

FACE MASK - BENEFITS AND RISKS DURING THE COVID 19 AMONG OUTPATIENTS

Running Title: Facemask-benefits and risks during COVID-19 among outpatients.

ABSTRACT:

The knowledge that the use of face masks delays the SARS-CoV-2 transmission is rapidly gaining popularity in the general population. Masks should be used as a part of a comprehensive strategy of measures to suppress transmission and save lives; the utilization of a mask alone isn't sufficient to supply an adequate level of protection against COVID-19. If COVID-19 is spreading in your community, stay safe by taking some simple precautions, like physical distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, cleaning your hands, and coughing into a bent elbow or tissue. The science around the use of masks by the overall public to impede COVID-19 transmission is advancing rapidly. During this narrative review, we develop an analytical framework to see mask usage, synthesizing the relevant literature to inform multiple areas: population impact, transmission characteristics, source control, wearer protection, sociological considerations, and implementation considerations. A primary route of transmission of COVID-19 is via respiratory particles, and it's known to be transmissible from presymptomatic, paucisymptomatic, and asymptomatic individuals. Reducing disease spread requires two things: limiting contacts of infected individuals via physical distancing and other measures and reducing the transmission probability per contact. The preponderance of evidence indicates that mask wearing reduces transmissibility per contact by reducing transmission of infected respiratory particles in both laboratory and clinical contexts. Public mask wearing is best at reducing spread of the virus when compliance is high. Given these shortages of medical masks, we recommend the adoption of public cloth mask wearing, as an efficient kind of source control, in conjunction with existing hygiene, distancing, and obtained in-tuned with tracing strategies. The aim of this paper is to analyze and critically discuss the regulations, which require protective masks in public to conform to similar regulations already in place in other countries. Self structured questionnaire was prepared and circulated among a sample size of 100 adults and the result was analysed using software IBM SPSS.

KEYWORDS: Facemask, COVID-19, SARS CoV-2, innovation

INTRODUCTION:

Face masks are an important component in controlling COVID-19, and policy orders to wear masks. However, behavioral responses are seldom additive, and exchanging one protective behavior for a further could undermine the COVID-19 policy response. We discovered that mask odors cause risk compensation behavior. Americans subject to the mask orders spend 11–24 fewer minutes reception on the typical and increased visits to some commercial locations—most notably restaurants, which are a high-risk location. (1). The pertinent need for masks arises from plausible dissemination of the SARS-CoV-2 through close contacts, moreover because of the possibility of virus transmission from asymptomatic, pre-symptomatic, and mildly symptomatic individuals. Given current global shortages in personal protective equipment, the efficacy of varied sorts of masks: N95 respirators, surgical masks, and cloth masks are researched. To accommodate limited supplies, techniques for extended use, reuse, and sterilization of masks are strategized. However, masks alone might not greatly hamper the COVID-19 pandemic unless they include adequate social distancing, diligent hand hygiene, and other proven preventive measures (2). The SARS-CoV-2 could also be a respiratory virus largely spread via droplets and possibly also airborne contact. Viral spread largely occurs via exposure of the nasopharyngeal or oropharyngeal mucosa to microdroplets expelled from coughing or sneezing by infected individuals. Thus, those persons wearing standard surgical face masks are still at risk for droplet exposure via the lateral, unsealed portions of the mask. On the contrary, standard respirators approved by the National Institute of Occupational Safety and Health (NIOSH), namely N 95 masks, are fit and seal tested to form sure filtration of at least 95% of airborne droplets (3).

