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A Study Of Impact Of Smartphone Addiction In Health Professionals Post Covid-19

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ABSTRACT

BACKGROUND: In India, there had been a steady rise of 1.5 times post Covid-19 2020 from 2016 to 2021. the smartphone had proven to be the most dependable device for communication, entertainment, andvarious other functions. Children and adolescents today increasingly influenced, which ultimately leads to spent more time at phone. In healthcare professionals, tis found that 35–45% of physicians, nurses, and midwives suffered from neck, shoulder, and upper back pain. Also a significant increased in the incidence of emotional problems among excessive smartphone users like depression, sleep problems, anxiety, and a high level of perceived stress.

OBJECTIVES: To find out the impact of smartphone addiction on neck pain and disability in healthcare professionals which were already at the many Musculo-skeletal disorders. Also, to suggest and conclude the study with its emerging findings.

METHODOLOGY: An observational study was conducted on health professionals in Banas kantha District, using a SAS-SVonline questionnaire. Data was collected with 10 questionnaires filled out using Google Forms as a web-based questionnaire.

RESULT: The final analysis of the data shown that 19.8% in the no addiction, 55.9% in high risk of addiction and 24.3% of professionals were in addicted category.

CONCLUSION: There was a moderate correlation between the smartphone addiction and neck disability among the health professionals. Ergonomic education for professionals regarding usage of smartphones and awareness about the possible musculoskeletal problems is required.

KEY WORDS: *Smart phones, Prevalence, Analysis, Addiction*

INTRODUCTION:

Over 600 million people in India use smartphones at the moment, and as more people switch from feature phones to smartphones, that number is projected to rise. The research states that the Indian market has expanded steadily over the past five years, with the exception of the Covid-19 2020, which increased by 1.5 times between 2016 and 2021.

Teenagers and young adults now use cellphones more than any other mobile device, with usage rising dramatically. With the advancement of technology in recent years, the smartphone has emerged as the most reliable gadget for internet-based communication, entertainment, and other uses. This comes with it the curse of technology, and young adults who were raised in the technological age are known as "digital natives." Contemporary children's and teenagers' lives are becoming more and more impacted by modern gadgets, such as cellphones. The COVID-19 pandemic struck during a period of remarkable advancements in science and widespread digitalization. The COVID-19 pandemic had significant negative psychological and behavioral consequences on young individuals, mostly because of infection control efforts, it caused people to use technology extensively and spend more time at home. This study intends to assess the health and social consequences of health professionals' excessive use of smartphones following the COVID-19 epidemic by examining usage patterns and objectives, as well as the eventual occurrence and severity of addiction.

It is possible for healthcare professionals to have neck pain at some time in their careers. According to a comprehensive assessment of MSDs associated with the workplace, 35–45% of physicians, nurses, and midwives report having neck, shoulder, or upper back pain. In a different study, the shoulder was the most commonly affected location, with a prevalence of 50–93% among dental professionals. In this population, the effects of neck pain may include decreased working hours, restricted daily activities, disturbed sleep, or, in the worst-case scenario, employee attrition. Studies, especially those pertaining to emotional difficulties, have increasingly focused on the relationship between problematic smartphone use (PSU) and health care outcomes (Andrade, Scatena et al., 2020). The authors of the meta-analysis, which included 41,871 people, discovered that over the past ten years, there has been a notable rise in the prevalence of emotional issues among heavy smartphone users (Sohn, Rees, Wildridge, Kalk, & Carter, 2019). According to the study's findings, depression, anxiety, sleep issues, and a high degree of perceived stress were the most often found emotional symptoms in the group of children and adolescents that exhibited PSU (Sohn et al., 2019).

There has been relatively few research on the relationship between neck pain and impairment brought on by excessive smartphone use, but none that looked at the level of smartphone addiction in healthcare professionals. Thus, the primary goal of the current study was to determine how smartphone addiction affected neck pain and impairment in healthcare professionals, who are already predisposed to a variety of musculoskeletal problems.

The objectives of the study are:

- Researching smartphone addiction in the wake of the COVID-19 outbreak.
- To investigate smartphone addiction in healthcare professionals.
- To make recommendations and wrap up the research with its new discoveries.

