



RESEARCH ARTICLE

NOMOPHOBIA AND ITS PSYCHOLOGICAL IMPACT AMONG YOUTH – A COMPREHENSIVE REVIEW

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ABSTRACT

New technologies have become an integral part of individual's lives. The development of smartphone technology provides great opportunities and conveniences for people. As a result of their communication capabilities and people's interaction with them, smartphones have gained widespread acceptance. The great reliance on mobile devices and the increased time spent on them in the past two decades have brought about a host of newly classified medical conditions and diseases directly linked to their use, and one such condition is known as Nomophobia. Nomophobia (derived from the term "no-mobile-phone-phobia") is the dread of being separated from or unable to access one's mobile phone. It has the potential to transition into an addictive pattern, constituting a prevalent issue affecting young adults. Individuals might feel depression, anxiety, stress, discomfort, and nervousness as a result of being unable to contact smartphone services. In this light, the aim of the present review paper was to explore the relevant literature on prevalence, risk factors, diagnosis, preventive and therapeutic interventions associated with Nomophobia.

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INTRODUCTION

Communication and information technologies are hallmarks of our contemporary life, most notably, smart phones. Smartphone is no longer just a mobile phone, it is an essential element in our life and their impact on daily lives has been substantial especially among young people.^{1,2} Among College students smartphone is the one of the most popular electronic gadget due to the variety of functions and features it provides³. If utilized correctly, smartphones offer many important functions that extend beyond their traditional purpose as communication devices.⁴ However, as the demand for mobile phones has grown, addiction has led to the development of a psychological condition known as nomophobia⁵. The lives of many students have changed under the influence of this phenomenon because of its negative health risks and harmful psychological effect.⁶ It has been highlighted that the existing levels of nomophobia and their relationship with health consequences can be defined as an epidemic outbreak⁵. Students as an important and vulnerable population in the society, on the one hand, and as an active and dynamic population, on the other hand, need special attention.⁷ This review article aims to shed light on prevalence, risk factors, diagnosis, preventive and therapeutic interventions associated with Nomophobia.

Terminology: In the early 21st century, a new term, nomophobia (NO MOBILEPHONEPHOBIA), was first

introduced, as a finding of United Kingdom Post Office research, to describe the psychological effects of smartphone use.⁸ Nomophobia, a state of socio-psychological illness, includes two phrases: "no mobile" and "phobia" is a pathological fear of being out of contact with a mobile phone, having no mobile network, or having insufficient balance or battery.⁹ Nomophobia is defined as a fear of lack of access to one's mobile phone, and is thought to be a disorder in the modern age. This term also refers to mobile phone dependency or mobile phone addiction.⁷

Prevalence: Nomophobia is more prevalent among young adults and teenagers. Many studies have revealed a higher prevalence rate of nomophobia among university students in different countries around the world, such as India, South America, Saudi Arabia, and Indonesia. In general, elevated level of severe nomophobia is observed among university students ranging from 22.1% to 65%.² In India, Neelima et al, conducted a cross-sectional study of 320 undergraduate medical students and revealed a 100% prevalence of nomophobia, with 59% showing moderate symptoms, 35%

mild symptoms, and 6% severe symptoms. These studies highlight the high prevalence of nomophobia among students and its potential health consequences.¹⁰ Using smartphones has in some way become a dominant and defining feature and a symbol for the status of young generation⁵. Hanley believes addiction to mobile technologies can turn into a widespread social problem in the society⁷. According to a survey conducted by the Mobile Ecosystem Forum, Highest smartphone users were in the age group of 16 to 24 years, with 37% from India.³ Several studies have documented gender differences in relation to nomophobia. The findings were heterogeneous. Gender differences might be due to the fact that men believe that the technology of mobile phones increases their independence level, while women use the mobile phone mainly for communication and social networking, and in order to stay connected with friends and family.¹¹

Risk factors: Nomophobia is structured in four main dimensions and/or causes

- Fear or nervousness for not being able to communicate with other people
- Fear of not being able to connect
- Fear of not being able to have immediate access to information
- Fear of the renunciation of the comfort provided by mobile devices.¹²

Additionally, Low self-esteem, Excessive perfection, The fear of missing out (FOMO), or the intense worry of being left out or skipping a social gathering, extraversion and neuroticism have all been studied as a possible risk factors leading to inappropriate mobile phone use.^{11,13,14}

