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The Perception of Work from Home Computer Workers on Prevention of Recurrence of Musculoskeletal Pain during COVID-19 Lockdown

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ABSTRACT

Aim: To study the perception of work from home computer workers on prevention of recurrence of musculoskeletal pain during Covid-19 lockdown.
Method: In this descriptive study, with a sample size of 177, a set of questions was prepared by the investigators using the online google survey form and were sent to the work from home computer workers through the means of social media/email, along with the basic explanation about the study.
Result: The majority of the workers experienced musculoskeletal pain during work from home, the regions of the body that experienced musculoskeletal pain was the neck, low back, shoulder in ascending pattern. Though not all majority of the participants had knowledge on measures to be taken to deal with pain, and for prevention of pain recurrence. The measures taken by the participants to prevent the recurrence of pain are being more conscious about working posture, taking regular breaks, engaging themselves in some form of physical activity, doing stretches in between the work and using ergonomic chair/desktop/other equipment.
Conclusion: Majority of the participants were paying attention to pain and their health. And very few organizations had initiated ergonomic session for maintenance of health among employees. So, for an ergonomic health, the individual and organization should concomitantly and with their inter connectedness could perceive an integrated intervention approach with multiple facets.

Keywords: Prevention, musculoskeletal pain, work from home, Covid-19 lockdown.

INTRODUCTION

The most important human achievement in recent years is the invention of computer.[(1)] During the last two decades, the number of workers with visual display units (VDU) has increased dramatically thereby increasing the reported cases of musculoskeletal disorders.[(2)]

Highly contagious respiratory virus has spread to over 140 countries on 6 continents as of mid-March 2020, according to the World Health Organization.[(3)]India is also facing this very tough task for controlling the virus outbreak and has managed its growth rate through some strict measures.[(4)]

Ergonomic conditions in the workplace plays a vital role in the musculoskeletal health of the workers, so it is quite clear that the change of work environment to a domestic setting to carry out office work could increase the reporting musculoskeletal pain.[(5)]

The home environment is likely to be different in many aspects in comparison to the office workplace. In particular, the absence of ergonomic furniture at home, working in a sedentary position for prolonged periods, no regular breaks etc. may impede the adoption of healthy posture and promote the onset of musculoskeletal

disorders.[6] Musculoskeletal disorders (MSDs) commonly reported by computer/ laptop workers have detrimental effects on worker's health and productivity.[7]

To deal with the reported pain, the work from home workers would have approached health care worker or would have taken home measures or would have ignored it, but not sure how they would have perceived the idea of preventing the pain recurrence. Identifying the cause and preventing the recurrence of pain is crucial.

Objective of the Study

Study the perception of work from home computer workers on prevention of recurrence of musculoskeletal pain during Covid-19 lockdown.

METHODOLOGY

In this descriptive study, with a sample size of 177, a set of questions were prepared by investigators and data was collected using the google online survey form which was sent using social networking platforms (WhatsApp, Instagram, e-mail) to work from home computer workers. The inclusion criteria were participants aged between 20-45 years and who had reported history of any musculoskeletal pain during lockdown and the participants who had a history of musculoskeletal pain before lockdown were excluded. This survey consisted of open and closed ended questions framed by the investigators, consent was assured by asking a question about agreement for participation prior to the main questions.

The schematic design of the questionnaire has been mentioned in table below:

No	Descriptions	Answer
1	Name	
2	Age	
3	Gender	Choice
4	Email id	
5	Working hours	Choice
6	Where did you experience the pain while working from home?	Multiple Choice
7	What did you do to overcome the pain?	Multiple Choice
8	Have you ever thought about the factor causing pain?	Yes /no
9	If yes, what possibly could be causing the pain?	Multiple Choice
10	Do you think you may get the same kind of pain again?	Yes/No/May be
11	Have you ever thought about doing something to prevent the recurrence of pain?	Yes/ no
12	Which source of information you would consider for preventing the pain?	Multiple Choice
13	Have you taken any measures to prevent the recurrence of pain?	Yes/ no
14	If yes, what measures have you taken to prevent pain?	Multiple Choice
15	Has your office management conducted any session emphasizing the working posture at home environment?	Yes/No

DATA ANALYSIS AND RESULTS

All 177 participants had given their consent to participate in the study, after which their demographic details and their perception on prevention of recurrence of musculoskeletal pain among work from home computer workers during Covid-19 lockdown were asked.