SUBJECT AND METHOD:

Data collection and study design

Using an SAS-SV online questionnaire, an observational study was carried out on health professionals in the Banas Kantha District. Data was collected between September with 10 questionnaires filled out using Google Forms as a web-based questionnaire. Questionnaires were distributed to health professionals by posting them in their batch groups on what's up, an online social media and social networking service.

Professionals from healthcare faculties were included: the faculties of psychiatry, pediatrics, medicine, dentistry, pharmacy, nursing, etc., Additionally, participants rated the degree of pain and indicated whether they had ever experienced neck and shoulder pain associated with using a smartphone.

RESEARCH METHODOLDOGY:

Smartphone addiction scale - Short version(SAS-SV):

To detect high-risk smartphone addiction, the SAS-SV is employed. The SAS-SV includes 10 questionsthat describe daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse, and tolerance. For each item, participants expressed their opinion on a 6-pointscale ranging from 1 (strongly disagree) to 6 (strongly agree).

Smartphone use study (SAS-SV):

1. Missing planned work due to smartphone use *

- Strongly disagree
- Disagree
- Weakly Disagree
- Weakly Agree
- Agree
- Strongly Agree

2. Having a hard time concentrating while working due to smartphone use *

- Strongly disagree
- Disagree
- Weakly Disagree
- Weakly Agree
- Agree
- Strongly Agree

3. Feeling pain in the wrist or at the neck while using smartphone *

- Strongly disagree
- Disagree
- Weakly Disagree
- Weakly Agree
- Agree
- Strongly Agree

4. Won't be able to stand not having a smartphone *

- Strongly disagree
- Disagree
- Weakly Disagree
- Weakly Agree
- Agree
- Strongly Agree

5. Feeling impatient and fretful when I am not holding my smartphone *

- Strongly disagree
- Disagree
- Weakly Disagree
- Weakly Agree
- Agree
- Strongly Agree

6. Having my smartphone in my mind even when I am not using it *

- ○ Strongly disagree
- ○ Disagree
- ○ Weakly Disagree
- ○ Weakly Agree
- ○ Agree
- ○ Strongly Agree

7. I will never give up using my smartphone even when my daily life is already greatlyaffected by it *

- ○ Strongly disagree
- ○ Disagree
- ○ Weakly disagree
- ○ Weakly Agree
- ○ Agree
- ○ Strongly Agree

8. Constantly checking my smartphone so as not to miss conversations between otherpeople on WhatsApp, Facebook, or WeChat *

- ○ Strongly disagree
- ○ Disagree
- ○ weakly disagree
- ○ Weakly Agree
- ○ Agree
- ○ Strongly Agree

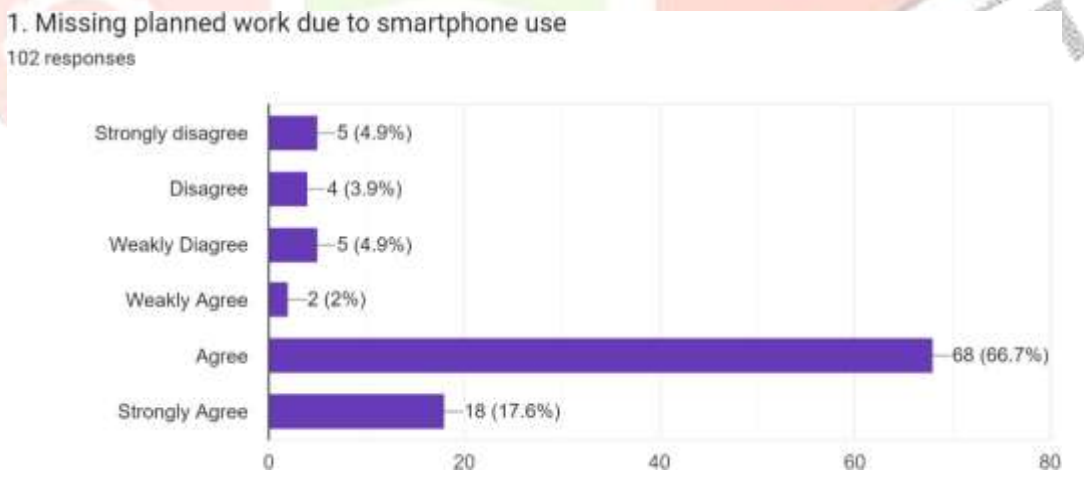
9. Using my smartphone longer than I had intended *

