



Research Paper

## To Study the Impact of Work from Home on Back and Neck Pain among Employees during Covid-19 Pandemic

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### ABSTRACT:

The COVID-19 pandemic has great impact on stress level in the individual and also the health of the people. The study focuses on the neck pain and the back pain during the COVID-19 pandemic among the employees. This research will help to evaluate the difference in the back and the neck pain of the individual before the pandemic and after the pandemic. The objective of the research is to analyze the impact of the COVID-19 pandemic on the issue related to health that is pain in the neck and the back in the employees of the age group 20 years to 45 years. Quantitative research design which was descriptive in nature was used. The data was primary data collected from sample size of 52. Random stratified sampling technique and a web-based questionnaire was used for data collection. Techniques like frequency table, bar graph and pie diagram were used to analyze the data. The result showed 19% employees had physical issues, 25% had neck pain, 36% had back pain during pandemic. The study concluded that there was least neck and back pain but had extreme impact on physical activity as 61% of employees had <1hr of physical activity in an entire day. The result also revealed that 52% did not have good work life balance and 57% used to do exercise to cope up with pain.

**KEYWORD:** Covid-19, neck and back pain, coping strategies, physical activities

Received 10 Feb, 2021; Revised: 23 Feb, 2021; Accepted 25 Feb, 2021 © The author(s) 2021.

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### I. INTRODUCTION:

At the beginning of 2020 coronavirus had spread all over the world and declared as 'pandemic' on March 11<sup>th</sup> 2020 by World Health Organization (WHO). The virus first emerged in China and now considered as one of the major global health threats (Wang et al. 2020). The COVID-19 health emergency profoundly changed working life. (Moretti A. et al July 2020). To minimize physical contact among individuals and to prevent new infections many companies implemented work from home. Working in sedentary position for long hours increases the risk of neck and back pain or lower back pain (Cote et al. 2008). The negative impact of work from home are like blurred work-home boundary, fatigue, stress, mental demands, physical pain and problems related to vision, work like balance have occurred (Kotera et al. 2020). Also found home workers experience overlap between work and home life (Hartig et al. 2007). It also can be noticed that work from home culture is also affecting the social lives of the employees as they even connect with their colleagues on screen also increasing the burden on their eyes than usual. For many workers work from home life is easier than work at office. Among positive effects the most common are like more efficiency and better concentration, more productivity and better family life.

### II. LITERATURE REVIEW:

Sahni J. (2020 Oct) "Impact of COVID-19 on employee behaviour, stress and coping mechanism during work from home, "International Journal of Operation Management vol-I, PP 35-48, (Oct)". Sahni J. examined the impact of coronavirus on human behaviour and how the individuals adapted themselves to these changes and challenges. After conducting 23 in depth interview in public and private service industry of Saudi Arabia the author found that the stress level was moderate to high among all participants. The triggers inducing the stress of employees were ineffective communication at work, fear of unknown, lack of clarity and directions of work, loss of time and energy due to interruption of work from home. In this study data was qualitative data which were collected from a small sample size (23). Therefore, further quantitative study needed to conclude more generalized findings and impacts on larger population.

Uygun O. et al. (2020 May) "Headache characteristics in COVID-19 pandemic", "The Journal of Headache and Pain' PP 1-10 (2020)". The researchers focused to reveal characteristics of headache related to

COVID-19 and its associations. The study was conducted among the patient admitted in inpatient and outpatient departments of neurology, Istanbul. The study revealed that total 1968 participants with or without COVID-19 infection reported headache attacks and among them 714 had migraine and 1077 had tension type of headache. They also found that social isolation triggered inducing the headache during COVID-19 pandemic. Therefore, further research needed.

### III. OBJECTIVES:

The objective of research is to analyze the impact of covid-19 on neck pain and back pain of employees due to work from home. To study various factor leading to the pain in neck and back. To evaluate the changes in the pain before and after covid-19. To know the solution used to avoid the neck and back pain by the student of adult age group.

