PRESENCE OF MUSCULOSKELETAL PAIN IN STUDENTS DUE TO ONLINE STUDY DURING COVID 19 PANDEMIC

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Abstract

Introduction: Due to COVID 19 all schools and universities stopped face-to-face teaching and started using internet platforms to deliver online learning. Students were required to attend online classes to continue their education. More usage of laptop, computers, phones which can lead to many musculoskeletal disorders .SO this study aims to find out the presence of musculoskeletal disorders in students who are involved in online studying since lockdown. **Materials & Methods:** In the present survey, college of physiotherapy (SVDU) were approached to fill up the Self developed questionnaire online via Google form to collect the information regarding the studying pattern of physiotherapy student and the Nordic Musculoskeletal Questionnaire was used to identify the presence of musculoskeletal pain and its distribution. **Result:**Total **215** students were included in the study. Total 74% students felt musculoskeletal pain in last one year. Among them 53% had neck pain, 33% had shoulder and 35% had law back pain in last 7 days. Majority of the students had neck, shoulder and law back pain following 45%, 22%, 28% in last one year which affect them in the study. **Conclusion:** Present study shows that many physiotherapy students were involved in online learning during COVID 19 pandemic which lead to many musculoskeletal pain in them. Out of which, neck and lower back was the commonest musculoskeletal pain.

Keywords: Musculoskeletal pain, COVID 19, students, online study
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INTRODUCTION

The outbreak of COVID-19 started spreading in Wuhan, China in December 2019, and then was declared as the Public Health Emergency of International Concern by the World Health Organization (WHO) on 30 January 2020. Preschools, schools, and universities have been closed either on a nationwide or local basis in 172 countries, affecting approximately 98.5% of the

world's student population (UNESCO, 2020). India is no exception. As an urgent response to the COVID-19 pandemic, in late March 2020, the Ministry of Education of India mandated that all schools and universities stop face-to-face teaching and use internet platforms to deliver online learning. [1]

Students were required to attend online classes to continue their education.Without training and preparation for online teaching, parents and teachers have been engaged in this new experiment of digital and online learning for young children. Since then, laptop computers and mobile phones are widely used by college students for attending lectures, writing assignments, presenting research projects, and leisure activities. With the increasing use of laptop computers by college students, more students are reporting musculoskeletal symptoms (MSS). This may be, because the design of laptop computers (e.g., small monitor and keyboard and lack of a separate keyboard and monitor position adjustment) can promote awkward body postures.[1-5]

More usage of laptop, computers and phones leads to many musculoskeletal disorders due to involving in awkward postures. Many studies explained that people who work predominately on computer with poor postures including forward head position, protracted shoulder, and scapular winging and tipping where keyboard and mouse were the main culprit for upper limb disorders.[5] Some studies found that the most complained problems are low back pain, neck pain and wrist pain. Foot and knee pain are the least complained pain when operating on computers for more than 6 hours.[6]

Since COVID 19 pandemic started in India, our institute was also working online for teaching. The present study aims to find out the presence of musculoskeletal disorders in students who are involved in online studying since lockdown.

MATERIAL AND METHODOLOGY

- Research design: Survey
- Study Population: Physiotherapy students
- Source of data: College of physiotherapy, SVDU

Inclusion criteria:

- Physiotherapy students who are doing online study
- Duration of study more than 6 months

- Exclusion criteria:

Subjects with

- Any resent injury in body
- Having musculoskeletal or neurological problem before involve in online study

Measurement tools:

- Self-developed questionnaire to identify study pattern
- Nordic musculoskeletal questionnaire to identify musculoskeletal pain in students

METHODOLOGY

Study was forwarded to the SVIEC (Sumaneep Vidyapeeth Ethical institutional committee) for ethical approval. After getting the approval, Subjects who satisfy the inclusion criteria were taken for study and informed consent was taken from them before starting the study and subjects were made to understand the procedure properly. After including the subjects, self-developed questionnaire and Nordic questionnaire was used to collect the information regarding musculoskeletal problem in students due to online study and their working pattern. The questionnaire was circulated to the students via Google form. It was self-administrative questionnaire which contain three sections. Section one included the recruitment of the participant according to the inclusion criteria and informed consent form. Section two contained questions regarding study pattern of the student. And section three contained questions regarding identifying musculoskeletal pain in students.

