PREVALENCE OF HEAD ACHE IN FACE MASK USERS AMONG PARAMEDICAL STUDENTS DURING COVID-19 PANDEMATIC

M. Sukhirtha
Assistant professor
Cardio-respiratory physiotherapy
East point college of physiotherapy
East point group of institution
Bengaluru, Karnataka-560049

Abstract
BACKGROUND: COVID 19 became one of the most concerned situations during the year 2019 and 2020. This pandemic has changed the day to day life of each and every individual. It gave a new normal life for every one of us. This new normal includes wearing of mask for a long duration.

OBJECTIVE: To find out the prevalence of headache due to wearing of face mask for a long duration among the paramedical students during this COVID19 pandemic.

METHODOLOGY: A survey was conducted among the paramedical students of Saveetha medical college and hospital, Chennai. The paramedical departments included physiotherapy, nursing, allied health science, occupational therapy and pharmacy. An online self-made questionnaire was provided to the paramedical student and their responses were recorded and studied.

Key Words- Headache, Face mask, covid-19.

INTRODUCTION
Coronavirus disease 2019 (COVID-19) is being an emerging infectious disease of pandemic proportions. At the height of the crisis, healthcare workers in our country were mandated to wear masks and personal protective equipment (PPE) during contact with patients suspected of having COVID 19. The N95 mask that we wear protects against respiratory droplets. In this N95 the number 95 signifying that it is at least 95 per cent efficient in filtering particles with a median diameter >0.3 lm, and the letter N that the mask is not resistant to oil. The N95 face-mask is associated with mild discomfort, but headaches have not been reported before. Some authors observed complaints of headaches and discomfort amongst healthcare workers who wore the N95 face-masks, and elected to study this phenomenon. Previous studies have shown that there is a significant increase in headache among frontline healthcare workers who used PPE for prolonged hours during Severe Acute Respiratory Syndrome (SARS) and COVID-19 outbreak.

Some authors explained that extended wearing of mask, that has become a part of now-a-days routine life, had led to the emergence of ‘mask fatigue’. Mask fatigue was defined as the lack of energy that accompanies, and/or follows prolonged wearing of a mask.

In past days it has been made compulsory in almost all the countries as the usage of mask is mandatory in public places. And taking the life of health care workers, wearing of masks all day long has become a new normal in their life.

In this study a self-made questionnaire was circulated among the paramedical students studying in Saveetha medical college and hospitals, Thandalam, Chennai. The questionnaire was circulated in the online means using a link and the responses were recorded and studied.

METHODOLOGY
Design of self-made questionnaire
During and after the period of the emergence of COVID 19, the usage of face mask was made compulsory for the protection from the spread of the disease. And after this change in the lives of the people it was noted that the people started complaining of headache more frequently and more often. We thought the cause of these headaches might be usage of the face masks for a prolonged period of time. To come to a conclusion regarding this, a self-made questionnaire was developed and was circulated among the paramedical students (of Saveetha medical college and hospitals) who were using the face masks for more period of time after the health care professionals compared to the other people.

The questionnaire had questions regarding the masks for e.g. Types of masks they use, period of time they use the mask. The questions were also asked regarding the headache they have for e.g. Onset of the headache, how often they experience the headache, region of the head that has the pain, how long the head ache lasts and how it gets relieved. The questionnaire also has questions regarding the history of their headache if they had the problem of head ache before the usage of the masks.
**Inclusion and exclusion criteria**
Eligibility criteria were set as the age group of the participants would be 18 to 26 years. Both male and female genders were included. Students from department of physiotherapy, occupational therapy, nursing, allied health sciences and pharmacy were included in the study. No grouping of the participants was done.

**Study period**
The duration of study implementation was planned as 1 month, starting from 1 May 2021. But after started receiving more no. of responses day by day it was extended for some more period of time to include more no. of participants.

**STATISTICAL ANALYSIS**
Descriptive analyses were applied for the 5 main groups of participants (table 1): the department the participants are from compared in relation to the gender.
Age
2,748 responses

Gender
2,748 responses
Department
2,748 responses

- Physiotherapy: 26.5%
- Occupational therapy: 33.7%
- Nursing: 28.6%
- Allied health science: 4%
- Pharmacy: 2%

What kind of mask do you use?
2,748 responses

- N95 mask: 60.7%
- Surgical mask: 39.3%
- Cloth mask: 0%
How long do you wear mask in whole day?

2,748 responses

- 1-2 hours: 37.3%
- 2-4 hours: 51.5%
- 4-8 hours: 11.1%
- 6-8 hours: 5.0%

Do you remove mask in between?

2,748 responses

- Yes: 60.5%
- No: 39.5%
Do you get headache due to wearing mask for a longer time?
2,748 responses

- Yes: 81.3%
- No: 18.7%

Onset of headache
2,233 responses

- Gradual: 79.8%
- Sudden: 20.2%

Do people have headache due to wearing mask for a prolonged period?

