Relationship between Problematic Internet Use And Nomophobia Levels among The Faculty Youth

Mahgoub,N.A.[1], Abdel Tawab, A.M.[3]Abd El Haleem, A.E.,[2] Hanafy, D.A.,[2] El Dabaa, L.K.,[2] Mahmoud, H.M.,[2] Abd ElRahman, S.F.,[2]

nellymahgoub@hotmail.com

Abstrac:t

The use of Smartphone has increased worldwide in the past few decades, particularly among adolescents. Using these electronic devices provide multiple personal benefits. However, this can lead people to become addicted to Smartphone and would suffer from Problematic Internet Use(PIU) and subsequently NOMOPHOBIA which is the (no mobile phobia) i.e., the fear of being out of contact with the mobile phone. Since the younger generation are the most consumers of Smartphone and the most frequently users of internet, hence many bio-psychosocial problems started to appear. There for, this study was conducted to explore the NOMOPPHOBIA levels among youth students at the Faculty of Nursing - Cairo University and its interrelatedness to Problematic Internet Use. Exploratory-correlation research design was conducted in this study. Stratified systematic random sample of 95 undergraduate students at all four grades of the Faculty of Nursing- Cairo University was selected for this study.. Three instruments were used in the current study including socio-demographic characteristics and internet usage profile sheet, the Problematic Internet Use Questionnaire (PIUQ), and the NOMOPHOBIA Questionnaire.

1 Professor of Psychiatric Mental Health Nursing, Faculty of Nursing, Cairo University
2 Undergraduate Candidates at Faculty of Nursing, Cairo University
3 Lecturer of Psychiatric Mental Health Nursing, Faculty of Nursing, Cairo University

Results revealed that 57.95% of the studied sample had significant Problematic Internet Use, and NOMOPHOBIA was severely prevalent among 47.19% and moderately prevalent among 46.07 %. Highly significant positive relation between Problematic Internet Use and NOMOPHOBIA at p-value < 0.0001 was found in this sample. In conclusion sampled youth students at the Faculty of Nursing, Cairo University suffered high prevalence of both NOMOPHOBIA and Problematic Internet Use which showed highly positive significant correlation. Health education strategies are recommended to target these youth to minimize the harmful effect of Smartphone misuse.

Keywords: Problematic Internet Use, NOMOMPHOBIA, Smartphons, Nursing youth

INTRODUCTION

Today, information and communication technologies have become an integral part of people's lives. Many people, particularly teenagers, spend much of their time with technological devices for studying, for searching for information on the Internet, for playing games, and for communicating. Mobile phone use has been gradually increasing, not only for communication, but also to access Internet and social networks (Ayar, Gerçeker, Özdemir, & Bektas, 2018).

Subsequently, the overuse of smart-phones leads to many problems, including social media dependency, NOMOPHOBIA, and Problematic Internet Use (PIU), which have negative effects on the psychological, social, academic, and professional life of an individual. NOMO-phobia as new phenomena of negative smart-phone misuse is described as the anxiety and distress experienced by individuals who habitually use Internet-based communication devices, especially when the devices are not available. Users fear that they will

not be aware of messages, recent events, and various experiences shared on social media (Choi J, Lee, 2015).

Individuals with NOMOPHOBIA continuously check for messages or calls experience anxiety and distress when they are out of the coverage area or mobile phone usage is limited. They tend to keep the phone switched on 24 hours a day, take the smart-phone to bed with them. The use of smart-phones, especially for social connections, is very high among teenagers with social media dependence, who use programs such as Facebook to share experiences and build and maintain social relationships (Khumsri et al., 2015).

Discovering the prevalence of NOMOPHOBIA among nursing students is very important, as the misuse of Smartphones in clinical practice may cause distractions, affecting the quality of care and putting patient safety at risk. Furthermore, it can lead to poorer academic performance during class (Gutiérrez-Puertas et al., 2019).

In fact, increase Smartphone use among healthcare personnel has been observed, for activities unrelated to the clinical environment. Studies show that around 75% of nurses using a Smartphone for personal communication while on work (McBride, & LeVasseur, 2015). This increase in the use of Smartphone could be related to behaviors consistent with NOMOPHOBIA. Thisoverusehas negative consequenceswhen being used for personal purposes, such as putting off important tasks as attention to patients' medical needs, or suffering great distraction (Aguilera-Manrique et al., 2018).

