Original Article

Perception Toward Use Of Face Mask During Covid 19 Pandemic Among Adults In Khordha District A Cross Sectional Study

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Abstract

Background: Hygienic mask use plays a significant role in effectively preventing contagious respiratory disease. COVID pandemic had made wearing masks mandatory for all. All need to follow mask hygienic practice to avoid respiratory infection. Though wearing a mask all time may also lead to discomfort and difficulties.

Objective: The objective of the study was to assess the perception towards use of face mask among adults

Materials and method: Conveniently 306 adults were chosen for conducting the study from UPHC Nayapalli and CHC Mendhasala of Khordha district. Participants were asked to fill the perception towards use of face mask (PEM tool)

Results: 75.8% strongly agreed that wearing mask keeps a person safe from respiratory infections. 84.3% subjects strongly agreed for wearing a mask in public spaces. . Most 51% strongly disagree that face mask can make the person feel embarrassed. . 44.4% strongly disagree that its feel like to remove mask while talking.

Conclusion: Present study shows that people are having good perception. They know the importance of mask wearing but sometime they are not able to follow the social guidelines due to various difficulties encountered while wearing mask. Continuous awareness programme is necessary to motivate them.

Keywords: Hygiene, Adult and Perception

INTRODUCTION

Corona virus disease (COVID-19) is a newly discovered communicable illness which is caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). Persons infected with corona virus disease develop mild to moderate sickness and it can be improve without any particular treatment. Elder persons or who are having co morbidities are more chances to develop serious illness.[1]

As of December 20, 2020, case fatality rate of COVID-19 worldwide is reported to be 2.24% and 1.45% for India and for Odisa it is 0.59%. There are 219 Countries and Territories around the world have reported a total of 115,380,161 confirmed cases of the corona virus.[3]In India, Maharashtra has reported the highest cases of COVID 19, followed by Karnataka, Punjab and Madhyapradesh.[4]

MOHFM has given some advices to the population to fight against corona virus transmission. According to MOHFM recommendation, use of face mask is as important as physical distancing and frequent hand washing. Along with that respiratory etiquette should be followed, strict practice of covering mouth and nose while coughing and sneezing, Arogya Setu app should be downloaded and all must report about their health
status (in case of illness) to state and district helpline.[6]

Several studies have also suggested the extensive and genuine use of face masks / covers to prevent the transmission of the pandemic, and will also assist all to avoid from further infections.[5] Most conspicuous routine changes occur in COVID 19 pandemic is the compulsory make use of face mask in crowdie places like in, restaurants, grocery stores and other public places.[7] It is very much important to wear a face mask, to slowing the spread of COVID 19.[1]

A survey has done to understand overall compliance regarding wearing of masks. 90% people were aware regarding importance of wearing mask but only 44 percent of Indians were wearing it. Around 45 percent also assume that mask is not needed if social distancing was maintained. Masks must be used as part of an overarching strategy of measures to

prevent transmission.[10]
A survey of 2,459 people residing in the US has found that, Men don't like to put on face masks as they think face is covered by people who are week or feel shame
According to the researcher's observation, people were not maintaining mask hygiene; many people came in various health institutions with very loose mask, mask were not fitted properly on their face, some were touching their face again and again, some were removing their mask while talking and some wore dirty masks.[13] Despite the widespread provision of information on how to protect ourselves and stop the spread of COVID-19, many people ignore the latest recommendations and failing to wear face coverings in public.[14] So it is very necessary to find out the perception of individual regarding mask usage because people's mentality towards mask usage may directly or indirectly affects mask hygiene practices.

Research approach
In this study quantitative approach is used to assess the perception towards use of face mask.

Research design
Descriptive cross sectional study design was used for this study.

Research variables
The research variables included were general data about mask usage, clinical data, and perception towards use of face mask. The Demographic variables included were age, gender, education, occupation, religion and socioeconomic status.

POPULATION
Target population: The target population were Adults of Khurda district

Accessible population: Adults of Khurda district present in CHC Mendasal and UPHC Nayapali at the time of data collection.

RESEARCH SETTING:
CHC Mendasal- is one of the public health care centres in Khorda, Odisha. It is situated at /Po – Mendasal, Khorda. It supervises three PHCs (Chandaka, Nuamar and Itipur) and covers population of 55,000. Per day approx 70 patients came here for the treatment.

