



## A Study to Assess the Problems of Prolonged Use of Mask During Covid Pandemic Among the General Public Residing in Lawspet Area at Puducherry

Niranjana D.<sup>1</sup>, Nanthini T.<sup>2</sup>, Felicia Chitra A.<sup>3</sup>, Ravichandran V.<sup>4</sup>

<sup>1</sup>Department of Obstetrics and gynecological Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

<sup>2</sup>Professor and Head, Department of Community Health Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

<sup>3</sup>Principal, College of Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

<sup>4</sup>Dean Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

**ABSTRACT:** A descriptive cross sectional study was conducted to assess the problems of prolonged use of mask during covid pandemic among general public. The objectives of the study was to assess the problems of prolonged use of mask during covid pandemic among the general public and to find out association between the problems of prolonged use of mask during covid pandemic with selected demographic variable. The researcher developed self-administered open ended questionnaire to assess the problems of prolonged use of mask during covid pandemic among 300 public residing in lawspet area at Puducherry by using purposive sampling technique. The major findings was, regarding the demographic variables out of 300 general public 156(52%) were in age group 18-29 years, half of the public was female 198(66%), half of the public were married 162(54%), 138(46%) of the public were completed under graduate(UG) level of education, half of the public were hindus 168(56%), half of the public were lived in urban area 156(52%), half of the public were monthly income Rs.5000-10000 150(50%), 126(42%) of the public were company worker, 168(56%) of the public were in nuclear family, 138(46%) of the public got information from social media, 102(34%) of the public were affected in covid 19 respectively. Out of 300 public all of them were using mask 300(100%), half of the public were used surgical mask (three layered mask) 156(52%), 108(36%) of the public were used the same mask at only one time, 234(78%) of the public was not washed the single use disposable mask, 134(44%) of the public were told not wearing the N95 mask is cost effective, 120(40%) of the public were faced problems while wearing face mask was sweating, 198(66%) of the public were told no adverse reactions after using mask, 102(34%) of the public were told 4 hours was tolerable hours of wearing mask, most of the public were told correct way to wear mask was covering mouth and nose 228(76%), 144(48%) were 2 times changed the mask for full day. In association between the problems of prolonged use of mask with selected demographic variables. There is a significant( $p < 0.005$ ) association between problems of prolonged use of mask during covid pandemic with selected demographic variables as religion. Then the researcher created awareness to all public regarding importance of mask, motivated to do proper hygienic measures like hand washing techniques and taught about criteria for use mask to promote the health from covid pandemic to endemic.

**KEYWORDS:** Covid, Knowledge, Mask, Public, Problem, Prolonged.

### INTRODUCTION

Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being. There are two categories of diseases such as communicable and non-communicable diseases. Non-communicable diseases (NCDs), also known as chronic diseases, tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behavioural



factors. The main types of NCD are cardiovascular diseases (such as heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes. NCDs disproportionately affect people in low- and middle-income countries where more than three quarters of global NCD deaths — 31.4 million occur. Communicable diseases are those that are spread from one person to another through a variety of methods. Socioeconomic, environmental and behavioural factors, as well as international travel and migration, foster and increase the spread of Communicable Diseases. Vaccine-preventable, foodborne, zoonotic, healthcare-related and communicable diseases pose significant threats to human health and may sometimes threaten international health security.

Wearing a mask for a prolonged amount of time causes a host of physiological and psychological burdens and can decrease work efficiency. Activity cannot be performed as long or efficiently while wearing masks as compared to when masks are not worn. Prolonged use of N95 mask and surgical masks causes physical adverse effects such as headache, difficulty in breathing, acne, skin breakdown, rashes and impaired cognition. It also interferes with vision, communication and thermal equilibrium. Headache related to prolonged mask use can be attributed to mechanical factors, hypercapnia and hypoxemia. Tight straps and pressure on superficial facial and cervical nerves and mechanical features causing headache.

