

**Maskne – The New Acne, Esthetic challenge faced by healthcare workers in Mumbai, Maharashtra, India – A short survey study.**

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**Type of Publication:** Survey Study

**Conflicts of Interest:** Nil

**Abstract**

**Introduction:** Medical workers are at higher risk to form acne or skin problems due to continuous wearing of mask for a longer time. But it is hard to ignore that wearing a mask comes with some side effects, one of which you may be experiencing yourself which is acne.

**Objective:** To assess the awareness and spread of Maskne and the correlation of mask and skin related problems amongst health care workers.

**Methods:** Total 450 participants took part in self explanatory short survey questionnaire. All the health care workers included in this study are those who are working during pandemic 2020 in Mumbai, Maharashtra, India. The criterion for the study was formulated to make the study simple and clear.

**Result:** In total responses 91.1% doctors and 8.9% of paramedics took active part in the study. On skin irritation

we have noticed that 37% medicos got issue of oily skin, 23% itching and 15.6% acne. On self care of facial skin 50.4% medicos did not use any precautions for facial skin while using mask, 28.1% used antibacterial face wash, 20% used moisturiser after wearing of face mask.

**Conclusion:** Though many countries are beginning to reopen their societies and borders, global fear of second Covid-19 waves may continue to impose the new reality of living in self-isolation, social distancing and face mask wearing for a bit longer than we expect. Maintaining a strong skin barrier, keeping up with good hygiene, and staying positive, is what can help us get through what may be our reality for the foreseeable future.

**Keywords:** Acne, COVID-19, Healthcare workers, Hygiene.

## Introduction

Wearing a mask when you go out has become the new normal in this COVID-19 pandemic. However, our skin takes time to get used to it. Everyone's skin type is different and reacts in different ways to wearing mask. During this time people with acne prone are more susceptible to more acne, people with sensitive skin may experience rashes and swelling. Skin is delicate and it can become irritated if dirt and facial oil is left to set on it. The irritation can intensify if grime is trapped under face mask. Also the air you are breathing inside the mask leads to humidity and a breeding ground for bacteria. The oral bacteria also add on to the infection. Some studies have proved that infected gums and teeth can lead to acne. Because such infections increase the quantity of propionibacterium acnes, a bacteria commonly found in acne. Hence this survey study tells us the number of people suffering from acne during this pandemic (COVID-19) also the co-relation between acne and oral bacteria.

## Methodology

The survey study included 450 participants, an online questionnaire was designed and sent to Healthcare workers in Mumbai, Maharashtra, India. Healthcare workers included Dentists and Doctors. A structured questionnaire of 10 questions was designed to assess how people are suffering from acne.

## Questions Asked

1. Gender?

A. Male B. Female

2. Age? – in years.

3. Are you a healthcare worker?

A. yes B. No

4. If yes, then mention speciality.

5. Which type of face mask do you use?

A. N-95 B. Cotton mask C. Surgical 3ply D. Any other.

6. Do you think face mask can cause skin problems?

A. Yes B. No C. Maybe

7. On an average how long do you wear a mask in a day?

A. 2hrs B. 4hrs C. 6hrs D. 8hrs

8. Are you facing any skin irritation as listed below?

A. oily Skin B. Rashes C. Acne D. Itching E. Allergy F. None of above

9. Do you think there is a co-relation between oral bacterial and facial acne?

A. Yes B. No

10. Do you use any skin product before or after usage of mask?

A. Moisturiser B. facewash C. Antibacterial ointment D. Medications E. None of the above

The criterion for the study was formulated to make the study simple and clear.

## Inclusion Criteria

- All working doctors/paramedics working in current pandemic in Mumbai, Maharashtra, India.
- Willingness to participate in this survey.
- Doctors / paramedics from all branches.

## Exclusion Criteria

- Doctors/ medical support staff not willing to participate in study
- Doctors/paramedics who are not working in current pandemic
- Doctors/paramedics who earlier had face infection or any illness.

## Statistical Analysis

The eligibility and willing doctors/paramedics received the self-explanatory structured questionnaire in online format. Data was tabulated and analyzed using SPSS version 11.5 (SPSS 11.5 for windows). Analysis initially

was performed on pie diagrams on excel software with the help of online data recorded.

