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The Hassles of Prolonged Mask Usage.

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ABSTRACT

the advent of COVID 19 pandemic WHO made it mandatory to wear face mask to prevent spread of the virus. Health care professionals had to wear masks for prolonged periods as they were the frontline workers. The aim of this study was to document the various difficulties faced by people due to prolonged mask usage and to correlate the difficulties with age group, occupation and past medical history. This observational study was conducted between February 2023 and April 2023. The survey was conducted using a questionnaire. 502 healthcare workers took part in this survey. IBM SPSS statistics software was used to analyse the collected data. Frequency tables were deciphered. Chi square was used to find out the bivariate relationships and p value less than 0.05 was taken as significant. Responses of 502 participants were surveyed. The most common problems encountered were increased heat and sweating around mouth and nose (86.65%), difficulty in conversing (85.85%), fogging of glasses (68.20%), pain or itching behind the ears (62.94%), difficulty in recognizing other's faces (57.37%), discomfort (57.37%) and difficulty in breathing (56.37%). With the help of this study, we found out many of the hassles due to mask use faced by healthcare workers such as, Difficulty in breathing, facial acne and contact dermatitis, pain behind ears, headaches, increased heat and sweating below mask, fogging of glasses, false sense of security and hampering of conversations. Correlation of age with congestion of nose, facial acne, rashes on face and pain behind ears was found. Correlation of Occupation with nose congestion, facial acne, rashes on face, itching on face and fogging of glasses were found. Correlation of Past medical history with discomfort, difficulty in breathing and decreased social distancing due to false sense of security was found.

Keywords: COVID 19, Face mask, Prolonged use, difficulties faced

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INTRODUCTION

In December 2019 and 2020, the global pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) came to be [1]. In December 2019, the first cases of Novel coronavirus emerged in Wuhan, China.[2]. This outbreak a global concern and the WHO (World Health Organisation) categorized it as a Pandemic on 11 March, 2020 [2].

COVID 19 being a communicable disease spreads through air in respiratory droplets [2]. To tackle the spread of this disease, the (WHO) came up with General Safety Guidelines. This consisted of compulsory wearing of face masks in public and in gatherings, social distancing, proper hand hygiene and isolation for the General public.

Health care workers were required to follow more stringent measures. They had to don a full PPE (Personal Protective Equipment) to protect themselves and to prevent further spread of disease. The face masks used were Cloth masks, Surgical masks and N95 masks. The N in N95 is an abbreviation for NIOSH (National Institute for Occupational Safety and Health) and 95 means 95% filtration efficacy of airborne particles [3]. Most wore a single mask but some wore double mask by wearing a combination of cloth mask, surgical mask or N95 mask.

Healthcare workers have had a previous experience of wearing masks in many settings like, the Laboratory, the Operation theatres and when treating patients. This was for a short time. Only during the pandemic were healthcare workers required to wear face masks for prolonged periods of time.

This prolonged usage of face masks caused many difficulties for the wearer. A study done by Techasatian L, et al. focused on the effects of face mask on the skin underneath [4], another study by Guleria, et al. focuses on the health effects and forensic implications of face mask usage [5]. Rosner E, et al. also conducted a study of adverse effects of prolonged mask use among healthcare professionals during COVID 19 [6].

MATERIALS AND METHODS

This observational study was conducted at MVJ Medical College and Research Hospital, Hoskote. Following approval from institutional ethical committee, A survey on hassles of mask usage was done to collect the data which was then analysed to find the difficulties associated with using face masks for a prolonged period.

The survey was conducted with the help of a questionnaire on google forms. It was distributed both as an e-copy and hard copy. The questionnaire had three main sections, the first being Demographic details. The demographic details collected pertained to their age, sex, designation, and past medical history. The second section consisted of questions about their mask usage. The third section questioned the hassles of Mask wearing.

Inclusion criteria

Participants included health care workers both teaching and non-teaching of MVJ medical college and research hospital, Bangalore. A total number of 502 participants filled out the questionnaire based on their willingness to participate in the study.

Exclusion criteria

People with improper mask usage.

Statistical Analysis

The collected data was analysed using a software at the end of the study. The software used was IBM SPSS Statistics. Frequencies and Descriptive statistical methods were used to analyse the data. Crosstab was used to find the association between the proposed values and hassles faced due to prolonged mask usage. Pearson Chi-Square test was used to find the bivariate relationships. A *p* value of <0.05 was considered to be statistically significant.

RESULTS

A total number of 502 participants took part in the survey. 346(68.92%) were females and 156(31.07%) were males, making a male female ratio of .45. The age range was from 18 to 59 years. All the participants were healthcare workers of MVJ medical college who used three types of masks, Cloth, Surgical and N95.