In India as the country's numbers continue to rise, wearing a mask properly, maintaining social distancing and hand hygiene will be the three essentials of prevention of COVID-19. Findings show that 90% of respondents who participated in the survey are aware of all the guidelines issued by the Government of India as well as other organizations to protect from COVID-19 infection. However, when it came to overall practice, compliance was low especially among the lower social strata. Interestingly, only around 44% are completely compliant in terms of wearing it correctly and in all relevant situations. Breathing issues and inconvenience are key factor behind non-compliance when it came to non-compliance towards covering face, breathing problems emerged (50%) as a key reason, followed by discomfort and inconvenience at 44%. This was followed by the assumption that as long as social distancing was maintained, a mask was not required as per 45 of respondents.

Researcher came across the personal experience of problems of prolonged using of mask during this pandemic period so the researcher had interest to do study on this topic.

## OBJECTIVES OF THE STUDY:

- To assess the problems of prolonged use of mask during covid pandemic among the general public.
- To associate the problems of prolonged use of mask during covid pandemic with selected demographic variable

## MATERIALS AND METHODS

A descriptive cross sectional study was conducted to assess the problems of prolonged use of mask during covid pandemic among general public. The sample size was 300 public by using purposive sampling techniques. The data collection period was 7 days. The study was conducted at lawspet area. Data was collected by using self-administered open ended questionnaire to assess the problems of prolonged use of mask. Data was analysed by using descriptive and inferential statistics. Section-A: It consists of demographic data related to the study such as age, sex, education, marital status, religion, community, income, occupation, type of family, sources of information, and past COVID-19. Section-B: The self-administered open ended questions consists of 10 questions related to problems of prolonged use of mask. The reliability was established by test method and the reliable coefficient was found to be using Pearson correlation coefficient of association between problems of prolonged use of mask among selected demographic variables. It was found that there was association ( $P < 0.05$ ) between the problems of prolonged use of mask with their selected demographic variable as religion. The data was collected after obtaining permission from concerned authority. Informed consent was obtained from each public prior to data collection.



**RESULTS**

**Table 1.1:** Frequency and Percentage wise Distribution of demographic among subjects.

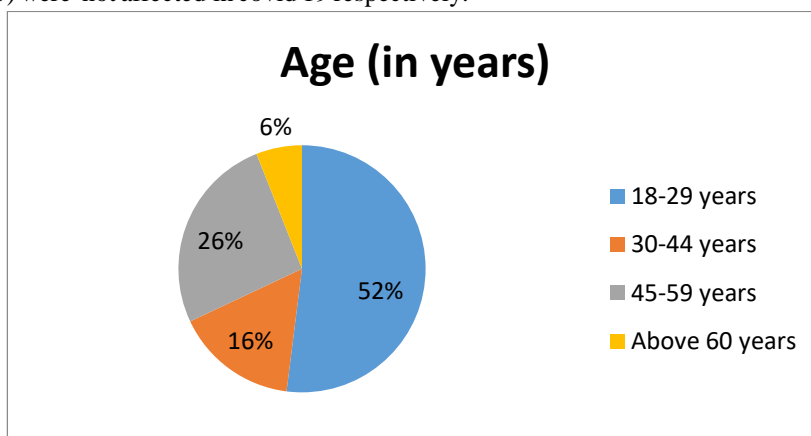
SL. NO	DEMOGRAPHIC VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
<b>1</b>	<b>Age (in years)</b>		
	18-29 years	156	52
	30-44 years	48	16
	45-59 years	78	26
	Above 60 years	18	6
<b>2</b>	<b>Gender</b>		
	Male	102	34
	Female	198	66
	Transgender	0	0
<b>3</b>	<b>Marital status</b>		
	Married	162	54
	Unmarried	126	42
	Widowed	12	4
<b>4</b>	<b>Education</b>		
	Uneducated	42	14
	At school level	114	38
	At college level	138	46
	Others	6	2
<b>5</b>	<b>Religion</b>		
	Hindu	168	56
	Christian	126	42
	Muslim	6	2
<b>6</b>	<b>Community</b>		
	Rural	144	48
	Urban	156	52
<b>7</b>	<b>Income</b>		
	Rs.5000-10000	150	50
	Rs.10001-15000	66	22
	Rs.15001-20000	30	10
	More than 20001	54	18
<b>8</b>	<b>Occupation</b>		
	Coolie	30	10
	Farmer	30	10
	Company worker	126	42
	Others	114	38
<b>9</b>	<b>Type of family</b>		
	Nuclear family	168	56
	Joint family	132	44
<b>10</b>	<b>Sources of information</b>		
	Social media	138	46



