

Impact of Homoeopathy in Managing the Possible Effects of Prolonged Facemask Usage in Frontline Workers During COVID-19 – Pilot Study

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ABSTRACT

This study examined the impact of extended face mask use on frontline workers during the COVID-19 pandemic and assessed the efficacy of homeopathic treatment in managing associated symptoms. The study was conducted as soon as the lockdown was declared. The research focused on frontline workers aged 25-50 who routinely wore masks for over 6 hours. Initially, participants completed a questionnaire to grade the severity of their symptoms. Subsequently, they received homeopathic treatment based on individual symptoms, with follow-up assessments conducted every 15 days. After two follow-up sessions, participants once again graded their symptoms using the questionnaire. Statistical analysis unveiled a remarkably significant reduction in symptoms with homeopathic intervention.

In conclusion, this study showed how significantly homoeopathy can help frontline workers with the symptoms associated with prolonged mask use. Since there have been no earlier clinical trials evaluating the possibility of homoeopathic remedies in these circumstances, this research is notable for being the first of its type. Homeopathy's individualized approach, found on the "Similia Similibus Curantur" principle, seemed to provide significant relief from the physiological and pathological burdens brought on by extended mask use. This provides a potential strategy for managing the health issues experienced by

frontline workers during the pandemic, enhancing their general wellbeing and productivity at work.

KEY WORDS: COVID 19, Front line workers, Face masks, N95, Homoeopathy.

INTRODUCTION

The beta coronavirus "SARS CoV 2" is a member of the subgenus Sarbecovirus and is the source of the infectious disease corona virus disease^[1]. The 2019 novel human corona virus disease was initially reported in Wuhan, China, and later spread to other parts of the world, becoming the fifth known pandemic since the 1918 influenza pandemic. Nearly 2 years after covid-19 was first discovered in September 2021, there had been more than 200 million verified cases and more than 4.6 million fatalities from the illness^[2]. The majority of virus transmission occurs within a meter of people who are in close proximity to one another^[3]. It spreads by face-to-face contact during coughing or sneezing in the form of bigger respiratory droplets from the mouth, nose, or hands of an infected individual^[4]. Because it is nearly twice as contagious as previous versions, the Delta variant of COVID-19 has been dubbed a variant of concern by the WHO due to its greater transmissibility and higher capacity to induce

a severe form of the disease. [5] Compared to prior COVID-19 viral varieties, such as the Delta variant, the Omicron version is easier to disseminate. No matter if they have received a vaccination or exhibit any symptoms, people with Omicron infection can transmit the virus to others. Omicron may re-infect people, even if they have just recovered from COVID-19, according to data [6].

It is possible to stop the spread of the coronavirus and other variants by keeping a physical distance of at least 6 feet, wearing a face mask, avoiding crowds, and getting immunized. Utilizing face masks is the most important step to stop the transmission and preserve lives. Most frequently, surgical masks are advised for use. There are numerous respirators available at various performance levels, including the FFP2, FFP3, N95, and N99. People under the age of 60 and those who don't have any underlying medical concerns may use cloth masks and non-medical masks [7]. All frontline employees are advised to utilize respirators. N95 respirators must be worn securely against the face in order to protect users from inhaling tiny airborne particles [8]. Frontline workers are those who are closest to suspected, probable, or proven covid-19 cases, including community health workers, midwives, chemists, nurses, and doctors. These individuals are most likely to be exposed to covid-19. For millions of families, there would be no access to healthcare without them. Face mask use can reduce productivity and put a strain on the body's physiological and pathological systems. When wearing masks, the amount of time that an activity may be sustained decreases. Long-term usage of N95 and surgical masks (for more than 6 hours) might even cause physical side effects such as headaches, breathing problems, acne, skin deterioration, and rashes. It also has an impact on thermal balance, eyesight, and communication. Exhaled CO₂ accumulates between masks and the face, and higher levels

of CO₂ impair cognition and cause confusion [9].