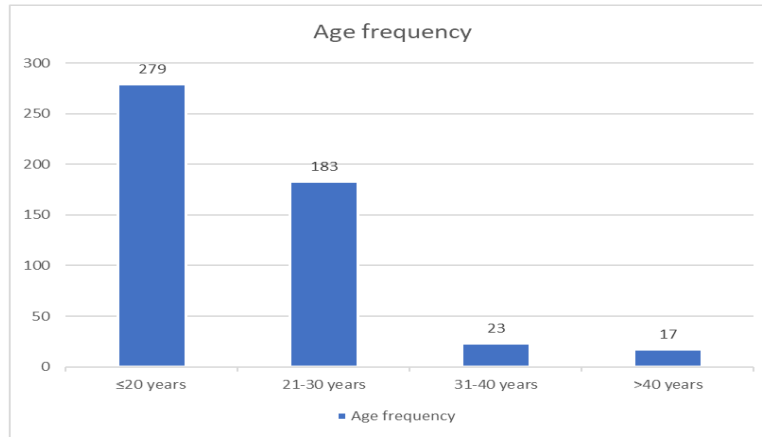


Figure 1: Showing frequency of age distribution among participants

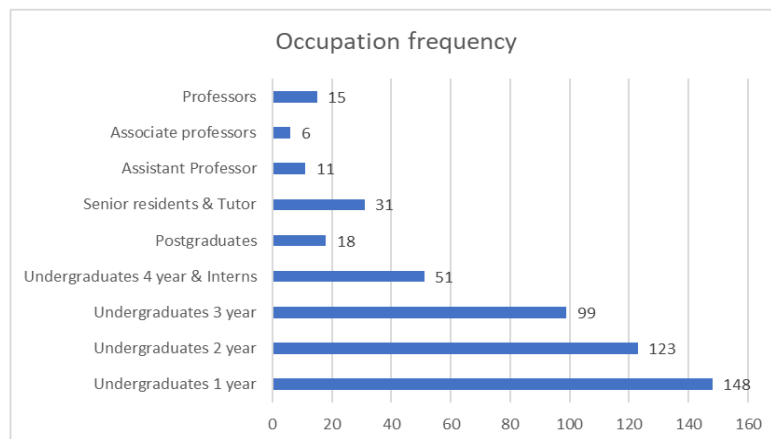


Figure 2: Showing frequency of cadre distribution among participants

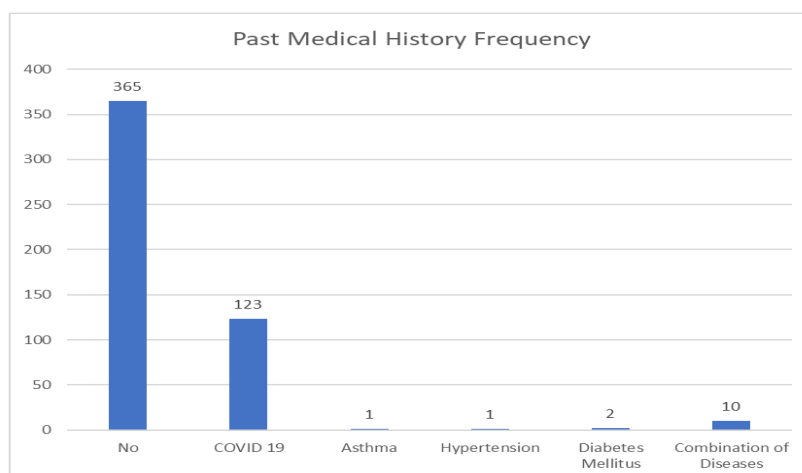


Figure 3: Showing frequency of past medical history among participants

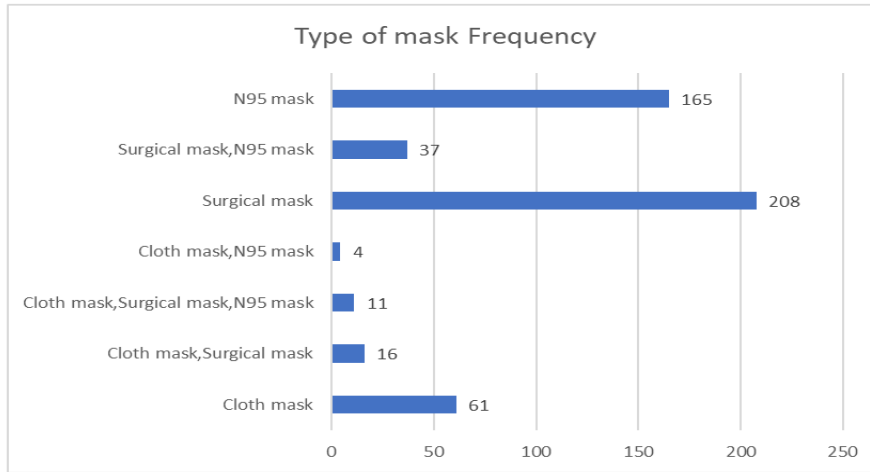


Figure 4: Showing type of mask usage frequency among participants

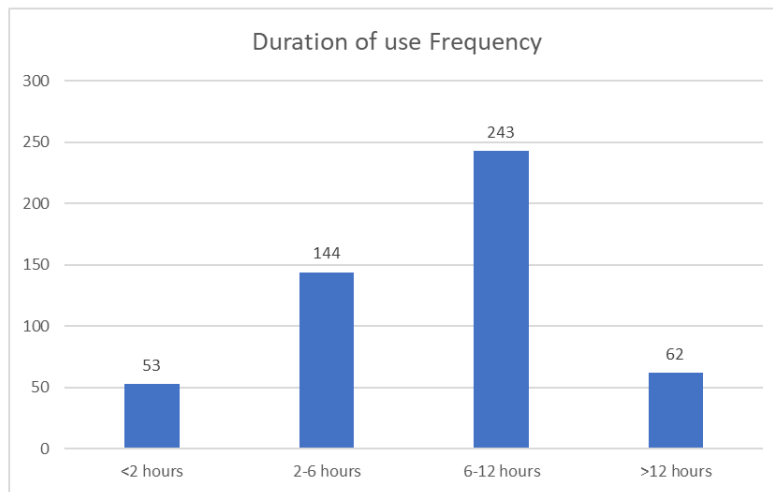


Figure 5: Showing frequency of duration of mask usage among participants

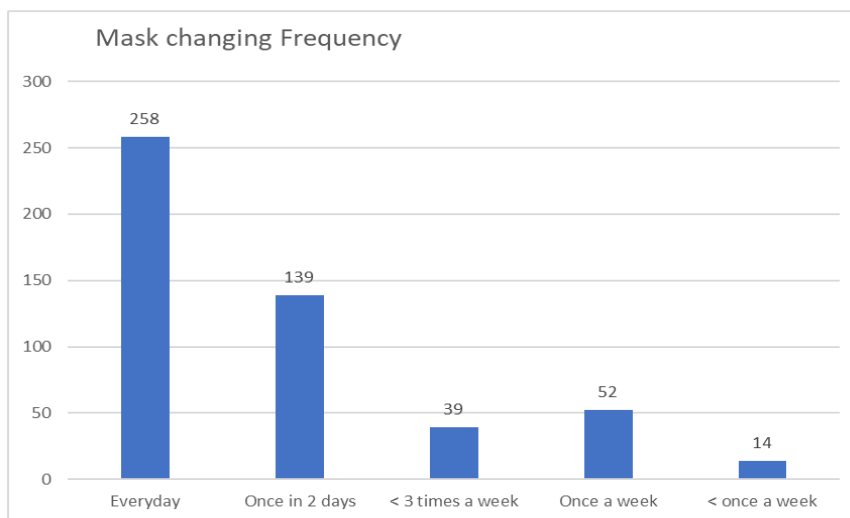


Figure 6-showing frequency of mask change among participants

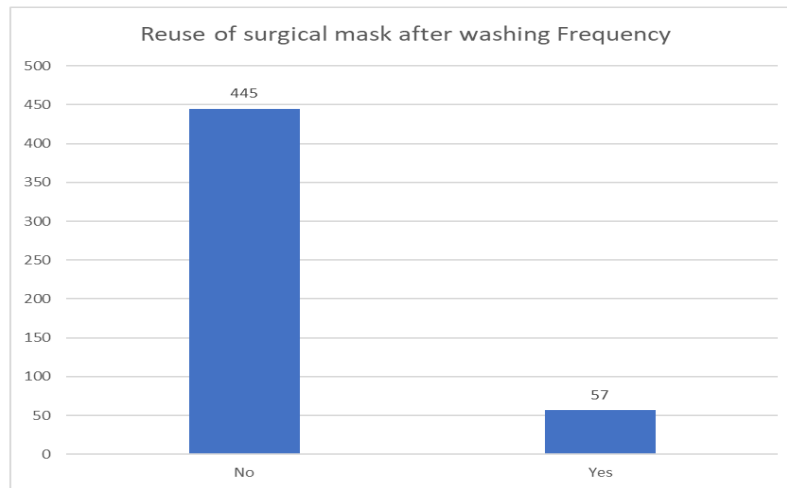


Figure 7: Showing frequency of reuse of surgical mask after washing

Table 1: Showing Frequency & percentage of each hassle

Questions	Answers	Frequency	Percentage
Discomfort	Strongly agree	79	15.74%
	Agree	209	41.63%
	Neutral	140	20.72%
	Disagree	60	11.95%
	Strongly disagree	14	2.79%
Difficulty in breathing	Strongly agree	57	11.35%
	Agree	226	45.01%
	Neutral	127	25.29%
	Disagree	80	15.93%
	Strongly disagree	12	2.39%
Nose congestion	Strongly agree	37	7.37%
	Agree	129	25.69%
	Neutral	149	29.68%
	Disagree	160	31.87%
	Strongly disagree	27	5.37%
Nose feels dry and itchy	Strongly agree	24	4.78%
	Agree	162	32.27%
	Neutral	115	22.90%
	Disagree	171	34.06%
	Strongly disagree	30	5.97%
Facial acne	Strongly agree	76	15.13%
	Agree	131	26.09%
	Neutral	107	21.31%
	Disagree	146	29.08%
	Strongly disagree	42	8.36%
Rashes on face	Strongly agree	37	7.37%
	Agree	92	18.32%
	Neutral	117	23.30%
	Disagree	206	41.03%
	Strongly disagree	50	9.96%

Itching on face	Strongly agree	28	5.57%
	Agree	150	29.88%
	Neutral	110	21.91%
	Disagree	176	35.05%
	Strongly disagree	38	7.56%
Pain/itching behind ears	Strongly agree	105	20.91%
	Agree	211	42.03%
	Neutral	67	13.34%
	Disagree	101	20.10%
	Strongly disagree	18	3.58%
Headaches	Strongly agree	43	8.56%
	Agree	111	22.11%
	Neutral	100	19.92%
	Disagree	200	39.84%
	Strongly disagree	48	9.56%
Dizziness	Strongly agree	16	3.18%
	Agree	62	12.35%
	Neutral	104	20.70%
	Disagree	259	51.59%
	Strongly disagree	61	12.15%
Feel drowsy	Strongly agree	28	5.57%