UPHC Nayapalli- UPHC is different from conventional rural PHC in terms of size, functions and facilities. UPHC Nayapalli is situated at the centre of the city. It covers approx 49000 population. Per day approx 50 patients came in UPHC.

SAMPLE AND SAMPLING TECHNIQUES
Sample: Adults of Khurda district present in CHC Mendasal and UPHC Nayapalli at the time of data collection.
The inclusion criteria of the present study were:
1. Adults of 18 years to 60 years.
2. Who are using mask.
3. Is able to read, write and understand Odia/Hindi language

Sampling technique:
In this study convenience sampling was used for sample selection.
The study was conducted in CHC Mendasal and UPHC Nayapalli.

Sample size- Population proportion sample size was used to determine sample size calculation
Sample size for CHC Mendasal is 139
For UPHC Nayapali – 139
278 and 10% drop out rate 306
Total sample size is 306

Development of tool on demographic data, clinical data and general data about mask usage
The tool was constructed to assess the demographic, clinical and general data about mask usage. The tool consists of 6 items of demographic data which includes age, gender, education, occupation, religion and socioeconomic status, 2 items of clinical data and 7 items of mask usage.

Development of perception towards use of face mask (PFM) tool
The PFM tool was developed by the researcher to assess the perception towards use of face mask. The PFM tool consists of 33 items including following domains-safety, identity, comfort, communication, prevention, cosmetic and precaution. The five points responses which are used in this tool were, strongly agree, agree, no opinion, disagree, strongly disagree.

Validity of the tool

Data collection tool was given to 11 experts to ensure content validity. Experts were from the community health nursing and community medicine and family medicine department of the AIIMS, Bhubaneswar. The experts were requested to give their opinion and verify the items for relevancy, accuracy and appropriateness.

Suggestions and recommendations given by the experts were accepted and necessary corrections were done to modify the tool. The content validity of the tool was checked and there was 93% agreement. It suggests excellent content validity of the tool with CVI of 0.93. Data collection tool was translated into Odia language and retranslated into English language. Language content validity was done by language experts.

Ethical consideration-

Administration approval was obtained from Principal, College of Nursing for conducting the study. Ethical approval was obtained from institutional ethical committee, Reference number: IEC/AIIMS BBSR/Nursing/2020 – 21/03 and from the CMO of CHC Mendhasala and UPHC Nayapalli. Participants were informed regarding study through participant information sheet, informed consent was obtain from the participants , Anonymity and confidentiality was maintained by the researcher.

Data collection procedure

Administrative permission was taken from Principal, College of Nursing Ethical committee permission was taken from IEC. Permission was taken from the CMO of UPHC Nayapalli and CHC Mendhasala. Data collection period was from 26 October 2020 to 14 January 2021. Purpose of study was explained to Adults present in CHC Mendhasala and UPHC Nayapalli, Consent was taken from who were willing to participate in this study. Baseline data was obtained from participants who given consent. Perception toward use of face mask was assessed by using selected tools. Per day about 8 to 10 data was collected and Tool was checked for the completeness after collecting from the participants. 15 to 20 minutes were taken by the participants to fill this tool. Collected data was organized for analysis.

RESULTS

Table 1- Frequency distribution of demographic data of adults

(n= 306)

S.NO	CRITERIA	RESPONSES		
1	Age in years (Mean ± S.D)	**f** (Mean ± S.D)	35.02± 8.64	**%**
2	Gender	Male	209	68.3
		Female	97	31.7
3	Education	Primary	6	2.0
		Higher secondary	18	5.9
		Diploma	15	4.9
		Graduation	177	57.8
		PG	81	26.5
		PhD	9	2.9
4	Occupation	Govt service	43	14.1
		Private	82	26.8
		Business	36	11.8
		Students	65	21.2
		Housewife	57	18.6
		Unemployed	5	3.5
		Driver	14	10.7
		Social worker	04	2.8
5	Religion	Hindu	276	90.2
		Muslim	30	9.8
6	Socioeconomic status	APL	165	53.9
		BPL	141	46.1

Data presented in table 1, shows that the mean age of subjects is 35.02± 8.64

There were 68.3% males and 31.7% females. Most (57.8%) of the subjects were degree holder whereas only 2.0 % have completed primary education only. Most 26.8% of the subjects involved in private job, 21.2% were students and only 3.5% were unemployed. Majority 53.9% of the subjects were above poverty line and 46.1% were below poverty line. Most 90.2% were Hindu and 9.8% were Muslim.

