

The Impact of No Mobile Phone Phobia (Nomophobia) on Mental Health: A Systematic Review

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ABSTRACT

Introduction

The development of telecommunications is increasing rapidly, almost everyone uses mobile phones, especially smartphones. This happens because mobile phones can make it easier for someone to communicate quickly, easily and practically. But excessive use of mobile phones can make a person become addicted and even excessive anxiety if not together with mobile phone. This situation is called nomophobia. Initially nomophobia describes the use of mobile phones and computers. But recent research has focused on nomophobia on the use of mobile phones only.

Methods

This systematic review is prepared by searching and analyzing various results of research on nomophobia. Especially for studies that examine the negative effects of nomophobia on mental health.

Results

There are 8 research results identified, the study was conducted from 2014-2018. These studies examine the use of excessive mobile phones. The results show there are several mental health problems that can be caused by nomophobia. The result of identification in these journals show nomophobia causes mental health problem such as anxiety, depression, social isolation, decreased self-control and empathy, interpersonal relationship disorders, and low self-esteem.

Conclusion

Nomophobia causes mental disorder. However more advanced studies are needed to prove the side effects of using smart phones against mental health.

Keywords

Nomophobia; Mobile Phone; Mental Health

BACKGROUND

The development of telecommunications is increasing more rapidly, almost everyone knows that an object which was created as a medium of communication that is fast, easy and practical. Originally it was a luxury item. Now the object no longer has to be a luxury item that can only be owned by the upper-middle class, because the last few years have been produced in various types and models with very varied quality and price. As a communication medium in various fields of life both social, economic, political, education, security, etc., the function of mobile phones, especially smart phones in the information age can be said to be primary needs. But in the

development of the last few years, the function of mobile phones has changed to become part of the lifestyle of the community that has various dimensions, including the cultural, ethical, aesthetic, and even as a medium of entertainment for children and adults.

The activity of cell phones using is a habit that is considered common to many people. But without realizing the excessive intensity of interacting with a mobile phone can certainly cause various impacts on its users. Increased use of mobile phones, allows one to experience nomophobia. Nomophobia first time (No mobile phone phobia) is described as the use of mobile phones and computers. *Nomophobia* sebagai hasil penelitian yang berawal dari perkembangan teknologi, terhadap perasaan ketakutan terhadap teknologi yang tidak dapat digunakan, jauh dari *mobile phone* atau tidak terhubung ke web [1]. But in the last study nomophobia focused on cell phone use only. Nomophobia is a term that refers to a collection of behaviors or symptoms associated with the use of cell phones in the form of excessive fear or anxiety when not together with their cellphones [2].

Nomophobia can be detected using a nomophobia questionnaire (NMP-Q) which has been developed and tested. The NPM-Q consists of 20 items developed by Yildirim and Correia in 2015. Using a Likert Scale with 7 points starts to strongly disagree and strongly agrees. The Likert scale is chosen as the rating scale in the questionnaire because the statement given is a declarative statement and the respondent can show an agreement or not in each statement [3]

NMP-Q consists of four factors, that are factor 1: unable to communicate; tend to feel worried when unable to communicate with family either contact or contact. Factor 2: loss of connection; teenagers tend to feel anxious if they cannot access social media, follow the latest notifications on social media and experience confusion if they don't use social media [3]. Faktor 3: Factor 3: unable to access information; teenagers are anxious if they cannot get information from their mobile phones, and spend a lot of time with their mobile phones. Information will be easily accessed via cell phone so that a person can experience dependence on his cellphone [4]. Factor 4: provide comfort; people with nomophobia tend to feel like continuing to check mobile phones for network availability, new messages, battery availability, and will be anxious if they run out of credit or internet quota [3].

The research on nomophobia was also carried out by Chandak Pritam et all in India. This study shows nomophobia seen in 38% of participants with a significantly higher prevalence in the younger age group and in women. Most participants use cellphones from 5-10 years (71%). About 46% of participants use cell phones for 2-3 hours per day with most of them (47%) using their cellphones 25-50 times per day. More than half of the participants (59%) spent 500-1000 rupees per month as their mobile fees [5].

Other research on the dependence of mobile phone use on students was conducted at one university in India, the results showed that from 200 students who were respondents, consisted of 47.5% of

women and 52.5% of men. The majority (74%) of students spend 300-500 rupees per month on mobile recharge. About 23% of students felt they lost concentration and became stressed when they did not have their cellphones, 79 students (39.5%) experienced Nomophobia in this study and 27% were at risk of experiencing nomophobia [6].

