



Whether Physiotherapy Students are Exceptional of Musculoskeletal Pain? – An Observational Study

Madhumathi. K M. P. T*

Assistant Professor, SOPT, VISTAS, Thalambur, Chennai - 603103.

Received: 16 Jan 2019 / Accepted: 18 Mar 2019 / Published online: 1 Apr 2019

Corresponding Author Email: madhu.sp@velsuniv.ac.in

Abstract

Introduction: Musculoskeletal conditions are the second largest contributor to disability. The recent studies are more concentrated in the adult population, but the fact is even the adolescent are being exposed to MSD. It's being the most devastating that the quality of life is being affected due to these issues. **Aim:** The aim of the study is to find out whether the physiotherapy students are affected with musculoskeletal pain. **Methods and Materials:** A self-administered questionnaire was given to the students. It consists of two parts, part one has list of regions where they must mark yes or no if they had pain in the corresponding regions for the past 12 months. Part two contains the same list of regions, but here the students should tick yes or no if they had experienced pain in the past one week. **Result:** According to the analysed data, more than 50 percent of students were experiencing musculoskeletal pain at present (n=55) and over the past one year (n=70). The total number of students with musculoskeletal pain for the past 7 days (55) is very less when compared with the past one-year data (n=70). Neck and back pain stand first, and the shoulder/knee follows it and pain in other regions like elbow, wrist, hip and ankle is at the last position. The study states that irrespective of the course the college students are susceptible to musculoskeletal pain.

Keywords

musculoskeletal pain, college students, physiotherapy, poor posture.

INTRODUCTION:

Musculoskeletal conditions are the second largest contributor to disability. According to WHO, the low back pain being the single leading cause of disability globally. Millions of people are affected with either by neck pain or back pain or shoulder pain. These complaints are predominantly seen in the young adults, making their life more stressful. It affects all people irrespective of age, gender and socio-economic background, one in three or one in five

people live with a painful and disabling musculoskeletal conditions.

The college students are more vulnerable to musculoskeletal pain due to sedentary life style, burden of study, increased work load, changes in food habits, spending more time in social media, bad postures, such as listening in the class, working in laptops for assignments, browsing, and travelling. It directly affects the success rate of college students and limits mobility & dexterity, thereby reduces the

quality of life. Students are considered as most important social group due to their contribution to the society

Posture is the way the individual carries himself in sitting, standing, walking and lying. It allows efficient work with minimal fatigue. Poor posture occurs due to tightening or lengthening of certain group of muscle which often results from one's daily activities. They develop poor posture due to prolonged sitting, weakness, improper clothing, malnourishment, obesity, fatigue, lack of exercise, lack of awareness. Several studies were done among the paediatric, adults and geriatric populations, but a smaller number of research studies were done in this population with respect to their pain and disfunctions. Students who are doing physiotherapy course should keep in mind that they are going to treat the patients with musculoskeletal pain. As the year goes, they should take preventive measure to protect them from these MSD. The aim of this study is to determine the prevalence rate of MSD in Physiotherapy students. By knowing it, appropriate actions can be taken to identify the risk factors and try to decline its prevalence rate and health cost in future.

AIM OF THE STUDY:

The main aim of the study is to analyse whether the physiotherapy college students were experiencing any type of musculoskeletal pain and gender variation in pain perception.

MATERIALS AND METHODS

Study Design : Observational study

Sample Size :100 participants

Population : College students who are pursuing physiotherapy (1st year to final year)

Inclusion Criteria:

1. Age 18-21
2. Both male and female population
3. Students who are interested in the study
4. Students without any history of fractures

Exclusion Criteria:

1. Age above 22 and below 18
2. Students who are using medication for any medical conditions.
3. Students with history of fractures
4. Students with congenital deformities.
5. Those who are not interested in the study.

