Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14,Issue 32s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Phantom Vibrations and Ringing Syndrome, and its Association with Smartphone Addiction among Department of Anesthesia Technique Students, Al-Kut University College

Talib Saddam Mohsin[1], Nawras Najah Mubark [2], Shahad Q. Al-Hamadiny[3]

[1]Head Department of Anesthesia techniques university of Kut, Wasit.Iraq

[2,3]Department of Forensic Evidence, College of Science, Wasit University, Wasit, Iraq

Email ID nawrasmubark@gmail.com , shaghadham@gmail.com

Cite this paper as: Talib Saddam Mohsin, Nawras Najah Mubark , Shahad Q. Al-Hamadiny, (2025) Phantom Vibrations and Ringing Syndrome, and its Association with Smartphone Addiction among Department of Anesthesia Technique Students, Al-Kut University College. *Journal of Neonatal Surgery*, 14,(32s) 9394-9401.

ABSTRACT

Introduction: Phantom vibration syndrome (PVS) and phantom ringing syndrome (PRS) is a false sensation of phone vibration and ringing when it is not. This study aimed to estimate the prevalence of PVS/PRS among Department of Anesthesia Technique Students, Al-Kut University College, Iraq.

Methods: Using cross-sectional analytical design, sociodemographic details, information on phantom sensations and phone usage among medical students in Department of Anesthesia Technique Students, Al-Kut University College, Iraq, was obtained. Stratified random sampling strategy was incorporated to achieve a sample size of 1000 students. Also, overuse of phone was assessed using Smartphone Addiction scale - short version (SAS-SV).

Results: This study confirms the findings of other national and international research on the experience of smartphone phantom sensations and its relationship to phone usage pattern. The results of the research showed that most of the students in the Department of Anesthesiology are addicted to using smartphones (66%), and their degree of addiction was moderate at 73% and severe at 21%, as the phantom sensation of ringing or vibration was rooted in the students who had a severe addiction to smartphones.

Conclusion: This study showed that the severity of addiction to smart phones has a close relationship with phantom sensations. Therefore, other studies are necessary in Iraq to determine the role of PRS/PVS in the accuracy of the sensory health of medical staff working in the hospital in addition to students of medical specialties.

Keywords: Smartphone, PVS, PRS, Addiction, sensations, mobile phone

1. INTRODUCTION

In hospitals and universities, medical staff members frequently use mobile phones. Mobile phones are now a standard piece of equipment for doctors and are widely used for clinical communication [1]. In order to improve healthcare's effectiveness, affordability, and quality, mobile phones and other wireless technologies are being used more and more globally [1,2].

Since mobile phones are seen to be potentially dangerous, particularly when near sensitive electronic equipment, they are nevertheless prohibited in several hospitals [3,4]. Numerous uneven hospital regulations have resulted from a lack of knowledge about mobile phone systems, their electromagnetic interference with medical instruments, and accessible management options [2]. According to available data, there is a slight chance that mobile phones could interfere with medical equipment, but only if staff members use them within one meter of potentially vulnerable devices [3, 5]. Research on mobile phone use in anesthesia indicates that there is inconsistency in environmental risk statistics and that anesthetists who use mobile phones are less likely to put their patients at danger [5]

Phantom sensations like phantom vibration (PV) and phantom ringing (PR)—the sensation of vibration and ringing of the phone when it is not, respectively—are one of the**.**

latest in this category to receive global attention [6]. The increased usage of smartphones by people of all ages, particularly young people, may be the cause of this. According to a recent report by the Telecom Regulatory Authority of India (TRAI), 1,167.44 million Indians were mobile phone users as of December 2017 [7]. Globally, a similar pattern has been noted. Unsurprisingly, there has also been a rise in problem behaviors linked to mobile phone use [8]. Among the disruptions observed are phantom vibration syndrome (PVS), emotional issues allegedly brought on by excessive smartphone use, and behavioral addictions (cell phones, the Internet, etc.) [9,10]. Despite being called a "syndrome," PVS is not actually a disease or condition. The same is true with PRS, which is more of a "normal phenomenon" with potential stimulus misinterpretation [11-13].