There was many research has been done in Indonesia. One of them was Widiyastuti & Muayan in 2018. The results of the study stated that cellphone use among teenagers which showed nomophobia levels in the very high category was 5%, high category 31%, medium category 35%, low category 24%, and very low category 5%. The results of this study indicate the need for special attention to these nomophobic events [7]. Other studies reveal that nearly one in three students suffer from nomophobia. The problematic use of mobile phones mainly affects women and is associated with addiction and sleep problems. Even 31.3% of students claimed to be anxious because there was no cellphone available for 24 hours and 30.4% spent too much time on cellphones [8].

The results of the above studies indicated that there were indications of an increase in the prevalence of nomophobia among the younger generation. The essence of mobile phones as a technology product in the field of telecommunications has a lot of negative impacts on the lives of modern society in the information age. Therefore this systematic review was made to determine the effect of excessive cell phone use on mental health.

METHODS

This *Systematic review* was made by searching published scientific articles from 2014 to 2018. Journal articles are used in the form of international and national articles. Journal articles are found in Science Direct, Portal Garuda, Proquest and Google Scholer. Data base search is done by looking at each journal article title.

Journal articles that were used as sources were journal articles that contain nomophobia, namely the anxiety that occurs in individuals who are separated from their smartphones. The selection of selected journals is adjusted to the purpose of writing. This systematic review does not limit the characteristics and number of samples. Some journals contain the effects of nomophobia on physical, mental and both health. The selected journal is a journal that only contains the impact on mental health. Journals that are not used in this systematic review are journals with the null hypothesis rejected and journals that use combined methods (qualitative and quantitative).

RESULT & DISCUSSION

The process of searching for articles finally found eight journal articles that were suitable for the purpose of writing this systematic reviews. Most of the samples from the study were students. Although cell phone users are not limited to students. Excessive use of cellular telephones can cause users to experience anxiety if not with their cellphones. This could be preceded by excessive

use of cellphones, resulting in addiction. Addiction to cell phones can end with nomophobia [9]. Nomophobia not only causes physical health problems, but also causes mental health problems.

This research conducted by Akazhae, ZB et al in 2014, by reviewing mental health, showed results that students who experienced depression (17.30%), obsessive compulsive disorder (14.20%), and interpersonal sensitivity as much (13, 80%) with a total sample of 296 respondents. The results showed that there was a significant relationship between mental health behavior and habits, dependence and addiction in using cell phones. The results of this study indicated that the emergence of mental health problems is caused by the habit of using cell phones. Students who suffer from low mental health, usually when facing challenges, problems, or tasks feel helpless and frustrated. So as to overcome these negative feelings, they turn to their previous habits unintentionally and automatically, such as playing cellphones with goals to reduce their anxiety and worries. Indirectly, the longer the individual will become addictive to the mobile phony. Addictive behavior refers to a sudden and unintentional tendency to perform certain actions or behaviors. Therefore, this seems that students with mental health and mental balance are lower, more vulnerable to addictive cellphone use, because they are trying to reduce their internal tension by playing mobile phones. on the contrary, mental health is higher, human behavior is more rational, and the number of cell phone addictions decreases [10].

Nomophobia sufferers could experience impulsivity. It was explained in a study conducted in India in 2015. The study stated that there was a positive relationship between nomophobia and impulsivity and nomophobia sufferers experienced all types of impulsivity. One component of impulsivity is cognitive impulsive, in which the patient is unable to focus on the activities carried out. Nomophobia sufferers will also experience motor impulsivity, that is, patients do activities without thinking first or doing activities suddenly. In addition nomophobia sufferers also experience unplanned impulsivity, namely the inability to think much for the future [11].

Other research on the existence of mental health problems caused by addiction to mobile phones, with the number of samples in this study consisted of 50 respondents of the treatment group and 70 respondents of the control group. The treatment group showed symptoms (anxiety, trembling, sweating, tachycardia, respiratory changes, depression, panic, fear) or emotion (comfort, agitation, disorientation, dependence, rejection, low self-esteem, loneliness, insecurity) because they did not have access to cellphone. While the control group obtained the results of each variable were anxiety (0.74), sweating (0.67), panic 0.57), tremor (0.56), changes in respiration (0.483), depression (0.44), tachycardia (0.40) and fear (0.12). So it can be concluded that there is a significant influence of nomophobia on anxiety [2].

