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Original Research Article

Prevalence of Neck Pain during Post Pandemic among Physiotherapist Students using Electronic Gadgets at Gurugram University: A Cross-Sectional Study

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ABSTRACT

Background: Neck pain is a chronic episodic condition characterized by persistent fluctuating pain. Neck pain is characterized by potential damage to a certain structure of the cervical spine.

Aims and Objectives: (1) To find out the prevalence of neck pain in physiotherapy students in Gurugram University in India. (2) To find out the associated factors related to neck pain.

Material and Methods: A cross-sectional study was conducted among 300 physiotherapy students of Gurugram University from November 2021 to December 2021. We include all the BPT and MPT students 18-25 years of age. The questionnaires were provided to the students via Gmail or personal messages and data were collected after filling up the online google forms. Self-structured closed-ended questionnaires were used and an NDI scale was applied to know the intensity of neck pain. The confidentiality and anonymity of study respondents were maintained. The data was collected were entered in a Microsoft excel sheet and analyzed using SPSS v 22 statistical software.

Results: Out of the total 300 participants 65% were female and 35% were male. Most of the participants were in the age group of 18-20 years. According to the NDI questionnaire and we found that 55% have mild disabilities and a smaller number of participants have severe disabilities.

Conclusion: This study found that neck pain is the most common musculoskeletal disorder by using electronic gadgets during this pandemic of COVID-19. Different factors like the faulty posture of the study, place, continuous study hours, and mode of study are also the reason for neck pain

KEYWORDS: Neck pain, laptop users, online classes, MSDs.

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INTRODUCTION

COVID-19 was declared a pandemic by WHO (World Health Organization). A nationwide lockdown occurred in India in which the majority of people have faced changes in work patterns and lifestyles both, which we had never experienced before. Even the education sector is still not allowed to have an offline mode of learning to date all. Owing to this many people in India are using many electronic gadgets like laptops, desktops, mobile phones, etc. For attending lectures, webinars, symposiums, and panel discussions video conferencing were done and people work from home in many public and private sectors [1]. Neck pain is a chronic episodic condition characterized by persistent, non-transient, or fluctuating pain [2]. It is a complaint by young adults having 14-71% incidence sometimes in their lives [3]. Neck pain indicates potential damage to structures of the cervical spine and may also cause by a number of pathologies of the cervical spine. A number of risk factors are responsible for it. Physical risk factors include posture & duration of the study and one of the important risk factors for neck pain is gender [4,5,6]. Women are more prone to develop neck pain than men & the risk increases with age [7-9]. Incidence of neck pain or Neck Shoulder Trouble (NST) gets higher with increasing age. Hence older adults are more prone to neck pain than younger ones. Level of education can also affect and cause neck pain as students spend more time in their studies [10]. During the Covid-19 pandemic, because of the total shut down in the country, it is need of time to switch to online work from home, so during a pandemic and somehow in post-pandemic also the use of gadgets increased as compared to the previous one. This may lead to sitting over the laptop or electronic gadgets for many hours in front of them. So, this study will emphasize or envisaged this aspect.

MATERIALS AND METHODS

The research methodology adopted to explore the information reflects the procedural steps followed in light of the objectives of the study. A cross-sectional study was conducted among 300 physiotherapy students of Gurugram University from November 2021 to December 2021. We include all the BPT and MPT students 18-25 years of age and we have excluded all the participants who belong to other than Gurugram university and who are not willing to give consent.

Data collection procedures: The data collection was initiated in the first week of November 2021. The questionnaires were provided to the students via Gmail or personal messages and data were collected after filling up the online google forms. A self-structured closed-ended questionnaire consists of demographic data of students, duration of electronic gadgets used intensity of pain, the position of students during online class and an NDI scale was applied to know the intensity of neck pain, etc. Each of the study participants was explained the purpose of the study and they were ensured about the confidentiality and anonymity of data.

Data analysis: The data thus collected were entered in a Microsoft Excel spreadsheet and data was analyzed by using SPSS version 22 statistical software. The results were shown in the form of proportion or percentages and where necessary it was also shown in the form of tables.

Ethical clearance: The study was approved by the Institutional Review Board of Gurugram University. The study subjects have introduced to the questionnaires which were written in the English Language.