Research Question:

What is the impact of COVID-19 on neck and back pain of employees?

How work from home is affecting physical activity of employees?

### IV. RESEARCH METHODOLOGY:

**Data:**

The research consists sample size of 52 respondents including both male and female of the age group 20-45 years. The respondents are from the different organisation thus creating the diversity in the research. The type of sampling used is Random stratified sampling in this research.

**Methodology:**

The research design was quantitative which is descriptive in nature to study the impact of back and neck pain among employees due to work from home during COVID-19. Data was primary data and data collection was done using web-based questionnaire that was designed to analyse the objective of the research. Multiple choice question was used to know the number of hours employees use to work during the pandemic and for further testing rating based questions were incorporated to know the level of pain in the back and the neck of the employees. The tool is also used to get the more clarity of the result i.e., Frequency table, bar graph and pie chart.

**Design of the web-based questionnaire:**

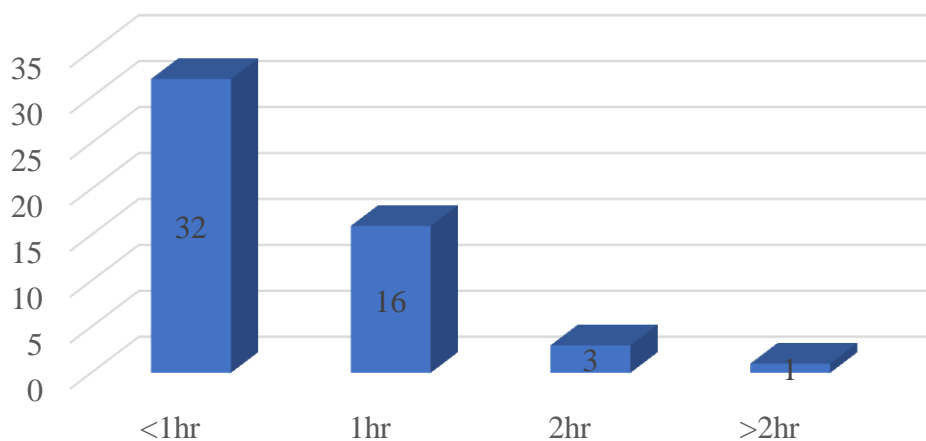
A detailed web-based questionnaire was developed focusing on neck and back pain due to work from home during pandemic. The questionnaire was tried to kept in an acceptable limit to optimize the attention of participants. The questionnaire consisted of 15 number of closed ended questions including important characteristics like nature of work, working hours, physical issues like neck and back pain before and after COVID-19, ratings of pain, exercise during pandemic etc. The participants were invited by means of social media using a web-based link on WhatsApp and email.

**Research period:**

The duration of survey implementation was planned as 15days, started from 23<sup>rd</sup> Jan 2020 and ended on 7<sup>th</sup> Feb 2020.

### V. DATA ANALYSIS AND INTERPRETATION:

#### PHYSICAL ACTIVITIES IN PANDEMIC



**Fig. 1: Physical activity hours of employees**

From Fig. 1, we can conclude that during the pandemic the physical activities among the employees decreased as the data showed 32(61%) employees out of 52 had <1hr of physical activity in entire day.

a.

	YES	NO	MAYBE
Physical issue before pandemic	5	47	-
Physical issue during pandemic	10	35	7
Neck pain in pandemic	13	35	4
Back pain in pandemic	19	27	6
Exercise during pandemic	30	14	8
Good work life balance	25	27	-