PROCEDURE:

A Self-administered questionnaire was given to the students. Which has two parts, part one has list of regions where they must mark yes or no if they had pain in the corresponding regions for the past 12 months. Part two contains the same list of regions, but here the students should tick yes or no if they had experienced pain in the past one week. The main purpose of the study is to evaluate whether the college students were experiencing musculoskeletal pain. So, the severity of the pain is not documented either in the part one or part two. The region includes – the broad spectrum of regions like neck, shoulder, elbow, wrist/hands, upper back, lower back, hips/thighs, knees, ankle/foot. The responses were documented and converted into numerical data for statistical analysis (yes-1, no- 0).

RESULTS AND DISCUSSION:

Table I shows the total number of students with and without musculoskeletal pain for past 12 months. Table II shows the total number of students with and without musculoskeletal pain for past 7 days. Table III reveals the prevalence of musculoskeletal pain region wise for the past 12 months among physiotherapy students. Table IV shows the prevalence of musculoskeletal pain between male and female for the past 12 months among physiotherapy students. Table V gives the information about the prevalence of musculoskeletal pain region wise for the past 7 days among physiotherapy students. Table VI gives the details about the Prevalence of musculoskeletal pain between male and female for the past 7 days among physiotherapy students.

Table: I - Total number of students with and without musculoskeletal pain for past 12 months

Total number of students surveyed for musculoskeletal	Total number of students with musculoskeletal pain	Total number of students without musculoskeletal pain
100	70	30

Table: II- Total number of students with and without musculoskeletal pain for past 7 days

Total number of students surveyed for musculoskeletal	Total number of students with musculoskeletal pain	Total number of students without musculoskeletal pain
100	55	45

Table: III – Prevalence of musculoskeletal pain region wise for the past 12 months among physiotherapy students

S. NO	Region	No of students complaining pain
1	Neck	51
2	Shoulder	39
3	Elbow	13
4	Wrist/Hands	28
5	Upper Back	22
6	Lower back	49
7	Hips/Thighs	22
8	Knees	24
9	Ankle/Foot	26

Table: IV – Prevalence of musculoskeletal pain between male and female for the past 12 months among physiotherapy students

S. NO	Region	No of students complaining pain.	No of females complaining pain	No of males complaining pain
1	Neck	51	39	12
2	Shoulder	39	30	9
3	Elbow	13	9	4
4	Wrist/Hands	28	18	10
5	Upper Back	22	17	5
6	Lower back	49	39	10
7	Hips/Thighs	22	19	3
8	Knees	24	19	5
9	Ankle/Foot	26	20	6

Table: V - Prevalence of musculoskeletal pain for the past 7 days among physiotherapy students

S. NO	Region	No of students complaining pain
1	Neck	27
2	Shoulder	18
3	Elbow	7
4	Wrist/Hands	14
5	Upper Back	13
6	Lower back	24
7	Hips/Thighs	16
8	Knees	18
9	Ankle/Foot	9

Table: VI - Prevalence of musculoskeletal pain between male and female for the past 7 days among physiotherapy students

S. NO	Region	No of students complaining pain.	No of females complaining pain	No of males complaining pain
1	Neck	27	21	6
2	Shoulder	18	13	2
3	Elbow	7	5	2
4	Wrist/Hands	14	11	4
5	Upper Back	13	11	2
6	Lower back	24	20	4
7	Hips/Thighs	16	14	2
8	Knees	18	14	4
9	Ankle/Foot	9	8	1

Figure: I – Total number of students with and without musculoskeletal pain for the past 12 months