In our view, the increase rate PVS/PRS among medical college students is a threat to their health and their success in their work in the future. In Iraq, the study is very limited regarding the different effects of smartphone addiction on young people, so the current study aimed to evaluate the prevalence of PVS/PRS among Department of Anesthesia Technique Students, Al-Kut University College, Iraq.

2. MATERIAL AND METHODS

This was a cross-sectional study that included samples of students from the Anesthesia Techniques Department at Kut University College, a private college located in central Iraq. The initial examination of the trainees was conducted by a qualified psychiatrist. Trainees were recruited who were smartphone users and consented to the study. We specifically chose smartphone users, as these are the most commonly used devices these days, especially among younger populations, and one of the tools used is specifically designed for smartphone users. Hence, traditional basic (non-smart) or feature phone users were not included. Furthermore, those with a current or past history of mental illness or alcohol/substance dependence were also excluded to minimize the influence of abnormal perceptual experience associated with mental illness on normal phantom sensations.

The self-administered smartphone addiction scale (SAS) created by Kwon et al. [14] to assess smartphone addiction served as the basis for the questionnaire. We adjusted the questionnaire in light of the SAS scale, our environment, and a thorough literature analysis. We assessed both content and facial validity. We described the goals of our investigation and the ramifications of the questionnaire responses. Prior to starting the questionnaire's reliability testing, which we accomplished using the test-retest method, we made further qualifiers after the experts evaluated the questionnaire in light of the study's objectives [14]. After that, we determined the intra-class correlation coefficient, which was dependable because it was greater than 0.8. A quantitative portion of the questionnaire used a 26-variable scale to measure phantom vibration/ringing syndrome (PVRS). Every variable received a rating between 0 and 5, with 0 denoting "strongly disagree," 1 "disagree," 2 "neither agree nor disagree," 3 "moderately agree," 4 "agree," and 5 "completely agree." Participants were asked in the first section of the questionnaire how many cell phones they carry, where they store them, how many hours they spend using their phones in ringing, silent, and vibration modes, and how many calls they typically receive each day [15].

We used SPSS version 22 to conduct statistical analysis after entering the gathered data into the Epi Info 7 program. We employed a chi-square test to see whether there was a correlation between the variables after using descriptive statistics to characterize the gender, number of mobile phone users, and location of phone storage between uses. For the scales based on mobile phone influencer usage, we employed descriptive statistics. A P-value of less than 0.05 was deemed statistically significant by us [16].

3. RESULTS

The current study included 1,000 students from the Department of Anesthesiology at Kut University College who used smart phones. Their ages ranged from 18 to 24 years, with an average age of 21 ± 2.1 years. There were significant differences (P value= 0.031) in the gender of the participants, as the majority of them were female (69%), while the percentage of males was (31%) as shown in Table (1).

Table (1): Age range and gender of participants

Age properties (years)	
Age range	18 - 24
Mean ± Standard deviation	21 ± 2.1
Standard error	0.07
Gender	N (%)
Females	690 (69%)

Males	310 (31%)
P value	0.031*
Total number	1000

*significant difference (P > 0.05)

In the figure (1), we found most (66%) students are addicted on smart phone that lead to significant differences (P = 0.0326) in addiction on use of smart phone. However, most females (65%);and males (69%) addicted on use of smart phone where most of them received from 1 to 10 call per day so 4% and 25% received more than 10 calls per day as shown in tables (2) and (3).

