Prevalence of Musculoskeletal Pain in the Factory Workers in Post Covid-19 Phase

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Abstract

Study Design: Observational study design. Background- COVID-19 is a novel corona virus which has not been found in humans. The very first case was detected in the Hubei, China at the end of December 2019.

Objectives: To find the musculoskeletal pain in body areas in those factory workers who resumed work following recovery in Post Covid-19 phase.

Procedure: 50 participants were recruited based on inclusion and exclusion criteria. An informed consent was taken from the subjects. Online informed consent was taken from the participants. Questionnaire was filled by the participants. Subject data was computed and analyzed.

Conclusion: According to the findings of the study, we conclude that musculoskeletal pain was prevalent among factory workers who resumed duty in the post Covid-19 phase. This study highlighted the presence of musculoskeletal pain in various region of the body with moderate intensity and dominant in lower back region followed by neck and upper back area.

Keywords: *COVID-19, Observational study, Factory workers, Musculoskeletal pain.*

Introduction

Covid-19 Background Information

COVID-19 is a novel corona virus which has not been found in humans. The very first case was detected in the Hubei, China at the end of December 2019. This virus is highly transmissible and thousands of new cases have been reported around the world every day[1]. Sneezing and coughing are believed to be the commonest forms of transmission which is similar to the outbreak of SARS corona virus which began in 2002 and was thought to have spread by sneeze and cough droplets.[1,2] The transmission of corona virus from animals to humans is rare and this new strain likely came from bats, though one study suggests pangolins may be the source of origin. Some reports trace the cases back to seafood and animal marketing in Wuhan.[3]

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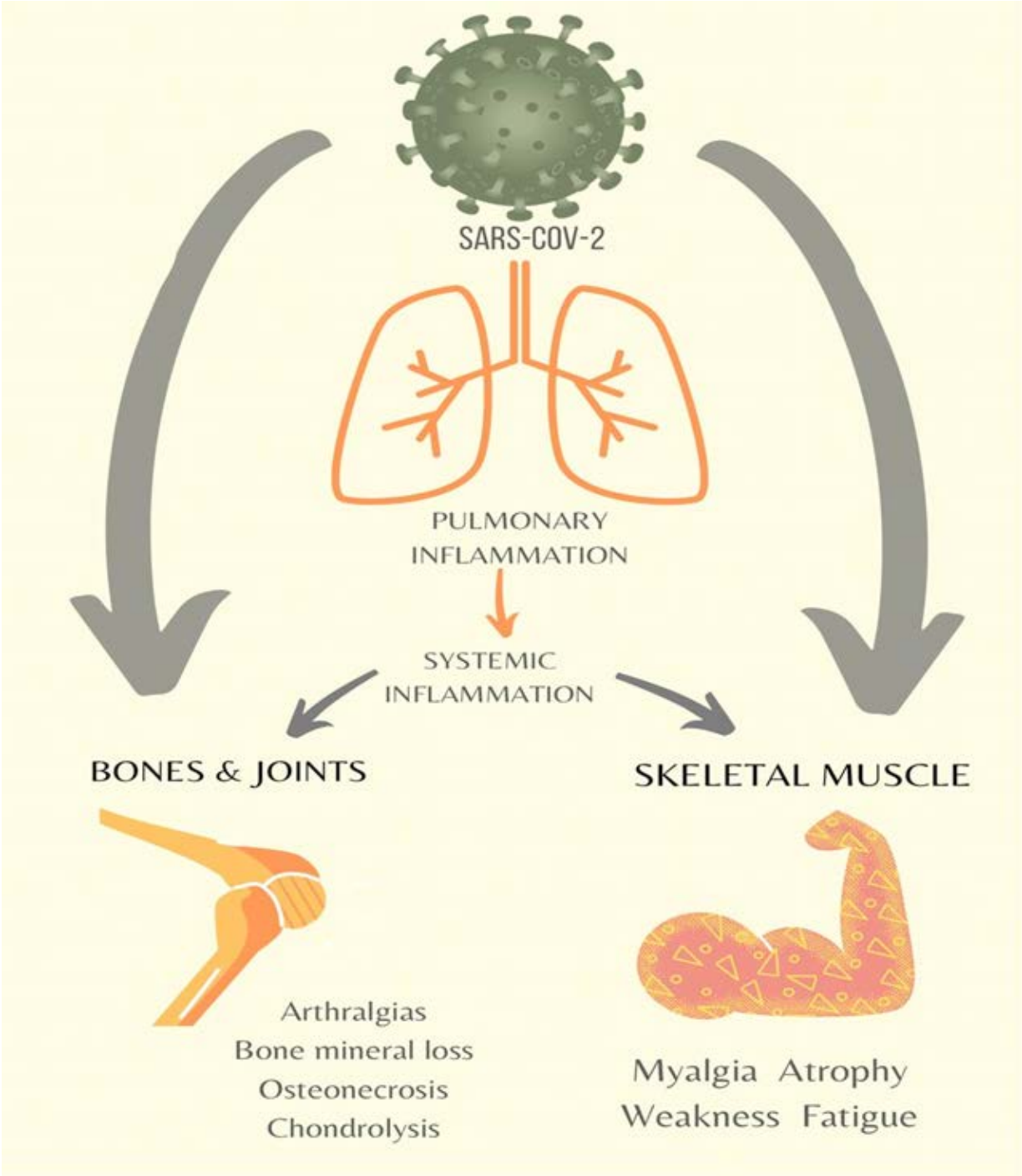

SKELETAL MUSCLE- Myalgias and generalized body weakness have been reported to occur in one-quarter to one-half of symptomatic patients with COVID-19. In a study of 214 Hospitalized patients with COVID-19 in Wuhan, China, 19% of patients had creatine kinase (CK) levels of >200 U/L[4].

