People Centric Survey on Mask Users And Non-Mask Users During Unlock-1 Phase At Midnapore Town In West Bengal

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Abstract- *Novel corona virus disease is a serious pandemic disease that occurs predominantly during the month of February, 2020 in India. It is so infectious that can spread rapidly as it transmitted through men. To prevent the pathogens or causative agents, WHO recommended some precautionary measures as there is no medicine to cure the disease caused by novel corona virus. Some medicines are used by physicians to treat various associated diseases in connection with Covid-19. It is urged that to stay safe, many measures may be adopted even self quarantine is utmost recommended. Though the best way to mitigate the problem is 'stay at home' but during movement at outside, people may be affected by the pathogens which is now a fear to all. Therefore, WHO recommended, one can use masks when he or she is outside the home during emergency. Mask can protect one from various kinds of pathogenic transmissions through fomites and droplets released by infected persons. So, to protect one from transmission of Covid-19, use of masks is essential along with other recommended suggestions. Most of the people are unaware about the use of masks. In this paper mask users and non-mask user's attitude have been documented after a case study in Midnapore town. Present study revealed that mask user males are less than in number against non-mask users in the 1st phase of Unlock period in connation with Covid-19. This is more or less similar to the result found in 3rd phase to 4th phase lock down period's observations in the same area. In this article, we are trying to reveal the health consciousness and seriousness about the pandemic disease novel corona virus disease-19. Local study was conducted at Midnapore town on mask users and non mask users during Unclock-1 phase in connection with Covid-19.*

Keywords- Coronavirus disease-19, Unlock-1 phase period, mask users, awareness.

I. INTRODUCTION

In February 2020, WHO designated as COVID-19, which stands for corona virus disease 2019. The 2019 novel corona virus infection (COVID-19) is an ongoing public health emergency of International significance (Wasim et al. 2020)[1]. There are significant knowledge gaps in the epidemiology, transmission dynamics, investigation tools and management. Evidence indicated that Covid-19 virus is transmitted during close contact through respiratory droplets (such as coughing) and by fomites (Liu et al. 2020; Ong et al. 2020)[2,3]. The virus can spread directly from person to person when a Covid-19 case coughs or exhales producing droplets that reach the nose, mouth or eyes of another person (Anonymous1)[4]. According to current evidence transmission through small droplets nuclei (airborne transmission) that propagate through air at distances longer than 1m is limited to aerosol generating procedures during clinical care of Covid-19 patient. Study revealed that age related group assessment showed that have been affected till April, 2020 in Indian scenario regarding recovery rate and decreased rate in various regions within the limited days (Talasila and Papaptla)[5]. The causative agent is a virus. It belongs to the sub-genus Sarbecovirus of the genus Betacoronavirus of the family Coronaviridae (Zhu et al. 2020)[6]. It possesses a single – stranded positive sense RNA genome with molecular weight ranged between 26 to 32 kb lengths. Phylogenetic analyses revealed that the genome sequence of Covid-19 was closely related to (88%) bat-derived SARS like corona viruses and more distant from SARS-CoV (79%) and MERS-CoV (50%) agent (Lu et al. 2020) [7]. Structural analysis revealed that 2019-n CoV might be able to bind to the angiotensis-converting genome 2 receptors in humans similar to SARS-CoV which was confirmed by Zhou et al. 2020[8]. In literature there are many families of viruses as per the nature of nucleic acids and envelope, their size, shape and orientation. By and large many strains are recognised which are described by the scientists till date. COVID-19 causing strains are divided into 7 broad categories[9]. Alpha corona virus (229E), Alpha corona virus (NL 63), Beta corona virus (HKU1), Beta corona virus (OC43), Beta corona virus causes Middle East Respiratory Syndrome (MERS CoV), Beta corona virus causes severe acute respiratory syndrome or SARS (SARS-CoV) and novel corona virus causes corona disease in 2019 or COVID-19

(SARS-CoV-2)[9]. Symptoms of novel coronavirus disease are versatile. It is evident that the report in many cases generated from various countries time to time which includes dry cough, fever, dyspnoea, myalgias, fatigue, decreased apetite, sore throat, rhinorrhoea, gastrointestinal symptoms[10]. Incubation period of virus particle vary from place to place even from site to site. In case of Covid-19 infection, it ranged between 3-24 days while average 14 days are regarded as incubation period. In this condition (symptomatic) infected people are thought to be most contagious. WHO recommends airborne and contact precautions of Covid-2019. The use of medical masks, eye protection, gloves and gown are required for direct patient care. Respirator masks are specially required for aerosol generating procedures[10,11]. WHO also recommended that everyone performs hand hygine frequently, follows respiratory etiquette recommendations and regular cleans and disinfect surface. It is also recommended that importance must be made to maintain physical distance and avoiding people with fever or respiratory symptoms [11,12,13]. These preventive measures will limit viral transmission if any need consultation with doctors at Covid-19 hospital.