Few studies characterizing the efficacy of cloth masks exist. Therefore, most mask options are intended for single use only, and must be carefully doffed and disposed of within the setting of a plague, the reuse of respirators is additionally being entertained and warrants careful consideration (4). Currently, most of the literature available on this subject is from experimental investigations. Needless to say, all the studies demonstrated a rise in protective effects within the following order: masks for everyday use—MNP—N95/FFP—PPE. MARMasks for everyday use can have a little protective effect for the wearer. MNP offers a greater protective effect since it had been originally designed to decrease droplet elimination, therefore protecting the user's surroundings. Unfortunately, thanks to ethical reasons, there's a scarcity of randomized controlled studies on the protective role of masks within the prevention of SARS-CoV-2 infections in comparison to an impact group with no masks. The new SARS-CoV-2 pandemic is an

example of a world public health emergency, which is related to considerable social and economic challenges. Adequate infection control practices are of critical importance, which include proper use of private protective equipment (3). The infected individual, when talking, coughing or sneezing, spreads droplets containing the virus, directly contaminating other individuals within one to 2 meters of distance, also because of the surrounding environment. transmission mechanism may occur when aerosol-generating procedures are performed. Concerning respiratory protection, there's currently weak evidence that the utilization of respirators provides better protection than surgical masks for SARS-CoV-2 or other viruses (with the exception of aerosol-generating procedures, during which case the utilization of a respirator is recommended) (5).

Eye protection should be guaranteed whenever there's a risk of splashes, droplets or aerosols. the utilization of various , or above necessary, levels of private protective equipment, for the transmission route of the agent, may be a sort of misuse and may affect its supply for situations when it's clearly indicated. The adequate provision of protective equipment, also as training of healthcare professionals in its correct use, is very recommended to ensure safety of care (6). The limitations of this study is that the sample size of the study was less and limited to people of Tamil Nadu. In future larger samples including a wider region of India can be done.

MATERIALS AND METHODS:

A cross-sectional survey was conducted among the adolescent population with a sample size of 100. A self administered structured questionnaire was prepared based on visual pollution and consisted of 12 questions. It was circulated to participants through an online platform (google form). The statistics were done using SPSS software, chi-square test was used to check the association and P value of 0.05 was said to be statistically significant. The pros of the survey is that the adolescents of different lifestyles and cultures were surveyed . Children and adults were excluded from the survey. Simple random sampling method was the sampling method used to minimise the sampling bias.

RESULTS AND DISCUSSION:

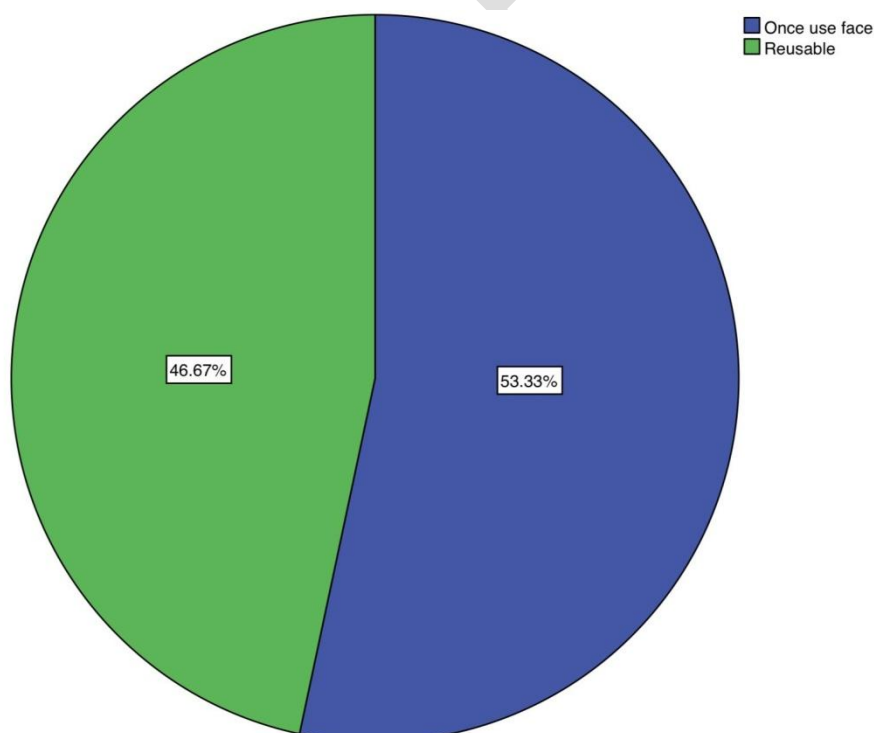


FIGURE 1:

Pie chart showing percentage distribution of usage of mask. Wherein green colour represents reusable mask

(46.67%) and blue colour represents once used face mask(53.33%).