Academic performance and Nomophobia: Research conducted on university students indicated that excessive smartphone use, particularly for social networks, watching videos, and playing games, leads to significant time wastage and adversely affects academic performance. It results in decreased attention, bad grades, and increased university dropout rates.⁸ Lin *et al.* stated that nomophobia was responsible for late sleep and insomnia, which in turn, directly or indirectly, brought about deviations in learning behaviour. On the other hand, Lower nomophobic behaviour in university students was associated with better academic achievement.^{15, 16}

Neurological Response and Nomophobia: Social media has a neurochemical effect on the brain that makes it physically and mentally addicting. The brain's reward region and the chemical messenger routes that connect it influence perception and behavior. Neurons in the main brain regions that produce dopamine fire, raising dopamine levels when an individual uses an addictive substance or has a gratifying event. Consequently, the medication or action is associated with positive reinforcement, giving the brain a "reward" for using it.¹⁴ Smartphone dependence occurs because smartphones offer plenty of entertaining experiences that potentially act as rewards, increasing the opportunity for targeted use to become habitual use, triggered by internal stimuli and external¹⁷. Deursen *et al.* stated that when individuals check notifications on the smartphone it can serve as a reward, thus ensuring that the verification reappears and becomes habitual and addictive, which makes it increasingly difficult to control.¹⁸

Signs and symptoms of Nomophobia: Symptoms commonly associated with smartphone addiction include:

- Anxiety
- Depression
- Stress
- Sleeplessness
- Creativity Blocks
- Perspiration.
- Agitation
- Loneliness and Lower Concentration^{9, 14}

Scale used to measure the severity of Nomophobia: Nomophobia Questionnaire (NMP-Q) is a standard instrument to measure the severity of nomophobia. The pioneer study in this area was done by Yildirim and Correria in which they have developed Nomophobia Questionnaire (NMP-Q). It has four domains. 1. Not being able to communicate 2. Losing connectedness 3. Not being able to access information 4. Giving up convenience. Each item scored on a 7-point Likert scale. The score range on the NMP-Q is 20 at its lowest and 140 at its highest. Scores of 20 or less are considered absence of nomophobia, 21–59 is a mild level of nomophobia, 61–99 is a moderate level of nomophobia and 100–140 is severe nomophobia.¹⁹

Diagnosis: It's important to differentiate nomophobia from other conditions, such as generalized anxiety disorder or social anxiety disorder, as they can share some overlapping symptoms. Though the topic is very recent, there are some validated psychometric scales such as NMP-Q, Questionnaire of Dependence of Mobile Phone/Test of Mobile Phone Dependence (QDMP/ TMPD) and Problematic Mobile Phone Use Questionnaire (PMPUQ) that can be used to diagnose nomophobia. Inclusion of Nomophobia in the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) could be a useful opportunity for providing clinicians with a useful tool, fostering advancements in the field.²⁰

Treatment: The proposed treatment primarily consists of a combination of Non-pharmacological and pharmacological interventions

Non-pharmacological methods includes

- Cognitive behavioural therapy (CBT)
- Mindfulness-based approaches
- Digital detox programs
- Stress reduction exercises
- Counselling,
- Technological tools designed to reduce mobile phone usage

Pharmacological therapies include the administration of psychotropic drugs, most commonly in the selective serotonin reuptake inhibitor group (SSRI), benzodiazepines and antidepressants.^{20,21,22}

Prevention Strategies

To prevent Nomophobia

- Set device usage boundaries and limit screen time
- Encourage alternative activities like physical exercise or creative pursuits.

- Prioritise face-to-face interactions.
- Designating tech-free zones at home and learning institutions.
- Implement Digital Health education in schools
- Use applications that provide weekly usage summaries and alerts²²

CONCLUSION

Smartphones have become a defining feature of modern life, especially for younger generations. Using mobile phones has in some way become a dominant and defining feature and a symbol for the status of young generation. Its diverse advantages have made humans more inclined towards it thereby resulting in psychological as well as physical diseases. The global burden of Nomophobia will continue to rise, and it is therefore prudent that the youngsters be better educated about Nomophobia and their devices, as well as the negative side effects of the overuse thereof. It is not advisable to completely eliminate smartphone use, but establishing limitations and restrictions on its usage can be beneficial. It's vital to cultivate a healthier relationship with technology to prevent Nomophobia. As with most diseases, prevention is the best treatment option.

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