Section 2 - Frequency and percentage distribution of subjects on clinical data

In this section, frequency distribution of adults on clinical data is presented. It includes participants with history of any

respiratory and cardiac illness. It is represented by bar graph.

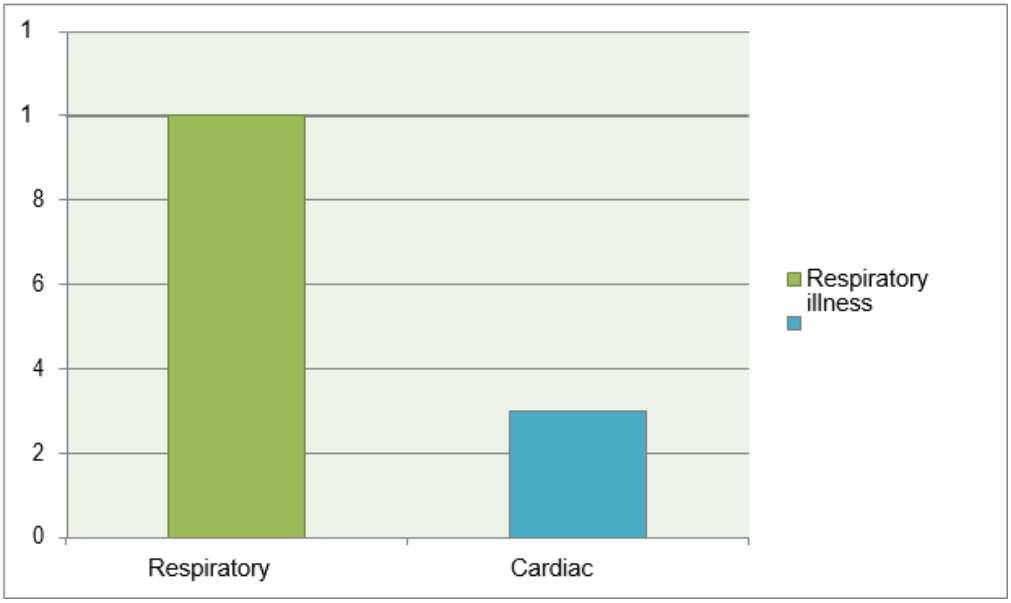

Figure 1: Bar graph showing clinical data of adults

Data presented in figure 3, shows the history of respiratory and cardiac illness. Only 3 participants were having cardiac illness whereas 10 participants were having respiratory illness.

Section 3 - Frequency and percentage distribution of subjects on data about mask usage
This section contains baseline general information about mask usage.

Table 2-Frequency and percentage distribution of subjects on data about mask usage

(n=306)

S.NO	CRITERIA		RESPONSES	
1	Mask usage outside of the house.	**f**		**%**
		Yes	306	100
2	Received information how to use mask.	Yes	302	98.7
		No	04	1.3
3	Source of information **(n=302)**	T.V	208	68.8
		Newspaper	37	12.2
		Social media	49	16.2
		Others(parents ,Relative and friends)	08	2.64
4	Total number of masks person have	Mean± SD	3±1.6	
5	Frequency of changing face mask.	Daily	192	62.7
		Within 2 days	90	29.4
		Weekly	18	5.9
		Never	06	2.0
6	Storage of mask.	Hanged on wall	138	45.1
		Behind door	32	10.5
		Bathroom	26	8.5
		On the table	64	20.9
		Almirah	11	3.5
		Any other(polythene, pocket, rack, bed, bag, purse)	35	11.4

According to table no. 3, 100% participants are using mask when they go out of their houses. 98.7% participants are having information that how to use a mask. Television (68.8%) is the main source of information. 62.7% participants changes their mask daily. Most of the participants (45.1%) hang the mask on wall when not in used. Type of mask used by participants is depicted in figure 3.