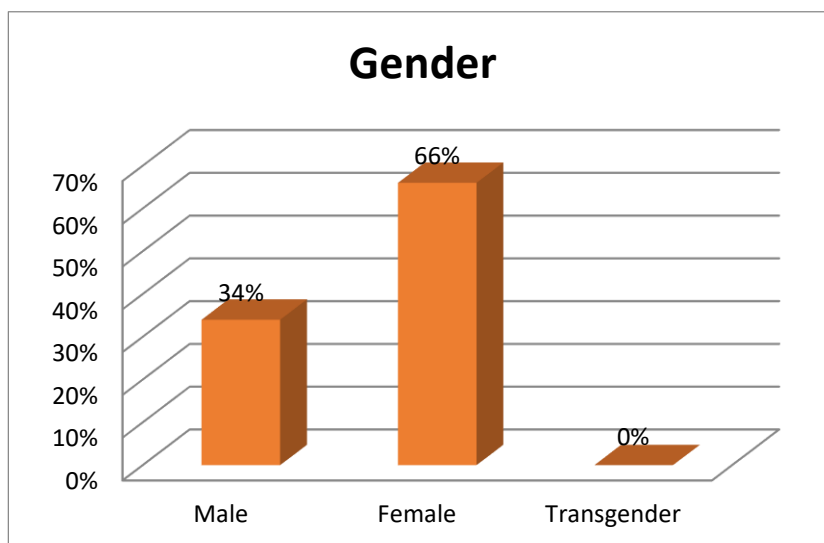
	News paper	54	18
	Internet	72	24
	Others	36	12
<b>11</b>	<b>Do you affected with COVID-19</b>		
	Yes	102	34
	No	198	66

**Table 1.1 shows:** Frequency and Percentage wise Distribution of demographic variables among subjects. Out of the 300 samples, Majority of the public 156 (52%) were in the age group 18-29 years. Most of the public was female 198 (66%). Majority of the public were belongs to married 162 (54%). Majority of the public were completed college level of education 138 (46%). Most of the public was were followed by hindu religion 168 (56%). Majority of the public were lived in urban area 156 (52%).

Most of the public 150 (50%) were monthly income rs.5000-10000. Majority of the public were company worker 126 (42%). Most of the public 168 (56%) were nuclear family. Majority of the public 138 (46%) were get information from social media. Most of the public 198 (66%) were not affected in covid 19 respectively.



**Fig: 1.1.1** Percentage distribution of age in years among subjects



**Fig: 1.1.2** Percentage distribution of gender among subjects



**SECTION B: ASSESSMENT OF THE PROBLEMS OF PROLONGED USE OF MASK DURING COVID PANDEMIC AMONG THE GENERAL SUBJECTS**

**Table 1.2:** Frequency and percentage wise distribution of assessment of the problems of prolonged use of mask during covid pandemic among the general subjects.

**Table 1.2.1:** Frequency and percentage wise distribution of assessment of the usage of face mask  
N=300

S.NO	VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1.	Yes	300	100
2.	No	0	0

Table 1.2.1 revealed that frequency and percentage wise distribution of assessment of the usage of mask are all of them were wearing the face mask 300 (100%).

**Table 1.2.2:** Frequency and percentage wise distribution of assessment of types of mask  
N=300

S.NO	VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1.	Cloth mask	102	34
2.	N95 mask	42	14
3.	Surgical mask	156	52

Table 1.2.2 revealed that frequency and percentage wise distribution of assessment of types of mask half of them 156(52%) were used surgical mask.

**Table 1.2.3:** Frequency and percentage wise distribution of assessment of several times of using the same mask  
N=300

S.NO	VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1.	1 times	108	36
2.	2times	97	32.3
3.	3times	48	16
4.	4times	6	2
5.	5times	24	8
6.	6times	6	2
7.	8times	6	2

Table 1.2.3 revealed that frequency and percentage wise distribution of assessment of 108(36%) of the public were used the same face masks at one time only.