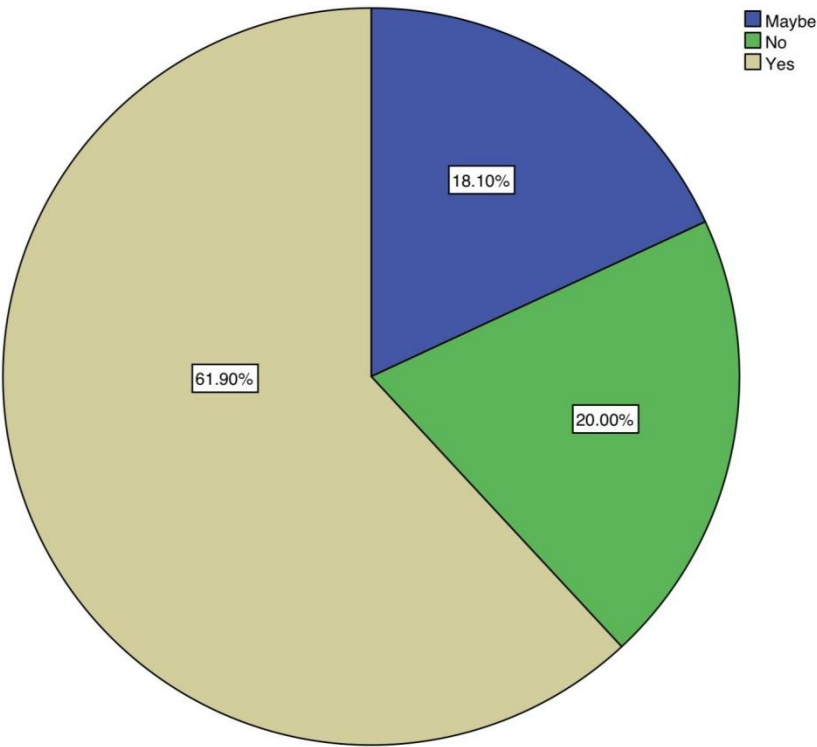


FIGURE 2:
Pie chart showing percentage distribution of effectiveness of facemask. Wherein beige colour represents yes (61.90%) , green represents no (20.00%) and blue represents maybe(18.10%).