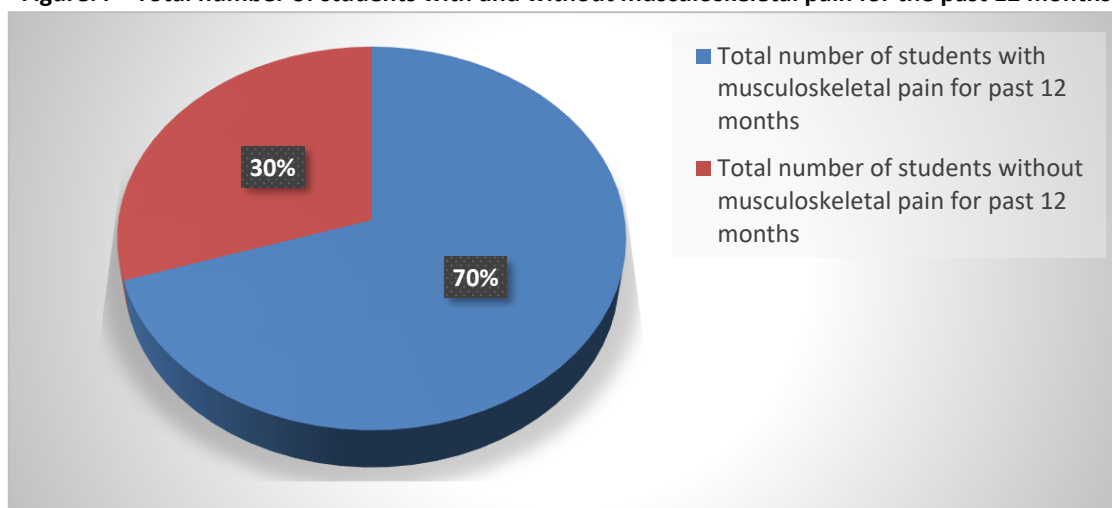


Figure: II – Total number of students with and without musculoskeletal pain for the past 7 days

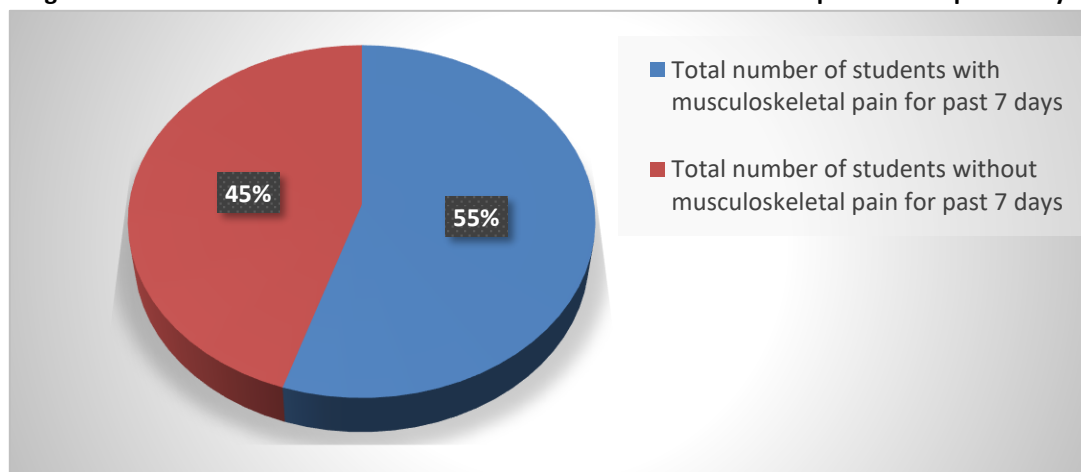


Figure: III - Prevalence of musculoskeletal pain for the past 12 months among physiotherapy students