Distraction of health personnel due to Smartphone use, has been shown to lead to a lack of attention and diminished capacity to remember important information which could cause adverse effects, such as threats to the safety of patients, loss of privacy and confidentiality of personal data and impaired communication between personnel and patients (Junco, 2012).

More specifically, Smartphone have numerous resources, such as high-resolution cameras, that allow personnel to take photos, or record videos or audios that can be shared instantly through networks. Therefore, the advanced functions of Smartphone allow personnel to carry out certain practices in the clinical environment that may result in a breach in confidentiality and privacy, provoking a proliferation of health data (Aguilera-Manrique et al., 2018).

As well, healthcare personnel are not aware of the distraction that occurs when being onSmartphone, although they acknowledge having observed how other healthcare personnel missed relevant clinical information because of being distracted by their Smartphone (McBride, 2012).

Why this study?

The use of mobile Smart -phones has increased rapidly in the last decade. In the year 2016 the number of mobile devices on a global level was estimated at 7.1 billion. In addition, the number of Smart-phones users worldwide is expected to grow one billion in a time of five years in spite of the world's population reaching 7.7 billion in mid- 2019 (Aquilera- Manrique et al, 2018; United Nation, 2019).

NOMOPHOBIA among nursing students is very important problem to be explored, as the misuse of Smart-phones do have negative consequences on students' every day activities, cognitive functioning in the form of inattentiveness and distractions, threatening their academic achievements in terms of educational development and clinical practice in terms of quality of care or putting patient's safety at risk.

NOMOPHOBIA is found to be of high prevalence among nursing students in number of studies. Both Spanish and Portuguese nursing students scored higher than average regarding levels of NOMOPHOBIA (Gutiérrez-

Puertas et al., 2019). Moderate to severe prevalence was also found among students i.e., about 99.0% of undergraduate medical Indian students (Harish, & Bharath, 2018).

This current research should be useful in raising nursing students' awareness for deeper understanding of the negative impact of the NOMOPHOBIA and Problematic Internet Use on their daily life activities, academic achievements, and clinical performance.

So, the aim of the current study was to explore the NOMOPPHOBIA levels among youth students at the Faculty of Nursing - Cairo University as well as its interrelatedness to Problematic Internet Use PIU.

SUBJECTS AND METHODS

Research Design

Exploration-correlation research design was conducted to investigate the prevalence of NOMOPHOBIA, its levels and its interrelatedness to PIU among youth students at the Faculty of Nursing - Cairo University.

Setting

Faculty of Nursing, Cairo University that include 9 academic departments representing the following specialties:- (1) Medical surgical i.e., (Adult Nursing) (2) Pediatric and New Nate's Nursing (3) Mother and child health (Obstetrics and Gynecology Nursing) (4) Critical & Emergency Nursing, (5) Nursing Education (6) Psychiatric & Mental Health Nursing (7) Nursing Service Administration (8) Community Health Nursing department, and (9) Geriatric Nursing department,**.**

The Faculty awards a bachelor degree in Nursing. The Postgraduate studies offer degrees in diplomas, Master and Doctorate in all former specialties in nursing sciences.

Sample

Stratified systematic random sample was used in this study. The sample was selected according to the following inclusion criteria:

1. Both genders.

2. Age between 18-25 years old

3. Freshman undergraduate students only.

4. 1stto4thgrade level in nursing education.

5. Egyptian students: only.

6. Have Smartphone with access to the internet.

7. at least one year duration ownership of mobile internet ownership is not less than one year.

*The sampling process***:**

A List of all students' names in the four levels at the Faculty of Nursing - Cairo University was obtained to be used as target population for selecting the study sample. This list was obtained from the students' affairs department after an official approval from the Vice Dean for Education and Student Affairs, Faculty of Nursing- Cairo University (Form I). The total number students in the target population amounted to 1615 after the exclusion of foreign and external students.

