

# Effects of Wearing Mask on Breathing in Population of North Gujarat during COVID 19: A Survey

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**Abstract:** ***Background:** COVID-19 is the most dreadful pandemic the world is facing now-a-days. The spread of the virus is mandatory and measures like wearing of masks, social distancing, washing and sanitizing hands, etc. are taken. But there occur some changes in the lifestyle and also some physiological changes take place. **Aim:** This survey is aimed to check the effects on the breathing of people due to prolonged use of mask due to COVID-19. **Objective:** To find out whether people are facing any breathing difficulty due to prolong use of mask. **Materials and Methodology:** A survey was performed among population of North Gujarat to know the changes in the breathing pattern they felt due to prolonged wearing of mask. A self – questionnaire was used for the same. First 100 participants and their answers were considered. **Result:** Due to prolonged use of mask people face problems in breathing like suffocation, easy fatigability, etc. **Conclusion:** The study concludes that most of the population of North Gujarat that wears their mask for more than 4 hours/day are facing some problems due to prolonged wearing of mask. People face problems like inability to do heavy work while wearing mask, suffocation, change in breathing rate, etc.*

**Keywords:** COVID-19, Prolonged use of mask, Survey, North Gujarat

## 1. Introduction

Corona virus disease 2019 (COVID -19) is a contagious respiratory & vascular disease caused by severe acute respiratory syndrome corona virus 2(SARS - Cov-2). First identified in Wuhan, China, it has caused an ongoing pandemic.COVID-19 has been considered a relative of severe acute respiratory syndrome (SARS), which has the possibility of transmission from animals to humans. The current outbreak of the novel corona virus SARS-CoV-2 (corona virus disease 2019; previously 2019-nCoV), epi-centre in Hubei Province of the People's Republic of China, has spread to many other countries. On 30. January 2020, the WHO Emergency Committee declared a global health emergency based on growing case notification rates at Chinese and international locations. The case detection rate is changing daily and can be tracked in almost real time on the website provided by Johns Hopkins University and other forums. As of midst of February 2020, China bears the large burden of morbidity and mortality, whereas the incidence in other Asian countries, in Europe and North America remains low so far.<sup>(1)</sup>

First case in India was found on 30/1/2020 in Kerala state. A total of 15,404 samples from 14,114 individuals have been tested for SARs-CoV2 as on 20th March 2020 6:00 pm. A total of 236 individuals have been confirmed positive among suspected cases & contacts of known positive cases. There have been >8.96M cases of Covid-19 and 132k death.<sup>(2)</sup> As of March 27, 2020, there have been a total of 103,942 confirmed cases with 1689 deaths in the United States. Globally, 27,324 deaths have been reported among 595,800 confirmed cases.<sup>(3)</sup> In order to reduce the spread of COVID-19 firstly, Indian government announced single day 'Janta Curfew' on 22 March 2020. With the sudden elevation of

cases of Covid-19, government announced 21 days of national lockdown from 25 March 2020 to 14 April 2020. The government announced lockdown, made restrictions on social gatherings and makes wearing masks compulsory for everyone. The government declared that wearing masks, using sanitizers and social distancing are the key components for protection against COVID-19. Afterwards the rate of use of mask increased. High saturation of facemask among general population is an adequate indicator of public hygiene measures strategy which can help to mitigate the COVID-19 epidemic impact.<sup>(4)</sup>

The largest COVID-19 national lockdown in the world has been extended to May 3. As of April 22, India has reported 18,985 confirmed cases and 603 deaths from COVID-19 in 31 states and union territories since its first case on Jan 30. India was quick to close its international borders and enforce an immediate lockdown, which WHO praised as "tough and timely". The lockdown has also given the government time to prepare for a possible surge in cases when the pandemic is forecasted to peak in the coming weeks. Still, India's population of 1.3 billion across diverse states, health inequalities, widening economic and social disparities, and distinct cultural values present unique challenges.<sup>(5)</sup>

The World Health Organization recommend against wearing masks in community settings for the prevention of COVID-19. Although disposable surgical masks were designed for the protection of health-care workers during occupational exposures, face masks became popular among non-health professionals during the SARS epidemic of 2003 and the 2009 H1N1.<sup>(6)</sup>

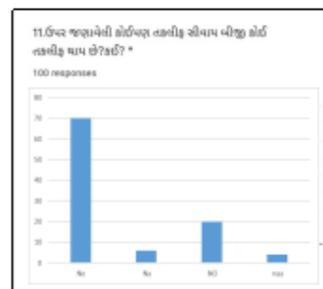
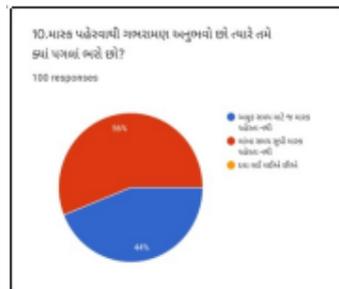
**Symptoms** are experienced by patient:- People with mild COVID-19 might experience cough, sore throat, high

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#### 4. Discussion

At present, COVID-19 has sparked a pandemic and is spreading rapidly in many countries. In order to stop the spread of COVID-19 interventions such as use of facemask, social distancing and washing hands are urgently needed to limit the transmission. Despite the WHO primary recommendations against universal masking, emphasis on this strategy is increasing in the world.

Corona virus are enveloped, positive single-stranded large RNA viruses that infect humans, but also a wide range of animals. The initial clinical sign of the SARS-CoV-2 related disease COVID-19 which allowed case detection was pneumonia. More recent reports also describe gastrointestinal symptoms and asymptomatic infections, especially among young children.<sup>(1)</sup> In symptomatic patients, the clinical manifestations of the disease usually start after less than a week, consisting of fever, cough, nasal congestion, fatigue and other signs of upper respiratory tract infections. The infection can progress to severe disease with dyspnea and severe chest symptoms corresponding to pneumonia in approximately 75% of patients, as seen by computed tomography on admission.<sup>(1)</sup>

A study was conducted by Shargunan et. al. (2020) it stated that a total of 3322 individuals with a high prevalence of facemask use consisting of a large proportion of medical-grade face mask. A high prevalence of facemask use among individuals visiting public facilities was observed. Health agencies have recommended the correct use of facemasks as a protective measure.<sup>(4)</sup>

Some public health experts have advocated for the continued use of facemasks as a tool to reduce the spread of COVID-19 until definitive evidence emerges against its use.<sup>(6)</sup> But due to prolonged use of mask especially cotton masks people are facing some difficulty in normal breathing of the people. Prolonged use of N95 and surgical masks by healthcare professionals during COVID-19 has caused adverse effects such as headaches, rash, acne, skin breakdown. Headaches, skin breakdown, acne, and impaired cognition were all recognized as common adverse effects.

Wearing N95 respirator and surgical facemask would increase the breathing resistance due to the presence of extra layer through the breathing path. An increase of mean resistance during 1.5hours post mask-wearing period was identified in both sessions, indicating potential change of the upper airway conditions.<sup>(12)</sup>

#### 5. Conclusion

The study concludes that most of the population of North Gujarat that wears their mask for more than 4 hours/day are facing some problems due to prolonged wearing of mask. People face problems like inability to do heavy work while wearing mask, suffocation, change in breathing rate, etc.

#### 6. Future Scope

- 1) The study can be done for population of other regions.
- 2) The study can be revised involving a larger sample size.

**Conflict of interest:** None

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