### **Results**

Total 250 forms were received from doctors and paramedics in and around Mumbai, out of which 75% were female and 25% male who took part in current survey study. Age factor varied from 25 years to 50 years as this age group was more concerned about skin care and self-presentation. In total responses 91.1% doctors and 8.9% of paramedics took active part in the study. All professionals like Dentist, Medical professionals, Postgraduates, Nurses, etc took part in the current study. In the current survey we noticed that 57.8% healthcare workers were using N95 mask, 30.4% surgical 3ply mask, 6.7% cotton mask, 5.2% other material mask that was listed in survey questionnaire (Chart 1). 49.6% medicos were aware that face mask can cause skin problems where 37% shows mix thoughts over it (Chart 2). Maximum usage of mask in a day by doctors was 4hrs in average which comes to 34.8% (Chart 3).

On skin irritation we have noticed that 37% medicos got issue of oily skin, 23% itching and 15.6% acne (Chart 4). Many of the medicos were aware that wearing of mask for a longer time can cause acne or skin irritation due to poor oral hygiene, in our survey 54.8% medicos were aware of oral hygiene and acne co-relation whereas 45.2% were in dilemma (Chart 5). On self care of facial skin 50.4% medicos did not use any precautions for facial skin while using mask, 28.1% used antibacterial face wash, 20% used moisturiser after wearing of face mask (Chart 6).

### **Discussion**

Face mask has become the accessory of 2020, an essential attire to our daily routine and the most accessible item to protect ourselves and others from the fast-spreading virus. But they come at an expense of perfect skin condition. Clinically regarded as acne mechanica, maskne

is the result of friction against the skin caused by the prolonged use of any protective face masks. It is also the result of the moist, humid environment caused by your nose and mouth being covered for a prolonged period of time. Hot, moist, sweaty, the discomfort of all this combined gives the perfect breeding ground for bacteria, increased sebum (oil) production, and clogged pores. Acne (in various forms) has been one of the most predominant skin problems of the first half of the year, mainly due to stress and anxiety, lack of exercise and a healthy diet, combined with over-cleansing or over-doing it with home-treatments<sup>5</sup>. Yes, you can indeed cleanse your face too much, which essentially causes you to have dry skin. This then leads to the overproduction of sebum to compensate for dehydration which altogether results in breakouts.

All medicos and paramedics working for longer time on duties in current pandemic, most of them are on duties for 4 to 8 hours per shifts which causes continuous irritation to skin. On long usage of mask, bacteria like propionibacterium acnes presents in oral cavity can lead to white or red bumps which causes acne or severe skin irritation<sup>1</sup>. Taking good care after removing a mask is very necessary to avoid skin issues. The most important thing you can do to prevent irritation and unwanted breakouts is to keep your face well cleansed and adequately moisturized. In other words, following a simple yet effective skincare routine is necessary<sup>3</sup>. Here are a few key steps to follow to help ensure your skin is face mask-prepped, ready and more resistant to unwanted irritants. A good face cleansing routine is essential when wearing a mask regularly. Make sure you wash your face before and after wearing a face mask<sup>4</sup>. To prevent over-cleansing, stick to a morning and before-bed routine. Look for a face cleanser that contains salicylic acid, tea tree oil, or even calendula extract. All three ingredients help to remove

excess oil as well as properties that help to prevent flareups caused by open pores.

Healthcare and other front-line workers are most at risk because their masks are tight-fitting and they are wearing them longer. A research letter published in the Journal of the American Academy of Dermatology reported that at least 83 percent of health care workers in Hubei, China, suffered skin problems on the face<sup>2</sup>. And anecdotally, doctors report an increase in acne flare-ups in people outside of health care as well. Only you can decide how you want to balance the weight of the mask material with the level of protection it will give you, but dermatologists suggest 100 percent cotton as a good compromise because it allows skin to breathe a bit<sup>3</sup>. As the temperature rises and you sweat more, you'll need to keep the mask clean<sup>6</sup>.