Figure (1): Distribution of students according to smartphone addiction

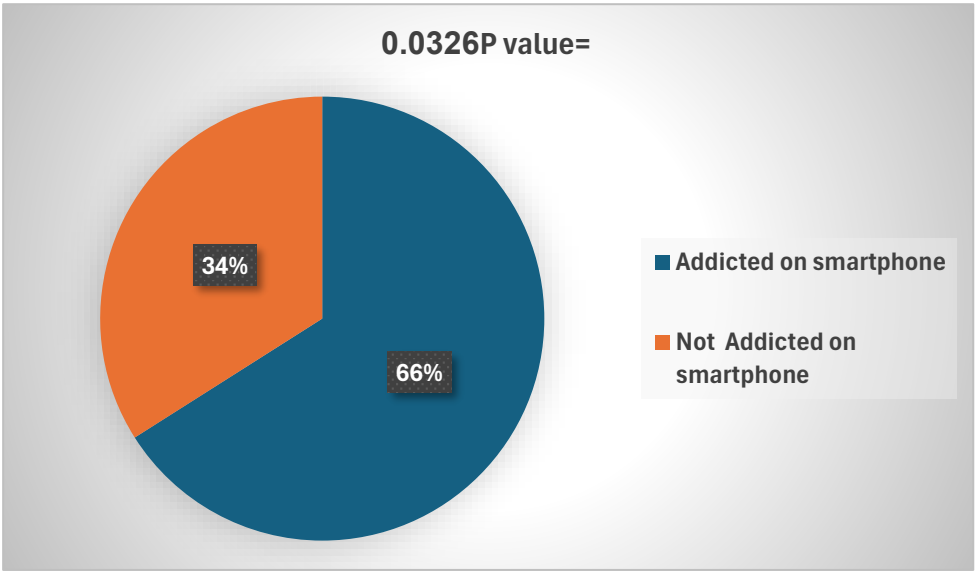

Table (2): Distribution of smartphone addiction according to students' gender

Smartphone addiction	Females	Males	DF	X^2	P value
Addicted	449 (65%)	213 (69%)	1	1.12	0.063
Not Addicted	241 (35%)	97 (31%)			
P value	0.033*	0.031*			
Total number	690	310			

*significant difference (P > 0.05), DF: Degree of freedom, X^2: Chi square

Table (3): Smartphone calls number per day

Calls number per day	Females	Males	DF	X^2	P value

>10	665 (96%)	234 (75%)	1	7.25	0.0212*
<10	25 (4%)	76 (25%)			
P value	0.003*	0.011*			
Total number	690	310			

*significant difference (P > 0.05), DF: Degree of freedom, X2: Chi square

Current study showed most of the students had their mobile phone on the vibrator, while 45% of them appeared to be using the ring mode (P value= 0.0492) as described in figure (2). Moreover, we determined most males programed their smartphones on ring mode (57%) while most females (60%)setup their smartphones on vibrate mode (X^2= 2.99, P value= 0.047) as detected in table (4).

The severity degree of smartphone, table (5), addiction was moderate in most participants (73.3%) whereas 20.9% and 5.8% of cases were have sever and mild addiction on smartphone respectively (P value= 0.038).

Data in table (6) showed that PRS appeared in 34% of participants while PVS determined in in 50% of them. Moreover, these syndromes mainly associated with females compared with males(20.7% and 3.7% respectively). In table (7), we found significant association PRS/PVR with moderate and severe addiction on smartphone especially of students who carried out more than ten calls per day.

Figure (2): Distribution of participants according to mobile mode

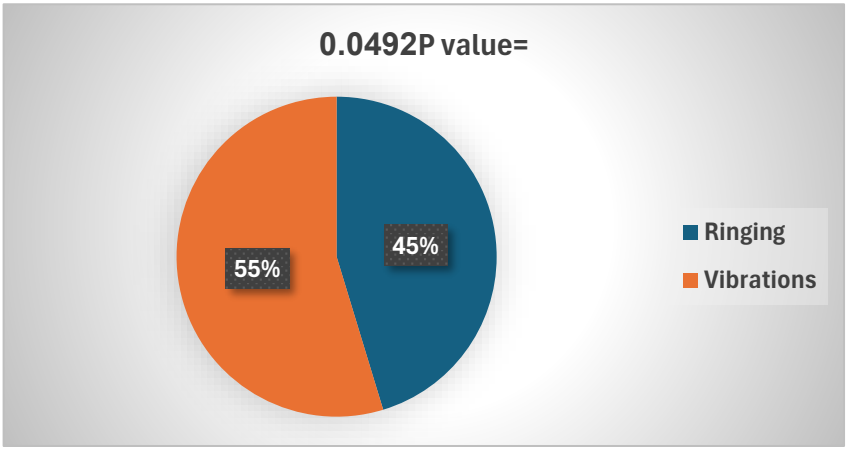

Table (4): Distribution of mobile mode according to users' gender

Mobile mode	Total number	Males	Females	DF	X^2	P value
Ringing	453	177 (57%)	276 (40%)	1	2.99	0.047*
Vibrations	547	133 (43%)	414 (60%)			