- Strongly disagree
- Disagree
- Weakly Disagree
- Weakly Agree
- Agree
- Strongly Agree

10. The people around me tell that I use my smartphone too much *

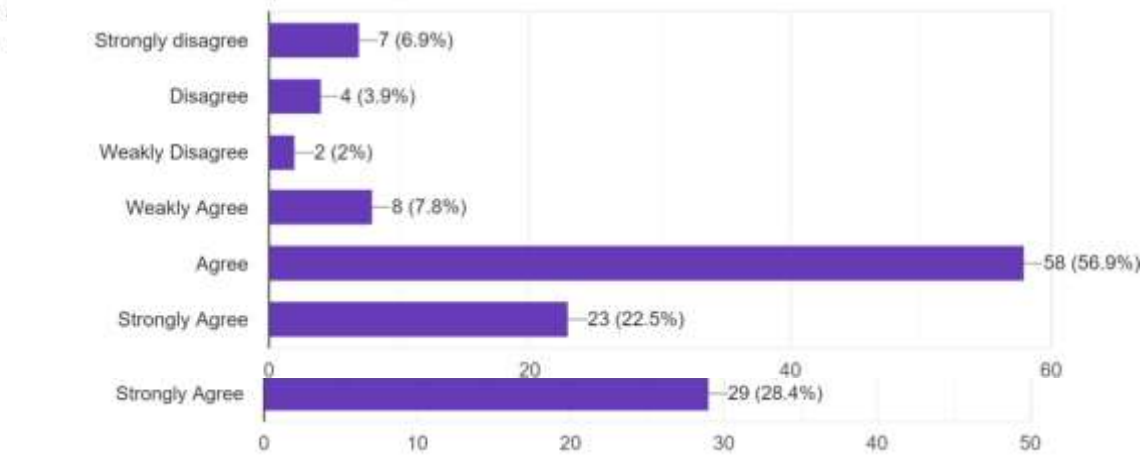
- Strongly disagree
- Disagree
- Weakly disagree
- Weakly Agree
- Agree
- Strongly Agree

STATASTICAL ANALYSIS:



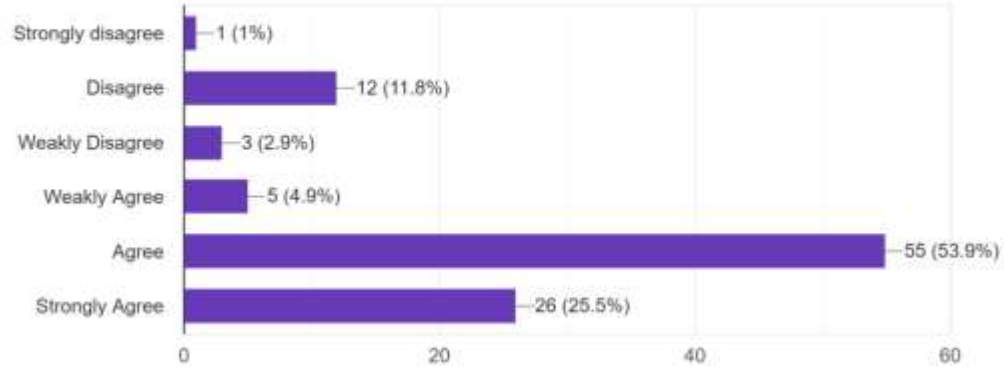
2. Having a hard time concentrating while working due to smartphone use