**Conclusion**

Though many countries are beginning to reopen their societies and borders, global fear of second Covid-19 waves may continue to impose the new reality of living in self-isolation, social distancing and face mask wearing for a bit longer than we expect. What we can do in the meantime, however, is adapt to the current lifestyle while

**Legends Charts**

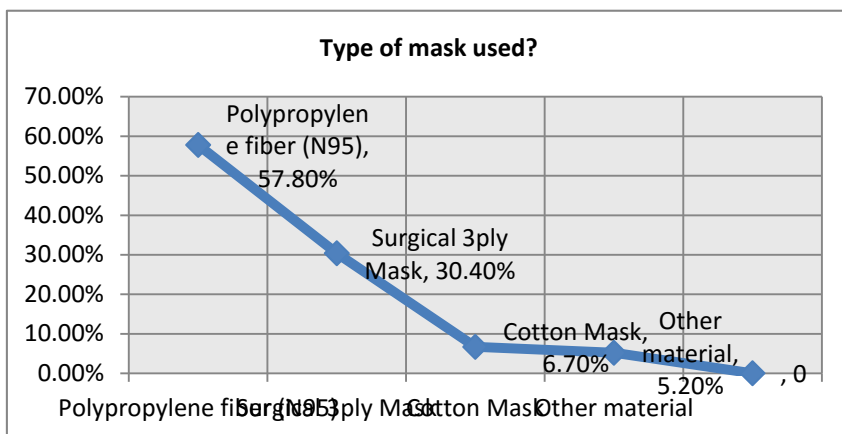


Chart 1

taking specific measures to ensure that we're living in the healthiest possible way we can, given the circumstances. Maintaining a strong skin barrier, keeping up with good hygiene, and staying positive, is what can help us get through what may be our reality for the foreseeable future.

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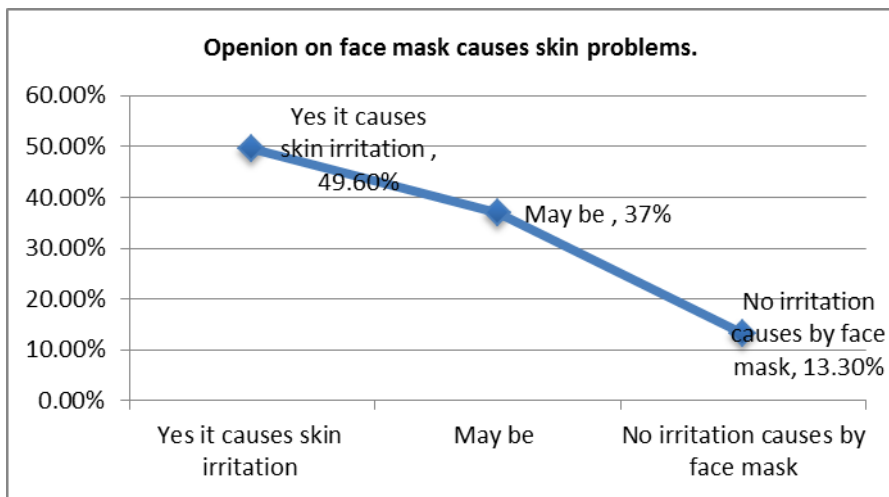


