



Original Research Article

The incidence of persistence cervicalgia among students and the risk factors contributing towards it

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ABSTRACT

Background and objective of the study : Among all the muscular skeletal disorders that affect students, cervicalgia is one of the worst, and its persistence has always been a cause of worry. The younger individuals, though the persistent neck pain is very rare, yet there is a need to identify those factors that lead to its chronicity, so that it can be prevented.

Materials and Methods: A prospective study was carried out on 390 healthy students belonging to the medical and paramedical undergraduate courses of two different medical colleges in a smart city. Study was carried over a period of 5 years from the period of December 2014 to December 2019.

The study included all the students who consented to the study and were willing to participate in that. All the students were given a questionnaire at the beginning of the study and data was collected at the end of 4 months, 8 months and 12 months. In those patients where diagnosis having persistent neck pain, where were completely evaluated in order to find out the possible risk factors that can be associated with the persistence of neck pain.

Results and Observations : In the study we recruited 300 students from two medical colleges in the city of Mangalore Dakshina Kannada, smart City e in South India. In these students 200 were students from medical College 50 students from the physiotherapy College and another 50 students from allied sciences that included radiography and laboratory technicians. It was observed that.

At the end of 1 year following recruitment, 61% of the individuals had complaints of neck pain. Of which on follow up 21% has persistent neck pain. Of the 61% that is 183 cases who complained of neck pain at 1 year only 120 cases, that is 40% at persistence in the end of second year.

Among these 120 cases, 99 cases had use of computer for more than 12 hours a day or the use of mobile phones specially while sleeping at night for more than 4-5 hours for a day.

Of those who are using the computer they further analysed for the position of the screen and the mouse, 81 of the 99 cases reported that they used it as suitable to them, without the proper ergonomics.

It was noted that the most severe pain was in the second year following which they did adjustments in the posture which reduce the severity of pain. Also so said that pain use to appear after working on the computer for more than 2 hours in those who had computer related neck pain comma and if the mobile phone was used in the sleeping posture for more than an hour it lead to neck pain. We also noted that the use of computer for entertainment purposes had a higher incidence than those who used for educational purposes. Those who used a screen time on mobile phone more during the night time had a higher incidence of neck pain than those who used most screen time during the day time

Conclusion : In the study we concluded that the incidence of neck pain is higher among undergraduate students especially during the initial years of the course full stop the use of assisted learning modalities like computers and mobile phones have increased the incidence of neck pain among young. Though there is still and uncertainty about the factors that can cause neck pain in young and cannot be pointed out with accurate precision, it is what vi to considered to reduce the using of additional assisted modalities for both entertainment and education so that the morbidity that is associated with neck pain is reduced especially on the long-term

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1. Background and objective of the study

Cervicalgia is one of the unseen common disorders that affects young adults at least during some point in their lifetime.¹ The incidence of cervicalgia is said to be approximately ranging between 14% and 71% during a lifetime.² The prevalence of persistent neck pain lasting for at least a year is as high as 75%. It is a very sad fact that those patients who develop neck pain progress into a chronic form which occurs in at least one third of those individuals who are affected by neck pain.^{3,4}

It is noteworthy that this disease has a very high morbidity that it can be as a result of the disturbances in the quality of life and impairment it causes during work as a result of the discomfort it causes.^{5–7} Another important unseen effect of cervicalgia is that it reduces the overall productivity increases the amount of sick leaves, increases the cost of medical expenses, and has a higher chance of chronic disability especially for work. If all this is converted into to a monetary value, as stated two different studies that was done by Bernard and co-workers stated that the cost as a result of neck pain can be as 1.2 billion euros.^{5,6}

Though there are various studies that have evaluated musculoskeletal disorders and their relationship with computer use the specific relationship and relation to neck pain has not been evaluated. Also persistent neck pain is a less commonly studied entity. In view of all the above said we decided to study the relationship between risk factors for cervicalgia incidence in medical undergraduate children.

2. Materials and Methods

A prospective study was carried out on 390 healthy students belonging to the medical and paramedical undergraduate courses of two different medical colleges in a smart city. Study was carried over a period of 5 years from the period of December 2014 to December 2019.

The study included all the students who consented to the study and where willing to participate in that. All the students were given a questionnaire at the beginning of the study and data was collected at the end of 4 months, 8 months and 12 months. In those patients where diagnosis having persistent neck pain, where were completely evaluated in order to find out the possible risk factors that can be associated with the persistence of neck pain.

2.1. The questionnaire that was used in the study

The self-administered questionnaire comprised three sections designed to gather data on individual, computer use-related, and psychosocial factors as well as neck pain.

2.2. Patient factors included

Age, gender, body mass index, year and class of study, chronic diseases, exercise routine.

2.3. Statistical analyses

The collected data was transferred to the Microsoft excel sheet and analysed using SPSS version 23.

3. Results and Observations

In the study we recruited 300 students from two medical colleges in the city of Mangalore Dakshina Kannada, smart City e in South India. In these students 200 where students from medical College 50 students from the physiotherapy College and another 50 students from allied sciences that included radiography and laboratory technicians. It was observed that.

