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AWARENESS OF GOOD POSTURE AND COMPUTER ERGONOMICS AMONG MEDICAL STUDENTS OF ISRA UNIVERSITY

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ABSTRACT

Background: Students tends to develop poor posture as their work requires prolong sitting, such as in taking lectures, working on computer, lab activities, assignments using laptops etc. Sitting for prolong periods of time in front of computer resulting in various types of muscular pain which are due to in appropriate computer ergonomics and poor body posture. The objective of the study is to evaluate the awareness of good working posture and computer ergonomics among medical students of isra university, Hyderabad.

Methods: A cross sectional study has done on 100 medical students of Isra University Hyderabad. Study was convenient and self-structured questionnaire used. Data analysis was done by using statistical package for social sciences (SPSS) 14 version

Results: Questionnaires of 100 participants were completed and returned back for analysis (response rate of 100%). 80% students said they are aware of good posture and computer ergonomics but only 34% selected the right answer regarding good posture.66% students are habitual to use support while using computer, especially back support and ergonomic chair only.55% students said they never had their posture assessed.

Conclusion: This study reveals that majority of students clamed to aware of good posture but their answerers has shown that there is lack of knowledge regarding good posture. Students are habitual to use support while sitting which is limited to use of back support and chair and still they need to know the principles of computer ergonomics regarding screen, mouse, keyboard, and overall work station.

Keywords: Poor posture, ergonomics, computer usage, muscular pain, physical activity, spinal deformity.

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INTRODUCTION

Posture is a body position, the manner in which body parts are arranged for particular activity. Posture is the arrangement of parts of the body in different positions such as while sitting, standing, lying. Its description can be made through joint positions and body parts alignment. An individual can acquire faulty and awkward posture due to several reasons such as joint impairments, muscle and soft tissue injuries, or on the contrary poor posture may causes joint impairments, muscles and soft tissue injuries resulting in pain. Posture is closely related to spine therefore it is important to understand general alignment of spine.[1]

The curves and elasticity of spine play key role to resist the force of gravity and other forces. Gravity exerts force on the body structures that are responsible for holding the body erect and therefore it becomes a challenge to maintain stability and perform smooth movement[(2)]

Stability of posture depends on two main components one is line of gravity and second is base of support. Stability requires line of gravity to fall within base of support. Stability can be improved by enhancing body's base of support or lowering down center of gravity.[2] If the body posture is erect or straight, it is comparatively unstable due to its taller height and small base of support.[3]

Stability of spine depends on three components first is passive stability provided by bones and ligaments, second is active stability provided by muscles and third by neural control. These three systems are inter related and work together, if any one system is not working and providing support due to any reason such as poor coordination, decrease strength, it will compromise whole system's stability.[2] There are number of factors that may affect the posture like Hereditary, age, gender, Environmental condition, Emotional, Physical activity, Ergonomics.[3-10]

The objective of the study is to evaluate the awareness of good working posture and computer ergonomics among medical students of Isra University, Hyderabad.

MATERIALS AND METHOD

Cross sectional research survey was done on the Participants of Isra University Hyderabad. Duration of study was two months and convenient non-probability technique was used. Sample size of 100 students' was selected with age between18-30 year. Students of DPT, BDS and Nursing were excluded. The data was collected by distributing self-structured questionnaire among students after conducting pilot study. The questionnaire contains various types of close ended question. The tool for collecting data was a self-structured questionnaire. The questionnaire had two sections one is "posture at work" which contains6 closed ended questions and second is "computer and laptops ergonomics" that contains 7 closed ended questions. For evaluation of data SPSS software, version 21was used.

The questionnaires were anonymously administered to the Students of Isra University, with the permission of ethical review committee. Informed consent was taken from the participants before administering the questionnaires. They could refuse to join this study without any explanation of reason. Data was used for the research purpose only and their data will be kept confidential and anonymous

RESULTS

In this study sample size of 100 students was taken, which were medical students of Isra University.Participants age was divided into 3 groups, which are (15-20)years, (20-25)years and (25-30)years and percentage of students in above presented category was 26%, 73% and 1% respectively. Participants were also divided according to years of the study into 5 groups, which are 1st year, 2nd year, 3rd year, 4rth year and 5thyear and percentage of students in these categories were 18%, 21%, 19%, 39%, and 3% respectively. The working hours of students regarding computer use in their daily routine was divided into four groups which were (3-4) hours, (4-5) hours, (5-6) hours, and (>6) hours. The percentage of students relative to above presented categories of working hours were 20% in (3-4) hours, 32% (4-5) hours, 27% in (5-6) hours, and 20% in (>6) hours.