BONE AND JOINT- Musculoskeletal disorders (MSDs) are prevalent among workers in the industry which does heavy physical work, often leading to inappropriate working postures for prolonged periods. It significantly increases morbidity and decreases the work ability. As we move forward, new challenges resulting from the impact of this must be faced.[5]

Method

In this study, subjects were recruited after Ethical clearance from the institution. The study included 50 subjects between 22-55 years and was randomly assigned to the online questionnaire. All subjects were evaluated for Numerical Pain Rating Scale (NPRS) and Structured questionnaire with questions related to musculoskeletal pain. Questionnaire validation was done by 5 subject-experts for feedback, improvement, identify possible errors or content changes and to ensure that the online questionnaire is user friendly and easy to understand.

Inclusion Criteria:

1. Age group from 22-55 years
2. Males and females both Individual
3. Those tested positive for Covid-19
4. Musculoskeletal pain following Covid 19
5. Minimum of 8 hrs work duration
6. Who resumed duty post quarantine periods

Exclusion Criteria:

1. Individuals having any musculoskeletal pain before Covid-19 phase
2. Any trauma or systemic disease

TABLE NO 1 - DEMOGRAPHIC DATA

AGE (IN YEARS)	(n=52) %	GENDER	
		MALE 90% (n=47)	FEMALE10% (n=5)
22-32	35% (n=18)	33%(n=17)	2%(n=1)
33-43	31% (n=16)	25%(n=13)	6%(n=3)
44-55	35% (n=18)	33%(n=17)	2%(n=1)

TABLE NO 2 - AREAS OF PAIN

AREA OF PAIN	PAIN (n=52)	SEVERE PAIN(n=52)
NECK	33%(n=17)	21%(n=11)
SHOULDER	23%(n=12)	15%(n=8)
ELBOW	8%(n=4)	6%(n=3)
WRIST	8%(n=4)	6%(n=3)
HAND & FINGERS	0%(n=0)	0%(n=0)
UPPER BACK	27%(n=14)	13%(n=7)
LOWER BACK	46%(n=24)	40%(n=21)

Cont... **TABLE NO 2 - AREAS OF PAIN**

HIP	8%(n=4)	6%(n=3)
KNEE	17%(n=9)	10%(n=5)
ANKLE	4%(n=2)	4%(n=2)
FOOT	6%(n=3)	0%(n=0)
TOES	6%(n=3)	0%(n=0)

Table no 3 - GRADING OF PAIN

PAIN GRADING SCALE(n=52)	PRESENT (NPRS)
1	0%(n=0)
2	10%(n=5)
3	15%(n=8)
4	25%(n=13)
5	27%(n=14)
6	6%(n=3)
7	6%(n=3)
8	4%(n=2)
9	2%(n=1)
10	0%(n=0)

Discussion

The study found that workers who joined back to work in the post Covid-19 phase had Musculoskeletal pain in various regions of the body with moderate intensity which was more at lower back region followed by neck, upper back and knee region. The conducted study was observational and was done among the factory workers who have tested positive for Covid-19.Here for the factory workers, they doing manual work which may aggravate area specific pain related to their work.

Participants worked for 8 hours per day before testing positive and after joining back to work. , Maximum individuals worked for 8 hours per day which can also be a contributing factor. Manual work at factory may be facilitating the pain. Also

31% participants from the 44-55 age groups were hospitalized and study shown that prolonged hospital stay affects the musculoskeletal system.

These participants have joined back to work, doing manual work which may contribute in their symptoms, for the age group 44-55 there were 12 participants who had musculoskeletal pain at neck, shoulder, lower back, upper back and knee region, In this study, the factory workers who may be manual working are prone to specific areas of pain related to their work. It was observed that the 30-to-39-year-old age group presented higher disabling musculoskeletal symptoms. Furthermore, this could be attributed to the higher workload and stress level that middle-aged adults undertook (20)

Out of 52, 26 participants were home quarantined and maximum 62% (n=16) joined back to work within 16-30 days after home quarantine. Maximum pain was found to be at lower back and neck, followed by shoulder, upper back and knee. This may be because of lack of physical activity, prolonged sitting at home and because of which after joining back to work the intensity for the pain might have increased.

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Conlusion

According to the findings of the study, we conclude that musculoskeletal pain was prevalent among factory workers who resumed duty in the post Covid-19 phase. This study highlighted the presence of musculoskeletal pain in various region of the body with moderate intensity and dominant in lower back region followed by neck and upper back area.

Ethical Clearance- Taken from Institutional Ethical committee

Source of Funding- Self

Conflict of Interest- Nil

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