P value	0.0492*	0.045*	0.039*			
Total number	1000	310	690			

*significant difference (P > 0.05), DF: Degree of freedom, X^2: Chi square

Table (5): Distribution Severity of smartphone addiction according to users' gender

Severity of smartphone addiction	Total number	Females	Males	DF	X^2	P value
Mild	58 (5.8%)	43 (6%)	15 (5%)	2	1.02	0.077
Moderate	733 (73%)	493(72%)	240 (77%)			
Sever	209 (21%)	154 (22%)	55 (18%)			
P value	0.038	0.043*	0.042*			
Total number	1000	690	310			

*significant difference (P > 0.05), DF: Degree of freedom, X^2: Chi square

Table (6): Distribution phantom sensation syndrome according to users' gender

Phantom syndrome	Total number	Females	Males	OR	P value
PRS	341 (34%)	209 (20.7%)	132 (13.3%)	1.96	0.058
PVS	500 (50%)	307 (30.7%)	193 (19.3%)	3.66	0.040*
P value	0.038*	0.049*	0.060		

*significant difference (P > 0.05), OR: odd ratio

Table (7): Distribution PRS/PVS according to severity of addiction and number of calls per day

Severity of smartphone addiction	PRS		PVS	
	95%CI	P value	95%CI	P value
Mild	0.6831-0.6944	0.101	0.7429-0.8216	0.091
Moderate	0.8675-0.9492	0.048*	0.7608-0.9027	0.022*
Sever	0.6993-0.8856	0.011*	0.7790-0.9052	0.040*
Calls number per day	PRS		PVS	
	95%CI	P value	95%CI	P value

>10	0.6883-0.7116	0.117	0.7162-0.8314	0.033*
<10	0.7003-0.8528	0.047*	0.7944-0.9105	0.045*

*significant difference (P > 0.05), CI: confidence interval

4. DISCUSSION

PVS and PRS are common forms of pseudo-hallucination in the general population, especially the teenagers and Adolescents [17]. In present study, PRS determined in 34% of Anesthesia Technique Students while PVS obtained in 50% of them. Moreover, these syndromes mainly associated with females compared with males (20.7% and 3.7% respectively). However, prevalence of phantom sensations shows wide variability. An Iranian study involving medical students found the prevalence of 54.3% and 49.3% for PV and PR, respectively, which is close to pervious findings of 60% and 49%, respectively [18]. On the other hand, baseline prevalence among Taiwanese medical interns was found to be 78.1% and 27.4% for PV and PR, respectively. In India, Goyal (2015) studied PV and PR among 300 postgraduate students and found that 74% of students had experienced both phenomena, whereas 17% experienced PV exclusively and 4% experienced PR exclusively [19]. On the other hand, baseline prevalence among Taiwanese medical interns was found to be 78.1% and 27.4% for PV and PR, respectively, which spiked to a maximum of 95.9% and 87.7% respectively during the period of internship [17]. Similar high prevalence of PV (93%) was reported among Pakistani medical students [20]. An Indian study involving 300 students found the prevalence to be around 74%. Such wide variation could be accounted for by different geographical and sociodemographic characteristics along with varied levels of stress and emotional responses among different populations [19,21]

