



## Original Research Article

## Psychometric impact of COVID-19 in Kolkata

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## ABSTRACT

**Background:** The calamitous apocalyptic COVID-19 pandemic has vitiated global life inscrutably in the recent era. The vicious contagion ravaged life not only with disease & death but even precipitated psychological dysphoria among many. Considering this alarming consternation, it was decided to ascertain the deleterious effect of COVID-19 pandemic on psyche and mind-set of educated residents of a housing society in south Kolkata in the background of their knowledge and preventive behaviour against COVID-19.

**Materials and Methods:** 360 adults of a gated housing society in south Kolkata were studied during 3<sup>rd</sup>-4<sup>th</sup> week of May 2020. Approval from authority and informed consent of the residents were obtained. A pretested structured questionnaire was introduced including demographic attributes, knowledge-awareness-practice (KAP) traits of COVID-19 prevention amid psychological projections of mind-state of residents emerging from COVID-19 issues. The data obtained was tabulated and statistically validated.

**Result:** The adult contingent had 52.2% male and 47.8% female with mean age of 37.8±12.5 and 35.9±11.6 years respectively. All were literate with majority (63.9%) being graduates belonging to high income group (78.6%). All members were aware about COVID-19 & its prevention and followed preventive measures unflinchingly aside embracing the Govt. policies & restrictions responsively. Anxiety was experienced significantly by ladies exhibited as frequent hand washing(84.4%), repeated use of sanitizer & gloves(70%), avoiding shopping(84.4%), discussing current spate with family members(82%), fear of contracting COVID-19(40%), skipping TV news & media(40%) and sleep disturbances(8.6%). Significantly many ladies disclosed need for psychological comfort like more time with working spouse (56.7%), palliation from anxiety (50%), counselling for stressful feelings (62.8%) and restricting media portraying looming grim (100%). In spite of heightened anxiety, the well-aware elites displayed infinite impetus and futuristic attitude to overcome the crisis convincingly.

**Conclusion:** Sincere revelation of reality relating to psychological adversities emanating from pandemic would add fundamental clues to COVID-19 preventive strategies in future.

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## 1. Introduction

The scourge of COVID-19 pandemic has been an insurmountable public health challenge that ravaged the psycho-social resilience of the society and has been the biggest ultimatum since SARS outbreak in 2003.<sup>1</sup> COVID-19 was initially reported in China in late 2019 and later fired up 13 countries by January 24, 2020.<sup>2</sup> By end of Jun 20, total no. of cases around the world reached 10.1 million with 5.03 lakh lives lost amid US spearheading

by 2.5 million infected with 1.26 lakh deceased and India acclaimed 5.66 lakh cases with 16.8K deaths.<sup>3</sup> In addition to wrecking human health with fatal consequences, COVID-19 implies critical psychological impacts on human societies because of quarantine, restriction on social gathering, travel & commuting limitation, fear of suffering from the disease and meek witness to sufferings and death among kith & kins. Recent evidences suggest that quarantine, isolation, social distancing, restriction on daily life, travel limitations with effect of perilous pandemic may result in anger, anxiety, confusion and post-traumatic issues.<sup>4</sup> Thinking

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through the unravelling spate being experienced, it was decided to ascertain the psyche and mind-set of residents of a housing society in south Kolkata in the background of their knowledge and preventive behaviour to fight against COVID-19.

## 2. Materials and Method

The study was conducted among 360 adults in a residential society in south Kolkata during third and fourth week of May 20. There were 102 families with 420 members, including 336 adults and 28 above-18 children; however only 360 adult members participated. Approval was taken from Resident Welfare Organisation for conduct of study. The members were contacted initially to explain the purpose of the study and informed individual consent obtained. Formal roll of acquiescent members along with their address and mobile no. was prepared. A pertinent questionnaire was organized after reviewing existing literature incorporating required adjustments due local factors and issues.

The questionnaire consisted of two parts; first part had details of personal attributes including socio-demographic factors and second part contained details of knowledge about protective measures against COVID-19 along with preventive practices for the same amid the perceived anxiety towards the COVID-19 issues. There were 11 questions on knowledge and 08 on preventive behaviour on dichotomous scale. Anxiety related to COVID-19 had 13 items that were rated on 5-point Likert scale ranging from never, occasionally, sometimes, often and always.

The questionnaire was introduced to most of the willing members through mobile/electronic media; 16 members were communicated individually in small groups at a time to clear doubt in data collected through e-mode. Name, address and mobile no. of study subjects were coded maintaining confidentiality, but the record of the same was preserved. Standard precautions like use of mask, hand sanitizer and social distancing were followed to avoid COVID-19 during the interactions. The data collected was tabularized, analysed and statistically validated to endow inference. Common statistical applications were administered to establish significance of certain variables as emerged relevant.