102 responses



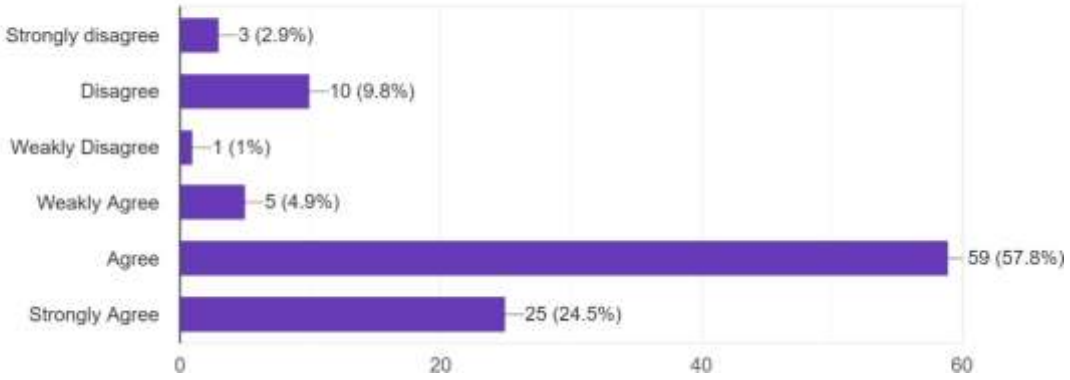
5. Feeling impatient and fretful when I am not holding my smartphone

102 responses



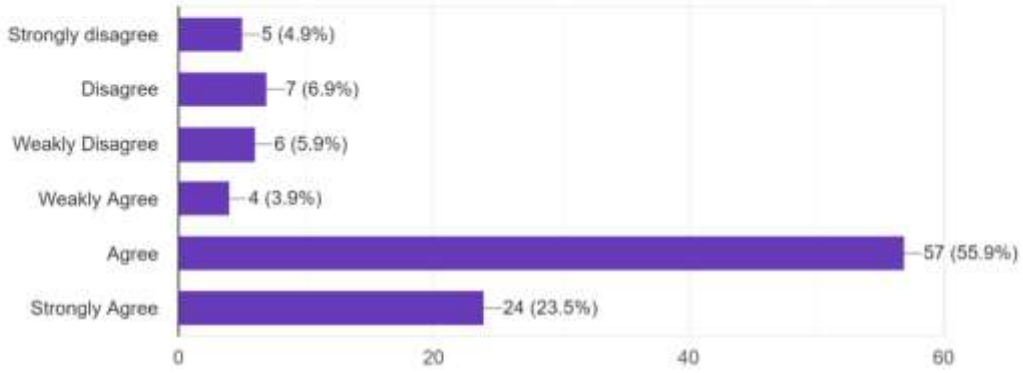
3. Feeling pain in the wrist or at the neck while using smartphone

102 responses



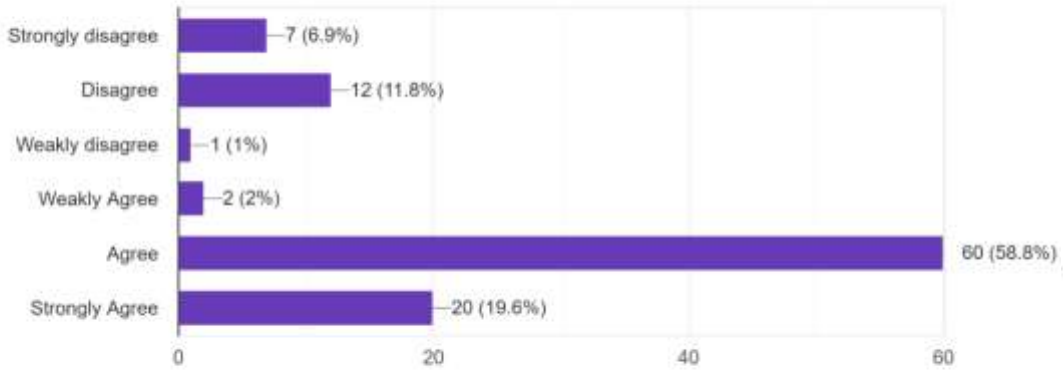
6. Having my smartphone in my mind even when I am not using it

