IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

ASSESSMENT OF MUSCULOSKELETAL DISORDERS IN GENERAL POPULATION IN COVID-19 LOCKDOWN

[1] KHUSHBOO SONKAR, [2] Dr. MONIKA SHARMA,

[1] BPT 4th Year, [2] Assistant Professor,

[1,2] Division of Physiotherapy,

[1,2] Galgotias University Greater Noida, Uttar Pradesh

Abstract: Background: The human body's mobility or the musculoskeletal system, which comprises tendons, ligaments, muscles, discs, blood vessels, nerves, and other components, is often affected by a disease of the musculoskeletal system. MSDs are described using a number of different terms, such as repetitive motion injury, repetitive stress injury, overuse injury, and others. "Musculoskeletal dysfunction" describes the same kind of injury in many ways, but terms may vary. workaholism and overuse

Materials & Methods: A survey of residents in Delhi NCR was done using basic random sample techniques to choose participants from the general community. There have been 130 individuals, both male and female, between the ages of 18 and 60 who have taken part. A form comprising a demographic questionnaire, a numeric pain rating scale, and a (VAS) Nordic Musculoskeletal Questionnaire was sent to a random group of research participants. Wilcoxon rank test was used for this analysis. Google Forms was used to gather data, and then it was analysed using SPSS 21 and MS Excel.

Results: As a result of this study, we may say that musculoskeletal discomfort is common in the general population. The neck, shoulder, and hip were the most impacted areas.

Conclusion: The results are very clear and show that musculoskeletal pain is prevalent in the general population as neck, shoulder, and hip were the most affected parts and all other parts were significantly affected. Elbow and hand were least affected among all the reasons.

I. INTRODUCTION

The locomotor system is an organ system that uses muscles and bones to enable humans to move. The musculoskeletal system controls all aspects of body form, support, stability, and movement. Connective tissue, made composed of bones, muscles, cartilage, tendons, ligaments, and joints, supports and links various tissues and organs. Maintaining the structure of the body while providing mobility, and defending vital organs are the primary responsibilities of the musculoskeletal system (1). Bone is not just a reservoir for calcium and phosphorus, but it is also the home for haematological components. Tendons and ligaments connect muscle and bone fibres in this illustration. The bones contribute to bodily structure. Muscles enable bones to move, but they also maintain their structural integrity. Joints enable the bones to move. In general, bone ends do not come into contact because of cartilage. When the muscle contracts, the joint's bone is allowed to move about (2).

The musculoskeletal system, which comprises tendons, ligaments, muscles, discs, blood vessels, nerves, and other components, is affected by musculoskeletal disorders. MSDs are referred to as repetitive motion injury, repetitive stress injury, overuse injury, and a variety of other terms. The term "musculoskeletal ailment" refers to the same type of damage induced by repetition and stress, regardless of the terminology employed (3).

Restrictions on outside activities affected people's normal routines during the lockdown. Staying at home made it impossible to engage in physical activity, which led to the formation of sedentary habits. The only way to stay active and maintain a regular workout regimen and fitness level during the outbreak was to do it at home. According to a recent study, there was a significant drop in physical activity and energy consumption during the lockdown time. Detraining for a long time diminishes peak oxygen consumption, endurance, muscle mass, and strength, all of which raise the risk of injury. Physical activity has many advantages, including maintaining function, reducing pain and fatigue, and enhancing joint flexibility and muscular strength (4).

The skeletal system, among other things, supports and protects the body, giving it structure and form as well as movement. It also stores minerals and transports blood throughout the body. There has long been dispute over the number of bones in the human skeleton. An infant at birth has approximately 300 bones; they will fuse throughout time. Additionally, the adult skeleton is made up of 206 bones. Depending on how the bones were counted, the number of bones in the body varies. There are two different perspectives on structure: Some people view it as a single component with many bones, while others see it as a single component with many bones. The human skeleton is made up of five distinct kinds of bones. Long bones, flat bones, irregular bones, and sesamoid bones are all types of bones. While the human skeleton is comprised of individual bones that are either fused or separate, the bones are held together by ligaments, tendons, muscles, and cartilage. There are two distinct skeletal divisions, the axial and appendicular skeletons, which contain the spinal column.(5)

STATEMENT QUESTION

In the general population in the COVID-19 shutdown, are there any musculoskeletal disorders?

AIMS AND OBJECTIVES OF THE STUDY

The main aim of the study is to find out the musculoskeletal disorders in the general population in the covid-19 lockdown.

The main objective of this study is to find out the musculoskeletal disorders in the general population in the covid-19 lockdown.

HYPOTHESIS

NULL HYPOTHESIS: The overall population in the Covid-19 lockdown has no musculoskeletal problems.