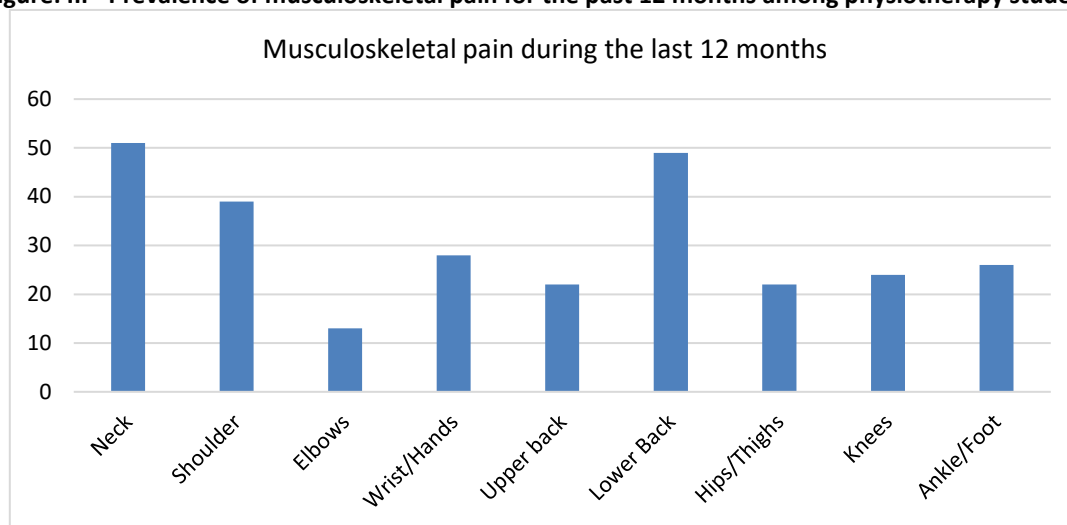


Figure: IV - Prevalence of musculoskeletal pain between male and female for the past 12 months among physiotherapy students

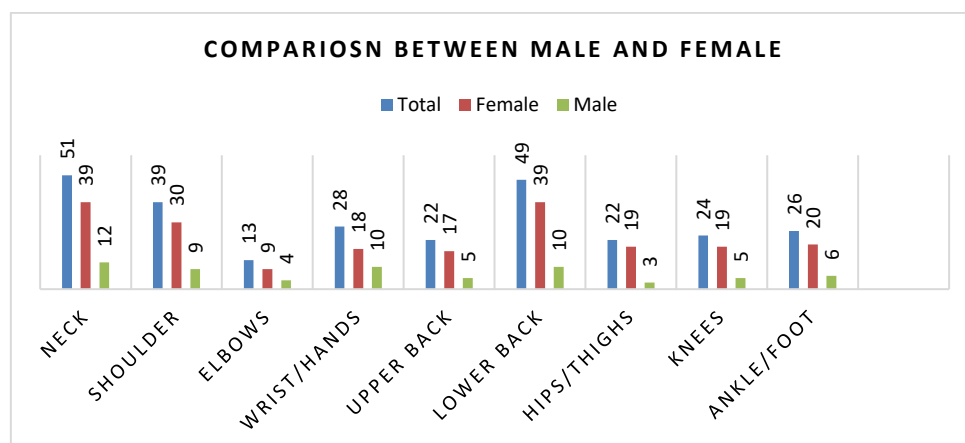


Figure: V - Prevalence of musculoskeletal pain for the past 7 days among physiotherapy students