The number of Egyptian students fitting the inclusion criteria in each educational level was as follows:

- First grade level: 475

- Second grade level: 330

- Third grade level: 444

- Fourth grade level: 366

Stratified Sample type was selected to represent sampled students in each academic level. The sample size was made by using **Taro Yamani** formula which uses a subset of the population to represent the entire population. The result was as follows:

- Stratified Sample (n1) = (475 / 1615) * 95 = 28

- Stratified Sample (n2) = (330 / 1615) * 95 = 19

- Stratified Sample (n3) = (444 / 1615) * 95 = 26

- Stratified Sample (n4) = (366 / 1615) * 95 = 22

Procedure steps of systematic random sampling included first determining each stratum which was done by determining the sampling intervals. Second step was calculation of Sampling interval by using the following formula K =N/n i.e., dividing the entire population size by the desired sample size which equals 1615/95=17th student i.e., (every 17th students of the total population in the list was selected). The third step was using lottery method to select the numbers between 1 and 17 as a random starting point.

Tools of Data Collection

Data of the current study was collected using three tools: (1) Socio-demographic data and Internet Usage Profile sheet; (2) The Problematic Internet Use Questionnaire, (PIUQ); and (3) NOMOPHOBIA Questionnaires (NM-Q).

I. **Socio-demographic Data and internet usage profile sheet**. Student' socio-demographic data such as age, gender, educational grade level, duration of Smartphone ownership, and duration of mobile Internet ownership. This tool was developed by the researchers and revised by the supervisors**.**

II. **The Problematic Internet Use Questionnaire, PIUQ**. This questionnaire was developed by (Demetrovics et al., 2008). It is a self-rating questionnaire to assess Problematic Internet Use (PIU). The questionnaire consists of 18 items, divided into equal three subscales: obsession, neglect and control disorders. The scale for obsession assess obsessions feelings associated with Internet usage (e.g., How often do you feel tense, irritated, or stressed if you cannot use the Internet for as long as you want to?). The scale for neglect assess features of neglect of daily chores and activities (e.g., How often do you spend time online when you'd rather sleep?), and the scale for control disorder to assess the inability to control Internet use and the inability to discontinue Internet usage (e.g., How often do you think that you should ask for help in relation to your Internet use?). Participants were asked to respond to the items using a five-point Likert scale (1=Never to 5=Always). The questionnaire was translated into Arabic language and revised for face and content validity by the project supervisors. Calculated reliability was done, and the estimation of alpha coefficient test = 0.92 which indicates that PIU possess adequate internal reliability for this sample.

III. **The NOMOPHOBIA Questionnaire (NMP-Q)**: was developed and validated by Yildirim, and Correia (2015). The questionnaire includes 20 questions measured on 7 points Likert scale from 1 to 7, with 1 being "totally disagree" and 7 being "totally agree." These questions are divided into four main domains: Not being able to access information (items 1–4); Giving up convenience (items 5–9); Not being able to communicate (items 10–15) and Losing connectedness (items 16–20). The total score is found by adding up the number in each item, which allows for a range of scores from 20 to 140 points. Higher scores (100-140) correspond to a higher degree of NOMOPHOBIA, moderate scores (60-99) indicates moderate level of NOMOPHOBIA, and lower scores (21-59) indicates mild level of NOMOPHOBIA. The calculated reliability for (NMP-Q) is acceptable= 0.95.

Researchers translated the two instruments (English formats) into Arabic language, then resulting versions were translated back into the original language. Revision for face and content validity was done by the project supervisors. Minor discrepancies were found in the content and necessary modifications were done

Procedure

A review of the past and current related literature covering various aspects of the problem (NOMOPHOBIA, and Problematic Internet Use PIU) was done, using available books, articles, magazines, periodicals, previous research dissertations and Internet search to become acquainted with the magnitude and significance of this research problem and to select relevant instruments for data collection.

Preparation and translation of data collection tools took place. An official permission was granted after the researchers presented official letter to of the

Vice Dean for Education and Student Affairs of Faculty of Nursing- Cairo University, including the title of the research and its objectives.

Once the permission was granted to proceed with the study, all stratified randomly selected participants were approached. At that time, purpose and nature of the study were explained to gain their cooperation and a written informed consent was taken from each participant (Form II). The questionnaires were explained by the researchers to all members of the sample. One to one Interview was done with each participant to complete all three Questionnaires under the guidance of the five researchers a process that lasted for 20-30 minutes per each student.