Similar to our findings, previous studies too have reported higher prevalence of phantom sensations when using the phone in ringing mode and among those who spend more time using their mobile phone [17,19]. On the subjective evaluation of the extent of phone use based on the approximate number of calls/messages attended per day, we found a significant relationship with experience of phantom sensations [22]. Further, on an objective evaluation of the extent of phone use by applying SAS-SV Scale, lower scores were significantly associated with lower chances of experiencing phantom sensations [22]. Thus, we found a possible relationship between the extent of smartphone use and experience of PV/PR. This phenomenon could have three possible explanations: firstly, Higher smartphone use emanates from differing needs like productivity-enhancement, information-seeking, social information, and interaction, diversion and relaxation, entertainment, monetary compensation, and personal status [23]. Individuals are reliant on messages/Calls/alerts to navigate their personal, professional, and social relationships and hence more likely to receive more messages, keep their phone in vibration mode to be alerted to those messages, and thus develop heightened sensitivity to mobile phone vibrations because of repeated exposure [18]. Secondly, Higher smartphone use is often considered as a risk factor for developing anxiety, stress, and depression, indicating higher stress levels among such individuals leading to heightened sensitivity and predisposition to misinterpretation of sensory stimuli or imagined vibrations [24]. Mobile phones may also be used as a coping method to deal with negative emotion, suggesting a bidirectional relationship [25]. Previous finding of lower PSS scores being significantly associated with a lower experience of PV also supports the latter possibility. Thirdly, Certain psychological attributes, as explained earlier, could have interacted with contextual factors like emergency duties, which are common during the internship, leading to higher chances of PV and PR experiences [22].

In the current study, we found a difference in addiction to using smart phones between males and females in terms of the number of calls, the severity of addiction, and whether the mobile phone is ringing or vibrating. This difference may be related to free time or the nature of the programs or applications installed. For example, addiction to games is one of the reasons for increasing addiction on mobile phones among males [26]. Findings suggest economic factors, Internet availability, social norms and certain addiction-related health factors may significantly relate to gender-related differences in smartphone addiction tendencies across countries [27]. So far, researchers have suggested that the manner of smartphone use differs according to gender.26,27 For example, males often play games, watch videos and listen to music when they use smartphones; females send text messages, take calls or use social applications more often. Additionally, there is a significant difference in the severity of smartphone addiction across genders [28-30]

5. CONCLUSION

The prevalence of PVS and PRS in medical students was 34% and 50%. Although the PVS and PRS prevalence in current study was lower than that in other studies, morbidity in half of students is considerable. Therefore, controlled behavior in using new technologies and electronic devices in adolescents especially in medical students is necessary for preventing

psychological disorders. Regarding the limited studies about PVS and PRS, the authors suggest future studies be done to assess the long-term

REFERENCES

[1] equipment and its clinical relevance: a systematic review. Med J Aust. 2004 Aug 2;181(3):145-9.

[2] Morrissey JJ. Mobile phones in the hospital: improved mobile communication and mitigation of EMI concerns can lead to an overall benefit to healthcare. Health Phys. 2004 Jul;87(1):82-8.

[3] Klein, A.A. · Djaiani, G.N. Mobile phones in the hospital – past, present and future Anaesthesia. 2004; 58:353-357.

[4] Shaw CI, Kacmarek RM, Hampton RL, Riggi V, El Masry A, Cooper JB, Hurford WE. Cellular phone interference with the operation of mechanical ventilators. Crit Care Med. 2004 Apr;32(4):928-31.

[5] Imhoff M. Everybody on the phone? Anesth Analg. 2006 Feb;102(2):533-4.

[6] Varela JE. Technopathology: The New Epidemic of the 21st Century. Rev Enferm. 2016;39:31–6. [PubMed] [Google Scholar]

[7] Telecom Regulatory Authority of India (TRAI), Telecom Subscription Data December 2017. [Last accessed on 2018 Mar 12]. Available from: http://www.trai.gov.in/sites/default/files/PR_No23_TSD_Eng_16022018.pdf .

[8] International Telecommunication Union, World Telecommunication/ICT Development Report and database. 2016. [Last accessed on 2018 Mar 12]. Available from: https://data.worldbank.org/indicator/IT.CEL.SETS.P2?end=2016&name_desc=false&start=2007&view=chart .

[9] Elhai JD, Dvorak RD, Levine JC, Hall BJ. Problematic smartphone use: A conceptual overview and systematic review of relations with anxiety and depression psychopathology. J Affect Disord. 2017;207:251–9.

[10] De-Sola Gutierrez J, Rodriguez de Fonseca F, Rubio G. Cell-Phone Addiction: A Review. Front Psychiatry. 2016;7:175.

[11] Rothberg MB, Arora A, Hermann J, Kleppel R, St Marie P, Visintainer P. Phantom vibration syndrome among medical staff: A cross sectional survey. BMJ. 2010;341:c6914.