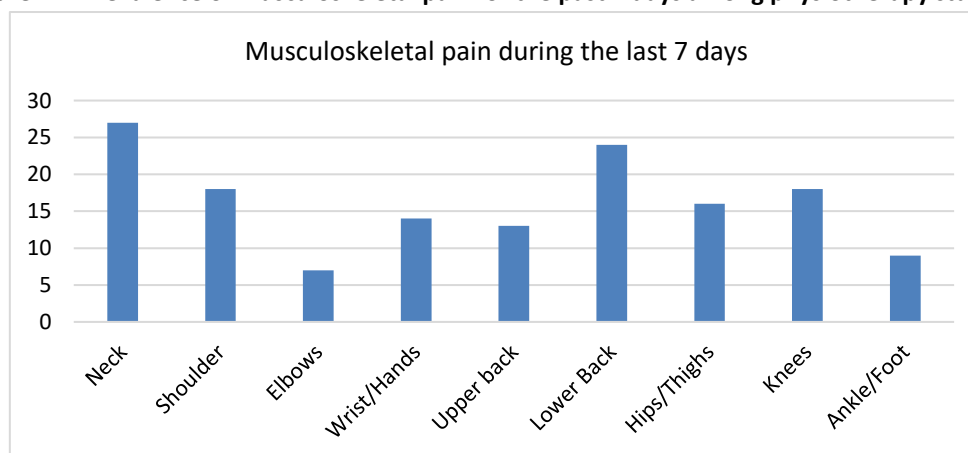
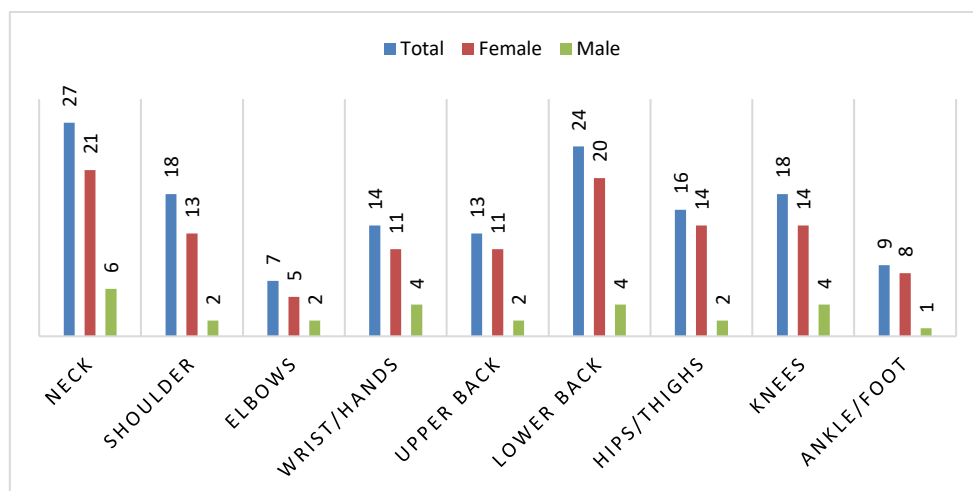


Figure: VI – Prevalence of musculoskeletal pain between male and female for the past 7 days among physiotherapy students



DISCUSSION:

According to the analysed data, more than 50 percent of students were experiencing musculoskeletal pain at present (n=55) and over the past one year (n=70). The total number of students with musculoskeletal pain for the past 7 days (55) is very less when compared with the past one-year data (n=70) (Fig I & II). The pain was not persistent in certain areas and got vanished as the sources of pain was eliminated. The figure V shows the data of pain in the past 7 days, reveals that the neck (n=27) and lower back (n=24) were contributing the highest percentage of pain experienced by both male and female students. So, irrespective of the gender difference (female n=21, Male n=6) the posture plays a vital role in the neck pain and lower back pain. This results exactly matches with the theoretical background that most of the students spent their time in poor sitting posture. The shoulder (n=18) and the knee (n=18) follow the next highest percentage. Followed by hip, thighs (n=16), wrist/hands (n=14), upper back (n=13), ankle (n=9), and elbow (n=7) stands the last.

Factors associated with neck and back pain among the college students are as follows. 1. Sitting posture: proper erect posture keeps the spine in correct alignment with minimal energy expenditure. But when the spinal curvature is accentuated more stress is given to the ligamentous structures which cause pain. The sitting posture is determined by following criteria like, study place design of benches and chairs, visual and manual requirements of the task, room temperature, ventilation, lightning, as well as the individual anatomical characteristics. 2. The learning methodology is changed to student

centered learning where they are exposed to prepare themselves with the help of computers. 3. According to Nyland and Grimmer's there is a high prevalence of back pain in 20 – 21 years and the final year students indicating an effect of long -term college career. This is an alarming fact that the individual who experiences back pain and neck pain episode early ages are prone for typical wear and tear at those regions when they get aged (early forties). Few studies make it clear that pain is a common problem in the college years. Aminta S Casas et al., (2016) states and supports that the sitting posture, time spend in sitting, the ergonomic design of chair and tables, usage of computers, adequate lightening in the class room are risk factors for neck and back pain among the college students. Even though the physiotherapy students are well versed about the harm of bad posture, they are also more prone for the back and neck pain due to the poor posture. Apart from educating the students it is high time to change the ergonomic designs of chair and tables, the class room, the learning pattern and equal time period for theory and practical classes.