	Agree	91	18.12%
	Neutral	99	19.72%
	Disagree	234	46.61%
	Strongly disagree	50	9.96%
Increased heat and sweating around nose and mouth	Strongly agree	160	31.87%
	Agree	275	54.78%
	Neutral	34	6.77%
	Disagree	27	5.37%
	Strongly disagree	6	1.19%
Fogging of glasses (spectacles)	Strongly agree	195	38.84%
	Agree	146	29.08%
	Neutral	117	23.30%
	Disagree	36	7.17%
	Strongly disagree	8	1.59%
Touch eyes often due to irritation	Strongly agree	41	8.16%
	Agree	150	29.88%
	Neutral	121	24.10%
	Disagree	167	33.26%
	Strongly disagree	23	4.58%
Difficulty in hearing and understanding other people	Strongly agree	95	18.92%
	Agree	225	44.82%
	Neutral	80	15.53%
	Disagree	80	15.53%
	Strongly disagree	22	4.38%
Raise my voice and speak while conversing	Strongly agree	122	22.30%
	Agree	309	61.55%
	Neutral	49	9.76%

	Disagree	19	3.78%
	Strongly disagree	3	0.59%
Unable to perceive emotions make me feel lonely and disconnected from others	Strongly agree	58	11.55%
	Agree	161	32.07%
	Neutral	123	24.50%
	Disagree	119	23.70%
	Strongly disagree	41	8.16%
Interferes with ability to converse with patients	Strongly agree	51	10.15%
	Agree	213	42.43%
	Neutral	145	28.88%
	Disagree	77	15.33%
	Strongly disagree	16	3.18%
Difficulty in recognizing people	Strongly agree	61	12.15%
	Agree	227	45.21%
	Neutral	122	24.30%
	Disagree	77	15.33%
	Strongly disagree	15	2.98%
Wearing a mask, I feel safe, so I don't social distance	Strongly agree	52	10.35%
	Agree	192	38.24%
	Neutral	129	25.69%
	Disagree	112	22.31%
	Strongly disagree	17	3.38%
Wearing a mask, I feel safe, so I don't was my hands as often	Strongly agree	11	2.19%
	Agree	62	12.35%
	Neutral	92	18.32%
	Disagree	267	53.18%
	Strongly disagree	70	13.94%
I always wash my hands after touching mask	Strongly agree	42	8.36%
	Agree	181	36.05%
	Neutral	144	28.68%
	Disagree	123	24.50%
	Strongly disagree	12	2.39%
Choose fashionable mask over effective mask	Strongly agree	20	3.98%
	Agree	46	9.16%
	Neutral	74	14.74%
	Disagree	233	46.41%
	Strongly disagree	129	25.69%
I think it is unnecessary and wasteful to spend money on face masks	Strongly agree	17	3.38%
	Agree	44	8.76%
	Neutral	80	15.93%
	Disagree	242	48.20%
	Strongly disagree	119	23.70%