- Yes: 81.30%
- No: 18.70%
When do you start experiencing the headache?
2,233 responses

- After using mask for more than 2 hours: 49.5%
- After using mask for more than 4 hours: 48.3%
- After using mask for more than 6 hours: 2.2%

How often do you get your headache?
2,233 responses

- Everyday: 31.3%
- Once in 2-3 days: 49.5%
- Once in 5-6 days: 20.2%
Where do you feel the pain during your headache?
2,233 responses

- Back of the head: 51.4%
- Forehead: 16.6%
- On the right side of the head: 13.3%
- On the left side of the head: 12%
- All around the head: 5%

---

Do you take any medications for the headache?
2,233 responses

- Yes: 44.6%
- No: 23.2%
- Sometimes: 32.2%
How long does the headache last?
2,233 responses

- 30min-1 hour: 16.4%
- 1-3 hours: 80%
- 3-5 hours: 2.6%
- Lasts for the whole day: 1%

How does the headache get relieved?
2,233 responses

- By itself: 50.5%
- After a good sleep: 29.9%
- After getting medications: 10.7%
- Other: 2.6%
Did you consult a doctor regarding your headache?

2,233 responses

100% Yes

2,233 responses

64.8% Yes
35.2% No
RESULT
A total of 2748 participants contributed for the survey. Out of these total participants 1663(60.5%) were female and 1085(39.5) were male.
These participants were grouped into 5 major groups according to the department. Those groups were physiotherapy: 787(28.6), nursing: 926(33.7), allied health science (AHS): 729(26.5), occupational therapy: 145(5.3) and pharmacology: 161(5.9). These groups were further divided according to the gender of the participants. From physiotherapy 519(65.94) were female and 268(33.8) were male. From nursing department 629() were female and 297() were male. From ahhs we got 370() male participants and 359() female participants. From OT department 80() responses were from male and 65() responses were from female. And finally from pharmacology department 70() were male and 91() were female. Out of the participants having headaches 1384(61.9%) were female and 849(28.1%) were male participants.

Among the total participants 1668(60.7%) used surgical mask and 1080(39.3%) people used N95 mask. None of the participants used cloth mask since it was compulsory to use either surgical or N95 mask at the college and the hospital. 1026(37.3%) of the participants used masks for 6 to 8 hours in a day, 1416(15.5%) of the total participants used mask for 4 to 6 hours a day and 306(11.1%) of people used mask for 2 to 4 hours. Around 1085(39.5%) of total number of participants had a habit of removing masks in between the day.

Among the participants who did have headaches due to wearing of masks, 1783(79.81%) of people had gradual onset of headaches. Out of these participants 1084(48.5%) started to experience headache after using mask for more than 6 hours , 1079(48.3%) had headache after using mask for more than 4 hours whereas only 70(3.1%) of the total participants started experiencing headache after using mask for only 2 hours or more. 48.5 % (1084) participants had headache once in 3 days, 699(31.3%) had headache once in a week and 450(20.2%) people had headache once in 5to 6 days. For the question where they feel the pain we got 1148(51.4%) responses that they felt pain all over the head, 16.6 % (370) felt pain over the left side of the head, 297(13.3%) on the right side of the head, 268(12%) felt over the back of the head and 150(6.7%) of the people felt the pain over the forehead.

996(44.6%) people took medications for the headache whereas 718(32.2%) did not take any medication and others did use medicines sometimes. For around 80% (1786) people the headache lasted for 35 hours. No one had headache lasting for the whole day and 80(3.6%) of the participants had headache just lasting for 30 min. Among the participants, for 1328(59.5%) the headache got relieved by itself and for 667(29.9%) the headache got relieved after a good sleep and other had to take medicines. None of the patients consulted with a doctor regarding the headache. 1169(52.3%) of the participants had moderate severity headache, 687(30.8%) had mild headache and 377(16.9%) had a severe headache. For 1296(58%) the headache affects the eyesight and others did not have effect on their eyesight. 2163(96.9%) of the participants did not have any other medical history whereas 70.3% of the participants had some history of any medical condition.

DISCUSSION
In this study a self-made questionnaire was circulated among the paramedical students through online platform and their replies were recorded similar to the study conducted by Rosner E et al. it was seen that a lot of people suffered with headaches after wearing face masks for a prolonged period of time especially the people who wear surgical or N95 masks.

Mask weariness has emerged as a result of continuous mask wearing, which has become a part of regular life, according to Sanjay Kalra et al (2020). A lack of energy as a result of wearing a mask for an extended period of time is known as mask fatigue. The use of filter masks was found to be connected to the onset of 'de novo' headache, which is more common in healthcare workers and has a greater occupational risk hospital regions. All responders filled out a self-administered questionnaire. In the majority of healthcare professionals, PPE-related headaches induce de novo or exacerbation of pre-existing headache conditions, according to the findings.

CONCLUSION
According to the survey conducted using a self-made questionnaire which was circulated among the paramedical students studying in Saveetha medical college and hospital through the online platform it was concluded that prolonged usage of face mask cause headache even if the person does not have any history of headache.

REFERENCES:


10. In light of the current global lack of personal protection equipment, studies are being done to determine how well N95 respirators, surgical masks, and fabric masks perform. Techniques for prolonged usage, reuse, and disinfection of masks are developed to accommodate scarce resources. However, unless they are used in conjunction with sufficient social distance, meticulous hand cleanliness, and other tried-and-true preventative methods, masks may not significantly slow down the COVID-19 epidemic.