**Table 1**

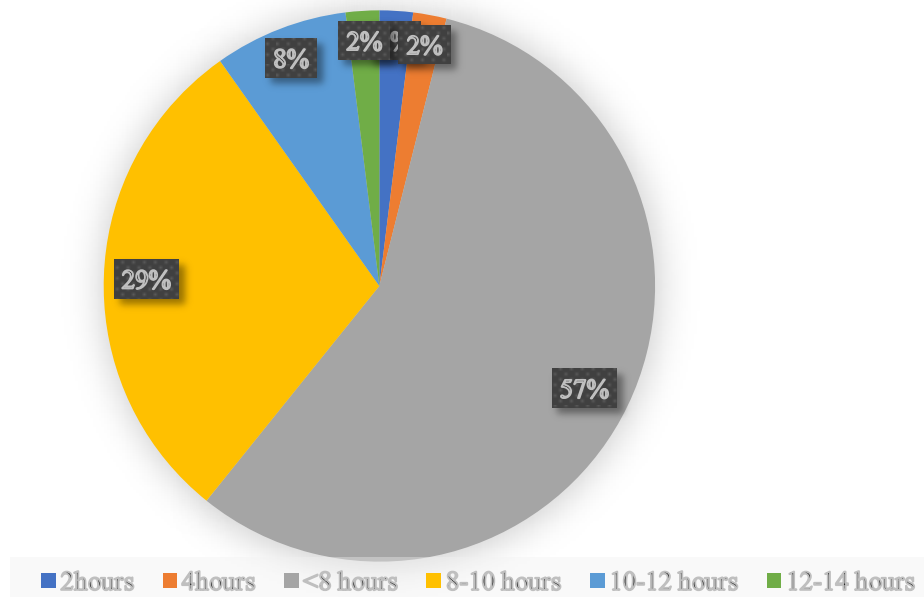
From the Table 1, we can interpret that out of 52 employees 90% of them did not face any physical issues before pandemic, 19% had physical issues and 25% had neck pain during, 36% had back pain during pandemic whereas 57% of people used to do exercise to cope up of pain. The data also interpret that 52% of employees do not have good work life balance. The data revealed that there is no huge impact on back and neck pain due to work from home but the employees do not have good work life balance due to work from home.

	Least (1,2)	Moderate (3)	Extreme (4,5)
Neck pain in pandemic	41	1	10
Back pain in pandemic	29	10	13
Work from home impact on physical activities	21	9	22

**Table 2**

From the Table 2, it is understood that 40% of employees had least neck and back pain, 18% had moderate and 42% had extreme neck and back pain during pandemic

**Employees by Work Hours**



**Fig.2: Employee Distribution by Work Hours**

The above pie chart is of no. of employees by Work Hours in the pandemic and we can say that no. of employees working for <8 hours are more than 50% while the no. of employees working for 2 hours, 4 hours and 12-14 hours are the least that is only 2%.

## **VI. LIMITATIONS OF THE STUDY:**

There are some limitations to this study. First of all, sample size was very less (52) because of less participation of employees. Also, our questionnaire was a web-based survey, therefore only the individuals who were able to use smart phone or laptop could participate in the study.

## **VII. CONCLUSION:**

The COVID-19 outbreak and social distancing has changed the working pattern of most of the organization. Some people used to work for long hours by sitting in front of screen. Because of long working hours employees have faced physical issues like headache, neck and back pain, vision related problems, also faced problems like losing work life balance, increased stress level, lack of working environment at home. At the same time some of the employees are enjoying the work from home because they are getting enough time to live with their family (Laker B. Aug 2020).

In our research study we have found there is a relation between work from home and health issues like neck and back pain. The relation between physical activities and work from home during COVID-19 is also understood by this research. The result shows 30% of employees had 1 hour of physical activity and 61% had <1 hour of physical activity in an entire day. Total 19% employees had physical issues, 25% had neck pain, 36% had back pain, 57% used to do exercise to cope up with pain, 52% did not have good work life balance during pandemic. Study also shows least neck and back pain among employees due to work from home but have extreme impact on physical activity. The study also concludes 57% of employee used to work from home for <8 hour, 29% used to work 8-10 hours, whereas no. employees working for 2hours, 4hours and 12-14 hours were very less i.e., 2%.

data provided by this survey would be useful to improve working pattern of organizations, promoting mental and physical health of employees and to create a working schedule so as to maintain good work life balance of employees.

The limitation of the study includes less sample size and web-based questionnaire; therefore, it is recommended that future study should include larger sample size and use of other data collection instruments to conclude more generalized findings and implications.