Ethical Consideration

Written approval was taken from the Vice Dean for Education and Student Affairs of Faculty of Nursing- Cairo University. Written Students' consent was prepared and obtained from all students included in the study after explanation of the nature and the purpose of the study. Participants were also informed to have the right to withdraw from the study at any time without any pressure. Confidentiality was preserved by keeping all students anonymity, and putting codes to all answered questionnaires as none of the students put their names on filled questioners.

Pilot Study

Ten students fulfilling the inclusion criteria were recruited from the four levels of the Faculty of Nursing- Cairo University. The pilot was carried out in order to test the clarity of the tools, and time needed to respond to each questionnaire. Students of the pilot study were kept in the original number of the sample as no further modifications of the three tools were required.

Statistical Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS), version 20. Numerical data were expressed as a mean, median and standard deviation. Qualitative data were expressed as frequency and percentage. Spearman's rho Correlation Coefficient, Fisher Exact Test, and Cramer's V were also used to study the correlation and relationship between study variables.

RESULTS

Part One: Frequency Distribution of the Study Variables

Socio-demographic Characteristics and Internet Usage profile of the studied sample (n=95)
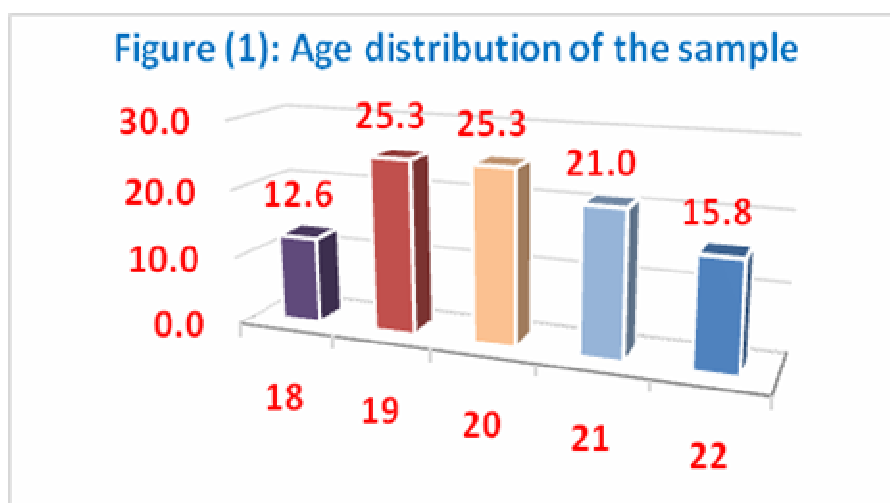

Figure (1): Age distribution of the sample

Figure (1) shows that the highest frequency amounted to approximately one-quarter of the sample (about 25.3%)   was among those   aged 19 and 20 years old.
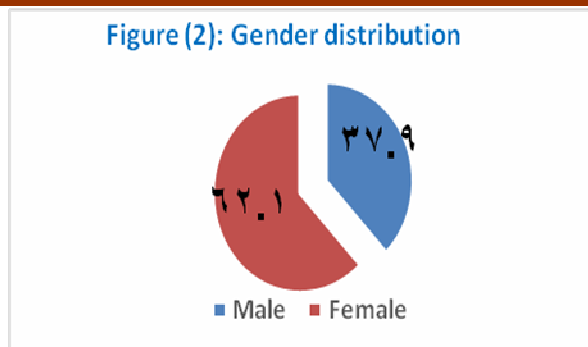
Figure (2): Gender distribution

Figure (2) revealed that one-third of the sample were males 37.9%. While 62.1 % of the studied sample are females.
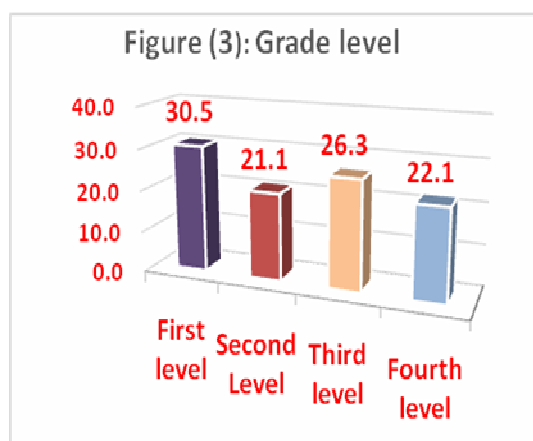

