

Effects of Laptop use on Wrist in Students and Teachers of Different Universities during Covid-19

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Abstract

The wrist is an ellipsoidal type (condyloid) of articulation synovial is permitting movements at two axes. The anatomical name of the joint is the radio-carpal joint [1-5]. It presents a sinuous opposing. The concave proximal articular surface is formed by the lower end of the radius and the articular disc of the inferior radio-ulnar joint. The reciprocally convex distal articular surface is formed by the scaphoid, lunate and triquetral bones from lateral to the medial side. The joint capsule surrounds the wrist and is attached to the distal ends of the radius and ulna and proximal rows of carpals excluding the pisiform. Strong ligaments strengthen and stabilize the joint from the sides, and on the ventral and dorsal surfaces. Repeated episodes of mechanical stress can cause the event of repetitive motion injuries or overuse injuries, which when including poor posture and biomechanics put much strain on the joints. They usually develop slowly over an extended period of your time. Wrists are one of the foremost common sites of repetitive motion injury. Therefore this research was designed to study the effect of laptop usage among physiotherapists (students and teachers). This study may give awareness to the individual to avoid or minimize the overuse of laptops and therefore the complications by breaking bad habits, practicing recommended/approved posture while using the laptop, and modulating the planning of the keyboards. Due to covid 19 era, the use of laptops and computer has significantly increased among students and teachers of different universities for teaching purposes. Therefore the study was designed to study the impact of laptop use on the wrist in students and Teachers during covid 19.

Objective: To find the impact of laptop use on the wrist in Physiotherapist during covid 19

Keywords: Wrist pain, laptop, students and Teachers, Online classes, Covid-19

Introduction

Coronavirus disease (COVID-19) is a disease caused by severe acute respiratory syndrome (SARS-CoV-2). It was first identified in December 2019 in Wuhan, Hubei, China, and has resulted in an in-progress pandemic. The outbreak of the coronavirus pandemic has created immediate and unprecedented challenges in different companies, governmental and non-governmental organizations, and in the field of

education. With work-from-home mandates continuing at most workplaces, typing away at your laptop for long hours (sans an ergonomic set-up) can leave your arms, back, and neck susceptible to pain and damage. Sounds familiar? Putting pressure on the wrist while typing, when exacerbated by postural issues, can cause the event of carpal tunnel syndrome (CTS), a painful issue that may put you out of commission for longer than you'd like^[2,3,5]. Keyboarding and mousing might not be considered strenuous activities, but if done incorrectly over time, they will damage the wrist and hand as surely as a nasty fall onto concrete^[12]. CTS is one of the musculoskeletal disorders that's often described as a hazard, including occupations involving computer use.

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Due to Covid 19 era students and teachers of different universities are using laptops at a large scale for teaching purposes. Therefore the study aims to find the effects of laptop use on the wrist in Physiotherapists during Covid 19.

Data collection:

We have made a consent form and privacy statement for all the subjects and the questionnaire were given to the subject had simple questions with their explanation in simple English and the queries related to the questionnaire were answered by the investigator.

Material and Methods :

1. Type of Study – survey
2. Sampling method - Convenient sampling
3. Sample size - 255
4. Sample was taken from different colleges of different cities like Rohtak, Hissar, Panipat and few are collected from Delhi
5. Patient-Rated Wrist Evaluation scale was to conduct the survey

Sample Selection:

Criteria Inclusion Criteria

1. Physiotherapist
2. Age 20-35
3. Individual with Non-specific wrist pain

Exclusion Criteria

1. Age above 35
2. Any recent injury of upper limb
3. Malignancy
4. History of significant injury to the neck or upper thoracic region
5. History of thoracic or cervical spine surgery
6. Pregnancy

Methodology:

Information regarding neck pain and computer usage was collected through questionnaires. It includes;

1. Individual demographic characteristics.
2. Work environment factors.
3. Information using PRWE Questionnaire
4. Total duration of daily sitting at work.

Patient-Rated Wrist Evaluation

The PRWE may be a 15-item questionnaire designed to live wrist pain and disability in activities of daily living. Developed in 1998 for clinical assessment and is employed for specific wrist problems. It is one of the reliable upper extremity outcome instruments.

The PRWE allows patients to rate their levels of wrist pain and disability from 0 to 10, and consists of two subscales:

1 Pain scale contains 5 items each of which is further rated from 1-10. The maximum score during this section is 50 and minimum 02 Function subscales: contains a total of 10 items which are further divided into 2 sections i.e specific activities (having 6 items) and usual activities (having 4 items).

The maximum score during this section is 50 and the minimum 0.

Measure the function score of all the ten items and divide it by 2

Total Score = Sum of pain+ function scores (Best Score = 0, Worst Score = 100)

Less score = better outcome

Data Analysis:

Data was analysed by IBM SPSS version 20 In this research we have used the 254 subjects in all.