RESEARCH HYPOTHESIS: Covid-19 lockdown increases the risk of musculoskeletal disorders in the general population.

TOOLS USED:

1. NORDIC MUSCULOSKELETAL QUESTIONNAIRE

METHODOLOGY

Type of study: A survey based study.

Sampling: Simple Random Sampling

Area of Project: Delhi NCR

Sampling Method:

- No of Sample:200
- Groups: Two groups (15 subjects in each group)
- Sample place: Multicentric Grounds

Inclusion Criteria:

1. Age 18 – 60.
2. In lockdown for more than 6 months.

Exclusion Criteria:

1. Essential workers.
2. Involved in Physical workout.
3. In lockdown for less than 6 months.

Instrumentation:

1. Nordic Musculoskeletal Questionnaire

2.Clipboard and pen

PROCEDURE

A survey was performed using Google Forms, and various channels were utilised to distribute the survey to the general public. All participants completed the permission form and provided their agreement to participate in the research, after which they filled out demographic information such as their name, age, height, weight, gender, and profession. Following this, the following steps were implemented:

Consent Form: This form offered information about the study's aim and expected results, as well as allowing participants to provide their consent and participate anonymously. The participants were assured that their information would be kept private, and that they would not be compensated or given credit for their involvement in the research since it was voluntary.Following the completion of the permission form, demographic information was collected, including name, age, gender, height, profession, and address.All of the subjects were required to complete the Nordic Musculoskeletal Questionnaire.Data was stored in excel sheets of a google form .Data was analysed with SPSS 26

RESULTS

The results are very clear and show that musculoskeletal pain is prevalent in the general population as neck, shoulder, and hip were the most affected parts and all other parts were significantly affected. Elbow and hand were least affected among all the reasons.

TABLE NO 1: DEMOGRAPHIC DESCRIPTIVE STATISTICS.

	AGE	HEIGHT	WEIGHT
Mean	41.35	5.665	79.98
N	200	200	200
Std. Deviation	11.942	.3701	12.752

TABLE NO 2: GENDER RATIO

GENDER					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	120	60.0	60.0	60.0
	Male	80	40.0	40.0	100.0
	Total	80	100.0	100.0	

TABLE NO 3. DIFFRENTS VARIABLE OF NMQ (PAIRED T TEST)

	YES(%)	NO(%)	T TEST	P VALUE
NECK PAIN	47.5	52.5	26.253	P<0.05
SHOULDER PAIN	46.3	53.8	26.071	P<0.05
UPPER BACK PAIN	30.0	70.0	25.214	P<0.05
ELBOW PAIN	15.0	85.0	28.629	P<0.05
WRIST/HANDS PAIN	12.5	87.5	30.235	P<0.05
LOWER BACK PAIN	30.0	70.0	25.214	P<0.05
HIP/THIGHTS PAIN	32.5	67.5	25.144	P<0.05
KNEES PAIN	32.5	67.5	25.658	P<0.05
ANKLES PAIN	17.5	82.5	27.486	P<0.05

DISCUSSION

The study's aim was to survey general population musculoskeletal pain during the lockdown.The study's goal was to discover if people in the general public had musculoskeletal discomfort. Based on the findings, a significant amount of the population has it for various reasons. Due to the locations most impacted, it was found that the neck, shoulder, and hip were severely damaged. While in comparison to the pre-lockdown condition, our research with 203 corporate sector professionals who were working “9–5 from home during this phase of the pandemic, and 325 undergraduate and postgraduate university students who were taking part in our study shows that individuals feel sleepier and experience a more substantial nap duration (p.05) Furthermore, stress caused by a pandemic, such as headaches, insomnia, digestive difficulties, hormone imbalances, and tiredness, caused these other health issues as well.(27).

In their study, Sohel Ahmed et al. also found it. A cross-sectional survey was carried out among general people living in a particular area in Bangladesh using random sampling methods. A total of 230 people participated in the study, including 182 males (a slight majority) and 48 females, ranging in age from 18 to 60. In order to determine the effects of lifestyle factors on back pain, a research team used a Google Form link that included a demographics questionnaire, a numeric pain rating scale, and a Nordic Musculoskeletal Questionnaire. The Wilcoxon signed rank test and Chi-squared tests were used to examine the data. After the lockout, the researchers found that the participants' musculoskeletal health had been affected. Once a transient musculoskeletal problem appears, appropriate measures must be done to avoid long-term issues.(13).

LIMITATIONS OF THE STUDY:

1}The sample size included in the study could have been more.

2}The physical activity performed could be more vigorous.

FUTURE RESEARCH:

1}The study can be used for identifying the effect of physical activity on pain, mood, and cognitive functions.

