted user	110	27.5
Normal user	290	72.5
Depression		
Depressive group	70	17.5
Non-depressive group	330	82.5

Association between socio-demographic factors, SNA and depression

Table 3 shows the association between socio-demographic factors, SNA and depression. Regarding age and sex, it can be assumed

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Table 3. Association between socio-demographic factors, SNA and depression (n=400)

Variables	Depression frequency (%)		χ^2	p
	DG	NDG		
Age (year)				
Young adult (20-23)	20(15)	91(85)	0.029	0.87
Adolescent (16-19)	50(17.3)	239(82.7)		
Sex				
Male	31(18.7)	135(81.3)	0.271	0.60
Female	9(16.7)	195(83.3)		
Smoking				
Yes	7(38.9)	11(61.1)	5.972	0.015
No	63(16.5)	319(83.5)		
Social network using hours per day (hour)				
< 1	16(9.9)	145(90.1)		
About 1-2	20(16.9)	98(83.1)	18.56	0.001
About 2-3	15(23.8)	48(76.2)		
About 3-4	10(28.6)	25(71.4)		
>4 hours	9(39.1)	14(60.9)		
Phone bill/month (kyat)				
≥30000	7(58.3)	5(41.7)	14.29	<0.001
<30000	63(16.2)	325(83.8)		
SNA group				
Addicted user	47(42.7)	63(57.3)	66.89	<0.001
Normal user	23(7.9)	267(92.1)		

DG=Depressive group, NDG=Non-depressive group, χ^2=Chi-square

that age and sex were not associated with depression. According to smoking history of the students, 7(38.9%) students who had history of smoking and 63(16.5%) of students who did not have history of smoking suffer from depression. It can be assumed that smoking was statistically significant with depression.

According to social network using hours, about 16(9.9%) of the students who used SN for less than 1 hour per day, about 20(16.9%) of the students who used SN between 1 and 2 hours per day, about 15(23.8%) of the students who used SN about 2-3 hours per day, about 10(28.6%) of the students who used SN more than between 3-4 hours per day and 9(39.1%) of the students who used SN about more than 4 hours per day suffer from depression (χ^2=18.56, p value=0.001). Thus, it can be assumed that the prolong duration of SN using hours were statistically significantly associated with depression.

According to phone bill per month, 7(58.3%) of the respondents who cost 30,000 kyats and 63(16.2%) of the respondents who cost less than 30,000 kyats a month for phone bill suffered from

depression (χ^2=14.29, p<0.001). So it can be assumed that the students who used more than 30,000 kyats for phone bill per month were statistically significantly associated with depression. Regarding SNA, 47 students (42.7%) of SN addicted users suffered from depression and so it can be assumed that depression was associated with SNA.

DISCUSSION

Regarding history of smoking, about 39% of students who had history of smoking suffered from depression.

In the study of Sharif, *et al.*[19] Facebook users used Facebook more than 4 hours per day were likely to addict Facebook. Moreover, it is said that internet addiction may contribute to 45% of depression in the study of Ahmet Akin, *et al.*[20]

So, it can be assumed that using Facebook can lead to SNA and SNA can be associated with depression. According to SN using hours in this study, about 10% of the students who used SN for less than 1 hour per day, about 17% of the students used SN between 1 and 2 hours per day, about 24% of the students who used SN about 2-3 hours per day, about 10(28.6%) of the students who used SN more than between 3-4 hours per day and about 40% of the students who used SN about more than 4 hours per day suffered from depression. Thus, it can be assumed that the prolong duration of SN using hours were associated with depression.

Among the students, about 59% of the students who cost more than 30,000 kyats a month for phone bill suffered from depression and it can be assumed that participants who cost more than 30,000 kyats a month for phone bill associated with depression.

In this study, about 43% of SN addicted users suffered from depression. In the study of Ahmet, *et al.*[20] internet addiction may contribute to 45% of depression.

Conclusion & Recommendation

Among the students, the prevalence of depression was 17.5% and some factors such as smoking, SN using hours, phone bill and SNA are associated with depression. Regarding SNA, the prevalence of SNA was 27.5% and about 43% of SN addicted users suffered from depression. To conclude, most of the students who used SN are addicted to SN and the students who had history of smoking, who addicted to SN, who spent more time on SN were likely to suffer from depression. Therefore, health education concerning with the impacts of internet and social networking sites should be provided. SNA can contribute negative impact on every age groups and this is one of the generation gap problems. So, similar research should be performed in different age groups. Media advocacy to people and policy maker should be practiced to make aware of the negative impacts of SN. As internet and SNA becomes one of the global problems in recent years, the research concerning with this topic should be encouraged.

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