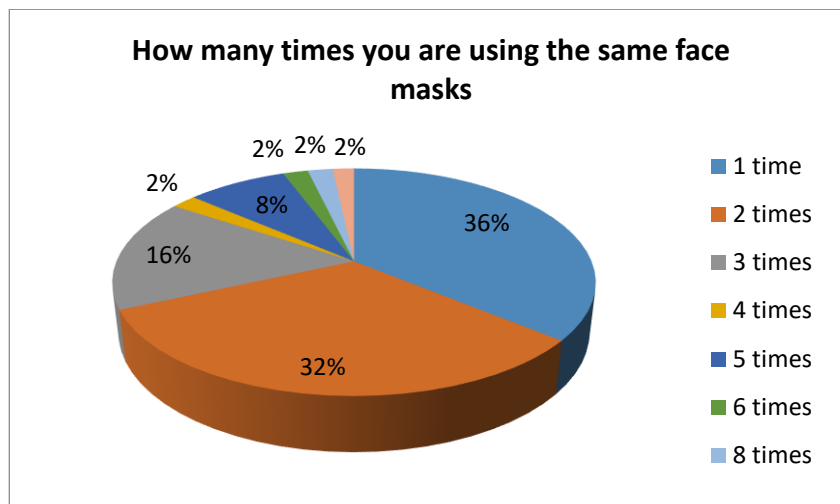


Fig:1.2.3 Percentage distribution of How many times you are using the same face masks among subjects.

Table 1.2.4: Frequency and percentage wise distribution of assessment of several time of washing the single use masks N=300

S.NO	VARIABLE	FREQUENCY (N)	PERCENTAGE (%)
1.	No	234	78
2.	1 times	15	5
3.	2 times	49	16.3
4.	3 times	2	0.7

Table 1.2.4 revealed that frequency and percentage wise distribution of assessment of 234(78%) of the subjects was not washed the single use disposable mask.

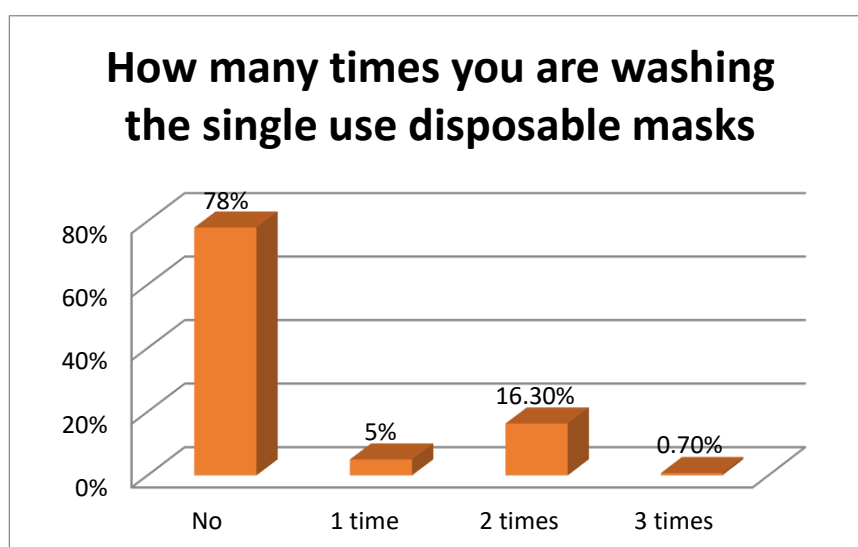


Fig: 1.2.4 Percentage distribution of how many times you are washing the single use disposable masks among subjects



**Table 1.2.5:** Frequency and percentage wise distribution of assessment of not wearing N95 masks  
N=300

S.NO	VARIABLE	FREQUENCY(N)	PERCENTAGE (%)
1.	Acne	12	4
2.	Breathing difficulty	12	4
3.	Cost effective	132	44
4.	N95 only used	48	16
5.	Not aware of N95 mask	42	14
6.	Sweating	24	8
7.	Uncomfortable	6	2

Table 4.2.5 revealed that frequency and percentage wise distribution of assessment of 132(44%) of the public were told not wearing the N95 mask is cost effective.