All of the symptoms that a person has as a result of using face masks for an extended period of time can be effectively treated by homoeopathy. No two people are the same. One person's growth of vital energy differs from another's [10]. By empowering the vital energy to restore the diseased state to the normal balance of health and ultimately annihilating the disease in its entirety, in the safest manner, homoeopathic remedies, when chosen based on the fundamental principles, relieve the individual from the significant burden he carries. Thus, the purpose of this study is to track any changes in the potential side effects of continuous face mask use in those using homoeopathic medications.

The current study is special since there haven't been any clinical studies published about how homoeopathy can be used to treat the potential side effects of frontline workers wearing facemasks for an extended period of time during COVID-19.

MATERIAL AND METHODS

SETTING: Study was carried out among the front-line workers of Sanga Reddy, Telangana.

DURATION: 6 months

TYPE OF STUDY: Cross sectional experimental study

SAMPLING METHODS: Front-line workers between the ages of 25 and 50 who had worn face masks for more than six hours were chosen, their informed consent was obtained and they were asked to complete a questionnaire and grade the severity of their symptoms. They received a homoeopathic cure based on the similarity of their symptoms after the questionnaire was assessed, and they were then requested to complete the questionnaire once again after two further follow-ups. Grading's before and following the administration of the medication are compared.

SAMPLE SIZE CALCULATION: Sample size – 30. No sample size was calculated as it was a pilot study

INCLUSION CRITERIA:

- Front line workers
- 25-50 years of age
- Willingness to participate

EXCLUSION CRITERIA:

- Any generalized disease like hypo/hyperthyroidism, hypertension, diabetes etc.
- History of any long-standing medical therapy from last six months

DATA COLLECTION PROCEDURE:

- a) A socio-demographic proforma collects basic participant information like name, age, gender, address, and contact number.
- b) Participants complete a self-designed questionnaire that rates the severity of symptoms (e.g., headache, giddiness, fatigue, rashes, acne, and blurred vision) on a scale from 1 to 10. This helps categorize participants into those experiencing potential side effects and those who are not.
- c) Homeopathic treatment is provided to those with side effects, according to their symptom similarity.
- d) Follow-up assessments occur every two weeks, with dosages adjusted according to individual patient susceptibility and case requirements. The study measures symptom severity using the questionnaire

before and after treatment to assess its effectiveness.

DATA ANALYSIS:

- The results were presented using frequency tables, pie diagrams and graphs.
- The data was analyzed using statistical analysis
- The collected data was analyzed by Mean, Standard deviation, paired ‘t’ test by using IBM SPSS 22.0 software.

ETHICAL CONSIDERATION:

Ethical clearance from the institutional ethics committee was taken. Informed consent was taken from the participants

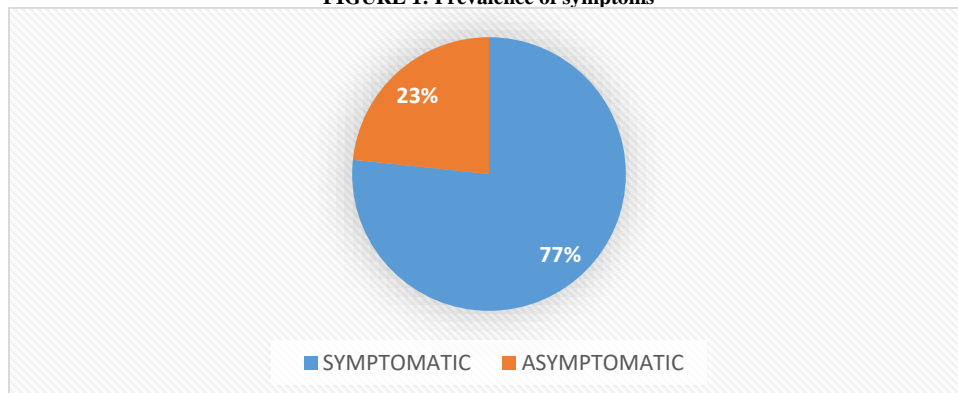
RESULT

In this study of 30 cases, the age distribution varied, with the highest number (16 individuals) falling in the 20 to 25-year age group. Following this, there were 7 cases in the 26 to 30-year age group, 3 in both the 31 to 35-year and 36 to 40-year age groups, and no cases in the 41 to 45-year age group. There was a single case in the 46 to 50-year age group, resulting in a significant concentration of cases in the 20 to 25-year age bracket. [Table 1] [Figure 1]