II. AREA UNDER STUDY

Study area fall under Midnapore municipality in West Bengal. It is situated in ward number 2 at Barisal Pally, near Sitala Mandir of Paschim Medinipur district. Nearest station or point is Sepoy Bazar Girja Goran while it is 2 km apart from Midnapore Railway station under South Eastern Railway in Paschim Medinipur district. A particular point is demarcated and study was taken during Unlock-1 phase period covering 30 days. Here, during this phase of Unlock-1 period room temperature was 27.9 to 31.4^0C and 28.8^0 C to 32.3^0C during day and evening respectively. Relative humidity % was recorded and varied from 74-86 and number of rainy days was 14 days in the month of June (Table 1).

III. MATERIALS AND METHODS

A point at Barisal Pally was demarcated in Paschim Medinipur district in West Bengal. At a particular point of station, movement of people was recorded for 30 days i.e. 1st June, 2020 to 30th June, 2020 during Unlock-1 phase. Recorded number was taken from field for 30 minutes study in each day. Masked (male and female) and non masked (male and female) peoples' data was collected day wise and after that mask wearing and non masked peoples' data was prepared. Percentage of masked and un-masked male and female persons from raw data (masked and non masked) was calculated. Photographs from top of the building were taken to know the masked, non-masked (gender wise) and status of mask users was recorded. As we bound to stay at home, so we studied from home during Unlock-1 period at Midnapore town.

IV. RESULT AND DISCUSSION

In the present study, it is found that mask using male persons was highest i.e. 165 among 198 mask users and female mask users number was recorded as 33 among 198 passers (Table 2, 3 and 4). Lowest mask using male persons was 22 among 30 passers while 1 female mask users was recorded during the Unlok-1 period (Table 4). Highest % of mask users was 63.05% and lowest it was 27.8 during Unlock-1. Similarly, lowest number of mask using female passersby was recorded day by date from lockdown 4th to Unlock-1, where people have no interest (Table 2, 3). Highest non-mask users % was 15.82 during Unlock-1 phase period (Table 4). Masks used by people were various types including locally available kind, handkerchief, towel, piece of cloth, scarf (dopatta) and sari. Percentage (%) of mask user and mask non user male and female was recorded heterogeneously because of poor knowledge on Covid-19 (Table 2, 3, and Fig. 1, 2 3, 4, 5, and 6). Highest % of mask users was male (63.05%) followed by (61.79%). Day wise data revealed that female mask user's % was lesser than male persons in every day's observation. Data represents that male mask user's % became decreasing towards the end of the 4th lock down phase but in case of female users such type of conclusion cannot be concluded (Table 2, 3, 4, 5 and 6). Result also showed that percentage of mask users was recorded from 25.88 to 63.05% (Table 4, Fig. 7 and Fig. 8)). Unmasked male and female % was recorded in 30 days study varied from 1.1 to 15.8%. It is argued that within 30 days study, highest mask users were observed in case of male in compare to female. It is evident that males are more aware than female to use masks during their movement at Midnapore town (Fig. 7, 8). At the end of the Unlock-1, non mask users are gradually increasing though there is no parity in case of women (Fig. 7, 8).

Discussion:

Corona virus can spread through droplets generated by the activities like sneezing, coughing, kissing, hand shaking and smooching. Corona virus may transmit through pet animals such as dog, cat, pig, cow, turkeys (Kumar et al. 2020)[14]. So, people must avoid these activities and be aware of pets to check the spreading of corona virus and even to lead a smooth life without corona virus attack. Our result revealed that people at Midnapore, West Bengal, are not so serious and conscious about the spread and mode of transmission of such severe and pandemic disease causing virus. So, mask using persons are less than non-masked during unlock1 phase in Covid-19 outbreak though Govt. continuously providing