Demographic details:

A total number of 177 participants responded within the stipulated time out of which 86 participants were male and 91 are female.

Working hours

Among the participants who are working from home during Covid-19 pandemic, 64% (114 participants) were working for 8-10 hours followed by 19.2% (34 participants) were working for less than 8 hours and 16.4%(29 participants) were working for more than 10 hours.

Areas of pain experienced while working from home

The musculoskeletal pain experienced in the body region while working from home during Covid-19 pandemic was neck pain at 71.8%(127 participants) followed by67.2% (119 participants) with low back pain, 46.3% (82 participants) with shoulder pain,16.9% (30 participants) with wrist pain,22% (30 participants) with hip pain,14.7%(26 participants) with knee pain respectively. The lowest proportion of the pain was in the elbow at 7.9% (14 participants) and ankle at 9% (16 participants) and 5% (9 participants) of the workers had eye pain, buttock pain and finger pain.

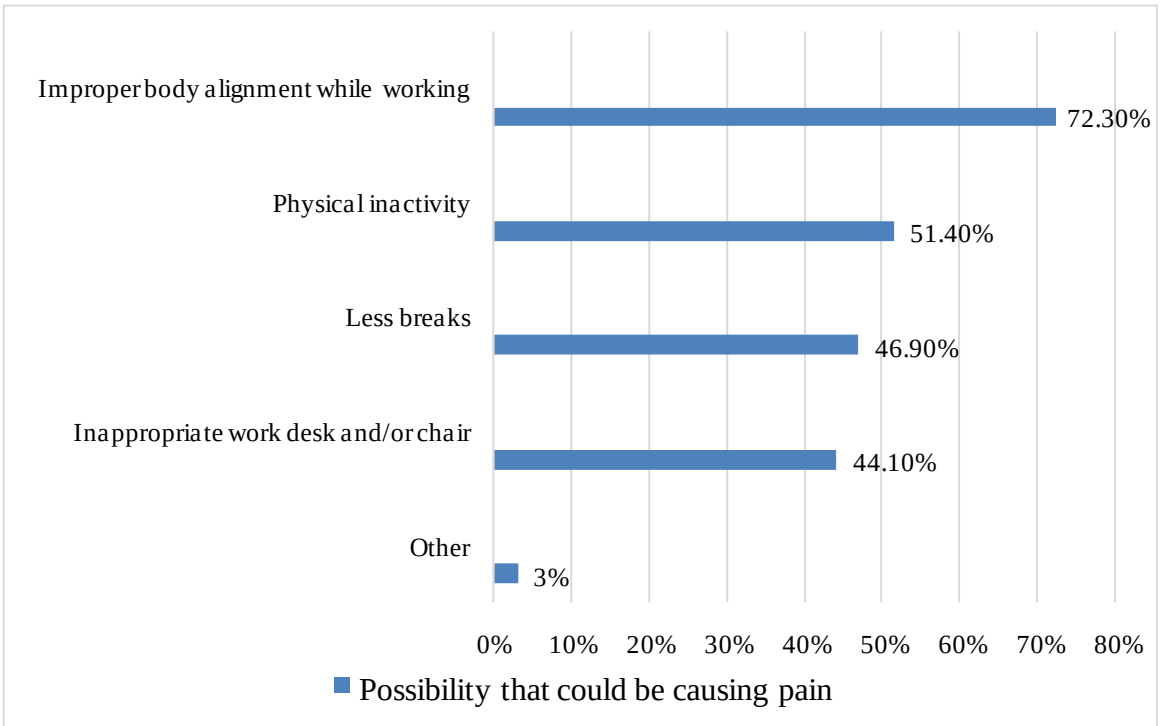
Measures taken to overcome the pain

Among the reported measures, i.e. 46.9% (83 participants) did seating adjustments to overcome the pain. In which 37.9% (67 participants) did laptop/desk/ keyboard/mouse adjustments,25.4% (45 participants) tried home remedies, 24.3% (43 participants) used hot water bags/ ice packs and 21.5% (38 participants) took a massage and 21.5% (38 participants) did not pay attention to it. Whereas,13% (23 participants) consulted a physiotherapist and 4% (7 participants) consulted a doctor and 9% (16 participants) did stretching, neck and shoulder exercises and took pain killers to overcome the pain.