[12] Chandramouleeswaran S, Edwin NC, Braganza D. Job stress, satisfaction, and coping strategies among medical interns in a South Indian tertiary hospital. Indian J Psychol Med. 2014;36:308–11.

[13] Liu CH, Tang WR, Weng WH, Lin YH, Chen CY. The process of coping with stress by Taiwanese medical interns: A qualitative study. BMC Med Educ. 2016;16:10.

[14] Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: development and validation of a short version for adolescents. PLoS One. 2013 Dec 31;8(12):e83558.

[15] Ramasubramani P, Vengadessin N, Saya GK. Prevalence of Phantom Vibrations and Ringing Syndrome, and its Association with Smartphone Addiction among Medical Students of Teaching Hospital, South India. Psychiatry. 2023 Summer;86(2):157-163.

[16] Kazaal MA, Ghanim A. Abbas GA, AL –Kurdy MJ. An Attempt to Determination of the Optimal Vaccine Against Corona Virus in Iraq: Corona Vaccines and Their Effect on the Sustainable Development Goals. AIP Conf. Proc. 3092, 020004 (2024). https://doi.org/10.1063/5.0199663

[17] Lin YH, Chen CY, Li P, Lin SH. A dimensional approach to the phantom vibration and ringing syndrome during medical internship. J Psychiatr Res. 2013;47:1254–8 .

[18] Mohammadbeigi A, Mohammadsalehi N, Moshiri E, Anbari Z, Ahmadi A, Ansari H. The prevalence of phantom vibration/ringing syndromes and their related factors in Iranian students of medical sciences. Asian J Psychiatr. 2017;27:76–80.

[19] Goyal AK. Studies on Phantom Vibration and Ringing Syndrome among Postgraduate Students. Indian J Comm Health. 2015;1:35–40.

[20] Alam M, Qureshi S, Sarwat A, Haque Z, Masroor S, Makki A, et al. Prevalence of Phantom Vibration Syndrome and Phantom Ringing Syndrome (Ringxiety): Risk of Sleep Disorders and Infertility among Medical Students. Int J Adv. 2014;2.

[21] Drouin M, Kaiser DH, Miller DA. Phantom vibrations among undergraduates: Prevalence and associated psychological characteristics. Comput Human Behav. 2012;28:1490–6.

[22] Mangot AG, Murthy VS, Kshirsagar SV, Deshmukh AH, Tembe DV. Prevalence and Pattern of Phantom Ringing and Phantom Vibration among Medical Interns and their Relationship with Smartphone Use and

Perceived Stress. Indian J Psychol Med. 2018 Sep-Oct;40(5):440-445.

[23] Elhai JD, Dvorak RD, Levine JC, Hall BJ. Problematic smartphone use: A conceptual overview and systematic review of relations with anxiety and depression psychopathology. J Affect Disord. 2017;207:251–9 .

[24] Panova T, Lleras A. Avoidance or boredom: Negative mental health outcomes associated with use of Information and Communication Technologies depend on users' motivations. Comput Human Behav. 2016;58:249–58.

[25] Kim J, Seo M, David P. Alleviating depression only to become problematic mobile phone users: Can face-to-face communication be the antidote? Comput Human Behav. 2015;51:440–7.

[26] Wu YY, Chou WH. Smartphone addiction, gender and interpersonal attachment: A cross-sectional analytical survey in Taiwan. Digit Health. 2023 May 24;9:20552076231177134.

[27] Su W, Han X, Jin C, *et al.* Are males more likely to be addicted to the internet than females? A meta-analysis involving 34 global jurisdictions. Comput Human Behav 2019; 99: 86–100.

[28] Yang SY, Lin CY, Huang YC, *et al.* Gender differences in the association of smartphone use with the vitality and mental health of adolescent students. J Am Coll Health 2018; 66: 693–701.

[29] Lee EJ, Kim HS. Gender differences in smartphone addiction behaviors associated with parent–child bonding, parent–child communication, and parental mediation among Korean elementary school students. J Addict Nurs 2018; 29: 244–254.

[30] Kalyani B, Reddi N, Ampalam P, et al. Depression, anxiety and smartphone addiction among medical students. IOSR J Dent Med Sci 2019; 18: 33–37..