TABLE 1: Distribution of cases based on age group

SNO	AGE GROUP IN YEARS	TOTAL NO OF CASES
1	20-25	16
2	26-30	7
3	31-35	3
4	36-40	3
5	41-45	0
6	46-50	1

FIGURE 1: Prevalence of symptoms



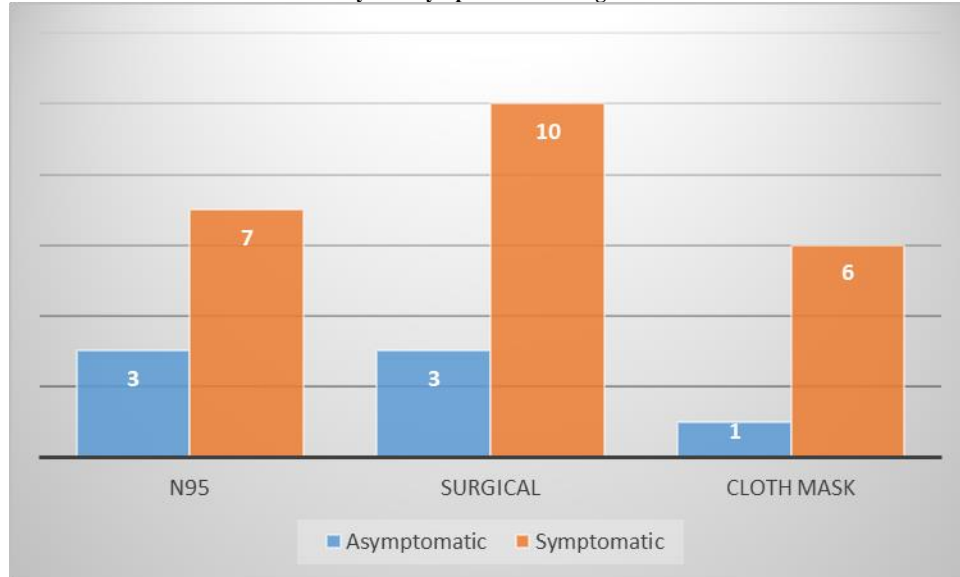
Out of the 30 cases, 76.6% experienced symptoms, and 23.35% were asymptomatic. Regarding mask usage, 10 used N95 masks, with 3 being asymptomatic and 7 symptomatic. Among the 13 individuals using surgical masks, 3 were asymptomatic, and 10 were symptomatic. Among the 7 cloth mask users, 1

was asymptomatic, and 6 were symptomatic. [Table 2] [Figure 2]

TABLE 2: Type of mask used

Type of mask used	Total (n=30)
N95	10
SURGICAL	13
CLOTH MASK	7

FIGURE 2: Analysis of symptoms according to face masks used



Regarding gender distribution, 14 cases were male, and 16 were female, with a higher prevalence of symptoms observed in females compared to males. [Table 3]