messages about Covid-19 through electronic media and direct advertisements in several wards of the Midnapore municipality. Proper education and awareness among people is the basic need to combat with this Covid-19 viruses. Corona viruses are not new. During 1960s the report of some common corona viruses were come to notice like 229E, NL63, OC43, HKU1 etc. without casualty. Then come SARS and MERS CoV strain with respiratory tract infection and casualty during 2002 to 2013.this disease transmitted through air, droplets and direct contact with infected persons. So, social distancing, proper mask wearing and cleanliness are the major and primary preventive method to remain safe. As per record, mortality rate and number of infection is increasing day by day. The graph is gradually increasing and there is no sign of linear graph through available data. Till date no medicines and vaccines comes to our hand. Recommended practice by WHO to cope up with Covid-19 must be continued. So, we must follow the rules and regulations prescribed by Govt. time to time to make a complete community free from Covid-19 like disease.

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Conflicts of interest

Conflicts of interest are none here by the authors.

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Table 1 Temperature, humidity and rainy days in the month of June, 2020 at Midnapore

Date	Temperature ^{0}C		Humidity %		Rainy Day/Non-rainy day	
	Day	Evening	Day	Evening	Rainy	Non-rainy day
01.06.2020	29.5	29.6	75	76	Yes	-
02.06.2020	27.9	29.7	77	77	-	Yes
03.06.2020	28.6	30.1	76	75	-	Yes
04.06.2020	29.7	30.6	77	75	Yes	-
05.06.2020	29.4	31.0	78	78	-	Yes
06.06.2020	30.2	31.7	79	76	-	Yes
07.06.2020	31.0	31.4	78	74	-	Yes
08.06.2020	30.1	30.0	76	74	-	Yes
09.06.2020	31.0	32.3	78	77	Yes	-
10.06.2020	31.4	31.4	78	80	Yes	-
11.06.2020	30.3	30.2	81	80	Yes	-
12.06.2020	29.0	28.8	80	80	-	Yes
13.06.2020	28.3	29.2	80	81	-	Yes
14.06.2020	28.8	29.4	82	82	Yes	-
15.06.2020	28.7	29.3	83	83	Yes	-
16.06.2020	28.8	29.3	83	84	Yes	-
17.06.2020	28.6	28.8	85	85	Yes	-
18.06.2020	27.9	28.9	84	85	-	Yes
19.06.2020	28.3	29.3	84	84	Yes	-
20.06.2020	28.8	29.6	86	85	-	Yes
21.06.2020	29.2	29.5	85	85	Yes	-
22.06.2020	28.8	29.8	86	85	-	Yes
23.06.2020	29.4	29.5	86	86	Yes	-
24.06.2020	29.0	30.7	86	82	-	Yes
25.06.2020	29.9	31.4	82	82	-	Yes
26.06.2020	30.4	31.2	81	80	-	Yes
27.06.2020	29.6	30.4	79	82	Yes	-
28.06.2020	29.9	30.1	82	82	Yes	-
29.06.2020	29.0	29.7	82	82	-	Yes
30.06.2020	29.1	30.5	83	82	-	Yes
Total					14 days	16 days

N.B.: Temperature varies from 27.9 to 31.4 and from 28.8 to 32.3 during day and evening respectively. Humidity % varies from 74-86 and no of rainy days was 14 days.

Table 2. People movement in 30 minutes study at Midnapore town during Unlock-1 phase