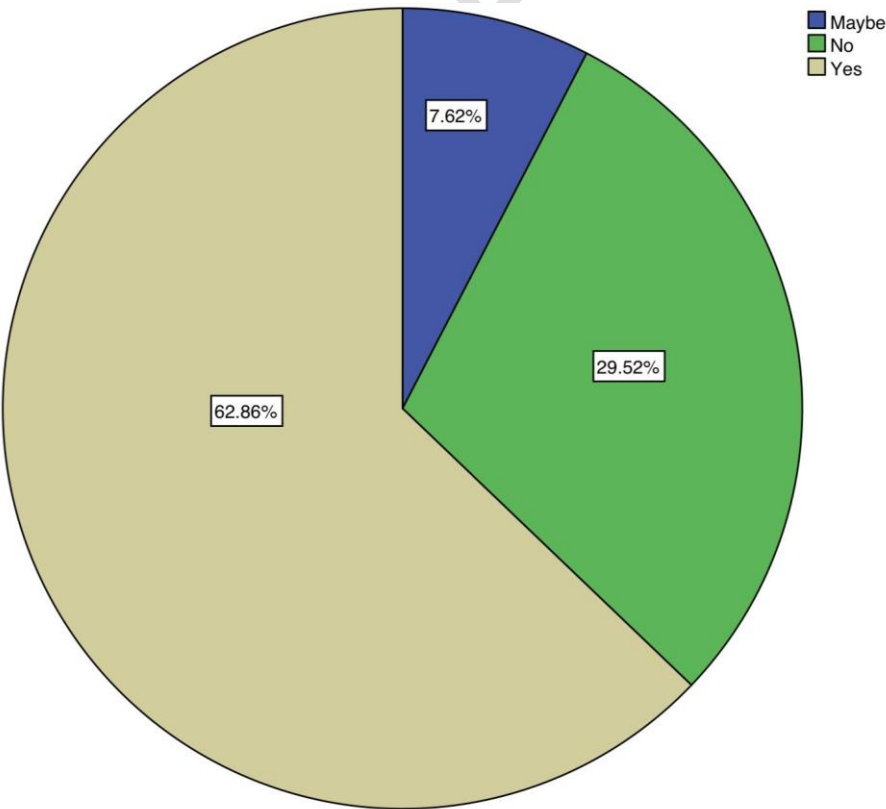


FIGURE 3:

Pie chart showing percentage distribution of cleaning of face mask. Wherein green colour represents no (29.52%), beige colour represents yes (62.86%).

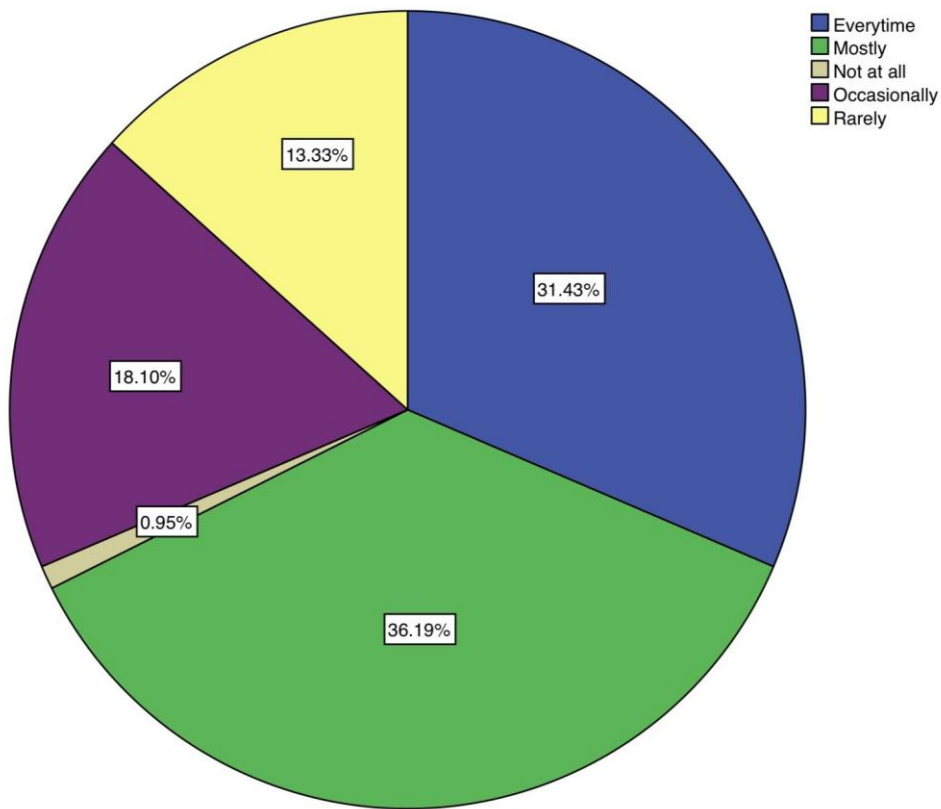


FIGURE 4:

Pie chart showing percentage distribution of duration of wearing face masks. Whereas blue represents every time (31.43%), green represents mostly (36.19%), beige colour represents not at all (0.95%), purple colour represents occasionally (18.10%) and yellow colour represents rarely (13.33%).