Figure (3): Grade level

Figure (3) revealed that 30.5 % of the studied sample were in the first grade level, followed by 26.3% were in third level, then fourth level 22.1% and last was the second level 21.1 %.
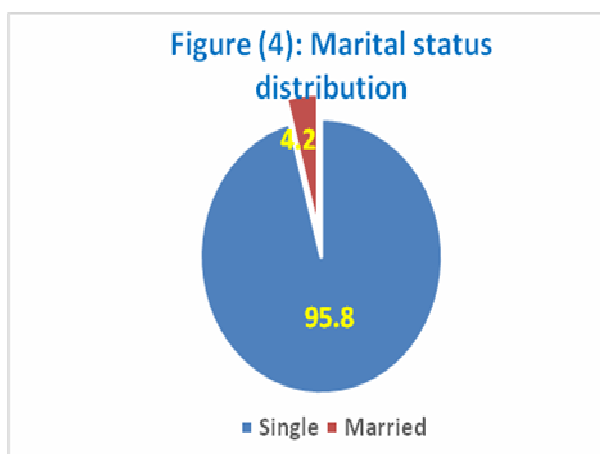

Figure (4): Marital status distribution

Figure (4) revealed that most of the studied sample 95.8% was single.

Table (1): The **most used internet activities within the past 12 months.**

Within the past 12 months, rank the following from 1 to 9 where 1 is given for the most used and 9 for the least

	1	2	2	4	5	6	7	8	9
Personal Email	6.67	7.78	16.67	15.56	14.44	8.89	11.11	14.44	4.44
Online chatting	18.89	32.22	21.11	6.67	11.11	6.67	1.11	2.22	
Peer to peer	5.56	21.11	13.33	17.78	11.11	13.33	6.67	7.78	3.33
Online games	5.56	4.44	10.00	17.78	13.33	13.33	12.22	16.67	6.67
Social media	49.45	12.09	10.99	9.89	8.79	4.39	1.10	2.20	1.10
newsgroup	4.40	5.49	5.49	8.79	14.29	26.38	16.48	10.99	7.69
Internet forum	2.20	5.49	10.99	10.99	16.48	13.19	24.18	14.28	2.20
School related site (Library, Online Journal)	5.49	8.79	9.89	13.19	7.69	9.89	17.58	21.99	5.49
Others	2.25	2.25	2.25	3.37	3.37	8.99	7.87	69.65	

Table (1) describes the following results:-

▪ Approximately half of the sample (about 49.45%) ranked the social media (Face-book, twitter) as the most used, while only 2.20% of the sample ranked the internet forums as the most used.

▪ Only 4.44% of the sample ranked the personal email as the most used.

▪ School and online library journal was mostly used only by 5.49%.

Table (2): Numerical Descriptive Statistics for Duration of Smartphone Ownership, Duration of Internet Usage per Day, and Numbers Online Friends.

Items	Mean	Median	Standard Deviation	Interquartile Range
How long do you own your Smartphone? year(s)	4.5	4.0	2.1	3.0
Within the past 12 months, how	6.5	6.0	3.0	3.0

Relationship between Problematic Internet Use And Nomophobia Levels among The Faculty Youth

Mahgoub,N.A., Abdel Tawab, A.M. Abd El Haleem, A.E., Hanafy, D.A., El Dabaa, L.K., Mahmoud, H.M., Abd ElRahman, S.F.,

Items	Mean	Median	Standard Deviation	Interquartile Range
much time do you spend using the internet, on average, per day?				
How many friends have you made online?	658	365	926	450

Table (2) revealed that,

- Average time the sample owned their smart-phones is 4.5 years, with 2.1 years standard deviation.

- The average time the sample spent using the internet within the past 12 months is 6.5 hours per day, with 3 hours standard deviation.

- On average, each individual made online (365) friends.

