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## Association of level of physical activity in physiotherapy undergraduates with Nomophobia

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**Abstract**

**Background:** Due to the advances in smartphone technology, adolescents find difficult to refrain themselves from these devices. Smartphone usage is almost uncontrollable among the youth. This screen-based activity has become so addictive that youths fail to allocate their leisure time for physical activity. These high-tech tools have become a major contributor to sedentary lifestyle leading to low physical fitness levels.

**Aims:** To study the association between Nomophobia and level of physical activity in physiotherapy undergraduates.

**Settings and Design:** 200 students from DR. A. P. J Abdul Kalam College of Physiotherapy, Loni were randomly selected. The participants included were between the age group of 18-22 years. Participants who were not willing to participate in the study were excluded.

**Methods and Material:** Participants were assessed for Nomophobia and Level of physical activity using Nomophobia questionnaire (NMP-Q) and International physical activity questionnaire (IPAQ-LF).

**Results:** The result obtained suggested that mean and standard deviation of Nomophobia questionnaire (NMP-Q) for 200 samples was  $70.29 \pm 24.88$  and for the International physical activity questionnaire (IPAQ-LF) was  $597.92 \pm 378.49$ . The correlation coefficient<sup>®</sup> of 200 samples was 0.020. The result of the study showed negative and significant correlation with p value  $< 0.0001$ .

**Conclusions:** The study concluded that there is significant negative correlation between Nomophobia and level of physical activity in the physiotherapy undergraduates.

**Keywords:** nomophobia, nomophobia questionnaire, physical activity, international physical activity questionnaire

**Introduction**

Smart phones have become a massive part of our life, it being a necessity because of the countless advantages we are provided with. Smartphones have evolved from single feature device to a multi feature gadget<sup>[1]</sup>. Besides providing various advantages, excessive usage of smartphones has led to many problems. Smartphones being indispensable resource are known to produce behavioural modifications in everyday activities<sup>[2]</sup>.

The term “Nomophobia” or “No mobile phone phobia” essentially describes a psychological condition in which people fear of being detached from smartphone. It creates an irrational fear in the individuals where they become restless when they cannot get access to their phones<sup>[3]</sup>. Due to strong dependency on mobile technology, Nomophobia has led to negative repercussions in the youth. It has adversely affected an individual’s work and academic performance provoking constant distractions<sup>[4]</sup>.

Nomophobic individuals tend to show behaviours like constantly checking their phone for any calls or messages, sleeping with the phone aside, getting apprehensive when unable to get access to the internet or running out of battery<sup>[2]</sup>. This digital disease has caused psychological, cognitive, behavioural alterations arising problems such as sedentary lifestyle, obesity and sleep disorders<sup>[3]</sup>.

Nomophobics generally exhibit irritability, depression, anxiety like symptoms when not in contact with their phones<sup>[4]</sup>. It has been found that whenever youngsters have free time, they prefer spending most of their time on the smartphones rather than getting engaged in some form of physical activity<sup>[4]</sup>. Smartphones have now replaced leisure activities, reducing an individual’s physical performance at large extent<sup>[7]</sup>.

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Apart from these devices being useful, it has got various side-effects. Most of the Nomophobics have a habit of using their phones late nights for hours. Our sleep quality is negatively hampered due to the increase in screen time. This is what makes them tired and feel fatigued the whole day [5]. This not only makes the individual lethargic but minimizes the involvement in physical activities like household chores, leisure- walking, playing sports [5].

Physical activities have a major influence on the social well-being, self -esteem, maintaining balance between energy levels and on decreasing the likelihood of chronic diseases [6]. Participating in physical activities help increase metabolic energy expenditure of an individual [6]. People spending ample of time watching videos, playing games, surfing web generally contribute to sedentary lifestyle [1].

Due to low physical activity, behavioural changes like depression and anxiety persist and worsen. Due to this emotional instability, youths are less likely to participate in physical activities and outdoor sports. These negative emotions built make an individual more prone to develop screen addictions reducing their level of performance, leading to rise in weight [7].

Researchers have found that mental fatigue associated with excessive smartphone usage could be related to low levels of physical activities. Moreover, screen time > 2 hours per day was found to be a major risk factor for adolescents being overweight [7]. It has been found that majority of smartphone use occurred in sitting. In other words, as daily smartphone usage increased, so was the sitting time. Along with reinforcing sitting behaviour, it is giving rise to sedentarism [8]. In order to improve ones quality of life, it is necessary for one to adopt a healthy living by increasing their performance of physical activity. Youths will have a positive impact on their health as they will cultivate this habit in future [6].

**Materials and Methods**

Ethical clearance was obtained from Institutional ethical committee of Dr. APJ Abdul Kalam college of Physiotherapy (PIMS/DR.APJKCOPT/IEC/2020/ 10). As per the inclusion and exclusion criteria, 220 participants were selected. The procedure was explained to all the participants prior to the study. The written informed consent was circulated among 220 participants, out of which 200 participants were willing to participate in the study.