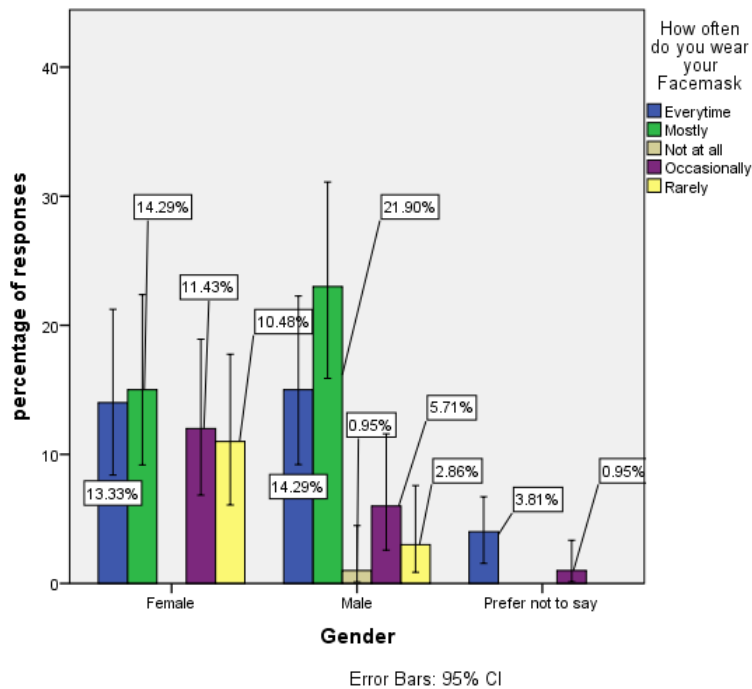


FIGURE 5:

Bar graph showing association between gender and usage of face mask. X-axis represents gender and Y-axis represents the number of participants. 23 males responded mostly, 15 females responded mostly. Blue colour represents every time, purple represents occasionally and yellow colour represents rarely. Chi square test was done and association was found to be statistically non significant. Pearson's chi square value : 16.097, p value : 0.041 ($p < 0.05$) hence statistically significant, providing males have better awareness compared to females.

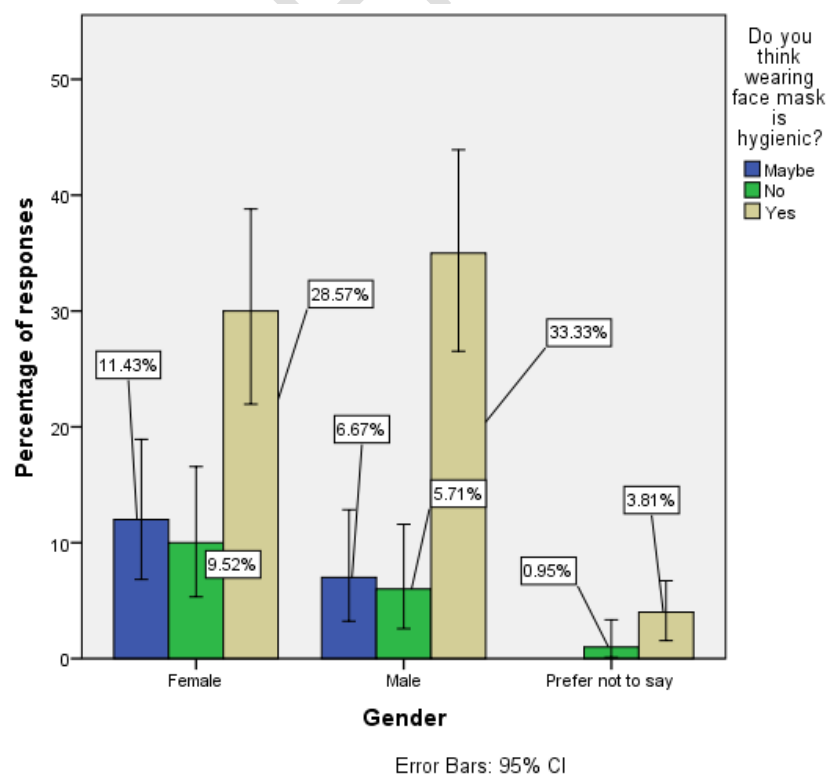


FIGURE 6:

Bar graph showing association between gender and hygiene in using face masks. X-axis represents gender and Y-axis represents the number of participants. Males of 33.33% responded yes and 28.57% of females responded yes. Blue colour represents may be, green colour represents occasionally. Chi square test was done and association

was found to be statistically non significant. Pearson's chi square value : 3.734, p value : 0.443 ($p>0.05$) hence statistically non-significant, providing males have better awareness compared to females.