Table 2
Correlation between Age and Difficulties faced due to prolonged mask use

Questions	Answers	Below 20 years	21- 30 years	31- 40 years	41-50 years	Total	P value
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Discomfort	Strongly agree	37	35	4	3	79	0.344
	Agree	116	71	15	7	209	
	Neutral	83	51	1	5	140	
	Disagree	34	23	2	1	60	
	Strongly disagree	9	3	1	1	14	
Difficulty in breathing	Strongly agree	29	24	2	2	57	0.238
	Agree	117	84	16	9	226	
	Neutral	77	46	1	3	127	
	Disagree	46	28	3	3	80	
	Strongly disagree	10	1	1	0	12	
Nose congestion	Strongly agree	26	9	1	1	37	0.049*
	Agree	71	46	10	2	129	
	Neutral	85	57	5	2	149	
	Disagree	81	62	5	12	160	
	Strongly disagree	16	9	2	0	27	
Nose feels dry and itchy	Strongly agree	19	3	0	2	24	0.073
	Agree	90	59	11	2	162	
	Neutral	65	43	4	3	115	
	Disagree	87	68	6	10	171	
	Strongly disagree	18	10	2	0	30	
Facial acne	Strongly agree	45	26	4	1	76	0.041*
	Agree	78	47	5	1	131	
	Neutral	61	40	4	2	107	
	Disagree	73	52	8	13	146	
	Strongly disagree	22	18	2	0	42	
Rashes on face	Strongly agree	24	11	1	1	37	0.019*
	Agree	49	35	8	0	92	
	Neutral	63	51	1	2	117	
	Disagree	114	67	11	14	206	
	Strongly disagree	29	19	2	0	50	
Itching on face	Strongly agree	19	9	0	0	28	0.074
	Agree	79	57	11	3	150	
	Neutral	62	45	1	2	110	
	Disagree	97	58	1	12	176	
	Strongly disagree	22	14	9	0	38	
Pain/itching behind ears	Strongly agree	47	50	7	1	105	0.021*
	Agree	116	74	12	9	211	
	Neutral	49	16	1	1	67	
	Disagree	54	38	3	6	101	
	Strongly disagree	13	5	0	0	18	
Headaches	Strongly agree	25	14	4	0	43	0.511
	Agree	54	44	7	6	111	
	Neutral	58	38	3	1	100	
	Disagree	117	68	7	8	200	
	Strongly disagree	25	19	2	2	48	
Dizziness	Strongly agree	13	3	0	0	16	0.091
	Agree	26	31	3	2	62	
	Neutral	64	32	7	1	104	

	Disagree	149	89	10	11	259	
	Strongly disagree	27	28	3	3	61	
Feel drowsy	Strongly agree	17	10	1	0	28	0.8
	Agree	55	31	2	3	91	
	Neutral	57	37	4	1	99	
	Disagree	125	86	12	11	234	
	Strongly disagree	25	19	4	2	50	
Increased heat and sweating around nose and mouth	Strongly agree	90	63	4	3	160	0.566
	Agree	150	100	15	10	275	
	Neutral	22	9	1	2	34	
	Disagree	13	9	3	2	27	
	Strongly disagree	4	2	0	0	6	
Fogging of glasses	Strongly agree	113	72	7	3	195	0.703
	Agree	79	53	8	6	146	
	Neutral	60	43	7	7	117	
	Disagree	22	12	1	1	36	
	Strongly disagree	5	3	0	0	8	
Touch eyes often due to irritation	Strongly agree	25	13	2	1	41	0.732
	Agree	81	60	6	3	150	
	Neutral	68	44	6	3	121	
	Disagree	90	60	7	10	167	
	Strongly disagree	15	6	2	0	23	
Difficulty in hearing and understanding other people	Strongly agree	54	33	5	3	95	0.852
	Agree	120	86	10	9	225	
	Neutral	44	29	5	2	80	
	Disagree	46	30	1	3	80	
	Strongly disagree	15	5	2	0	22	
Raise my voice and speak while conversing	Strongly agree	66	46	6	4	122	0.866
	Agree	178	106	15	10	309	
	Neutral	22	22	2	3	49	
	Disagree	12	7	0	0	19	
	Strongly disagree	1	2	0	0	3	
Unable to perceive emotions make me feel lonely and disconnected from others	Strongly agree	36	21	0	1	58	0.755
	Agree	88	56	11	6	161	
	Neutral	71	43	6	3	123	
	Disagree	61	47	5	6	119	
	Strongly disagree	23	16	1	1	41	
Interferes with ability to converse with patients	Strongly agree	30	19	2	0	51	0.611
	Agree	109	80	14	10	213	
	Neutral	90	45	6	4	145	
	Disagree	42	31	1	3	77	
	Strongly disagree	8	8	0	0	16	
Difficulty in recognizing people	Strongly agree	37	20	3	1	61	0.388
	Agree	114	90	11	12	227	
	Neutral	76	38	6	2	122	
	Disagree	46	27	3	1	77	

	Strongly disagree	6	8	0	1	15	
Wearing a mask, I feel safe, so I don't social distance	Strongly agree	25	24	2	1	52	0.488
	Agree	108	65	12	7	192	
	Neutral	79	45	2	3	129	
	Disagree	57	45	5	5	112	
	Strongly disagree	10	4	2	1	17	
Wearing a mask, I feel safe, so I don't was my hands as often	Strongly agree	5	6	0	0	11	0.172
	Agree	32	25	5	0	62	
	Neutral	58	30	2	2	92	
	Disagree	147	98	9	13	267	
	Strongly disagree	37	24	7	2	70	
I always wash my hands after touching mask	Strongly agree	26	14	1	1	42	0.258
	Agree	85	74	11	11	181	
	Neutral	87	49	5	3	144	
	Disagree	72	43	6	2	123	
	Strongly disagree	9	3	0	0	12	
Choose fashionable mask over effective mask	Strongly agree	12	8	0	0	20	0.222
	Agree	29	16	1	0	46	
	Neutral	38	33	2	1	74	
	Disagree	136	77	9	11	233	
	Strongly disagree	64	49	11	5	129	
I think it is unnecessary and wasteful to spend money on face masks	Strongly agree	11	6	0	0	17	0.576
	Agree	22	20	1	1	44	
	Neutral	49	29	1	1	80	
	Disagree	137	82	14	9	242	
	Strongly disagree	60	46	7	6	119	

*P value < 0.05 is significant. Statistical analysis shows that association exists between Age and some of the hassles.