## **BIBLIOGRAPHY:**

- [1]. Sahni J. (Oct 2020) "Impact of COVID-19 on employee behaviour, stress and coping mechanism during work from home", "International Journal of Operation Management vol-I, PP 35-48, (Oct)", Research Leap.
- [2]. Uygun O. et al. (May 2020) "Headache characteristics in COVID-19 pandemic", "The Journal of Headache and Pain" PP 1-10 (2020)". <https://doi.org/10.1186/s10194-020-01188-1>
- [3]. Moretti A. et al. (July 2020) . "characterization of home working population during COVID-19 emergency", International Journal of Environmental Research and Public Health, MDPI. doi:10.3390/ijerph17176284, [www.mdpi.com/journal/ijerph](http://www.mdpi.com/journal/ijerph)
- [4]. Fisher I. et al. (June2020), The behavioural challenge of the COVID-19 pandemic, Royal Society Publishing, Available on <https://doi.org/10.6084/m9.figshare.c.5099123>
- [5]. Nibusinessinfo. Employees Working from Home. Available online: <https://www.nibusinessinfo.co.uk/content/advantages-and-disadvantages-employees-working-home> (accessed on 26 June 2020).
- [6]. Savic, D. COVID-19 and Work from Home: Digital Transformation of the Workforce. Grey J. (TGJ) 2020, 16, 101–104.
- [7]. The Balance Careers. The Pros and Cons of a Flexible Work Schedule. Available online: <https://www.thebalancecareers.com/advantages-and-disadvantages-of-flexible-work-schedules-1917964> (accessed on 26 June 2020).
- [8]. Will,J.S.;Bury,D.C.;Miller,J.A.MechanicalLowBackPain. Am. Fam. Physician2018,98,421–428. [PubMed]
- [9]. Côté, P.; van der Velde, G.; David Cassidy, J.; Carroll, L.J.; Hogg-Johnson, S.; Holm, L.W.; Carragee, E.J.; Haldeman, S.; Nordin, M.; Hurwitz, E.L. The Burden and Determinants of Neck Pain in Workers. Eur. Spine J. 2008, 17, 60–74. [CrossRef]
- [10]. Baker, R.; Coenen, P.; Howie, E.; Williamson, A.; Straker, L. The Short Term Musculoskeletal and Cognitive Effects of Prolonged Sitting During Office Computer Work. Int. J. Environ. Res. Public Health 2018, 15, 1678. [CrossRef] [PubMed]
- [11]. American Psychiatric Association Foundation. Working Remotely During COVID-19. Available online: <http://workplacentalhealth.org/getmedia/fd8a9b98-b491-4666-8f27-2bf59b00e475/Working-RemotelyDuring-COVID-19-CWMH-Guide> (accessed on 11 June 2020).
- [12]. Grant, C.A.; Wallace, L.M.; Spurgeon, P. An exploration of the psychological factors affecting remote e-worker's job effectiveness, well-being and work-life balance, Empl. Relat. 2013, 35, 527–546. [CrossRef]
- [13]. Kotera, Y.; Vione, K. Psychological Impacts of the New Ways of Working (NWW): A Systematic Review. Int. J. Environ. Res. Public Health 2020, 17, 5080. [CrossRef]
- [14]. Hilbrecht, M.; Shaw, S.M.; Johnson, L.C.; Andrey, J. I'm home for the kids: Contradictory implications for work-life balance of teleworking mothers. Gend. Work Organ. 2008, 5, 455–471. [CrossRef]
- [15]. Hartig, T.; Kylin, C.; Johansson, G. The Telework Tradeoff: Stress Mitigation vs Constrained Restoration. Appl. Psychol. 2007, 56, 231–253. [CrossRef]
- [16]. Mann,S.;Holdsworth,L.Thepsychologicalimpactofteleworking: Stress,emotionsandhealth. NewTechnol. Work Employ. 2003, 18, 196–211. [CrossRef]