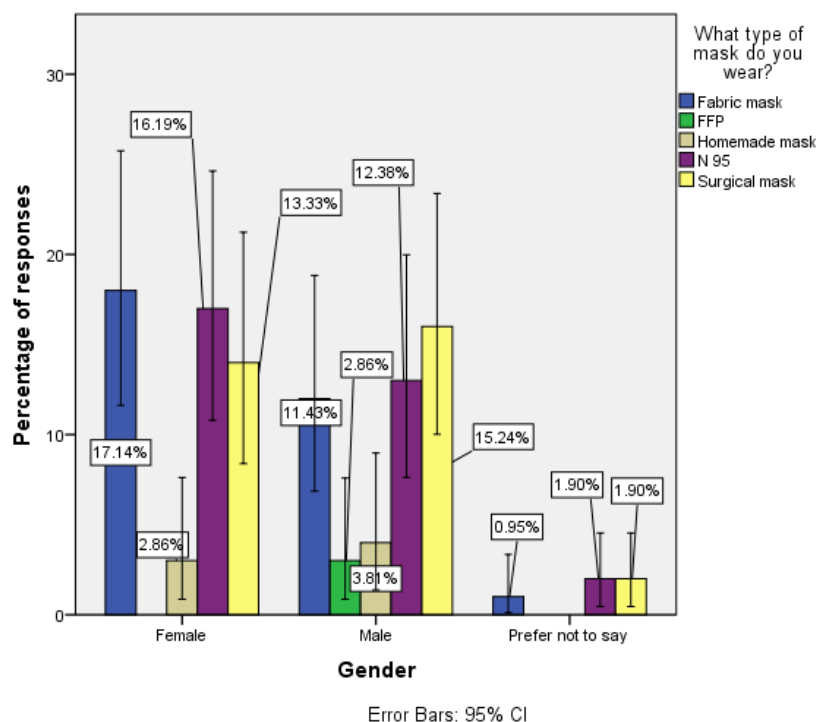


FIGURE 7:

Bar graph showing association between gender and types of face masks. X-axis represents gender and Y-axis represents the number of participants. 17.14% of females and 11.43% of males responded to fabric masks. Beige colour represents homemade mask, green colour represents FFP, purple represents N95 and yellow represents surgical mask. Chi square test was done and association was found to be statistically non significant. Pearson's chi square value : 6.008, p value : 0.646 ($p>0.05$) hence statistically non-significant, providing females have better awareness compared to males.

DISCUSSION:

There is considerable ongoing debate on whether to recommend general public mask use (likely mostly homemade cloth masks or other improvised face coverings) ,and while things are in flux, more authorities are recommending public mask use, though they still cite appreciable uncertainty. With this study, we hope to assist inform this debate by providing insight into the potential community-wide impact of widespread mask use by members of the overall population. In the research study of (7). Our study highlights the limited evidence base supporting the efficacy or effectiveness of face masks to scale back coronavirus transmission (13-21). A crucial concern when determining which public health interventions might be useful in mitigating local corona virus epidemics, and which infection control procedures are necessary to stop nosocomial transmission, is the mode of influenza virus transmission between people and within the environment (8). It is identified that poor adherence to personal protective equipment during high-risk procedures and failure to receive the annual influenza vaccination as independent risk factors (9-12). Time lag and low sample size are the limitations of this study. In future, more numbers of population would be analysed.

Our team has extensive knowledge and research experience that has translate into high quality publications (22–29)

CONCLUSION:

Face masks play a major role and it reduces transmission of air borne diseases. People of the age group 18-35 years are more aware and people of age group above 55 years are less aware. Males are more aware compared to females according to this study. This study concluded that face masks are beneficial during covid - 19 among outpatients.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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