RESULTS

Table 1: (Sociodemo-graphic profile of the participants)

	Gender	
	N (300)	**Percentage (%)**
Male	105	35
Female	195	65
Age group (Years)		
18-20	135	45
21-23	125	41.6
23-25	40	13.3
Academic year		
1st	135	45
2nd	30	10
3rd	45	15
4th	90	30

Table no 1 shows that the Sociodemographic profile of the participants out of a total of 300 participants 195 (65%) was female and 105 (35%) were male. The study shows that 135 (45 %) were in the age group of 18-20 years followed by 125 (41.6%) were in the age group of 21-23 years and only 13.3% of participants were more than 23 years of age. Maximum respondents 240 (80%) were of BPT course and 60 (20%) were of MPT course. Maximum students 135(45%) were in the first year followed by 90 (30%) were of the fourth year and 45 (15%) were of the third year. Only (10%) of students were in the second year.

Table 2: Duration of online class attending by the participant:

Duration (hour)	N (300)	Percentage (%)
01-03	38	12.7
04-06	221	73.7
>6	41	13.7

Table no 2 shows that a maximum number of participants (73.7 %) spends four to six hours during online classes and a smaller number of participants (13.7 %) and (12.7 %) were spent more than six hours and one to three hours respectively.

Table 3: Electronic gadgets used by the participants:

Electronic gadget	N (300)	Percentage (%)
Mobile	270	90
Laptop	22	7.3
i-pad/tablet	8	2.7
Desktop	0	0

Table no 3 depicts that the maximum number (90 %) of participants were used electronic gadgets like mobiles and a smaller number of participants were used laptops (7.3%) and iPad/tablets (2.7%). None of the suitable respondents were using a desktop.

Table 4: Position preferred during online class by the participants:

Online class position	N(300)	Percentage (%)
Sitting	259	86.3
Supine	19	6.3
Prone	4	1.3
Side-lying	7	2.3
Any other	11	3.7

Table no 4 depicts that the maximum number (86.3%) of participants were preferred the sitting position during an online class. A small number of participants 19 (6.4%) were used a supine position or any other position (3.7%) and very a smaller number of participants have used a side-lying position (2.3%) and prone position (1.3%) respectively.

Table 5: Distribution of the participant according to place attending during online class:

Place attending the online class	N (300)	Percentage (%)
Sofa	38	12.7
Study table & chair	79	26.8
Bed	158	52.7
Any other	25	8.3

Table no 5 depicts that most of the participants around 52.7% attend online classes on the bed, 26.8% of participants attend on a Study table & chair and a minimum number of participants attend online classes on the sofa. The rest of the participants attend online classes in any other position except above mention positions.

Table 6: (Interpretation of NDI scores).

Grades of neck pain disability index score			
Grade of NDI	**Raw score**	**N(300)**	**Percentage (%)**
No disability	0-5	94	31.3
Mild disability	06-14	165	55
Moderate disability	15-24	38	12.7
Severe disability	25-34	3	1
Total disability	35-50	0	0

Table no 6 shows that according to NDI grading 165 study subjects out of 300 had mild disability followed by 31.3% of participants were having no disability, 12.7% of participants having Moderate disability, or a smaller number of participants 1% with having a severe disability. None of the participants had a total disability.

DISCUSSION

The study was a cross-sectional survey that was conducted to find out the Prevalence of neck pain during post-pandemic among physiotherapist students using electronic gadgets at Gurugram University. A questionnaire was given to computer users working from home which included questions about their demographics, working hours, workplace place etc. & also included a neck disability index scale.

The study showed that most of the participants were female (65%) similar findings were

found that the study conducted by Sachdev et al [11].

In contrast, our study conducted by Shah et al [12] (2021) found that most of the participants were male (73.6%). In our study maximum participants (45%) were in the age group of 18-20 years and the Majority of the participants were enrolled in the 1st professional year. Similar findings were found that the study conducted by Sachdev et al [11]. found that the maximum participant was from the age group of 18 to 22 years and Most of the participants were enrolled in the 1st professional year. In our study, we found that most of the participants (52.7%) attended an online class on a bed, 26.8% of participants attend a Study table & chair and a minimum number of participants attend an online class on the sofa. Another study conducted by Shah et al [12] found that 48.8% and 42.6 % of participants were using office table/study table/dining table and bed/sofa/comfort chair respectively. According to NDI grading our study found that maximum subjects had mild disability followed by 31.3% of the participant were having no disability, 12.7% of participants had Moderate disability, or a smaller number of participants 1% had severe disability. Sachdeva et al (2021) [11] found that 41.9 %, 24.8 %, and 3.1% of participants had mild, moderate, and severe functional limitations due to neck pain.