At the end of 1 year following recruitment, 61% 183 students of the individuals had complaints of neck pain. Of which on follow up 40 % 120 students had persistent neck pain. Of the 61% that is 183 cases who complained of neck pain at 1 year only 120 cases, that is 40% at persistence in the end of second year.

Among these 120 cases, 99 cases, 82.5 had use of computer for more than 8 hours a day or the use of mobile phones specially while sleeping at night for more than 5 hours for a day.

Of those who are using the computer they further analysed for the position of the screen and the mouse, 81 of the 99 cases (81.81%) reported that they used it as suitable to them, without the proper ergonomics.

It was noted that the most severe pain was in the second year following which they did adjustments in the posture which reduce the severity of pain. Also so said that pain use to appear after working on the computer for more than 2 hours in those who had computer related neck pain comma and if the mobile phone was used in the sleeping posture for more than an hour it lead to neck pain. We also noted that the use of computer for entertainment purposes had a higher incidence than those who used for educational purposes. Those who used a screen time on mobile phone more during the night time had a higher.

4. Discussion

The cause of cervical pain is multifactorial and; it is have its roots of origin during the childhood period. However it is not uncommon that the lifestyle changes have also and very important role in the causation of cervicalgia.^{3,4}

As a result of the present lifestyle of the productive population that includes the use of gadgets, the adventure is lifestyle, the environmental activities, the exercises they do, the training programs they undergo, and the use of computers; all these have contributed significantly to the

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Table 1: Computer use-related factors include

Score	2	03 to 5	6 to 8	9 to 10	
The type of device used	Desktop	Laptop	notebook	mobile desktop	
The total years of computer use	< 5	5 to 7	8 to 9	More than 9	
Position of the computer screen	Always appropriate	Most of the times appropriate	Sometimes appropriate	Never appropriate	
The appropriateness of the position of keyboard	Always appropriate	Most of the times appropriate	Sometimes appropriate	Never appropriate	
The appropriateness of the position of mouse during computer use	Less than 2 hours	2-4 hours	4-6 hours	6-8 hrs	> 8 hours
The percent time of computer use for study	>50%	41-50%	31-40%	21-30%	Less than 20 %
The percent time of computer use for entertainment	Less than 20 %	21-30%	31-40%	41-50%	>50%
The percentage duration using keyboard	Less than 20 %	21-30%	31-40%	41-50%	>50%
The percentage duration using mouse/touchpad (< 70% or ≥ 70%).	Less than 20 %	21-30%	31-40%	41-50%	>50%
Support used for head	Less than 2	03 to 4	5 to 6	7 to 8	9-10
Upper back	Always	Most of the times	Sometimes	Rarely	Never
Low back	Always	Most of the times	Sometimes	Rarely	Never
Arms	Always	Most of the times	Sometimes	Rarely	Never
Feet flat on the floor	Always	Most of the times	Sometimes	Rarely	Never
Their elbows	Always	Most of the times	Sometimes	Rarely	Never
hips	Always	Most of the times	Sometimes	Rarely	Never
Knees	Always	Most of the times	Sometimes	Rarely	Never
Ankles position at 90° flexion (yes or no).	Always	Most of the times	Sometimes	Rarely	Never

increased risk for cervicalgia.⁸⁻¹²

As compared to the past as also evidence that the incidence of musculoskeletal disorders is on rise especially e in the undergraduate population.

Use of learning applications in the form of mobile apps and computers has been gradually increasing among undergraduate children especially those in the professional colleges.^{9,13-15}

In the medical school, it is beyond doubt that, the use of these assisted learning technologies is the highest; especially during the evening time when there are no classes but there are patients in the ward and can be examined at any time of the day.^{9,13-15}

One of the most common musculoskeletal disorders is the neck pain. The data suggests that a third of the patients have neck pain and 1/4 of them pain in the neck that persisted.

We found that the use of mobile phones using the hand was the highest cause of neck pain, those who used a stand to keep the phone had a lesser level of neck pain.

Among the risk factors for onset and persistence of neck pain the use of electronic device related factors contributed

significantly to persistence. long duration of use, use of devices without proper ergonomics use during sleep or in the lying position.

Fostervold et al¹⁶ showed that the use of computer with a low monitor screen height amended oculomotor status with significant reductions in musculoskeletal symptoms in the upper body. In the present study decreased in the incidence of musculoskeletal disorders.

The position in which the upper arm is perpendicular to the floor, the elbow at a right angle, and forearm parallel to the floor was told to be a good computer posture we also found a similar effect.

5. Conclusion

In the study we concluded that the incidence of neck pain is higher among undergraduate students especially during the initial years of the course full stop the use of assisted learning modalities like computers and mobile phones have increased the incidence of neck pain among young. Though there is still and uncertainty about the factors that can cause neck pain in young and cannot be pointed out with accurate precision, it is what vi to considered to reduce the using

of additional assisted modalities for both entertainment and education so that the morbidity that is associated with neck pain is reduced especially on the long-term.

6. Source of Funding

None.

7. Conflict of Interest

None.

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