Chart 2

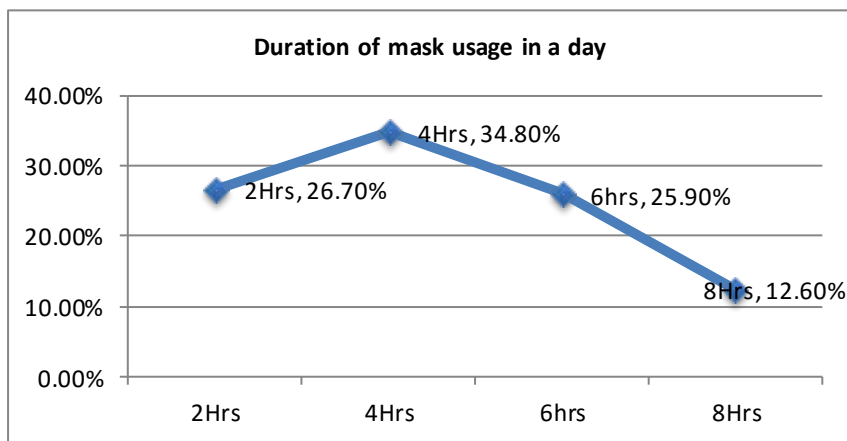


Chart 3

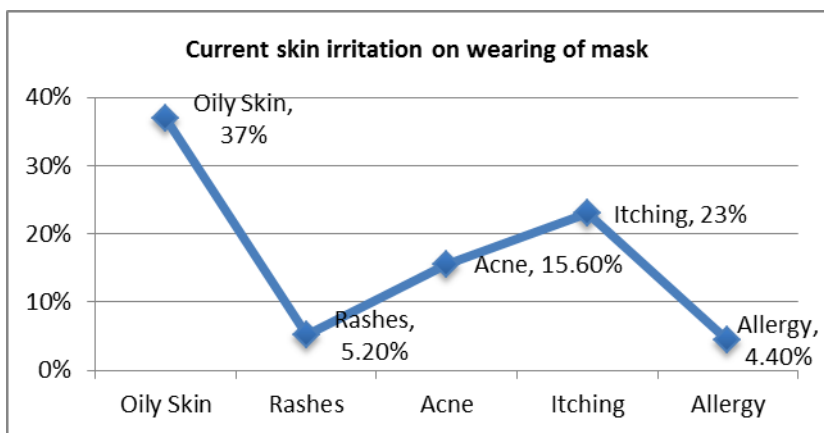


Chart 4

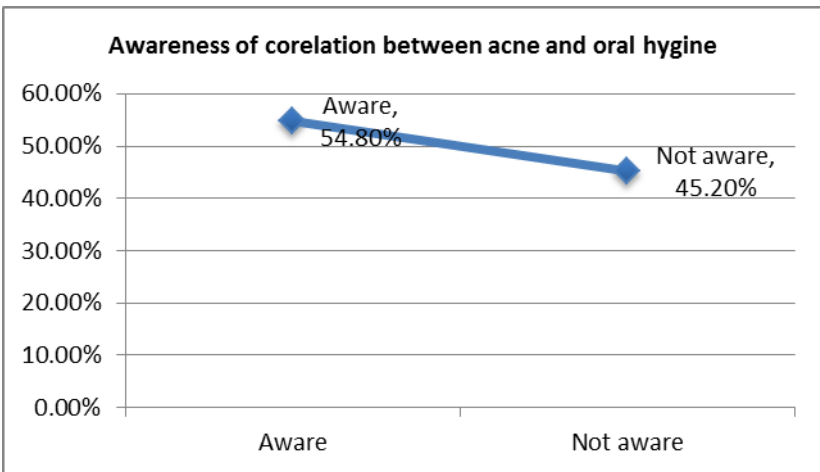


Chart 5

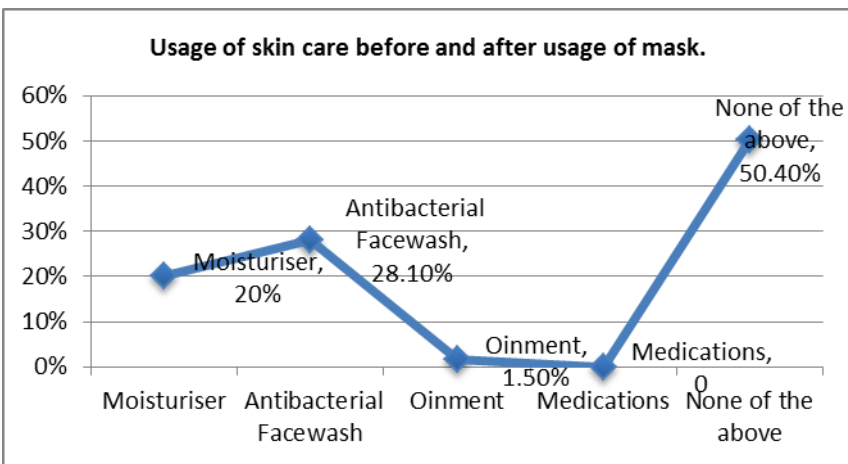


Chart 6