Table 3: Correlation between Occupation and Difficulties faced due to prolonged mask use

Questions	Answers	UG 1 year	UG 2 year	UG 3 year	UG 4 year & Interns	PG	SR & Tutor	Ass Professor	Assoc Professor	Professor	total	p value
Discomfort	Strongly agree	22	24	16	4	3	5	2	2	1	79	0.634
	Agree	53	54	49	22	8	9	4	3	7	209	
	Neutral	44	28	26	20	5	10	2	0	5	140	
	Disagree	22	15	8	4	2	5	2	1	1	60	
	Strongly disagree	7	2	0	1	0	2	1	0	1	14	
Difficulty in breathing	Strongly agree	15	12	17	6	3	1	1	1	1	57	0.428
	Agree	56	65	47	20	9	14	4	3	8	226	
	Neutral	40	31	23	17	2	8	2	1	3	127	
	Disagree	32	11	11	8	4	7	3	1	3	80	
	Strongly disagree	5	4	1	0	0	1	1	0	0	12	
Nose congestion	Strongly agree	16	6	12	2	0	0	1	0	0	37	0.015*
	Agree	37	31	26	14	5	9	1	4	2	129	

	Neutral	44	45	30	13	6	8	1	0	2	149	
	Disagree	43	36	26	20	5	12	5	2	11	160	
	Strongly disagree	8	5	5	2	2	2	3	0	0	27	
Nose feels dry and itchy	Strongly agree	11	5	6	1	0	1	0	0	0	24	0.136
	Agree	50	46	29	11	9	11	2	1	3	162	
	Neutral	38	23	22	16	4	6	1	2	3	115	
	Disagree	39	44	35	21	4	11	5	3	9	171	
	Strongly disagree	10	5	7	2	1	2	3	0	0	30	
Facial acne	Strongly agree	18	16	19	5	5	11	2	0	0	76	0.009*
	Agree	43	32	31	12	2	7	2	1	1	131	
	Neutral	33	29	18	14	5	4	1	2	1	107	
	Disagree	39	37	24	16	5	6	4	2	13	146	
	Strongly disagree	15	9	7	4	1	3	2	1	0	42	
Rashes on face	Strongly agree	11	12	6	1	4	3	0	0	0	37	0.035*
	Agree	26	20	25	9	2	6	2	2	0	92	
	Neutral	28	29	27	17	7	7	1	0	1	117	
	Disagree	63	53	32	18	3	13	7	4	13	206	
	Strongly disagree	20	9	9	6	2	2	1	0	1	50	
Itching on face	Strongly agree	10	10	5	2	0	1	0	0	0	28	0.042*
	Agree	39	32	36	14	10	13	2	2	2	150	
	Neutral	34	27	19	15	3	10	1	0	1	110	
	Disagree	48	45	35	17	5	5	6	4	11	176	
	Strongly disagree	17	9	4	3	0	2	2	0	1	38	
Pain/itching behind ears	Strongly agree	26	23	24	10	7	8	4	1	2	105	0.559
	Agree	59	53	38	25	5	17	3	4	7	211	
	Neutral	28	18	10	7	1	1	1	0	1	67	
	Disagree	28	27	21	8	5	4	2	1	5	101	
	Strongly disagree	7	2	6	1	0	1	1	0	0	18	
Headaches	Strongly agree	16	10	7	2	0	3	3	2	0	43	0.312
	Agree	25	27	23	11	7	9	2	2	5	111	
	Neutral	33	25	22	9	3	7	0	1	0	100	
	Disagree	62	53	34	23	6	10	3	1	8	200	
	Strongly disagree	12	8	13	6	2	2	3	0	2	48	
Dizziness	Strongly agree	6	6	3	1	0	0	0	0	0	16	0.763
	Agree	15	16	14	7	1	4	3	1	1	62	
	Neutral	37	23	22	9	4	5	1	3	0	104	
	Disagree	75	66	50	26	9	17	4	2	10	259	
	Strongly disagree	15	12	10	8	4	5	3	0	4	61	
Feel drowsy	Strongly agree	10	5	8	3	0	0	1	1	0	28	0.771
	Agree	29	29	17	8	2	3	1	0	2	91	



	Neutral	31	22	23	9	3	9	1	1	0	99	
	Disagree	67	55	43	26	9	15	6	3	10	234	
	Strongly disagree	11	12	8	5	4	4	2	1	3	50	
Increased heat and sweating around nose and mouth	Strongly agree	48	36	37	16	9	10	1	0	3	160	0.69
	Agree	81	67	49	31	8	19	6	5	9	275	
	Neutral	11	8	8	3	0	0	2	0	2	34	
	Disagree	5	10	5	1	1	1	2	1	1	27	
	Strongly disagree	3	2	0	0	0	1	0	0	0	6	
Fogging of glasses	Strongly agree	52	50	48	23	7	8	3	2	2	195	0.006*
	Agree	35	40	28	14	5	12	4	3	5	146	
	Neutral	43	19	19	13	3	9	3	1	7	117	
	Disagree	15	13	2	0	3	1	1	0	1	36	
	Strongly disagree	3	1	2	1	0	1	0	0	0	8	
Touch eyes often due to irritation	Strongly agree	12	10	12	2	3	1	0	1	0	41	0.385
	Agree	44	30	34	16	8	12	4	0	2	150	
	Neutral	37	34	20	13	2	9	1	2	3	121	
	Disagree	48	44	29	19	3	7	4	3	10	167	
	Strongly disagree	7	5	4	1	2	2	2	0	0	23	
Difficulty in hearing and understanding other people	Strongly agree	32	21	17	7	7	7	1	1	2	95	0.416
	Agree	52	57	55	25	5	16	5	2	8	225	
	Neutral	26	20	13	8	3	4	3	1	2	80	
	Disagree	32	18	10	11	2	2	1	1	3	80	
	Strongly disagree	6	7	4	0	1	2	1	1	0	22	
Raise my voice and speak while conversing	Strongly agree	41	20	29	10	7	10	1	1	3	122	0.443
	Agree	89	78	59	33	9	19	9	4	9	309	
	Neutral	10	17	8	6	1	2	1	1	3	49	
	Disagree	7	8	2	2	0	0	0	0	0	19	
	Strongly disagree	1	0	1	0	1	0	0	0	0	3	
Unable to perceive emotions make me feel lonely and disconnected from others	Strongly agree	17	17	15	4	2	2	0	0	1	58	0.931
	Agree	47	37	33	16	7	11	4	2	4	161	
	Neutral	36	32	25	13	3	8	2	2	2	123	
	Disagree	37	24	21	13	3	9	3	2	7	119	
	Strongly disagree	11	13	5	5	3	1	2	0	1	41	
Interferes with ability to converse with patients	Strongly agree	13	13	12	5	4	4	0	0	0	51	0.54
	Agree	57	47	44	22	9	16	8	2	8	213	
	Neutral	44	40	29	14	2	6	3	4	3	145	
	Disagree	26	20	13	8	1	5	0	0	4	77	
	Strongly disagree	8	3	1	2	2	0	0	0	0	16	
Difficulty in recognizing people	Strongly agree	17	15	19	1	2	3	1	1	2	61	0.758
	Agree	58	55	50	22	9	15	6	2	10	227	