The shoulder and knee pain follow the next positions among the college students. The bad posture not only affects the neck region, it has impact on the shoulder. The assignments, chart works, record note, projects have an addition contribution to the shoulder pain. The pain in the other regions like elbow, hip, ankle and wrist are very minimal when compared with the neck, back and shoulder.

CONCLUSION:

Irrespective of the course, all the college students are prone for musculoskeletal pain during their

course period either short- term or long-term. The students who are pursuing physiotherapy are take extra care to prevent themselves from these pain as they are future therapist who treat musculoskeletal conditions in near future. This study makes some addition information that keen importance to be given in designing the classroom and learning methodology. Future research can be focused on ergonomic designs to alleviate the musculoskeletal pain among the college students.

ACKNOWLEDGEMENT:

Dr. Senthil Selvam. P M.P.T (Ortho), Ph.D
Prof, HOD, SOPT, VISTAS.

REFERENCES:

1. Muniba Mehmood Hasan, Uzair Yaqoob, Sara Shaukat Ali, Adeel Ahmed Siddiqu. Frequency of musculoskeletal pain and associated factors among undergraduate students. *Case reports in clinical medicine.*, 131-145, (2018)
2. Jubilant Kwame Abledu, Eric Bekoe Offe. Musculoskeletal disorders among first-year Ghanaian students in a nursing college., *African health science*, 15(2): 444-449, (2015)
3. Seyedeh Somayeh Kazemil, Mohammad Rafighi. Musculoskeletal disorders among Tarbiat MOdares university students living in dormitories. *International journal of musculoskeletal pain prevention.*, 1(4): 169-172, (2016)
4. Banish Kumar. Poor posture and its causes. *International journal of physical education, sports and health.*, 3(1):177-178, (2015)
5. Mustafa Ahmed Alshagga, Amal R Nimer, Looi Pui Yan, Ibrahim Abdel Aziz Ibrahim, Saeed S Al-Ghamdi and Sami Abdo Radman Al-Dubai. Prevalence and factors associated with neck, shoulder and low back pains among medical students in a Malaysian Medical College. *BMC research notes.*, 6, 1-7, (2013)
6. Graham Brennan, Amir Shafat, Ciarán Mac Donncha and Carmel Vekins. Lower back pain in physically demanding college academic programs: a questionnaire based study. *Biomed central.*, 8(61), 1-8, (2007)
7. Michael Thomas, Ranjan Roy, Andrew J Cook, Steve Marykuca. Chronic pain in college students: issues of management. *Research Gate.*, 38, 2597-2601, (1992)
8. Aminta S Casas, María S Patiño, Diana M Camargo L, Association between the sitting posture and back pain in college students., *Rev Univ Ind Santander Salud*, 48(4), 446-454, (2016).
9. Zhi Shan, Guoying Deng, Jipeng Li, Yangyang Li, Yongxing Zhang, and Qinghua Zhao. Correlational analysis of neck/shoulder pain and low back pain with the use of digital products, physical activity and psychological status among adolescents in Shangha. *Plos one.*, 8(10), 1-9, (2013)
10. Myoung-Hyo Lee, MSc, Su-Jin Park, PhD, and Jin-Sang Kim. Effects of neck exercise on high-school student's neck-shoulder posture. *Journal of Physical therapy science.*, 25 (5), 571-574, (2013).