(1) **Frequency Distribution of the Studied Sample According to Problematic Internet Use, and NOMOPHOBIA.**
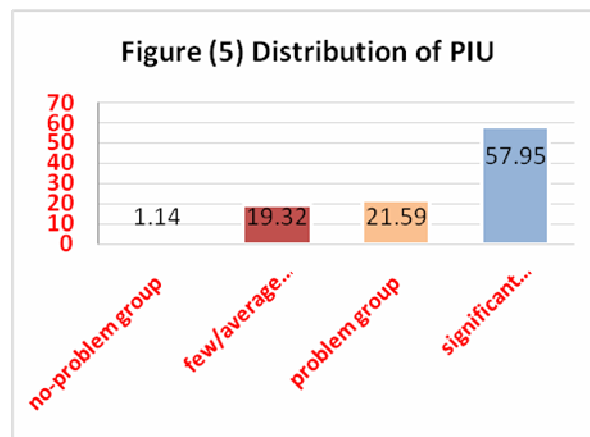

Figure (5) Distribution of PIU

Figure (5) **revealed** that 57.95% of the studied sample have significant problematic internet use, followed by 21.59 % of the studied sample have problematic internet use.
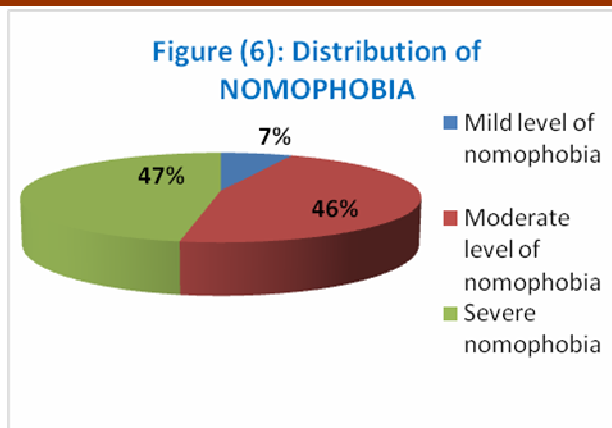
Figure (6): Distribution of NOMOPHOBIA

Figure (6) showed that 47.19% of the studied sample suffers from severe NOMOPHOBIA . As well, 46.07 % of the studied sample suffers from moderate NOMOPHOBIA.

Part Two: The Nature and Direction of Relations between the Study Variables.

Table (3): **Correlation between Socio demographic Data and Problematic Internet Use**

Socio-demographic data	rho	P-value
Age (Years)	0.068	0.530
Grade level	0.078	0.470
How long do you own your Smartphone? year(s)	0.111	0.305
Within the past 12 months, how much time do you spend using the internet, on average, per day?	0.128	0.234
How many friends have you made online?	0.251*	0.024

* Correlation is significant at the 0.05 level (2-tailed).

As seen in Table (3), the results from the Spearman correlation coefficient revealed that there is a significant weak positive relationship between PIU and the number of respondents' friends, p-value = 0.024.

Relationship between Problematic Internet Use And Nomophobia Levels among The Faculty Youth

Mahgoub,N.A., Abdel Tawab, A.M. Abd El Haleem, A.E., Hanafy, D.A., El Dabaa, L.K., Mahmoud, H.M., Abd ElRahman, S.F.,

Table (4):Correlation between Socio-demographic Data and NOMOPHOBIA (NMP)

Socio=demographic data	rho	P-value
Age (Years)	0.125	0.244
Grade level	0.052	0.630
How long do you own your smart-phone? year(s)	0.110	0.303
Within the past 12 months, how much time do you spend using the internet, on average, per day?	0.031	0.772
How many friends have you made online?	0.226*	0.041

* Correlation is significant at the 0.05 level (2-tailed).

As seen in table (4), the results from the Spearman correlation coefficient revealed that there is a significant weak positive relationship between NMP and the number of respondents' friends, p-value = 0.041.

Table (5). Correlation between Problematic Internet Use (PIU) and NOMOPHOBIA (NMP)

PIU	Mean	Median	SD	Inter quartile range	Correlation with NMP	
					rho	P-value
	54.67	55.50	14.6	21.50	0.705	<0.0001

Table (5) revealed that,

- The mean of PIU = 54.67 indicating significant problematic internet use among the studied sample.

- The value of the correlation coefficient between PIU and NMP = 0.705 associated with it a p-value < 0.0001 indicating a significant positive strong relationship. This means as PIU increases, the NMP increases.

DISCUSSION

A new type of fear, known as "NOMOPHOBIA", has emerged to join the list of phobias that have been already known for decades, such as agoraphobia, astraphobia, acrophobia, algophobia and other different types of phobias.