The research on nomophobia was also carried out by Cheever, N.A et al with students as respondents as many as 163 respondents. Consisting of 83 (61%) male respondents and 80 (49%) female respondents. The study aims to determine the level of anxiety of students when their

cellphones are hidden, to compare the anxiety level of respondents without their mobile phones at close range, and to examine how the habit of using mobile phones with anxiety levels. respondents were forced to sit quietly without interruption during the study. The intervention was carried out three times, 20 minutes apart, starting 10 minutes after participants entered the room. The results showed that respondents spent about 13 hours 58 minutes a day. Participants significantly feel more anxious over time. However, this pattern is clear only with heavy and medium cellphone users. Dependence on mobile phones, mediated by unhealthy connections for continuous use, can cause increased anxiety if there is no mobile phone. the results of this study strengthen the understanding of the use of mobile phone devices. if a student does not use the phone, will cause anxiety [12].

Another study that examined addiction to mobile phones was carried out in 2017, this study aims to determine the relationship between empathy with smartphone addiction to students of the Faculty of Cultural Sciences and the Faculty of Science and Mathematics of Diponegoro University, Semarang. The population in this study were students of the Faculty of Cultural Sciences and the Faculty of Science and Mathematics, Diponegoro University, Semarang. The study sample amounted to 309 students as a result there was a negative and significant relationship between empathy with smartphone addiction ($r = -0.118$; $p = 0.038$). These results indicate the higher the empathy, the lower the smartphone addiction and the lower the empathy, the higher the smartphone addiction. The effective contribution of empathy to smartphone addiction is 1.4% and the remaining 98.6% is explained by other factors [13].

The negative effects of addiction from other smartphones were examined by Asih Fauziah. This study aims to determine the relationship between self-control and anxiety away from smartphones (nomophobia) in students of the Department of Communication, Diponegoro University. The population in this study were 457 students with a sample of 110 students. Data analysis using simple regression analysis which shows the value of $p = .030$ ($p < .05$), meaning that there is a significant negative relationship between the two variables. The results of this study indicate that Undip Communication Science students experience a level of anxiety far from smartphones (nomophobia) because they have high self-control. Self-control provides an effective contribution of 4.3% while the rest is determined by other factors not revealed in this study. In this study the results of the self-control variables showed that there were 0% in the very low category, 10.9% in the low category, 89% in the high category, and 0% in the very high category [14]. Ghufon and Risnawita stated that the more a person ages, the better the ability to control himself. Students who have high self-control will be able to regulate the use of smartphones to suit their needs and not be excessive [15].

Another negative effect of nomophobia was investigated by Villar, L.A. The variables in the study were extraversion, emotional stability, self-esteem, friendliness and openness. The number of research samples was 242 students in Spain, consisting of 46.7% men and 53.3% women. The

results of this study indicate that there is a negative correlation between nomophobia with self-esteem, emotional stability, friendliness and openness. While the extraversion shows a positive correlation relationship. Low self-esteem has the biggest impact in nomophobia. This can be seen as showing that individuals with low self-esteem seem to support indirect communication, because they feel comfortable operating a mobile phone. They often have the need to contact other people, and this makes them vulnerable to excessive use and dependence on cellphones [16].

Nomophobia is also very closely related to a person's tendency to experience social isolation. As in the study conducted by Gezgin et al in 2018. In the study it was found that there was a positive relationship between the level of nomophobia and loneliness. This means that the higher the level of nomophobia, the loneliness level also increases. Some people use cell phones to ward off loneliness, but the person remains isolated from real life. So the use of mobile phones allows one to avoid communicating and interacting with others directly and preferring to enjoy cyberspace [17]. In this study also explained that nomophobia can be caused by the length of time someone has an internet-based mobile phone. In addition, the high frequency of cellphone use every day allows a person to experience nomophobia [18].

Thus, the results of this literature review showed that addiction to mobile phones, especially smart phones can show symptoms of mental health problems such as anxiety, depression, decreased self-control and empathy, interpersonal relationship disorders, and someone who tends to experience nomophobia will experience low self-esteem.

Limitations

The limitations in this systematic review were that some of the references used do not explain in detail of the other factors that can cause nomophobia.

CONCLUSIONS

There was a lot of evidence from several studies that support the existence of mental health disorders caused by the use of mobile phones, especially excessive smart phones. However, further research can be done to overcome excessive anxiety when not using mobile phones, especially smart phones (nomophobia).

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