Percentage of students, in relation to their knowledge about good posture, Out of 100, 80% students said yes they know what good posture is and remaining 20% said they do not know that what good posture is. Perception of students regarding good posture, 34% students think that good posture is the position in which least stress placed on spineand.

According to 66% students; good posture is the position that is comfortable for you while working. Habits of students to use ergonomic support while working/studying (during computer use). Out of 100 students 14% of students did not attempt this question. 66% students answers are in "yes" they use some type of ergonomic support while working/studying and 20% students said "no" they don't use such type of support while studying.

Student's perception regarding change of posture while using computer and increasing movements is important for reducing risk of injury. Approximately 80% replied that it is "true" and remaining 20% replied it is "false. Students thinking about the statement, that "using mouse is an important factor causing discomfort and it is ignored as a safety issue". 60% of students consider this statement "true" while 39% consider this statement "false" Student's respones in relation to the statement "Bending your neck for long periods of time to look at your screen or adopting awkward typing positions can lead to health issues". 81% student's response regarding this statement was "true" and 19% students considered this statement "false".

Perception of students regarding good practice when using computers and laptops includes 17% students replied that it involve avoiding awkward postures, 14% students said it is a good practice to take regular breaks, 13% students answered that stretching your hands and shoulders every 20 to 30 minutes is good practice and 56% students responded that all above described options are included in good practice. Students answer regarding which ergonomic furniture/equipment they use while studying/working? Out of 100 students 38% students left this question, while 46% said they use ergonomic chair, 1% said they use ergonomic keyboard, 2% said they use ergonomic mouse, 1%said they use wrist support, and 12% replied they use back support.

DISCUSSION

It is found that there is a strong relationship between posture and musculoskeletal problems in different professions, which people adopt in their profession which include pain, weakness etc.[11-24] There are many studies proving that various type of musculoskeletal problems among students occur due to poor posture which they adopt during their course of study, and there are many reasons for this, such as students lack of awareness regarding good posture and ergonomics, there work demand, poor ergonomics of their work station provided by institute, but this study aimed only to find students awareness regarding good posture and ergonomics.

It was noted that out of 100, 80% of students had knowledge about good posture; in terms of their answer but in contrast to this a study conducted in IIUM Kuantan Campus according to which 72% students said that they were known to the good posture.[26] Another study states that 52.33% of the participants good posture knowledge.[25] This indicates that higher number of students think that they have knowledge about good posture.

In this study it was found that only 34% of students correctly define good posture on the basis of answers they selected but as compare to study carried out in IIUM Kuantan Campus that states 67% of students described good posture correctly.[26] another study conducted that states that only 30% students rated their answers as good for their knowledge about good posture[(25)]. It shows that there are higher number of students who need to be educated regarding good posture and computer ergonomics.

It was observed that 51% students got education regarding postural exercises training on the other hand a study conducted in Ziauddin University of Karachi that states only 37% participants attended postural exercise training program[(14),] According to a study conducted in Ajman, UAE shows that out of 100% students only 61.3% students attended workshops regarding postural training[(11).]It shows that majority of students were taught about postural exercises but still large number of students need to be educated about these exercises.

It is found that the Habits of students to use ergonomic support while working/studying to reduce or prevent musculoskeletal problem such as during working on computers, using laptops, 66% students said "yes" they use support like back support, ergonomic chair, wrist support etc., as compare to another study conducted IIUM Kuantan Campus that states that 60% students use support while studying.[26] This shows that most of students use some ergonomic support while working it means that they had faced problems related to their posture.

It is noted that the perception of students regarding good practice when using computers involve: 14% students said taking regular breaks is good practice, 17% students replied that it involve avoiding awkward postures, 13% students answered that stretching your hands and shoulders every 20 to 30 minutes is good practice, on other hand another study conducted in Ajman, UAE that states that 84.1% students said good practice involve taking regular breaks, 46.4% said use of lower back support is good[(11).] It reveals that there is lack of awareness regarding computer ergonomics, no one knows all the factors and principles of computer ergonomics and it should be overcome with the help of effective strategies.

CONCLUSIONS

Conclusion of the study based on the findings of results reveals that majority of students claimed to be aware of good posture but their answers has shown that there is lack of knowledge regarding good posture. 66% students are habitual to use

support while sitting which is limited to use of back support and chair and still they need to know the principles of computer ergonomics regarding screen, mouse, keyboard, and overall work station.

Most of the students regularly stretch their self after prolong sitting, only 56% of students have knowledge about good practice while using computers and laptops. Students think that these electronic devices are for their safety but the fact is these are for their comfort, majority of students are unaware of safety risk regarding computer ergonomics.

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