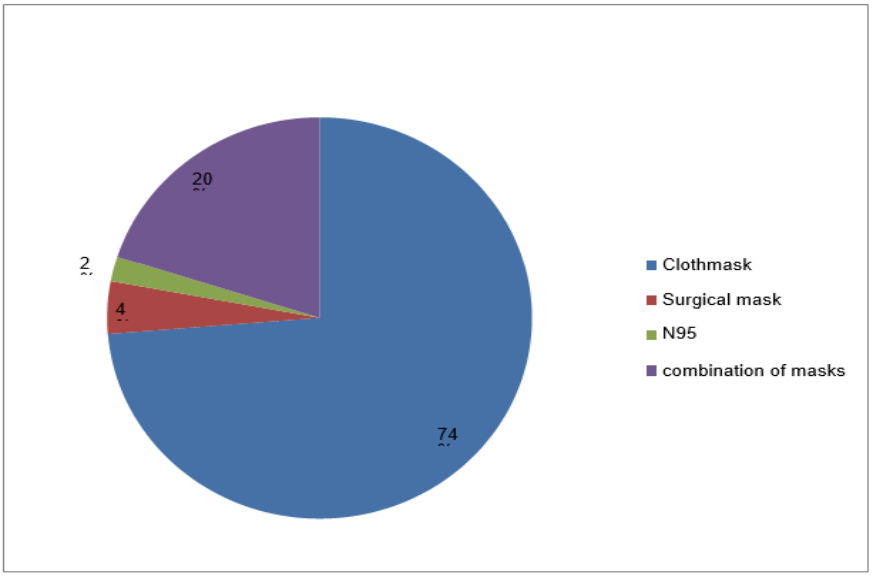

Figure 2: pie diagram showing type of mask used by participants

According to figure 4, majority (74%) of participants are using only cloth mask whereas 20% participants are using combination of masks in their daily use.

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Table 6: frequency distribution of perception of adults towards use of mask under the domain of safety **(n=306)**

S.NO	STATEMENT	RESPONSES									
		Strongly agree				Agree		No opinion		Disagree disagree		Strongly
1.	**Safety** It is required for most adults to wear a mask in public spaces, such as grocery stores.	f	%	f	%	f	%	f	%	f	%
		258	84.3	23	7.5	22	7.2	01	0.3	02	0.7
2	Wearing mask keeps a person safe from respiratory infections.	232	75.8	36	11.8	27	8.8	02	0.7	09	2.9
3	Wearing a mask make all less likely to follow social distancing guidelines.	170	55.6	31	10.1	70	22.9	13	4.2	22	7.2
4	N 95 or surgical mask gives more protection than cloth mask.	181	59.2	41	13.4	45	14.7	12	3.9	27	8.8
5	Mask is mandatory for every person even if alone.	125	40.8	42	13.7	58	19.0	25	8.2	56	18.3
6	If a person is not wearing mask he will get infected with COVID 19.	190	62.1	59	19.3	26	8.5	17	5.6	14	4.6
7	Cloth mask is not much effective in prevention of COVID 19.	138	45.1	35	11.4	72	23.5	21	6.9	40	13.1
8	Double layer of mask provide extra protection from COVID 19.	141	46.1	42	13.7	76	24.8	15	4.9	32	10.5
9	Mask can be used in inside home also.	77	25.2	38	12.4	16	5.2	49	16.0	126	41.2

84.3% subjects strongly agreed for wearing a mask in public spaces. 75.8% were strongly agree that wearing mask keeps a person safe from respiratory infections. About half of the subjects (55.6%) strongly agreed that mask make all less likely to follow social distancing guidelines. Almost 59.2% strongly agree that N95 gives more protection than cloth mask.

40.8% strongly believe that mask is mandatory for every person even if alone and 41.2% strongly disagree that mask can be used in inside home also.

Table 7: frequency distribution of perception of adults towards use of mask under the domain of Identity

S.NO	STATEMENT	RESPONSES									
		Strongly agree		Agree		No opinion		Disagree disagree		Strongly	
1.	**Identity**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
	It is difficult to recognize people with mask.	92	30.1	53	17.3	44	14.4	21	6.9	96	31.4
2	Wearing a face mask would make the person feel embarrassed	45	14.7	29	9.5	37	12.1	39	12.7	156	51.0
3	The appearance of face mask is unpleasant	57	18.6	34	11.1	27	8.8	31	10.1	157	51.3

The data presented in Table 7 shows, for 31.4% participants it is not difficult to recognize people with mask means they are disagree for this statement. Most 51% strongly disagree that face mask can make the person feel embarrassed.51.3% strongly disagree for the statement that the appearance of face mask is unpleasant.