**Table 1.2.6:** Frequency and percentage wise distribution of assessment of difficulties of using mask  
N=300

S.NO	VARIABLE	FREQUENCY(N)	PERCENTAGE(%)
1.	Acne	18	6
2.	Blurring of vision	6	2
3.	Breathing difficulty	108	36
4.	Fainting	6	2
5.	Nil	36	12
6.	Sweating	120	40
7.	Uncomfortable	6	2

Table 1.2.6 revealed that frequency and percentage wise distribution of assessment of 120(40%) of the subjects were faced problems while wearing face mask was sweating

**Table 1.2.7:** Frequency and percentage wise distribution of assessment of complaints after using mask  
N=300

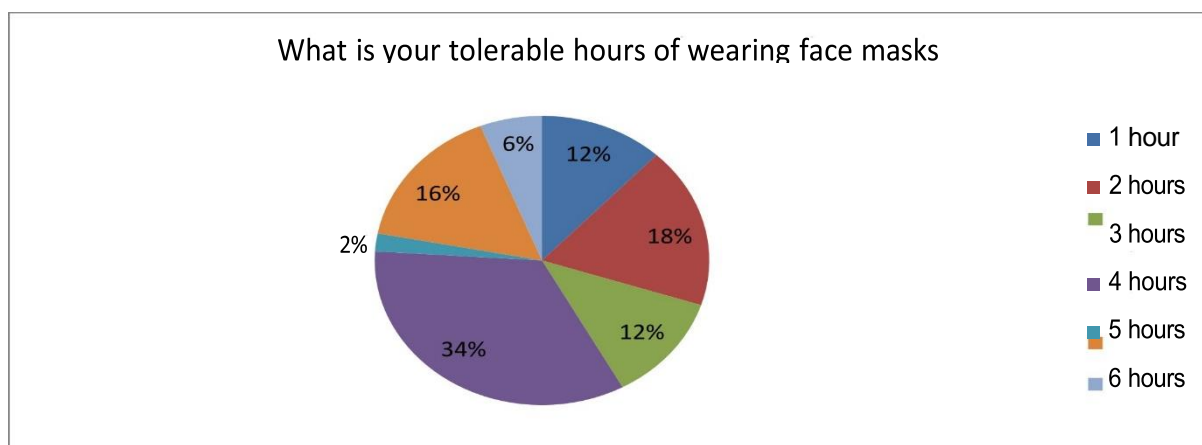
S.NO	VARIABLES	FREQUENCY(N)	PERCENTAGE(%)
1.	Acne	24	8
2.	Ear pinna pain	12	4
3.	Headache	18	6
4.	Nil	198	66
5.	Redness	48	16

Table 4.2.7 revealed that frequency and percentage wise distribution of assessment of 198(66%) of the subjects were told no adverse reactions after using face masks.

**Table 1.2.8:** Frequency and percentage wise distribution of assessment of possible hours of wearing mask  
N=300

S.NO	VARIABLES	FREQUENCY(N)	PERCENTAGE (%)
1.	1 hour	36	12
2.	2 hour	54	18
3.	3 hour	36	12
4.	4 hour	102	34
5.	5 hour	6	2
6.	6 hour	48	16
7.	8 hour	18	6

Table 1.2.8 revealed that frequency and percentage wise distribution of assessment of 102(34%) of the public were told 4 hours was tolerable hours to wear face masks 102(34%).



**Fig:1.2.8** Percentage distribution of what is your tolerable hour of wearing face masks among subject.

**Table 1.2.9:** Frequency and percentage wise distribution of assessment of right way to wear mask  
N=300

S.NO	VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1.	Covering cheek, chin, nose and Mouth	60	20
2.	Covering mouth and nose	228	76
3.	Covering nose	6	2
4.	Covering nose and chin	6	2

Table 1.2.9 revealed that frequency and percentage wise distribution of assessment of subjects 228(76%) were told correct way to wear mask was covering mouth and nose.



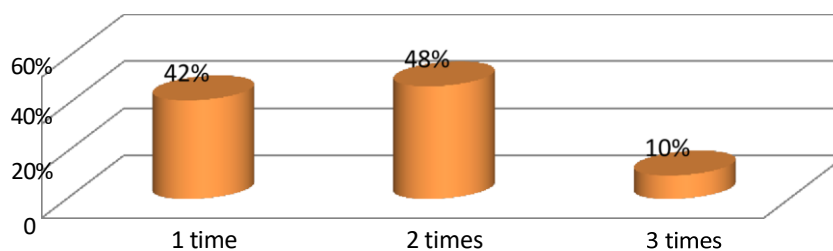


**Table 1.2.10:** Frequency and percentage wise distribution of assessment of usage mask in full day work  
N=300

S.NO	VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1.	1 times	126	42
2.	2times	144	48
3.	3times	30	10

Table 1.2.10 revealed that frequency and percentage wise distribution of assessment of the subjects 144(48%) were 2 times changed the masks for full day respective.