NOMOPHOBIA is the latest fear of the 21st century, which has emerged as a result of advances in technology and the excessive use of the Internet and Smartphones.

The current study explored the NOMOPHOBIA levels among youth students at the faculty of Nursing, Cairo University and its interrelatedness to problematic internet use.

Findings revealed that there is a high prevalence of both NOMOPHOBIA and problematic internet use among the undergraduates nursing students, which is similar to an Indian study conductedby Harish and Bharath (2018) who found that there are moderate to severe NOMOPHOBIA Prevalence among undergraduate medical students amounting to 99 % of their sampled students. As well, at Bhopal, a study conducted by Sethia, Melwani, Melwani, Priya, Gupta, & Khan, (2018), found thatout of 473 undergraduate medical students only one student was not suffering from NOMOPHOBIA.

The findings of current study are similar to the findings of other studies, which showed levels of NOMOPHOBIA between 35% and 73% of different levels among students around the world (Gezgin & Çakır, 2016; Nikhita, Jadhav, & Ajinkya, 2015; Sharma et al., 2015; Tavolacci et al., 2015; Yildirim et al., 2016)

Furthermore, half of the sample in this study ranked the social media (Facebook, twitter) as the most used sites, while they ranked the personal email as the least used.Social media is one of the most commonly used Smartphone

applications (Giunchiglia et al., 2018; Junco, 2012). Consistently, a study conducted by Mukhtar, Ali, Muqeet, Hussain,Afzal, & Gilani (2018) shows that 84.9% of nursing students are regular daily users of facebook. As well, a study conducted on 304 nursing students by Aguilera-Manrique, Marquez-Hernandez, Alcaraz-Cordoba, Granados-Gamez., et al. (2018). Foundthat the most common Smartphone activities were (60.9% Facebook; 91.8% WhatsAPP, Internet searches43.1%, playing games 6.6% and texting, 4.6%.

Concurrent with a study by Gezgin, Cakir & Yildirim, (2018) the current study found that there was no significant relationship between undergraduate nursing students' NOMOPHOBIA and their scholastic grade levels.

However Problematic Internet Use was highly positive correlatedwith NOMOPHOBIA.This finding is congruent with a study by Gezgin, Cakir & Yildirim, (2018) who found a positive correlation between Internet Addiction and NOMOPHOBIA levels as " the higher the Internet addiction level, the more NOMOPHOBIA behaviors were exhibited"

Generally speaking, this study raises a serious warning alarm for academic authorities to face the increasing pressing risks that can result from Internet addictions and NOMOPHOBIA for fear of its harmful effects on health care discipline since nursing students are very much involved in health care services.

CONCLUSION

There is a high prevalence of both NOMOPHOBIA and Problematic Internet Use (PIU) among youth in this study sample of Faculty of Nursing students with severe levels which indicates that the Smart mobile phones have been dubbed as one of the biggest nondrug addictions in the 21st century. Furthermore, half of the sample in this study ranked the social media (Facebook

&Twitter) as the most used, while they ranked the personal email as the least used.

Moreover, the increasing number of online friends pushes themto continuously preoccupied to browse for their urgent news and to follow online conversation which subsequently leads to NOMOPHOBIA and Problematic Internet Use as documentedin this study which revealed that by the more online friends, the more significant Problematic Internet Use and the more increased levels of NOMOPHOBIA.

RECOMMENDATION

Based on the findings of the study, the following recommendations are deduced

1. Ensure safe patient care, to prevent medication and medical errors by continuous evaluation of the effects of NOMOPHOBIA on delivered nursing care in clinical settings.

2. Health education strategies should include workshops, and seminars that target nursing youth to raise their awareness about the harmful bio-psychosocial effects of Smartphone misuse, its negative consequences in the form of NOMOPHOBIA and PIU. And to direct their interest to outdoors activities such as sports and social visits.

3. Experts in anti-technology dependency should develop treatment programs for .Smartphone and technology dependencyto train nursing students adopt strategy of interval usage of Smartphone.