Date	Male		Female		Total	% of mask wearing people in 30 days basis		% of people without mask in 30 days basis	
	Masked	Un-masked	Masked	Un-masked		Male	Female	Male	Female
01.06.2020	52	28	06	09	95	2.35	1.30	2.21	1.30
02.06.2020	128	38	25	12	203	5.79	5.43	3.01	1.73
03.06.2020	130	62	35	24	251	5.88	**7.60**	4.91	3.47
04.06.2020	77	42	15	34	168	3.48	3.26	3.32	4.92
05.06.2020	84	37	21	34	176	3.80	4.56	2.93	4.92
06.06.2020	108	55	23	31	217	4.88	5.00	4.35	4.49
07.06.2020	75	19	12	20	126	3.39	2.60	1.5	2.89
08.06.2020	80	40	16	15	151	3.61	3.47	3.1	2.17
09.06.2020	76	12	17	19	124	3.43	3.69	0.95	2.75
10.06.2020	41	38	11	16	106	1.85	2.39	3.01	2.31
11.06.2020	130	53	14	13	210	5.88	3.04	4.19	1.88
12.06.2020	112	51	20	17	200	5.06	4.34	4.04	2.46
13.06.2020	122	59	35	32	248	5.52	7.60	4.67	4.63
14.06.2020	68	32	22	17	139	3.07	4.78	2.53	2.46
15.06.2020	59	40	06	20	125	2.66	1.30	3.16	2.89
16.06.2020	102	66	13	18	199	4.61	2.82	5.22	2.60
17.06.2020	165	83	33	27	308	**7.46**	7.17	**6.57**	3.91
18.06.2020	146	64	25	33	268	6.60	5.43	5.07	4.78
19.06.2020	33	33	1	23	90	1.49	0.21	2.61	3.33
20.06.2020	62	62	11	13	148	2.80	2.39	4.91	1.88
21.06.2020	37	39	12	20	108	1.67	2.60	3.09	2.89
22.06.2020	27	26	03	37	93	1.22	0.65	2.06	**5.36**
23.06.2020	22	27	08	22	79	0.99	1.73	4.67	3.18
24.06.2020	57	40	18	28	143	2.57	3.91	3.16	4.05
25.06.2020	58	37	10	15	120	2.62	2.17	2.93	2.17
26.06.2020	48	57	18	26	149	2.17	3.91	4.51	3.76
27.06.2020	22	29	04	30	85	0.99	0.86	2.29	4.34
28.06.2020	26	23	06	22	77	1.17	1.30	1.82	3.18
29.06.2020	23	22	12	30	87	1.04	2.60	1.74	4.34
30.06.2020	40	48	08	33	129	1.80	1.73	3.80	4.78
	2210	1262	460	690	4622				

N.B.: Data taken from a point during 30 minutes study at Midnapore Town. Calculation was done based on total number on each kind for 30 days study in a separate manner in connection with individual day (% basis).

Table 3. Percentage of mask wearing and non-mask wearing people during Unlock-1 phase of Covid-19 at town Midnapore, W.B.

Date	Mask wearing		Total	Un-masked			% of people in all days	
	Male	Female		Male	Female	Total	Masked	Un-masked
01.06.2020	52	06	58	28	09	37	2.172285	1.895492
02.06.2020	128	25	153	38	12	50	5.730337	2.561475
03.06.2020	130	35	165	62	24	86	6.179775	4.405738
04.06.2020	77	15	92	42	34	76	3.445693	3.893443
05.06.2020	84	21	105	37	34	71	3.932584	3.637295
06.06.2020	108	23	131	55	31	86	4.906367	4.405738
07.06.2020	75	12	87	19	20	39	3.258427	1.997951
08.06.2020	80	16	96	40	15	55	3.595506	2.817623
09.06.2020	76	17	93	12	19	31	3.483146	1.588115
10.06.2020	41	11	52	38	16	54	1.947566	2.766393
11.06.2020	130	14	144	53	13	66	5.393258	3.381148
12.06.2020	112	20	132	51	17	68	4.94382	3.483607
13.06.2020	122	35	157	59	32	91	5.88015	4.661885
14.06.2020	68	22	90	32	17	49	3.370787	2.510246
15.06.2020	59	06	65	40	20	60	2.434457	3.07377
16.06.2020	102	13	115	66	18	84	4.307116	4.303279
17.06.2020	165	33	198	83	27	110	7.41573	5.635246
18.06.2020	146	25	171	64	33	97	6.404494	4.969262
19.06.2020	33	1	34	33	23	56	1.273408	2.868852
20.06.2020	62	11	73	62	13	75	2.734082	3.842213
21.06.2020	37	12	49	39	20	59	1.835206	3.022541
22.06.2020	27	03	30	26	37	63	1.123596	3.227459
23.06.2020	22	08	30	27	22	49	1.123596	2.510246
24.06.2020	57	18	75	40	28	68	2.808989	3.483607
25.06.2020	58	10	68	37	15	52	2.546816	2.663934
26.06.2020	48	18	66	57	26	83	2.47191	4.252049
27.06.2020	22	04	26	29	30	59	0.973783	3.022541
28.06.2020	26	06	32	23	22	45	1.198502	2.305328
29.06.2020	23	12	35	22	30	52	1.310861	2.663934
30.06.2020	40	08	48	48	33	81	1.797753	4.14959
	2210	460	2670	1262	690	1952	100	100

Note: Data obtained from Midnapore town in a survey by us, study was taken for 30 minutes each day.

Table 4. Mask user males and females during Unlock-1 phase of Covid-19 at Midnapore, W.B.