102 responses



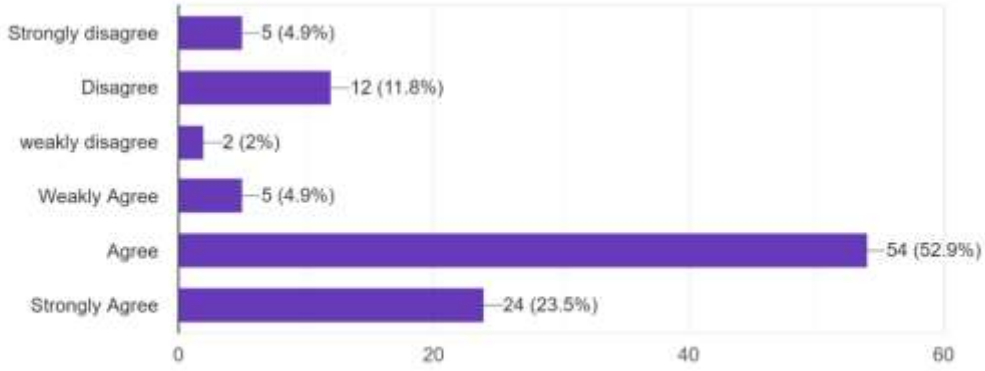
7. I will never give up using my smartphone even when my daily life is already greatly affected by it