Participants and their perception on factors causing pain.

75.1% (133 participants) paid attention to know the factor causing pain, whereas 24.9% (44 participants) did not pay attention to it.

The most proportion of the workers who had the musculoskeletal pain while working from home during Covid-19 pandemic have an idea that the pain could be caused by various reasons, out of which 72.3% (128 participants) believe that the possible causative factor could be improper body alignment, 51.4% (91 participants) believe it was due to physical inactivity, 46.9% (83 participants) believe it was due to less breaks and 44.1% (78 participants) it was because of inappropriate work desk and 3% (5 participants) of the workers think it was due to diabetes.



Participants and recurrence of pain

The maximum participants i.e. 52.5% (93 participants) think that they will get the same kind of pain again. Whereas 4% (7 participants) of the participants believed that they may not get the same pain again and 43.5% (77 participants) of participants believed they 'may' get the same pain.

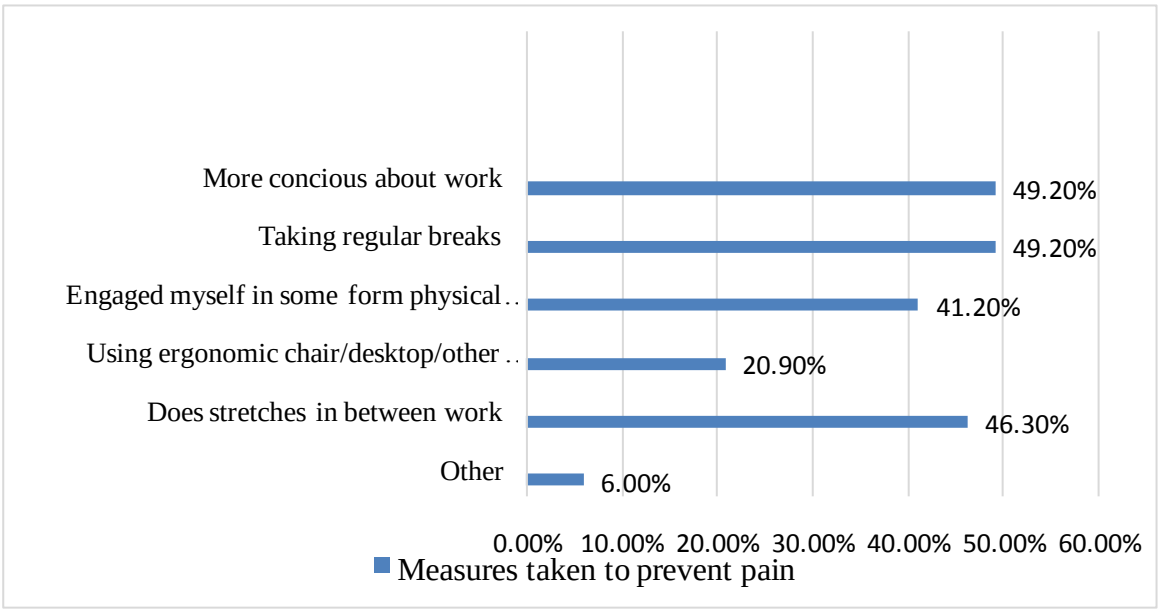
Majority of the respondentsi.e.69.5% (123 participants) have thought about doing something to prevent the recurrence of pain, whereas, 30.5% (27 participants) of the participants did not pay attention to it.

Participants and source of information

The most proportion of the workers who had the musculoskeletal pain while working from home during covid-19 pandemic considered consulting a doctor/physiotherapist i.e.75.7% (133 participants) as the source of information to prevent the pain, followed by27.1% (48 participants) referred internet as the source of information and 13.6% (24 participants) had interacted with friends/colleagues.

Participants and measures to prevent pain recurrence

Majority of the participants, which is 68.9% (122 participants) have taken certain measures to prevent the recurrence of pain whereas 31.3% (55 participants) did not take any measure to prevent the recurrence of pain.