Our study found that a maximum number (86.3%) of participants were preferred the sitting position during an online class. A small number of participants 19 (6.4%) were used a supine position or any other position (3.7%) and very a smaller number of participants have used a side-lying position (2.3%) and a prone position (1.3%) respectively. Another study conducted by Paracha et al [13] (2019) found that moreover, studying posture 72.4% reported that they study in a lying position while 17.1% used assumed table/chair sitting and 10.5% studied in floor sitting position. A higher percentage among subjects who assume lying positioning suffered from neck pain. Finally, 81.6% of the target population having neck pain used books while the rest 18.4% used other devices like computers/laptops or tablets most of the time for study. A maximum number of participants (73.7 %) spend four to six hours during an online class. In contrast to our study conducted by Paracha et al [13].

CONCLUSION

This study found that neck pain is the most common MSDs by using electronic gadgets during this pandemic. Different factors like the faulty posture of the study, place, continuous study hours, and mode of the study were also the reason for neck pain. We recommended that when people are working in the public or private sector for many hours or work from home on any electronic gadgets start doing stretching exercises of the neck after every 20-30 minutes of continuous work.

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Conflict of interest: The authors declare that they have no conflicts of interest

Ethical approval: The study was approved by the Institutional Ethics Committee

Author Contributions

Kapil, Antim Goyal, Bijende: Article Selection, Participant's selection and data collection.

Parul Singhal, Sunny Ohlan: Sample size calculation, Data analysis.

Rakhi Goyal, Sanket Goyal: (Discussion and proof reading of research article)

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REFERENCES

[1]. Aritra Ghosh, Srijita Nundy, Tapas K. Mallick. How India is dealing with COVID-19 pandemic. Sensors International 2020;1

[2]. Deshpande PB (2006) Improve health and reduce healthcare costs from pranayama with six sigma; in association with Louisville Pranayama Group, Louisville, Kentucky, Reflections 5.

[3]. Muscle Activity during Yoga Breathing Exercise Compared to Abdominal Crunches.

[4]. Deshmukh S, Bedekar N. Effect of Kapalbhati pranayama on core strength in overweight individuals. International Journal of Yoga, Physiotherapy and Physical Education 2017;2(3):50-51.

[5]. Kulkarni G, Bedekar N. An Experimental Study of Selected Yoga Poses on Young Adult Female Population Reporting Primary Dysmenorrhea. VIMS Health Sci Journal 2014;1(3):125-129.

[6]. Prabhu S, Nagrale S, Shyam A, Sancheti P. Effect of yogasanas on menstrual cramps in young adult females with primary dysmenorrhea. International Journal of Physiotherapy and Research 2019;7(4):3129- 3134.

[7]. Rathore M, Trivedi S, Abraham J, Sinha MB. Anatomical Correlation of Core Muscle Activation in Different Yogic Postures. Int J Yoga 2017;10(2):59-66.

[8]. Ni M, Mooney K, Harriell K, Balachandran A, Signorile J. Core muscle function during specific yoga poses. Complement Ther Med 2014;22(2):235-43.

[9]. Ferreira M, Mariana Saavedra M, Santos P. Yoga therapy in pregnancy. Journal of Yoga and Physiotherapy 2018;4(1).

[10]. Cervone M, Neville C. Mula Bandha and Raising Awareness about Pelvic Floor Dysfunction Journal of Yoga and Physiotherapy 2018;4(5).

[11]. Sachdev S, Talreja S, Ansari IUI, Nasir S, Ali AA (2021) Prevalence of neck pain among the undergraduate physical therapy students of university of Balochistan, Quetta, Pakistan. J Nov Physiotherapy Phys Rehabil 2021;8(1):020-023.

[12]. Shah M, Desai R. Prevalence of neck pain and back pain in computer users working from home during COVID-19 pandemic: a web-based survey. Int J Health Sci Res. 2021; 11(2): 26-31.

[13]. Sajid Paracha, Breera Amjad, Mushyyaida Iqbal, Kanza Masood, Seemab Mughal et al. Prevalence of Neck Pain and Its Different Associated Factors Among Undergraduate Students of Sargodha Medical College. J Yoga & Physio. 2019; 8(1): 555731.

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