In present study total 234 students were recruited. Out of them 19 students were not given the consent so they were excluded and 215 students were included for the study. In present study total 160 students felt pain in last one year.

RESULT

In present study 215 students involved in online study were recruited. Among them, 160 students have musculoskeletal pain in last one year. In the study, presence of musculoskeletal pain in students who were involved in online teaching for past 12 months were analyzed using Microsoft excel 2007 and SPSS version 23.

Table 1: Percentage of students having pain in different area of body in last 7 days

Area of pain in body	**Percentage(%) of students having pain**
Neck	53.38
Shoulder	32.66
Upper back pain	23.9
Lower back pain	35.24
Hip	11.53
Knee	7.5
Ankle	2.7

Table 2: percentage of students having pain in different area of body in last one year

Area of pain in body	**Percentage(%) of students having pain**
Neck	45
Shoulder	22.3
Upper back pain	21.9
Lower back pain	28.7
Hip	5.1
Knee	5.1
Ankle	2.78

Table 3: percentage of students facing any other difficulties

Any other difficulties	**Percentage (%) of students**

Itching in eyes	87
Blurring of vision	44
Headache	72
lacrimation	81

DISCUSSION

Present study was conducted to identify the presence of musculoskeletal disorder in students who is doing online study due to COVID 19 pandemic. In present study out of 215 total 160 students having musculoskeletal pain in last one year.

As an urgent response to the COVID-19 pandemic, ministry of education in India mandated that all schools and universities use online mode of study by using internet.[7]

Due to pandemic, students were using different electronic gadget for continuing the study ; 74% of the students were using mobile phone and laptop for it. Students started studying with normal position but 70 % of them ended up with the awkward position. Some students were remained in the same position for 180 minutes continuously without changing the position. In this study 160 students have complaint musculoskeletal pain. This is may be due to awkward position of monitor, lack of separate keyboard, awkward posture and long hour of sitting in awkward position and long screening timing.[8,9]

In present study students were involved for 7 to 8 hours for learning and leisure activity. Borhaney at al found that those who used computer or mobile more than 6 hours had the symptoms of musculoskeletal problems in different anatomical sites like neck, shoulder, wrist and headache.[10]

As per the table 1, students have musculoskeletal pain in past 7 days is more than in a year. On the other hand, score also displays that students are prone to develop pain more in Neck and Lower Back followed by Shoulder and Upper back. The place of sitting was not specified in the questionnaire- at the dinner table, in front of the TV, or their bed. Regardless of that, students can have aches due to poor ergonomic setup.[10]

It is worth noting that similar suffered from musculoskeletal problems, affecting at least one of the four anatomical sites (low back, neck, shoulder, wrist/hand). Common symptoms were Headache, which was seen in 46% and neck pain in 41.3% of subjects. Whereas wrist pain was least commonly seen in 16% of subjects.[11]

Musculoskeletal problems can be due to visual problems. Globally, the number of people suffering from musculoskeletal conditions has increased by 25 percent over the past decade[2] and these conditions make up 2% of the global disease burden.[3] In addition to musculoskeletal complications, other problems included headache and blurred vision also.[12]

Hence, present study shows that online studies can give musculoskeletal problems in long term if not prevented or treated properly.

CONCLUSION

Present study shows that many physiotherapy students were involved in online learning during COVID 19 pandemic which lead to many musculoskeletal pain in them. Out of which, neck and lower back was the commonest musculoskeletal pain.

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