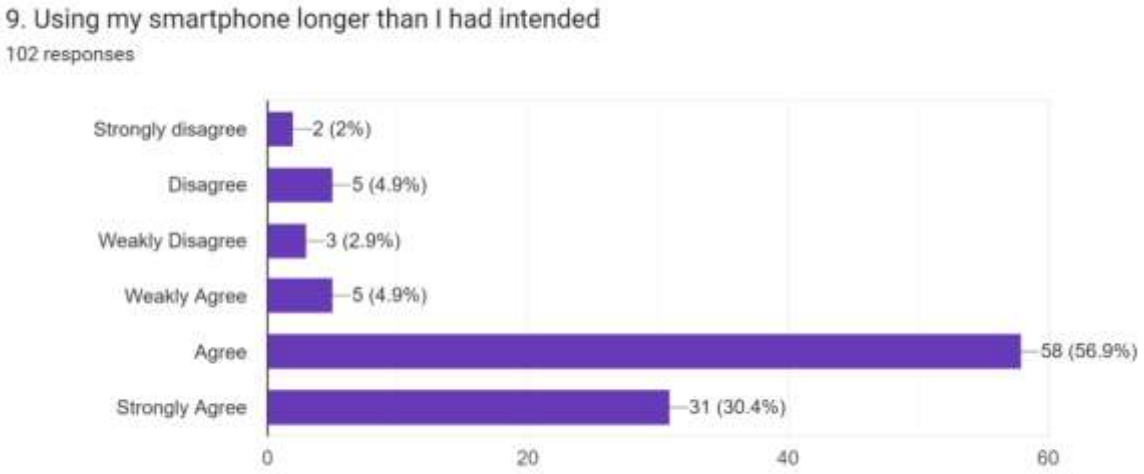
102 responses

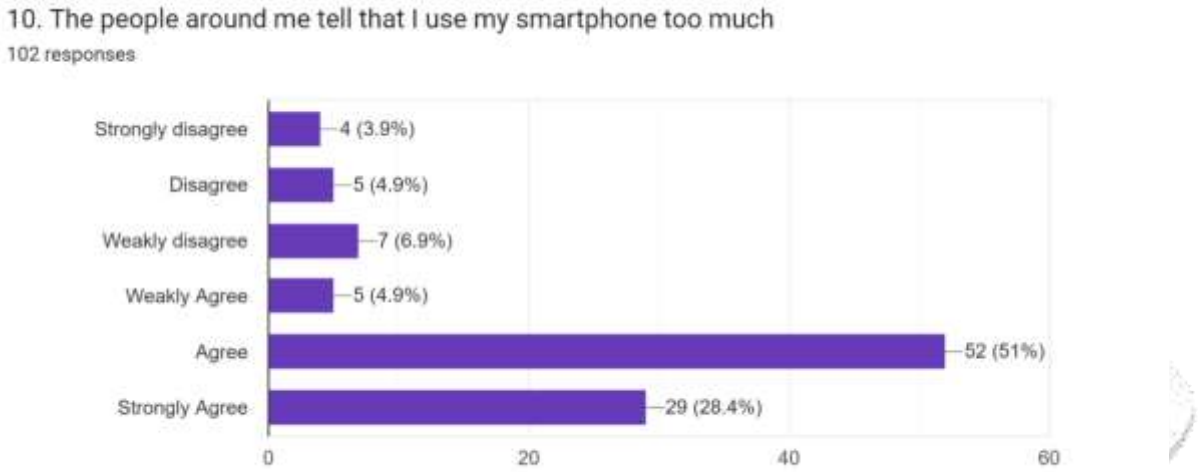


8. Constantly checking my smartphone so as not to miss conversations between other people on WhatsApp, Facebook, or WeChat

102 responses







RESULT:

There were 102 answers in all. The final analysis was done for 102 responses as all the received responses were completely submitted.

The SAS-SV categorized subjects into no addiction, high risk of addiction, and addiction. According to the data, 19.8%, 55.9% and 24.3% of professionals were in the no addiction, high risk of addiction and addicted category, respectively.

DISCUSSION:

Most of the smartphone tasks are performed with the neck in a forward position which resultsin increased anterior curve of the lower cervical spine and increased curvature in the upper thoracic vertebra. When a person uses a smartphone, the cervical lordosis is obliterated and it causes injuries to soft tissues around the neck. To balance the neck, the load on the upper trapezius and the erector spinae muscles of the cervical spine increases. With the head in a forward position or a slouched position, the load on the extensor muscles and the connective tissues increases. Subsequently, this poor posture can result in damaging the soft tissues and structure around the spine and thereby altering the proprioceptors in the muscles and ligaments.Poor posture for the long term, can damage not only the cervical spine but also the structures around the lumbar

spine, the ligaments, and the bones. Muscle activation and degeneration of ligaments caused by poor posture can also cause neck pain and impair proprioceptors in the muscles and ligaments. The structures around the neck and shoulder show a high degree of fatigue, pain, and trigger point formation and are vulnerable to pain when the smartphones areused in an awkward posture [9]. In addition to subjective problems of pain, stress, and fatiguemany studies have also focused on psychological problems.

Out of 102 samples that were analyzed, 19.8% were under the no addiction category, the remaining 80.2% either were under the high risk or addicted to smartphone category which is quite alarming in health professionals. This study revealed that no professional in this sample was withouta smartphone. The posture in which they used the smartphone also adds on to their disability, where they adopt a flexed spinal posture while texting on mobile phones. This is found to be the most common posture that contributes to neck pain, shoulder and upper back pain which ultimately leads to a reduction in working hours, limitation of daily activities, sleep disruption,or attrition from the workforce at worst. This is supported by studies that stated that excessivesmartphone use resulted in neck disability as the neck would have to be flexed more often by compromising the posture. This would lead to the development of trigger point in the upper trapezius and alter the curvature of the spine and increase the stress on the cervical spine. A systematic review has also proved that the duration of smartphone usage is directly proportionate to the development of musculoskeletal complaints in the shoulders, neck, and lower back pain.

CONCLUSION:

Comparing the pre-epidemic period to the COVID-19 pandemic, our analysis revealed higher rates of smartphone use. Given that there is a moderate association between smartphone addiction and neck disability, this study concludes that health professionals' excessive smartphone use may cause neck discomfort and disability. Health professionals require appropriate training on how to use smartphones optimally. Good body posture when using a smartphone can also significantly minimize neck impairment in health workers. Therefore, it is imperative that health professionals receive ergonomic training on smartphone use and be made aware of the potential musculoskeletal issues that may result from using smartphones excessively or incorrectly positioned. The importance of having healthy sitting positions and using mobile phones for restricted durations, to control the increasing prevalence of neck pain should be emphasized.

LIMITATION OF THE STUDY:

- The Study focus only on health professionals
- This Study covers only health professionals in Banas kantha District.

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