### When you are in full day work how many masks are changed



**Fig:1.2.10** Percentage distribution of when you are in full day work how many masks are changed among subjects.

### SECTION C: ASSOCIATION BETWEEN THE PROBLEMS OF PROLONGED USE OF MASK WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

**Table 1.3:** Association between the problems of prolonged use of mask with their selected demographic variables.

SL. NO	DEMOGRAPHIC VARIABLES	PROBLEMS OF PROLONGED USE OF MASK DURING COVID PANDEMIC						P VALUE
		BREATHING DIFFICULTY		SWEATING		DERMATOLOGICAL DISORDERS		
		N	%	N	%	N	%	
1	Age in years							
	18-29 years	20	6.66	11	3.6	13	4.3	0.613 NS
	30-44 years	18	6	23	7.6	23	7.6	
	45-59 years	21	7	34	11.3	28	9.3	
	<60 years	34	11.3	32	10.6	43	14.3	



<b>2</b>	<b>Gender</b>							
	Male	48	16	65	21.6	15	3	0.285 NS
	Female	74	24.6	76	25.3	22	7.3	
<b>3</b>	<b>Marital status</b>							
	Married	82	27.3	63	21	22	7.3	0.273 NS
	Unmarried	56	18.6	52	17.3	12	4	
	Widowed	5	1.6	6		0	0	
<b>4</b>	<b>Education</b>							
	Uneducated	20		11	3.6	10	3.3	3.52 NS
	At school level	53		42	14	20	6.6	
	At college level	62	20.6	53	17.6	23	7.6	
	Others		1	3	1	0	0	
<b>5</b>	<b>Religion</b>							
	Hindu	85	28.3	56	18.6	27	9	0.007 S*
	Christian	59	19.6	41	13.6	26	8.6	
	Muslim	2	0.6	3	1	1	0.3	
<b>6</b>	<b>Community</b>							
	Rural	87	29	48	16	9	3	0.398 NS
	Urban	92	30.6	54	18	10	3.3	
<b>7</b>	<b>Occupation</b>							
	Coolie	16	5.3	11	3.6	3	1	0.574 NS
	Farmer	12	4	10	3.3	8	2.6	
	Company worker	56	18.6	44	14.6	26	8.6	
	Others	43	14.3	57	19	14	4.6	
<b>8</b>	<b>Type of family</b>							
	Nuclear family	79	26.3	64	21.3	25	8.3	0.423 NS
	Joint family	57	19	63	21	12	4	
<b>9</b>	<b>Sources of information</b>							
	Social media	59	19.6	47	15.6	32	10.6	



	News paper	31	10.3	12	4	11	3.6	0.874 NS
	Internet	35	11.6	26	8.6	12	4	
	Others	13	4.3	12	4	10	3.3	
<b>10</b>	<b>Do you affected with covid</b>							
	Yes	43	14.3	37	12.3	22	7.3	0.325 NS
	No	74	24.6	66	22	58	19.3	

Table 4.3 depicts that there was association ( $p < 0.05$ ) between the problems of prolonged use of mask with their selected demographic variable as religion.

### DISCUSSION

This chapter deals the discussion of the study findings and comparing with appropriate review of literature, statistical analysis based on the objectives of study. The aim of present study was to assess the problems of prolonged use of mask during the covid pandemic among the general public residing at lawspet area, puducherry. Period of data is 1 week duration. A total of 300 people who >18 years old were selected by using purposive sampling technique. The researcher explained the study to the public and assessed the problems of prolonged use of mask during this covid pandemic residing at lawspet area. The data was analysed using descriptive statistics (distribution, mean, standard deviation) and inferential statistics (chi-square value test).

The discussion of the present study is based on the findings obtained from the statistical analysis and given based on the objectives of the study.