2}Further researches can be done with a properly structured exercise program.

CONCLUSION

As a result of this study, we may say that musculoskeletal discomfort is common in the general population.

The neck, shoulder, and hip were the most impacted areas.

REFERENCES

1. Cuesta-Barriuso R, Meroño-Gallut J, Pérez-Llanes R, Ucero-Lozano R. Musculoskeletal Changes in Hemophilia Patients Subsequent to COVID−19 Lockdown. Healthcare. 2021;9(6):702.
2. Nieto R, Pardo R, Sora B, Feliu-Soler A, Luciano J v. Impact of COVID-19 Lockdown Measures on Spanish People with Chronic Pain: An Online Study Survey. Journal of Clinical Medicine. 2020;9(11):3558.
3. Cole DC, Rivilis I. Individual factors and musculoskeletal disorders: A framework for their consideration. Journal of Electromyography and Kinesiology. 2004;14(1):121–7.
4. Joseph SJ, Shoib S, Thejaswi S, Bhandari SS. Psychological concerns and musculoskeletal pain amidst the COVID-19 lockdown. Vol. 11, Open Journal of Psychiatry & Allied Sciences. 2020. p. 137.
5. Chowdhury S, Chakraborty P pratim. Comparing pattern of musculoskeletal injuries prior to and during COVID 19 lockdown: A time trend case study from a tertiary level Trauma Center of Northern India. Journal of Family Medicine and Primary Care [Internet]. 2017;6(2):169–70. Available from: http://www.jfmpc.com/article.asp?issn=2249-4863;year=2017;volume=6;issue=1;spage=169;epage=170;aulast=Faizi
6. Mobasheri A. Women's health: A revised global agenda in the COVID-19 era? Case Reports in Women's Health [Internet]. 2021;30:e00292. Available from: https://doi.org/10.1016/j.crwh.2021.e00292
7. Castro Da Rocha FA, Melo LDP, Berenbaum F. Tackling osteoarthritis during COVID-19 pandemic. Annals of the Rheumatic Diseases. 2021;80(2):151–3.
8. Bambra C, Riordan R, Ford J, Matthews F. The COVID-19 pandemic and health inequalities. Journal of Epidemiology and Community Health. 2020;74(11):964–8.
9. Fallon N, Brown C, Twiddy H, Brian E, Frank B, Nurmikko T, et al. Adverse effects of COVID-19-related lockdown on pain, physical activity and psychological well-being in people with chronic pain. British Journal of Pain. 2020;
10. Kirmizi M, Yalcinkaya G, Sengul YS. Gender differences in health anxiety and musculoskeletal symptoms during the COVID-19 pandemic. Journal of Back and Musculoskeletal Rehabilitation. 2021;34(2):161–7.
11. Bos WH, van Tubergen A, Vonkeman HE. Telemedicine for patients with rheumatic and musculoskeletal diseases during the COVID-19 pandemic; a positive experience in the Netherlands. Rheumatology International [Internet]. 2021;41(3):565–73. Available from: https://doi.org/10.1007/s00296-020-04771-6
12. Toprak Celenay S, Karaaslan Y, Mete O, Ozer Kaya D. Coronaphobia, musculoskeletal pain, and sleep quality in stay-at home and continued-working persons during the 3-month Covid-19 pandemic lockdown in Turkey. Chronobiology International [Internet]. 2020;37(12):1778–85. Available from: https://doi.org/10.1080/07420528.2020.1815759
13. Majumdar P, Biswas A, Sahu S. COVID-19 pandemic and lockdown: cause of sleep disruption, depression, somatic pain, and increased screen exposure of office workers and students of India. Chronobiology International [Internet]. 2020;37(8):1191–200. Available from: https://doi.org/10.1080/07420528.2020.1786107
14. Dhatt SS, Kumar V, Neradi D, Sodavarapu P, Meetei TT, Goni V. Need for Testing and Supplementation of Vitamin D3 After Release of COVID-19 Lockdown in Patients with Increased Musculoskeletal Pain. Indian Journal of Orthopaedics [Internet]. 2021;55(4):1046–9. Available from: https://doi.org/10.1007/s43465-021-00376-8
15. Garrido-Cumbrera M, Marzo-Ortega H, Christen L, Plazuelo-Ramos P, Webb D, Jacklin C, et al. Assessment of impact of the COVID-19 pandemic from the perspective of patients with rheumatic and musculoskeletal diseases in Europe: Results from the REUMAVID study (phase 1). RMD Open. 2021;7(1):1–10.
16. Smith TO, Belderson P, Dainty JR, Birt L, Durrant K, Chipping JR, et al. Impact of COVID-19 pandemic social restriction measures on people with rheumatic and musculoskeletal diseases in the UK: A mixed-methods study. BMJ Open. 2021;11(6):1–12.
17. Wilke J, Hollander K, Mohr L, Edouard P, Fossati C, González-Gross M, et al. Drastic Reductions in Mental Well-Being Observed Globally During the COVID-19 Pandemic: Results From the ASAP Survey. Frontiers in Medicine. 2021;8(March):1–6.
18. Pelicioni PHS, Schulz-Moore JS, Hale L, Canning CG, Lord SR. Lockdown During COVID-19 and the Increase of Frailty in People With Neurological Conditions. Frontiers in Neurology. 2020;11(November):1–6.
19. di Santo SG, Franchini F, Filiputti B, Martone A, Sannino S. The Effects of COVID-19 and Quarantine Measures on the Lifestyles and Mental Health of People Over 60 at Increased Risk of Dementia. Frontiers in Psychiatry. 2020;11(October):1–14.