Date	Mask wearing		Total	Total male and female (unmasked)	Day wise % of people in all days with and without masks.	
	Male	Female			Masked	Un-masked
01.06.2020	52	06	58	37	54.73684	6.315789
02.06.2020	128	25	153	50	63.05419	12.31527
03.06.2020	130	35	165	86	51.79283	13.94422
04.06.2020	77	15	92	76	45.83333	8.928571
05.06.2020	84	21	105	71	47.72727	11.93182
06.06.2020	108	23	131	86	49.76959	10.59908
07.06.2020	75	12	87	39	59.52381	9.52381
08.06.2020	80	16	96	55	52.98013	10.59603
09.06.2020	76	17	93	31	61.29032	13.70968
10.06.2020	41	11	52	54	38.67925	10.37736
11.06.2020	130	14	144	66	61.90476	6.666667
12.06.2020	112	20	132	68	56.0	10.0
13.06.2020	122	35	157	91	49.19355	14.1129
14.06.2020	68	22	90	49	48.92086	15.82734
15.06.2020	59	06	65	60	47.2	4.8
16.06.2020	102	13	115	84	51.25628	6.532663
17.06.2020	165	33	198	110	53.57143	10.71429
18.06.2020	146	25	171	97	54.47761	9.328358
19.06.2020	33	1	34	56	36.66667	1.111111
20.06.2020	62	11	73	75	41.89189	7.432432
21.06.2020	37	12	49	59	34.25926	11.11111
22.06.2020	27	03	30	63	29.03226	3.225806
23.06.2020	22	08	30	49	27.8481	10.12658
24.06.2020	57	18	75	68	39.86014	12.58741
25.06.2020	58	10	68	52	48.33333	8.333333
26.06.2020	48	18	66	83	32.21477	12.08054
27.06.2020	22	04	26	59	25.88235	4.705882
28.06.2020	26	06	32	45	33.76623	7.792208
29.06.2020	23	12	35	52	26.43678	13.7931
30.06.2020	40	08	48	81	31.00775	6.20155

Figures (1-7): Covid-19- a sociological study on the basis of scientific way

Fig. 1 : MM-Masked male

Fig. 2 : UMM-Unmasked male

Fig. 3 : MF-Masked female

Fig. 4: MF-Masked female

Fig. 5: UMF-Unmasked female

Fig. 6 : UMF-Unmasked female

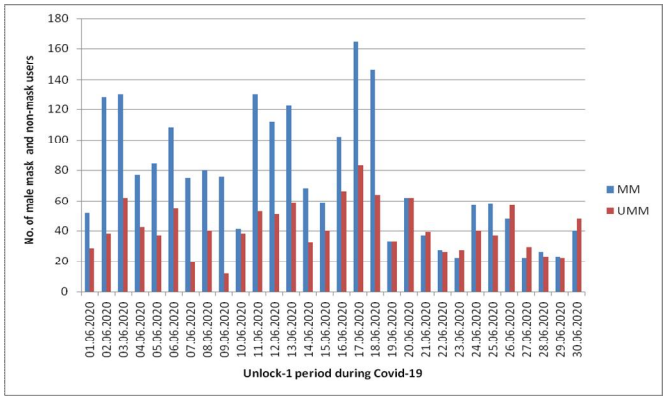

Fig. 7 Mask wearing male (MM) and unmasked male (UMM)) people movement during unlock-1phase at Midnapore town during Covoid-19.

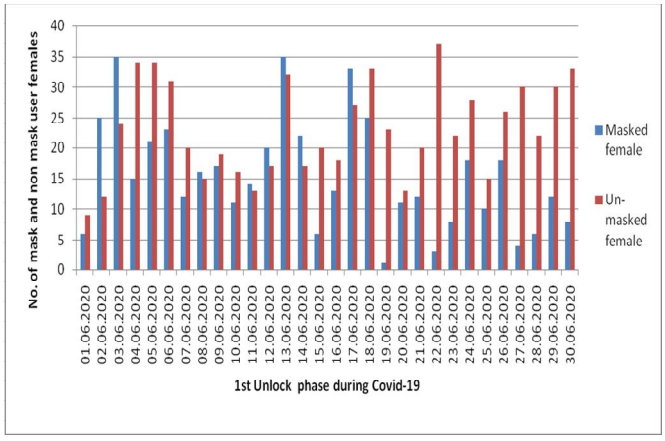

Fig. 8 Mask wearing female (MF) and unmasked female people (UMF) movement during unlock-1phase at Midnapore town during Covoid-19.