4. Future research studies with larger sample size should be conducted to be able to generalize the obtained findings.

Relationship between Problematic Internet Use And Nomophobia Levels among The Faculty Youth

Mahgoub,N.A., Abdel Tawab, A.M. Abd El Haleem, A.E., Hanafy, D.A., El Dabaa, L.K., Mahmoud, H.M., Abd ElRahman, S.F.,

REFERENCES

– Aguilera-Manrique, G., Márquez-Hernández, V. V., Alcaraz-Córdoba, T., Granados-Gámez, G., Gutiérrez-Puertas, V., & Gutiérrez-Puertas, L. (2018). The relationship between nomophobia and the distraction associated with smartphone use among nursing students in their clinical practicum. PLoS ONE 13(8).

– Ayar, D., Gerçeker, G. Ö., Özdemir, E. Z., & Bektas, M. (2018). The Effect of ProblematicInternet Use, Social Appearance Anxiety, and Social Media Use on Nursing Students and Nomophobia Levels. CIN:Computers, Informatics, Nursing, 36(12), 589-595.

– Choi, J., Lee, J.K.(2015) Investigating the effects of news sharing and political intereston social media network heterogeneity. Computers in Human Behavior.44: 258–266.

– Gezgin, D.M., Cakir O. & Yildirim, S. (2018). The Relationship Between Levels Of Nomophobia Prevalence And Internet Addiction Among High School Students: The Factors Influencing Nomophobia. International Journal Of Research In Education And Science (Ijres), 4(1), 215-225.

– Giunchiglia, F. Zeni, M. Gobbi, E.. Bignotti, E., Bison, I. (2018) Mobile Social Media Usage And Academic Performance. Comput. Hum. Behav., 82 Pp. 177-185

– Gutiérrez-Puertas, L., Márquez-Hernández,V.,São-Romão-Preto,L., Granados-Gáme,G.,N Gutiérrez-Puertas, V.,& Aguilera-Manrique, G. (2019). Comparative study of nomophobia among Spanish and Portuguese nursing students. Nursing Education in Practice. (34), 79-84.

– Harish, B.R., & Bharath, J. (2018). Prevalence of nomophobia among undergraduate medical students of Mandya. International journal of community medicine and public health. (12): 5455-5459.

– Junco, R. ((2012) Too Much Face And Not Enough Books: The Relationship Between Multiple Indices Of Facebook Use And Academic Performance. Comput. Hum. Behav., 28 (1) 187-198.

– Khumsri, J., Yingyeun, R., Manwong, M., Hanprathet, N., & Phanasathit, M. (2015). Prevalence of Facebook addiction and related factors among Thai high school students. Journal of the Medical Association of Thailand. 98(3): 51–60.

– McBride, D. L. (2012). The Distracted Nurse. Journal of Pediatric Nursing. 27(3):275–276.

– McBride, D. L., LeVasseur, S.A., & Li, D. (2015). Non-work-related use of personal mobilephones by hospital registered nurses. JMIR mHealth and uHealth. 3(1).

– Mukhtar, S Ali, A., Muqeet, A., Hussain,M., Afzal, M. & Gilani, S.A (2018). Influence Of Social Media On Nursing Students' Academic Performance. Independent Journal Of Allied Health Scienes.(1)3.183-190.

– Nikhita, C. S., Jadhav, P. R., & Ajinkya, S. A. (2015).Prevalence of Mobile Phone Dependence in Secondary School Adolescents. Journal of Clinical and Diagnostic Research, 9(11), VC06-VC09.

– Sethia, S., Melwani, V., Melwani, S., Priya, A., Gupta, M., & Khan, A. (2018). A study to assess the degree of nomophobia among the undergraduate students of a medical college in Bhopal. International Journal of Community Medicine and Public Health. 5(6):2442-2445.

– Sharma, N., Sharma, P., Sharma, N., & Wavare, R. R. (2015).Rising concern of nomophobia amongst Indian medical students. International Journal of Research in Medical Sciences, 3(3), 705-707.

– Tavolacci, M. P., Meyrignac, G., Richard, L., Dechelotte, P., & Ladner, J. (2015).Problematic use of mobile phone and nomophobia among French college students .European Journal of Public Health, 25(suppl 3), ckv172-088.

– United Nation. (2019). World Population Prospects 2019; Highlights. New York. Available at: https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf

– Yildirim, C., Sumuer, E., Adnan, M., & Yildirim, S. (2016).A growing fear Prevalence of nomophobia among Turkish college students. Information Development, 32(5), 1322-1331.