	Neutral	41	31	19	16	2	7	3	2	1	122	
	Disagree	26	18	10	11	4	5	1	1	1	77	
	Strongly disagree	6	4	1	1	1	1	0	0	1	15	
Wearing a mask, I feel safe, so I don't social distance	Strongly agree	15	8	16	4	2	2	4	0	1	52	0.108
	Agree	47	55	39	14	7	18	4	2	6	192	
	Neutral	40	35	25	17	3	5	1	1	2	129	
	Disagree	39	22	17	15	6	5	1	3	4	112	
	Strongly disagree	7	3	2	1	0	1	1	0	2	17	
Wearing a mask, I feel safe, so I don't was my hands as often	Strongly agree	5	2	3	1	0	0	0	0	0	11	0.074
	Agree	13	21	14	5	2	4	3	0	0	62	
	Neutral	26	30	19	9	2	4	0	0	2	92	
	Disagree	84	52	57	32	8	16	4	4	10	267	
	Strongly disagree	20	18	6	4	6	7	4	2	3	70	
I always wash my hands after touching mask	Strongly agree	16	8	6	3	1	5	1	1	1	42	0.196
	Agree	45	42	27	21	10	18	6	2	10	181	
	Neutral	43	38	31	19	3	2	3	2	3	144	
	Disagree	40	31	31	8	4	6	1	1	1	123	
	Strongly disagree	4	4	4	0	0	0	0	0	0	12	
Choose fashionable mask over effective mask	Strongly agree	8	8	4	0	0	0	0	0	0	20	0.675
	Agree	16	15	9	2	2	1	1	0	0	46	
	Neutral	21	16	15	12	2	6	1	0	1	74	
	Disagree	66	60	51	20	7	13	5	3	8	233	
	Strongly disagree	37	24	20	17	7	11	4	3	6	129	
I think it is unnecessary and wasteful to spend money on face masks	Strongly agree	7	6	3	0	0	1	0	0	0	17	0.193
	Agree	13	14	9	5	1	2	0	0	0	44	
	Neutral	21	24	21	9	1	3	0	0	1	80	
	Disagree	64	59	53	24	9	17	5	4	7	242	
	Strongly disagree	43	20	13	13	7	8	6	2	7	119	

*P value < 0.05 is significant. Statistical association shows that association exists between Occupation and some of the hassles.

Table 4: Correlation between Past medical history and Difficulties faced due to prolonged mask use

Questions	Answers	No	COVID 19	Asthma	Hypertension	Diabetes	total	p value
Discomfort	Strongly agree	58	20	0	0	0	78	0.0001*
	Agree	149	57	2	0	2	210	
	Neutral	107	30	0	0	2	139	
	Disagree	43	16	0	1	0	60	
	Strongly disagree	8	4	0	3	0	15	
Difficulty in breathing	Strongly agree	42	13	0	0	1	56	0.0001*
	Agree	165	54	1	0	2	225	

	Neutral	89	37	1	3	0	130	
	Disagree	59	19	0	0	1	79	
	Strongly disagree	10	1	0	1	0	12	
Nose congestion	Strongly agree	27	10	0	0	0	37	0.052
	Agree	97	31	2	1	1	132	
	Neutral	115	34	0	2	2	153	
	Disagree	105	47	0	0	1	153	
	Strongly disagree	21	5	0	1	0	27	
Nose feels dry and itchy	Strongly agree	15	9	0	0	0	24	0.086
	Agree	120	38	1	2	0	161	
	Neutral	89	28	1	1	2	122	
	Disagree	117	47	0	0	2	166	
	Strongly disagree	24	5	0	1	0	30	
Facial acne	Strongly agree	50	25	0	0	0	75	0.127
	Agree	102	27	0	0	1	130	
	Neutral	87	24	1	3	2	117	
	Disagree	97	39	1	0	1	138	
	Strongly disagree	29	12	0	1	0	42	
Rashes on face	Strongly agree	24	13	0	0	0	37	0.746
	Agree	66	24	1	0	0	91	
	Neutral	91	30	1	3	2	127	
	Disagree	148	46	0	1	2	197	
	Strongly disagree	36	14	0	0	0	50	
Itching on face	Strongly agree	21	7	0	0	0	28	0.21
	Agree	105	42	1	0	0	148	
	Neutral	84	29	1	3	2	119	
	Disagree	129	38	0	0	2	169	
	Strongly disagree	26	11	0	1	0	38	
Pain/itching behind ears	Strongly agree	75	27	0	1	1	104	0.556
	Agree	150	59	0	0	0	209	
	Neutral	54	15	1	3	2	75	
	Disagree	72	22	1	0	1	96	
	Strongly disagree	14	4	0	0	0	18	
Headaches	Strongly agree	33	9	0	0	1	43	0.304
	Agree	78	30	0	0	1	109	
	Neutral	76	27	1	3	2	109	
	Disagree	142	51	1	0	0	194	
	Strongly disagree	36	10	0	1	0	47	
Dizziness	Strongly agree	11	5	0	0	0	16	0.653
	Agree	49	13	0	0	0	62	
	Neutral	75	31	1	3	2	112	