Table 8: Frequency distribution of perception of adults towards use of mask under the domain of comfort.

(n=306)

S.NO	STATEMENT RESPONSES										
		Strongly agree		Agree opinion		No		Disagree disagree		Strongly	
1.	**Comfort**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
	Wearing a mask can make someone to suffocate	57	18.6	39	12.7	29	9.5	26	8.5	155	50.7
2	After removing mask, it feels refreshing.	106	34.6	47	15.4	17	5.6	27	8.8	109	35.6
3	Mask cannot be used for long time	197	64.4	42	13.7	15	4.9	20	6.5	32	10.5
4	Its feel like, to remove mask while talking.	175	57.2	37	12.1	30	9.8	15	4.9	49	16.0
5	Wearing a face mask is new normal.	166	54.2	53	17.3	34	11.1	03	1.0	50	16.3

50.7% strongly disagree for the statement that wearing a mask can make someone to suffocate. 35.6% are telling that it feels refresh after removing the mask.57.2% are telling that it's feel like to remove mask while talking. According to 54.2% participants, wearing a mask is new normal.

Table 9: frequency distribution of perception of adults towards use of mask under the domain of communication

(n=306)

S.NO	STATEMENT	RESPONSES									
		Strongly agree		Agree opinion		No		Disagree disagree		Strongly	
1.	**Communication**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
	It is difficult to communicate while wearing mask.	100	32.7	42	13.7	27	8.8	20	6.5	117	38.2
2	Its feel like, to remove mask while talking	97	31.7	35	11.4	24	7.8	14	4.6	136	44.4
3	It is difficult/ embarrassing to talk to each other without observing facial expression.	116	37.9	22	7.2	22	7.2	28	9.2	118	38.6

According to 38.2%, it is not difficult to communicate while wearing mask whereas almost similar percentage (32.7%)

strongly agreed mask makes communication difficult. 44.4% strongly disagree that its feel like to remove mask while talking. 38.6% were strongly disagree to the statement that it is difficult to talk to each other without observing facial expression.

Table 10: frequency distribution of perception of adults towards use of mask under the domain of prevention **(n=306)**

S.NO	STATEMENT	RESPONSES									
		Strongly agree		Agree opinion		No		Disagree disagree		Strongly	
1.	Prevention	f	%	f	%	f	%	f	%	f	%
	It is important to wear a face mask because it prevents transmission of COVID 19 to other people.	241	78.8	21	6.9	20	6.5	08	2.6	16	5.2
2	Mask not only prevents from COVID 19 but other infections too.	223	72.9	27	8.8	15	4.9	09	2.9	32	10.5
3	There is no need to wear a face mask if someone has COVID19.	50	16.3	12	3.9	29	9.5	13	4.2	202	66.0
4	A COVID 19 positive person should not wear face mask.	36	11.8	14	4.6	25	8.2	18	5.9	213	69.6

Maximum78.8% strongly agree that face mask is important to reduce further transmission 72.9% subjects strongly agree that mask not only prevents from COVID 19 but other infections too.

Table 11: frequency distribution of perception of adults towards use of mask under the domain of precautions **(n=306)**

S.NO	STATEMENT	RESPONSES									
		Strongly agree		Agree opinion		No		Disagree disagree		Strongly	
1.	Precautions	f	%	f	%	f	%	f	%	f	%
	Hand washing should be done before wearing a mask.	265	86.6	18	5.9	12	3.9	04	1.3	07	2.3
2	Hand washing should be done after removing a mask.	263	85.9	27	8.8	08	2.6	04	1.3	04	1.3
3	Mask should not be touched after wearing it.	229	74.8	38	12.4	19	6.2	06	2.0	14	4.6
4	Cloth mask should be washed after using it with soap and water.	238	77.8	28	9.2	14	4.6	10	3.3	16	5.2
5	Plain water is enough to wash the cloth mask.	77	25.2	27	8.8	22	7.2	15	4.9	165	53.9
6	Cloth mask should be changed every day.	223	72.9	14	4.6	21	6.9	13	4.2	35	11.4

According to 86.6% participants, hand washing should be done before wearing a mask. Percentage is also high for the statement that hand washing should be done after removing a mask.85.9% were strongly agree for this statement. According to 74.8% mask should not be touched after wearing it. 77.8% strongly agree that cloth mask should be washed with soap and water. 72.9% were telling that cloth mask should be changed every day.