### CONCLUSION

The COVID-19 is a life threatening diseases. For handling the problem all are advised to wear mask is important. The mask plays an important role in subjects to prevent from corona viruses due to prolonged wearing of mask may develop some complaints. This study the major findings are during mask wearing the major complaints are sweating among the subjects.

### RECOMMENDATION

Based on the study findings and personal experience of the investigators during the study, the following recommendations are made:

- The study may be replicates on larger samples.
- The study can be conducted to compare the various method of management.
- The study can be done by using the experimental design and generalize the result of the study.
- The study can be conducted with the any teaching programme and generalize the result.
- The same study can be conducted for longer durations and generalize the result of the study.
- The study can be implement at various states of India and generalize the result of the study.
- The study can be conducted with the COVID-19 patient and generalize the result of the study.

### BIBLIOGRAPHY

1. <https://www.who.int/teams/health-promotion/enhanced-wellbeing/first-global-conference>
2. GBD 2015 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. Lancet, 2016; 388(10053):1659-1724
3. Goodman CC, Fuller KS. Pathology: implications for the physical therapist. Elsevier Health Sciences, 2014 Nov 5
4. <https://www.merriam-webster.com/dictionary/coronavirus>



5. Richmond C (2005-06-18). "David Tyrrell". BMJ: British Medical Journal. 330 (7505): 1451. doi:10.1136/bmj.330.7505.1451. PMC 558394
6. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet 2020 DOI: 10.1016/S0140-6736(20)30183-5
7. World Health Organization . 2020. Novel Coronavirus(2019-nCoV): Situation Report [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200130-sitrep-10-ncov.pdf?sfvrsn=d0b2e480\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200130-sitrep-10-ncov.pdf?sfvrsn=d0b2e480_2) [Google Scholar]
8. HM Government 202 Novel coronavirus: Guidance for primary care. <https://www.gov.uk/government/publications/wn-cov-guidance-for-primary-care> [Google Scholar]
9. HM Government. 2020. 2019-nCoV Acute Respiratory Disease: Guidance for Clinical Diagnostic Laboratories. <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-guidance-for-clinical-diagnostic-laboratories> [Google Scholar]
10. UK Foreign & Commonwealth Office 2020. Travel Advice: Novel Coronavirus. <https://www.gov.uk/guidance/travel-advice-novel-coronavirus> [Google Scholar]
11. BBC 2020. Coronavirus: Britons on Wuhan Flights to Be Quarantined. <https://www.bbc.co.uk/news/uk-51292590> [Google Scholar]
12. Centers for Disease Control and Prevention 2020. 2019 Novel Coronavirus. <https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html> [Google Scholar]
13. Rothe C., Schunk M., Sothmann P. Transmission of 2019-nCoV infection from an asymptomatic contact in Germany. N. Engl. J. Med. 2020 NEJMc2001468. Epub ahead of print. [PMC free article] [PubMed] [Google Scholar]
14. Li Q., Guan X., Wu P. Early transmission dynamics in wuhan, China, of novel coronavirus—infected pneumonia. N. Engl. J. Med. 2020 NEJMoa2001316. Epub ahead of print. [PMC free article] [PubMed] [Google Scholar]
15. Tira G, Shahzada KA, Physiology of nose and paranasal sinuses; scott brown 8th edition, pp 983-988
16. Negus VE (1952) Humidification of the air passages. Thorax 7(2):148-151 [PMC free article] [PubMed]
17. WHO Director-General's opening remarks at the media briefing on COVID-19. 11 March 2020
18. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>. Accessed 12th august 2020
19. <https://www.mohfw.gov.in/> accessed 13th august 2020
20. Scarano A, Inchingolo F, Lorusso F (2020) Facial skin temperature and discomfort when wearing protective face masks: thermal infrared imaging evaluation and handsmoving the mask. Int J Environ Res Public Health 17(13): 4624 [PMC free article] [PubMed]

---

*Cite this Article: Niranjana D., Nanthini T., Felicia Chitra A., Ravichandran V. (2022). A Study to Assess the Problems of Prolonged Use of Mask During Covid Pandemic Among the General Public Residing in Lawspet Area at Puducherry. International Journal of Current Science Research and Review, 5(5), 1410-1421*