20. Rogers NT, Waterlow NR, Brindle H, Enria L, Eggo RM, Lees S, et al. Behavioral Change Towards Reduced Intensity Physical Activity Is Disproportionately Prevalent Among Adults With Serious Health Issues or Self-Perception of High Risk During the UK COVID-19 Lockdown. Frontiers in Public Health. 2020;8(September):1–12.
21. Pati S, Mahapatra P, Kanungo S, Uddin A, Sahoo KC. Managing Multimorbidity (Multiple Chronic Diseases) Amid COVID-19 Pandemic: A Community Based Study From Odisha, India. Frontiers in Public Health. 2021;8(February):1–9.
22. Rodríguez-Nogueira Ó, Leirós-Rodríguez R, Benítez-Andrades JA, Álvarez-álvarez MJ, Marqués-Sánchez P, Pinto-Carral A. Musculoskeletal pain and teleworking in times of the COVID-19: Analysis of the impact on the workers at two Spanish universities. International Journal of Environmental Research and Public Health. 2021;18(1):1–12.
23. Paoli A, Musumeci G. Elite athletes and COVID-19 lockdown: Future health concerns for an entire sector. Journal of Functional Morphology and Kinesiology. 2020;5(2):10–2.
24. Carlos AF, Poloni TE, Caridi M, Pozzolini M, Vaccaro R, Rolandi E, et al. Life during COVID-19 lockdown in Italy: the influence of cognitive state on psychosocial, behavioral and lifestyle profiles of older adults. Aging and Mental Health [Internet]. 2020;0(0):1–10. Available from: https://doi.org/10.1080/13607863.2020.1870210
25. Motton S, Vergriete K, VanPhi LN, Lambaudie E, Berthoumieu A, Pous J, et al. Evaluation of the impact of the COVID-19 lockdown on the quality of life of patients monitored for cancer who practice an adapted physical activity: rugby for health. Journal of Cancer Research and Clinical Oncology [Internet]. 2021;(0123456789). Available from: https://doi.org/10.1007/s00432-021-03621-7
26. Musa AI. Social Distancing and Musculoskeletal Disorders in Supermarkets during COVID-19 Pandemic in Ogun State Southwest Nigeria. Journal of Science and Technology Research. 2020;2(4):97–103.
27. Ahmed S, Akter R, Islam MJ, Muthalib AA, Sadia AA. Impact of lockdown on musculoskeletal health due to COVID-19 outbreak in Bangladesh: A cross sectional survey study. Heliyon [Internet]. 2021;7(6):e07335. Available from: https://doi.org/10.1016/j.heliyon.2021.e07335
28. Gilbert AW, Booth G, Betts T, Goldberg A. A mixed-methods survey to explore issues with virtual consultations for musculoskeletal care during the COVID-19 pandemic. BMC Musculoskeletal Disorders. 2021;22(1):1–10.
29. Crenn V, el Kinani M, Pietu G, Leteve M, Persigant M, Toanen C, et al. Impact of the COVID-19 lockdown period on adult musculoskeletal injuries and surgical management: a retrospective monocentric study. Scientific Reports [Internet]. 2020;10(1):1–8. Available from: https://doi.org/10.1038/s41598-020-80309-x
30. Bakhtiar Choudhary MS, Choudary AB, Jamal S, Kumar R, Jamal S. The Impact of Ergonomics on Children Studying Online During COVID-19 Lockdown. Journal of Advances in Sports and Physical Education. 2020;3(8):117–20.
31. Kelly AM. Does the clinically significant difference in visual analog scale pain scores vary with gender, age, or cause of pain? *Acad Emerg Med*. 1998;5(11):1086-1090. doi:10.1111/j.1553-2712.1998.tb02667.x