Table 12: Frequency distribution of perception of adults towards use of mask under the domain of cosmetic.

n = 306

S.NO	STATEMENT	RESPONSES									
		Strongly agree		Agree opinion		No		Disagree disagree		Strongly	
1.	**Cosmetic** Mask make individual unattractive.	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
		66	21.6	36	11.8	73	23.9	04	1.3	127	41.5
2	There is less usage of makeup during COVID 19 due to mask.	90	29.4	30	9.8	117	38.2	07	2.3	62	20.3
3	Wearing matching colour mask is trend now a day.	164	53.6	41	13.4	21	6.9	11	3.6	69	22.5
4	Mask can be used as a protector from ultra violet rays of the sunlight.	166 50	54.2 16.3	41	13.4	35	114	14	4.6		

Maximum 38.2% of no opinion regarding there is less usage of makeup during COVID 19 due to mask usage and 29.4% were strongly agree for this statement. According to 53.6% participants, wearing matching colour mask is trend now a days.

DISCUSSION

Mask is essential strategy for prevention of any communicable respiratory diseases. It not only prevents the transmission of corona virus but other infection too. This study evaluates the mask hygiene practices and difficulties among adults of Khordha district.

The study has done in two areas of Khordha district UPHC Naypalli and CHC Mendhasala. For equal representation of samples from both rural and urban community. The sample characteristics were measured with the help of demographic tool, practices and difficulties were assessed by MHP and DFM tool respectively.

The data was collected from the adults who were coming to attend OPDs in the given setting. The data was collected from the adults who were using mask. Collecting data offline has added strength to this study as validation of the data could also be done while collecting the data which is not possible in related studies where online data was collected due to lockdown.

The findings of the study are discussed as under:

In the present study, age of the participants, gender, education, occupation, religion and socioeconomic status was used as a demographic variable. This coincides with a study conducted in Uttarpradesh India. The-demographic variables included in this study were age, gender, occupation, education, domicile, area of residence and religion.[28]

This study have similar sample characteristics with respect to age and education as earlier study of china in which average age of subjects were 33 years and 82.4% were having associate degree and higher.[20] In present study average age was 39 years and majority 57.8% were graduate and above.

In the own study 90.2% of the participants are Hindu, although a previous study reported approx 87% Hindu participants.[28]

In present study main source of information 68.8% was television and 16.2% social media similarly the study done in Andhrapradesh India shows the main source for information is television only (74.5%) and for social media it is 71%.[29] Television is the oldest and trustworthy form of communication, so people rely on the information which is convey from the television rather than the social media.

China reported that nearly all subjects (98%) wore mask when going out of their houses in recent days. [7] Similarly in present study 100% people are wearing mask when they go out of their houses. It shows that people are adhering to the government guidelines issued during COVID 19 pandemic.

Mainland China reported that most people are using surgical mask,[7] While fabric masks was found to be the mostly used mask among the adults in Khordha in the own study. These differences could be due to economic reasons.

According to present study 64.4% agree that wearing mask for longer hours is uncomfortable similarly 85.7% participants in United States agreed that wearing mask is uncomfortable.[12]

Health teaching program could be organized in the community to create awareness regarding mask hygiene practices. For further studies association between perception and mask hygiene practices should be find out.

Summary of major findings

In the present study data was collected from the adults of 18 to 60 years of age. Most of them are highly educated and

maximum of adults are Hindus. Fabric mask are used by most of the adults. Maximum people are maintaining mask hygiene. Most of the participants are having good perception

CONCLUSION

Present study shows that people have good perception toward mask usage but according to researcher's observation, maximum of them are not following government guidelines regarding mask usage and they are also not able to maintain mask hygiene practices. Continuous awareness programme is necessary to motivate them.