	Disagree	191	59	1	0	2	253	
	Strongly disagree	39	19	0	1	0	59	
Feel drowsy	Strongly agree	19	9	0	0	0	28	0.528
	Agree	71	19	0	0	0	90	
	Neutral	72	30	3	1	2	108	
	Disagree	170	55	1	0	2	228	
	Strongly disagree	33	14	0	1	0	48	
Increased heat and sweating around nose and mouth	Strongly agree	119	39	0	0	0	158	0.091
	Agree	198	70	0	1	2	271	
	Neutral	27	9	1	3	2	42	
	Disagree	16	8	1	0	0	25	
	Strongly disagree	5	1	0	0	0	6	
Fogging of glasses	Strongly agree	146	46	0	1	1	194	0.984
	Agree	99	40	1	0	0	140	
	Neutral	88	30	1	3	5	127	
	Disagree	26	9	0	0	0	35	
	Strongly disagree	6	2	0	0	0	8	
Touch eyes often due to irritation	Strongly agree	32	9	0	0	0	41	0.843
	Agree	106	43	0	0	0	149	
	Neutral	89	32	1	3	2	127	
	Disagree	122	36	1	1	2	162	
	Strongly disagree	16	7	0	0	0	23	
Difficulty in hearing and understanding other people	Strongly agree	68	25	0	1	0	94	0.734
	Agree	170	47	1	0	1	219	
	Neutral	52	28	1	3	3	87	
	Disagree	57	23	0	0	0	80	
	Strongly disagree	18	4	0	0	0	22	
Raise my voice and speak while conversing	Strongly agree	85	34	0	1	0	120	0.896
	Agree	223	78	1	0	2	304	
	Neutral	39	11	1	3	2	56	
	Disagree	15	4	0	0	0	19	
	Strongly disagree	3	0	0	0	0	3	
Unable to perceive emotions make me feel lonely and disconnected from others	Strongly agree	48	10	0	0	0	58	0.868
	Agree	115	41	1	0	0	157	
	Neutral	89	34	1	3	2	131	
	Disagree	85	30	0	0	1	116	
	Strongly disagree	28	12	0	0	0	40	
Interferes with ability to converse with patients	Strongly agree	36	14	0	0	0	50	0.969
	Agree	152	54	0	0	1	207	
	Neutral	107	39	1	4	3	154	
	Disagree	57	17	1	0	0	75	

	Strongly disagree	13	3	0	0	0	16	
Difficulty in recognizing people	Strongly agree	48	12	0	1	0	61	0.669
	Agree	163	56	1	0	1	221	
	Neutral	91	32	1	3	2	129	
	Disagree	54	22	0	0	1	77	
	Strongly disagree	9	5	0	0	0	14	
Wearing a mask, I feel safe, so I don't social distance	Strongly agree	40	12	0	0	0	52	0.0001*
	Agree	135	51	0	0	2	188	
	Neutral	103	29	1	3	2	138	
	Disagree	74	33	1	0	0	108	
	Strongly disagree	13	2	0	1	0	16	
Wearing a mask, I feel safe, so I don't was my hands as often	Strongly agree	10	1	0	0	0	11	0.494
	Agree	46	15	0	0	0	61	
	Neutral	75	20	1	3	2	101	
	Disagree	187	71	1	0	1	260	
	Strongly disagree	47	20	0	1	1	69	
I always wash my hands after touching mask	Strongly agree	31	10	0	0	0	41	0.573
	Agree	118	55	1	0	1	175	
	Neutral	107	38	1	3	3	152	
	Disagree	98	23	0	1	0	122	
	Strongly disagree	11	1	0	0	0	12	
Choose fashionable mask over effective mask	Strongly agree	17	3	0	0	0	20	0.586
	Agree	37	9	0	0	0	46	
	Neutral	54	21	2	3	2	82	
	Disagree	173	56	0	0	1	230	
	Strongly disagree	84	38	0	1	1	124	
I think it is unnecessary and wasteful to spend money on face masks	Strongly agree	16	1	0	0	0	17	0.595
	Agree	36	8	0	0	0	44	
	Neutral	64	19	1	3	2	89	
	Disagree	165	69	1	0	1	236	
	Strongly disagree	84	30	0	1	1	116	

*P value < 0.05 is significant. Statistical association shows that association exists between Medical History and some of the hassles.

DISCUSSION

Demographic details

502 candidates voluntarily participated in this study. All of them are healthcare workers. Majority of them were females, 346(68.92%) and males were 156(31.07%) [Figure 1]. The age of the participants ranged from 18 to 59. Frequency distribution was done for the age of the participants [Figure 2]. 279 (55.57%) were in the age range of less than or equal to 20 years old. 183 (36.45) were in the age range of 21-30 years old, 23 (4.58%) were of the ages 31-40 years old and 17 (3.38%) were above the age of 40 years old. Majority of the participants were Undergraduate students, 421(83.89%) of which 148(29.48%) were first year students, 123(24.5%) were second year students, 99(19.72%) were third year students and

51(10.15%) were fourth year students and interns. 18(3.58%) Postgraduates took part in the survey. In the faculties, 31(6.17%) senior residents and tutors took part, 11(2.19%) Assistant professors, 6(1.19%) Associate professors and 15(2.98%) Professors took part in the survey.

Questions pertaining to the participants medical history were asked and frequency was found [Figure 4]. 365(72.70%) of the participants did not have any significant past medical history. 123(24.50%) had already suffered from COVID 19 in the first wave, only 4(0.79%) participants above the age of 40 had COVID 19. 2(0.39%) participants had Asthma, 8(1.59%) had Hypertension, 6(1.1s9%) had Diabetes Mellitus type 2. 10(1.99%) of the participants had a combination of these diseases. 1(0.19%) participant had both COVID 19 and Asthma, 5(0.99%) participants had COVID 19 and Hypertension, 2(0.39%) had both COVID 19 and Diabetes Mellitus type 2, 1(0.19%) participant had both Hypertension and Diabetes mellitus type 2 and 1(0.19%) participant had COVID 19, Hypertension and Diabetes mellitus type 2.

Practices

Questions were also asked about the participant's mask wearing practices. 3 types of masks were used, N95 mask, cloth mask and surgical mask [Figure 5]. 165(32.86%) used only N95 masks, 208(41.43%) used only Surgical mask, 61(12.15%) used only Cloth mask. Few people used more than one mask, 37(7.37%) used both Surgical mask and N95 mask. 4(0.79%) used Cloth mask and N95 mask. 16(3.18%) used cloth mask and surgical mask and 11(2.19%) used all the three types of masks.

Duration of mask use per day was also asked [Figure 6]. 243(48.40%) wore masks for a period of 6-12 hours, 144(28.68%) wore masks for a period of 2-6 hours, 62(12.35%) wore masks for more than 12 hours per day and 53(10.55%) wore masks for less than 2 hours per day. Frequency of changing masks were also asked [Figure7]. 258(56.77%) changed their masks every day, 139(27.68%) changed their masks once in two days, 39(7.76%) changed their masks less than three times a week, 52(10.35%) changed their masks once a week and 14(2.78%) changed their masks less than washing [Figure 8].