The participants in the study had filled their demographic data. They were further assessed for Nomophobia using Nomophobia questionnaire (NMP-Q). The Nomophobic subjects were then asked to fill the International physical activity questionnaire long form (IPAQ-LF) in order to assess their level of physical activity.

The information and the results of Nomophobia questionnaire and physical activity questionnaire were further recorded and correlated to receive positive outcomes of association between them.

**Results**

The statistical analysis was done using instat 3.9 software. Various statistical measures such as mean, standard deviation (SD), correlation coefficient (r) was utilized to analyse the data.

When NMP-Q was correlated using correlation coefficient (r) with IPAQ-LF considering all the 200 samples, the result obtained was r =0.020. The result was concluded to be extremely significant with the p value of < 0.0001.

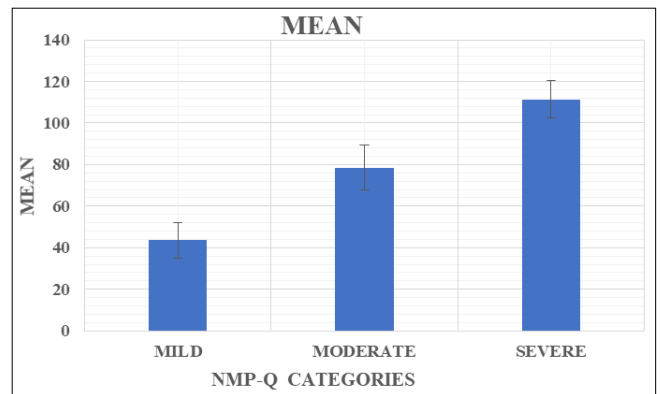
The following table 1 suggests that Mean and SD value of NMP-Q for 200 samples was 70.29 ± 24.88 and IPAQ-LF was 597.92± 378.49.

**Table 1:** Mean and SD of NMP-Q and IPAQ-LF of all 200 samples

	NMP-Q	IPAQ-LF
Mean and SD	70.29 ± 24.88	597.92±378.49

**Table 2:** Mean and SD of NMP-Q

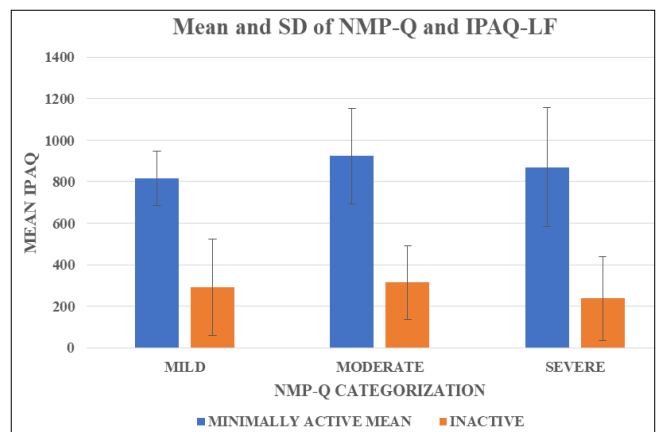
Categories	Mean and SD
Mild	43.50 ±8.74
Moderate	78.41±10.82
Severe	111.37± 9.06



**Fig 1:** Mean and SD of NMP-Q

**Table 3:** Mean and SD of NMP-Q and IPAQ-LF

Nmp-q	IPAQ-LF	
	Inactive	Minimally active
Mild	291.58±230.11	815.01±131.82
Moderate	314.44±178.92	924.22±230.30
Severe	238.5±201.67	870.12±284.90

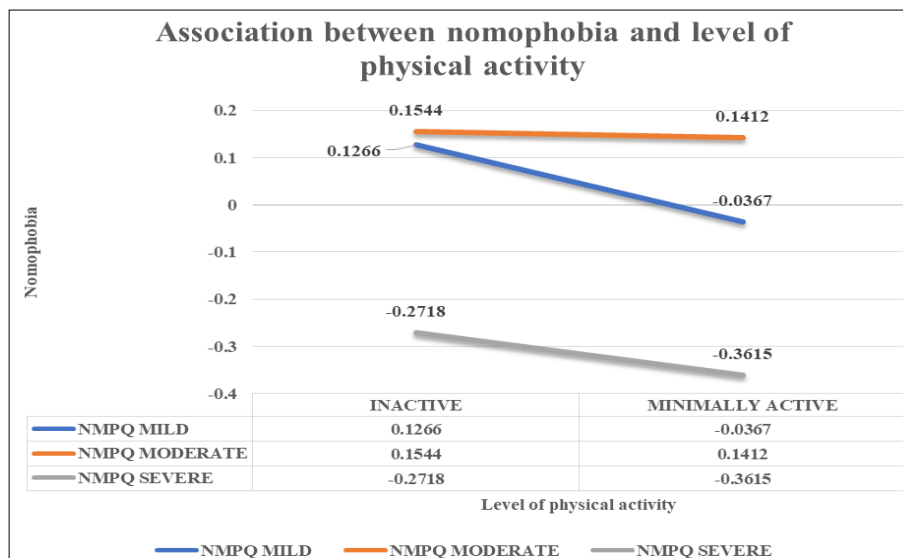


**Fig 2:** Mean and SD of NMP-Q and IPAQ-LF

Since, there was only one highly active participant in each category of Nomophobia, correlation between those participants could not found. Hence, in this study, the criteria of participants belonging to “highly active” was ruled out.