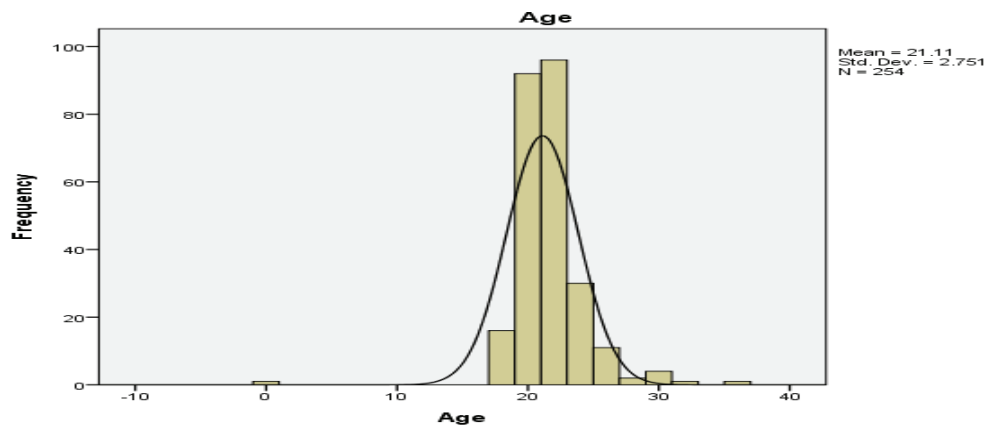
Out of which we have 179 female and 75 males.

Out of which we have 23 married and 231 unmarried cases

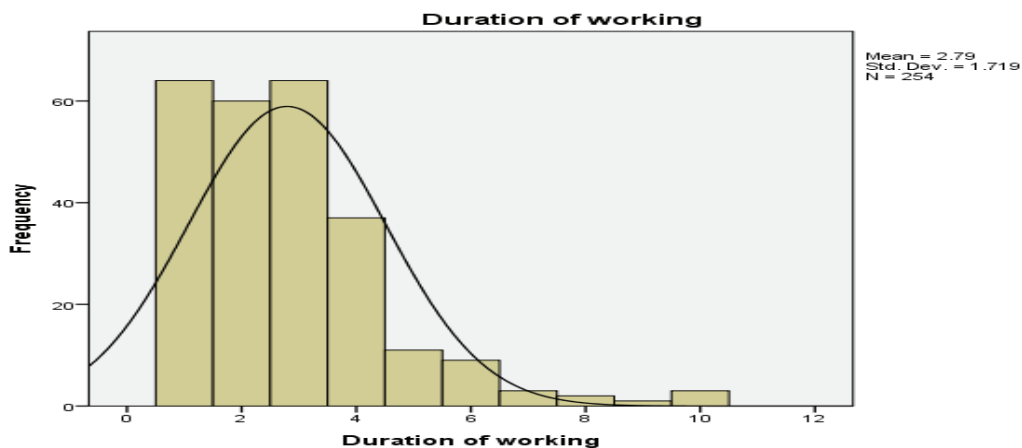
Result Analysis:

We have taken the age group of 20 to 35.

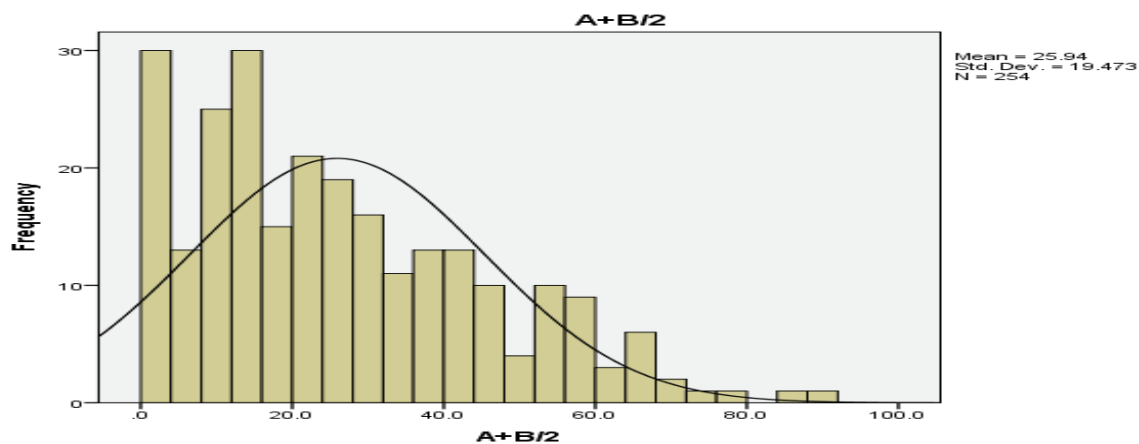
Having the mean age as 21.11.



Outcome denotes that the data is more deviated towards the positive side that means the frequency distribution is more towards the positive side.



We have tried to find the working hour of the subject as the duration of working. Mean duration of working is found to be 2.79. Though it varies from one hour of the general working period to the maximum of 10 hours.



Discussion

Musculoskeletal disorders have been observed and experienced widely at workplaces where the computers are frequently used. Increase in the number of employees working with computer and mouse coincides with an increase of work-related musculoskeletal disorders (WRMSDs) which affects the physical health of workers and pose financial burdens on the companies, governmental and non-governmental organizations. So, this survey was also conducted to investigate the effect of prolonged use of laptops on wrist of physiotherapist during covid 19 era.

Conclusion

In this research we found that the pain and disability increase from 5 to 30 that is alarming sign. So it's time for the physiotherapist to act on that situation and decrease the pain and disability. As we know Covid 19 effects the whole world. And we also concluded that besides the symptoms of this disease we found other symptoms in the human body which affect the Adl's of human beings and also created a challenging life style to overcome.

Ethical Clearance- There was no conflicts of interest in this study.

Source of Funding- Self

Conflicts of Interest- Patient consent was taken.

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