TABLE 3: Distribution according to gender

	TOTAL NO	SYMPTOMATIC	ASYMPTOMATIC
NO OF MALES	14 (46 %)	64.28%	35.71%
NO OF FEMALES	16 (53 %)	87.50%	12.50%

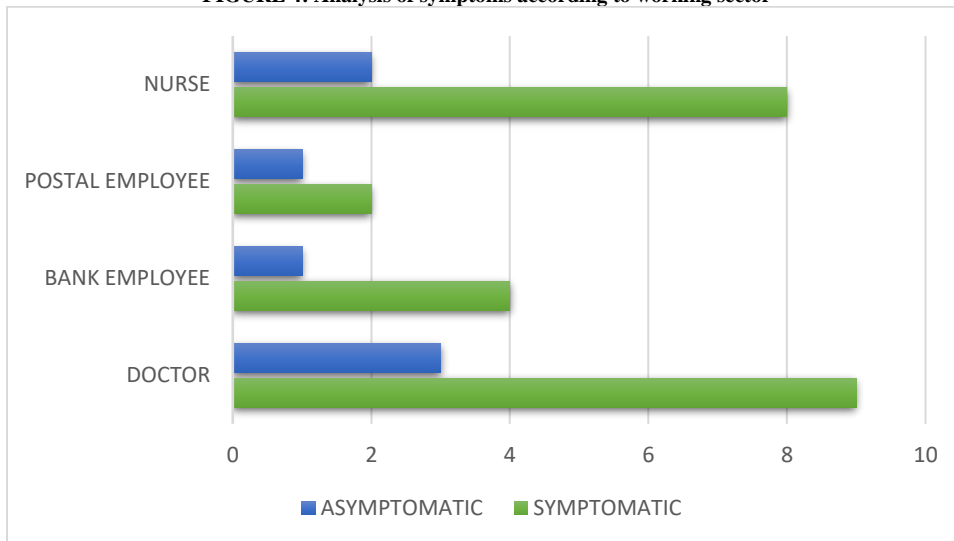
Occupationally, out of the 30 cases, 12 were doctors, 5 were bank employees, 3 were postal employees, and 10 were nurses. Among doctors, 9 were symptomatic, and 3 were asymptomatic. Among bank employees, 4

were symptomatic, and 1 was asymptomatic. Among postal employees, 2 were symptomatic, and 1 was asymptomatic. Among nurses, 8 were symptomatic, and 2 were asymptomatic. [Figure3] [Figure 4]

FIGURE 3: Prevalence of symptoms according to working sector



FIGURE 4: Analysis of symptoms according to working sector



The most prevalent symptoms among all cases were pain behind the ears (76%), acne (70%), headache (43%), profuse sweating (33.33%), itchy nose (30%), and dryness of mouth (23%). [Table 4]

TABLE 4: Most prevalent symptoms

PREVALENT SYMPTOMS	PERCENTAGE
HEAD ACHE	43 %
ACNE	70 %
PAIN BEHIND EARS	76 %
PROFUSE SWEATING	33.30 %
ITCHY NOSE	30 %
DRYNESS OF MOUTH	23%

There is significant reduction in questionnaire score after symptomatic homoeopathy treatment (p value is 0.0001). Hence null hypothesis is rejected and alternative hypothesis is accepted.

DISCUSSION

In our study of 30 cases, we observed a significant variation in the distribution of symptoms across different age groups. Among these cases, the age group of 20-25 had the highest number of cases, with 16 individuals, while the age group of 41-45 had no reported cases. Additionally, 76.6% of the cases

exhibited symptoms, while 23.35% were asymptomatic.

Regarding the use of masks, out of the 30 individuals, 10 used N95 masks, 13 used surgical masks, and 7 used cloth masks. In terms of gender distribution, there were 14 males and 16 females. Among males, 64.28% were symptomatic, while 35.71% were asymptomatic. Among females, 87.5% exhibited symptoms, while 12.5% were asymptomatic.

Our study focused on various occupational groups among the 30 cases. There were 12 Doctors, 5 Bank employees, 3 Postal employees, and 10 Nurses. Out of the Doctors, 9 were symptomatic, and 3 were asymptomatic. Among Bank employees, 4 were symptomatic, and 1 was asymptomatic. In the Postal employee group, 2 were symptomatic, and 1 was asymptomatic. Among Nurses, 8 were symptomatic, and 2 were asymptomatic.

Several prevalent symptoms were identified in our study. Pain behind the ears was the most common, affecting 76% of cases, which aligns with the findings of a study by Akshitha Thatiparthi et.al.^[11] In addition, our study found that 70% of all cases had Acne, a result consistent with the research conducted by Vural AT. et.al. reporting a 40.5% prevalence of new acne among students.^[12]

Our study also revealed that 43% of cases experienced headaches, while 33.33% reported profuse sweating, supporting the findings of a study by Purushothaman PK et.al., which indicated a high prevalence of excessive sweating around the mouth (67.6%).^[13]

Among our 30 cases, 30% had itchy noses, and 23% experienced dryness of the mouth, in line with the study conducted by k. Priya et.al., which reported that 46.77% of participants experienced dry mouth^[14]. These findings provide valuable insights into the distribution of symptoms and mask usage in our study population.

Limitations Of Study:

Due to the limited duration of time, the conclusions made through this study are only suggestive and further research has to be done for more affective and accurate results on the outcome of the results.

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

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