**Table 4:** Correlation between NMP-Q AND IPAQ-LF

	Nmp-Q		
Ipaq-lf	Mild	Moderate	Severe
Inactive	0.1266	0.1544	-0.2718
Minimally active	-0.0367	0.1412	-0.3615



**Fig 3:** Correlation of NMP-Q and IPAQ-LF

### Discussion

The present result of the study suggested that there is a negative correlation between Nomophobia and level of physical activity in young adults. The scores of Nomophobia questionnaire (NMP-Q) and International physical activity questionnaire (IPAQ-LF) showed relevant association. After this study, it was concluded that if the score of NMP-Q is increased, there is decrease in the score of IPAQ-LF. This further indicates higher the score of Nomophobia, lesser is the physical activity.

The result was similar to that obtained in a study by Baek K, Cho J (2020) who studied the impact of smartphone usage on the fitness levels. The key objective of the study was to find to association between smartphone use and fitness levels among students. The results revealed that there was a linear decrease in the fitness levels among increase in smartphone usage time. There was a negative correlation between screen time applications and IPAQ-LF. The conclusion of the study was that students with increase in smartphone time had high risk of decrease in physical fitness levels<sup>[12]</sup>.

Another similar study done by Bravo-Sánchez A *et al.* Reported that mental fatigue associated with excessive smartphone application could be a contributor to reduced physical activity levels<sup>[10]</sup>. Such inactive behaviour gives rise to various metabolic disorders and obesity resulting from low energy expenditure, was reported by Matthews and Dunstan<sup>[11]</sup> Studies done by Lepp *et al.* Revealed that increase in frequency of smartphone usage could impede physical activity, reducing cardiorespiratory fitness<sup>[11]</sup>.

A similar study done by Barkley and Lepp revealed that 87% of the participants made use of smartphones while sitting. Along with reinforcing sitting behaviours, smartphones emerged to be potential promoter of sedentary behaviour<sup>[12]</sup>. A study done by Strasburger *et al.*, (2010) suggested that as the sedentary behaviour increased in children along with insufficient sleep patterns, their level of physical activity decreased<sup>[6]</sup>. Jee Y *et al.* Reported that participants with excessive mobile usage spent most of their time using the devices and were less commonly involved in walking, thus contributing to reduced muscle mass and increased fat mass<sup>[8]</sup>.

### References

1. Singh A, Singh H. Relationship between smartphone usage, leisure-time physical activity and body mass index

among young male adults. *Int J Yogic Hum Mov Sports Sci* 2019;4(1):1342-8.

2. Bajaj S, Maheshwari SK, Maheshwari PS. Prevalence of Nomophobia among college students: An exploratory cross-sectional survey. *Indian J Psychiatr Nurs* 2020;17(1):29.
3. Rodríguez-García AM, Moreno-Guerrero AJ, Lopez Belmonte J. Nomophobia: An individual's growing fear of being without a smartphone: A systematic literature review. *Int J Environ Res Public Health* 2020;17(2):580.
4. Demirbilek M, Minaz M. The Relationship between Physical Activity and Smart Phone Use in University Students. *J Educ Sci Environ Health* 2020;6(4):282-96.
5. Taywade A, Khubalkar R. A study of relationship between hours spent on smartphone and pathological behaviour among adolescents. *Int J Indian Psychol* 2019;7:516-23.
6. Kheradmand A, Hassabi M, Alishahi Y, Seif P. The Relation of Internet and Smartphone Addiction with Physical Activity Level in Medical Students.
7. Grimaldi-Puyana M, Fernández-Batanero JM, Fennell C, Sañudo B. Associations of objectively-assessed smartphone use with physical activity, sedentary behaviour, mood, and sleep quality in young adults: A cross-sectional study. *Int J Environ Res Public Health* 2020;17(10):3499.
8. Fennell C, Barkley JE, Lepp A. The relationship between cell phone use, physical activity, and sedentary behaviour in adults aged 18-80. *Comput Hum Behav* 2019;90:53-9.
9. Yoo JI, Cho J, Baek KW, Kim MH, Kim JS, Yoo JI *et al.* Relationship between Smartphone Use Time, Sitting Time, and Fitness Level in University Students. *Exerc Sci* 2020;29(2):170-7.
10. Bravo-Sánchez A, Morán-García J, Abián P, Abián-Vicén J. Association of the Use of the Mobile Phone with Physical Fitness and Academic Performance: A Cross-Sectional Study. *Int J Environ Res Public Health* 2021;18(3):1042.
11. Kim SE, Kim JW, Jee YS. Relationship between smartphone addiction and physical activity in Chinese international students in Korea. *J Behav Addict* 2015;4(3):200-5.
12. Fennell C, Barkley JE, Lepp A. The relationship between cell phone use, physical activity, and sedentary behaviour in adults aged 18-80. *Comput Hum Behav* 2019;90:53-9.