44.2% (78 participants) considered being more conscious about as the most effective preventive measures to prevent recurrence of pain, followed by49.2% (87 participants) considered taking regular breaks, 46.3% (82 participants) considered stretching in between work and 41.2% (73 participants) considered engaging themselves in some physical activity. The lowest proportion of the workers used ergonomic chair and desktop i.e. 20.9% (37 participants) to prevent the recurrence of pain and 6% (11 participants) of the workers did neck exercises during work and used back supporting belts to prevent the recurrence of pain.

Participants, office managements and recurrence of musculoskeletal pain

Majority of the office management i.e. 66.1% (117 participants) did not to conduct any session on emphasizing the working posture at home environment, where as 33.9% (60 participants) of the office management have considered employee's health and conducted a session to improvise the working posture at home environment.

DISCUSSION

Covid-19 pandemic forced many office workers to work from home. The current study examined the perception of work from home computer workers for prevention of recurrence of musculoskeletal pain among during Covid-19 lockdown. The results showed that the region of the body that experienced highest pain was the neck (71.20%), low back (67.20%) and shoulder (46.30%). Our results were supported by a systematic review by Erik and Smith, where the prevalence rate of musculoskeletal disorder ranged between 39% and 95% in which the most prevalent body sites to be the neck, back and upper limbs.[8,9]During working activities in front of the computer, the upper trapezius muscle was the most exerted muscle that leads to the generation of internal forces within the body in which it will increase the muscle tension and pain in the shoulder and neck.[10,11]

Studies suggest that while the workers are working from home the musculoskeletal disorders might be triggered as the workers have to work for at least 8 hours a day. In our survey 64% of the workers worked for 8-10 hours a day and 16.4% of the workers had worked for more than 10 hours a day from home during Covid-19 pandemic. And they will have to sit on a non-ergonomic chair in many cases. With this scenario, they often slump while sitting, which will increase the muscle work to maintain the seated position leading to increase in the tension of ligaments and muscles.[10,11]

The results showed that the participants believed that the pain was due to improper body alignment while working (72.30%), physical inactivity (51.40%) and less breaks (46.90%). These findings are supported by a study by Feng et al. which suggests that lack of work breaks, working under pressure, and lack of social support lead directly to the stress in which the stress can increase muscle tension that develops the musculoskeletal disorder. Furthermore, majority of the workers (69.5%) thought about preventing the recurrence of pain and 68.90% also have taken measures to prevent the recurrence of the pain.[12]

Even though most proportion of the workers thought of consulting a doctor/physiotherapist (75.70%) to prevent the pain recurrence, it is also important to address the incidence of musculoskeletal pain among work from home workers and its associated risk factors. As, recurrence of pain or chronic pain can have negative effect on personal and social life which includes stress, reduced productivity. In our study, measures taken by the participants to prevent pain recurrence, were, being conscious about the working posture 49.20%, taking regular breaks (49.20%), doing stretches in between the work (46.30%) and engaging themselves in some form of physical activity (41.20%).

In a work place setting, health literacy has been associated with individual health behaviours such as knowledge and management of pain and modes of treating pain and the confidence about the ability to influence health or working condition. At the organizational level, working conditions can affect the workers possibilities to apply their health behaviour competences in the work routines[13] and to our surprise, during this last many months of Covid19 and Work from home culture, only 33.90% of office management has conducted session on home ergonomics.

CONCLUSION

The conclusion of this survey was based on the responses received from the work from home participants who suffered any musculoskeletal pain and their perception of its prevention. Even though not all, but majority participants had knowledge on the measures to be taken to deal with pain, and for prevention of pain recurrence. This reflects the prioritization of the participants to one's well-being. And very few organizations have initiated ergonomic session for maintenance of the ergonomic health of their employees. So, for an ergonomic health, the individual and organization should concomitantly and with

their interconnectedness could perceive an integrated intervention approach with multiple facets e.g., conducting awareness sessions on health and pain with the advice of a physiotherapist/ ergonomist for building knowledge, communication between both regarding health etc.

Limitations and Recommendations

- Small sample size, thus the findings cannot be generalized to a larger population. In future large population can be studied.
- Coordination between the employee and organization on health, pain and work from home can be studied in depth.

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