Hassles of Prolonged mask usage

Face masks come with its own set of disadvantages. The intensity of problems increases with increase time of use.

The problems caused by prolonged face mask usage were classified into Personal, Societal and Environmental. Again, Personal problems were divided into Physical and physiological.

Personal Hassles

Personal hassles included problems that a person faced individually. They included problems like Discomfort on wearing mask, breathing difficulties, skin reactions, headaches, dizziness, fogging of glasses and money spent on masks.

Physical

The physical problems caused by prolonged mask usage included Facial acne, rashes on face, itching on face, pain or itching behind ear, fogging of glasses, eye irritation. 207 participants (41.22%) agreed that use of face masks led to an increase in their facial acne Face masks cause irritation which can lead to blockage of pilosebaceous gland and cause acne [4]. There was increased sebum production when masks were worn [10]. 129 (25.67%) agreed that use of face masks led to rashes on their face, this could be due to irritation of skin due to the mask. The rashes can also be a result of the participant being allergic to any material of the mask. Itching on face was also a problem that 178(35.45%) people agreed to. The itching could be due to the facial acne and rashes or allergy to any material in the mask known as contact dermatitis. To prevent these problems, washing the face twice a day and using a noncomedogenic moisturizer has been recommended [11].

316(62.94%) participants complained of itching or pain behind the ear on wearing face mask. This was mainly due to tight straps which when worn for long periods of time could cause irritation and pain.

Fogging of glasses also seemed to be a common problem, 341(67.92%) participants agreed that their glasses fogged when worn with a face mask. Fogging of glasses occurs when warm expired air comes in contact with the cold surface of the lens of spectacles. This air escapes the mask through gaps between the mask and the face. This causes an obstruction in vision and causes difficulty for the person wearing spectacles. A study conducted by Dankert, et al. stated that many patients who had fallen down during the COVID 19 pandemic, credited their falls to fogging of glasses.^[6] Fogging of glasses can be prevented by making sure the mask sits closely on the face with no gaps either by using a metal wire fitted in the upper border or by using an adhesive tape to stick the mask to face. Irritation of eye was a lesser common problem. 191(38.04%) participants agreed that wearing masks caused irritation of eyes. Irritation of eyes is caused due to expired air being directed towards the eyes through gaps between the mask and face. This caused dry eyes and irritation [7]. This could be prevented by using emollient eye drops and wearing the mask closely around the face [8].

Masks especially disposable masks cost a lot of money because of how frequently they have to be bought. 61(12.15%) people found it unnecessary and wasteful to spend money on masks.

Physiological

288(57.37%) agreed that use of face mask caused them discomfort, 283(56.37%) felt difficulty in breathing. A study conducted by Matusiak Ł, et al. also revealed that the major problem of mask use, was difficulty in breathing [12,13]. This could be due to increased levels of CO₂ with mask use [14].

This was because when we breathe through the mask a negative pressure is created below the mask, this leads to congestion of nose [15]. 186(37.05%) people complained of dry and itchy nose, This was referred to as contact dermatitis caused due to contact of skin with mask [16].

154(30.67%) participants complained of headaches, while 78(15.53%) participants complained of dizziness associated with mask use. 119(23.07%) participants agreed that they felt drowsy on wearing masks. Headaches, dizziness and drowsiness are caused due to difficulty in breathing, nasal congestion and increased CO₂ under mask. The headaches could be caused by wearing of a tight mask. To prevent this, studies recommend to take small break from wearing masks, drink ample fluids and water and use a N95 mask with a respirator for good air flow [17, 18].

435(86.65%) complained of increased heat and sweating around nose and mouth while wearing mask, This was because of recirculation of air within the mask and the inspired air acquiring heat from the body.

Social Hassles

The major social side effect of face masks is that it causes a person to struggle to have a normal conversation with people. 320(63.74%) participants agreed that they found it difficult to hear and understand other people who were wearing masks, 431(85.85%) participants agreed that they had to raise their voice and speak while conversing with a mask on 264(52.58%) participants reported that wearing face mask interfered with their ability to converse with a patient, Face masks act as a physical barrier in the transmission of sounds. Also wearing masks prevent people from lip reading which again hampers conversations [19].

219(43.62%) agreed that they were unable to perceive people's emotions and that it made them feel lonely and disconnected, 288(57.37%) participants reported that they found it difficult to recognize people, In a study conducted by Saunders, et al. it was seen that due to these issues people tried to avoid conversing with others. Human beings are social creature and not being able to converse properly may affect the people wearing masks.

244(48.60%) participants agreed that they felt safe while wearing a mask and hence did not practice social distancing, 73(14.54%) participants agreed that they feel safe wearing a mask, so they do not wash their hands as often as they should. This was a false sense of security that face masks provide a person. A person thinks wearing a mask exempts them from following the other rules to prevent spread of disease. They feel a face mask alone can prevent spread of diseases.

Correlations

Correlations between age, occupation, past medical history was done with problems caused due to prolonged mask usage. Crosstabs were made and *P* value was found using Pearson chi-square.

While correlating Age and the hassles [Table 2], Congestion of nose, facial acne, rashes on face and Pain or itching behind ears were found to be statistically significant. Age correlated positively with Nasal congestion, Facial acne, rashes on face, Pain/itching behind ear.

Statistical analysis showed association between occupation and the hassles, nose congestion, facial acne, rashes on face, itching on face and fogging of glasses which was statistically significant.

While correlating Past Medical History and the hassles [Table 4], discomfort, difficulty in breathing and decreased social distancing were found to be highly significant.

These problems could lead to frequent touching of the face mask by the wearer. This could promote further spread of diseases [20, 21]. This combined with the false sense of security that a mask wearer feels could lead to spread of COVID 19.

CONCLUSION

With the help of this study, we found out many of the hassles due to mask use faced by healthcare workers such as, Difficulty in breathing, facial acne and contact dermatitis, pain behind ears, headaches, increased heat and sweating below mask, fogging of glasses, false sense of security and hampering of conversations. Correlation of age with congestion of nose, facial acne, rashes on face and pain behind ears was found. Correlation of Occupation with nose congestion, facial acne, rashes on face, itching on face and fogging of glasses were found. Correlation of Past medical history with discomfort, difficulty in breathing and decreased social distancing due to false sense of security was found.

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