## 3. Results

Majority of the subjects (37.2%) belonged to 30-39 years age group followed by 35% from 20-29 years (Table 1). Sex ratio was 914.8 with 52% male and 47.8% female. Mean age of male and female members were  $37.8 \pm 12.5$  and  $35.9 \pm 11.6$  respectively. Majority of the individuals (92%) were Hindu.

Majority (63.89%) of the subjects were graduates of which large proportion being house-wives (Table 2). 22.5% were Doctors/Engineers as against 23.3% worked

as Executives. 78.6% enjoyed a per-capita income between 30-50K vis-à-vis 21.4% had pro-rata benefit above 50K individually. 18(5%) matriculate children were pursuing further studies.

Cent percent subjects knew about transmissibility, infectivity, common preventive measures including frequent hand washing, use of mask & gloves, social distancing, importance of alcohol based sanitizer, cough hygiene and symptoms of COVID-19 (Table 3).

All subjects washed hand at least twice daily, used masks, followed social distancing, had daily bath, used sanitizer, complied with cough hygiene and avoided personal contact greetings (Table 4). Only 64.4% used gloves in markets; the trend was more among the gents.

Cent percent respondents iterated essentiality for lock-down, Govt actions & policies, social distancing and ban on festive gatherings (Table 5). All members acknowledged the importance of hand sanitizer, cough & sneeze hygiene in public places, avoidance of hand shaking/hug and bar on marriage celebration. All were hopeful about reinstatement of public transport and communication services.

Around 83% subjects very often thought about COVID-19; it was proportionately & significantly higher among the females (Table-6). 84.4% respondents avoided shopping and indulged in frequent hand washing to avoid COVID-19. 82% members regularly discussed a lot on ongoing pandemic with family members. Around 70% including significant no. of females stated using sanitizer/gloves more frequently and felt aversion towards newspaper/TV news broadcasting fretful report about the pandemic. 40% often got anxious about contracting COVID-19, felt upset in distressing news of spreading of the contagion & loss of lives and became stressed if any known found COVID-19 positive. Many (34.4%) avoided large meetings, felt disquiet seeing distressing posts in social media and often behaved weird with strangers in suspicion of COVID-19. 8.6% including many ladies experienced sleep disturbances.

Many, significantly the ladies conveyed need for expedient emotional & psychological support (Table 7). 56.7% expressed that more time needed to spend with working spouse at home. Around 50% indicated support desired from someone actually or even online to alleviate anxiety. 62.8% intended for a counselor to help soothe negative thoughts. All subjects specified to restrain media depicting impending doom; instead amusing TV programs may be broadcasted to deflect mind in leisure time.

## 4. Discussion

The adult assemblage represented a demographic structure, sex ratio and family size (4.11) akin to national statistics.<sup>5</sup> Most of the members (63.8%) were graduates and all were literate; the last census (2011) annotated the literacy rate in West Bengal as 77.08%.<sup>6</sup> The group had many doctors, engineers, professionals, executive office bearers with many

**Table 1:** Age, sex & religion of adult respondents

Age group in years	Gender		Religion		Total No. (Percent)
	Male	Female	Hindu	Others	
18-29	70	56	118	8	126(35.00)
30-39	68	66	119	15	134(37.22)
40-59	46	44	86	4	90(25.00)
60 +	4	6	12	1	10(2.78)
Total	188 (52.22)	172 (47.78)	332 (92.22)	28 (7.78)	360 (100.00)

Figs. in the parenthesis indicate percentages

**Table 2:** Education, profession & per-capita income of the respondents

Educational qualification (n=360)	Doctor/ Engineer	Office Executives	Profession			Monthly per-capita Income		Total No.(Percent)
			Business person	Others & Students	House-wives	30-50K	50K+	
Post-Graduate	19	8			2	11	18	29(8.06)
Doctoral				4	2	37	42	79(21.94)
Graduate	41	32	15	40	110	213	17	230(63.89)
Matriculate	-	-	-	22	-	22		22(6.11)
Total	81 (22.5)	84 (23.33)	15 (4.17)	66 (18.33)	114 (31.66)	283 (78.61)	77 (21.39)	360(100.00)

Figs. in the parenthesis indicate percentages

**Table 3:** Awareness on COVID-19

Awareness on COVID-19 (n=360)	Awareness vs. gender		Total (No. & percent)
	Male 188(52.22)	Female 172(47.78)	
COVID-19 transmitted by cough & sneezing	188	172	360(100.00)
Saliva drops get in air while cough/sneeze to infect other	188	172	360(100.00)
COVID-19 is highly infectious	188	172	360(100.00)
Frequent hand washing with soap-water stalls COVID-19	188	172	360(100.00)
Wearing mask outdoor put off COVID-19	188	172	360(100.00)
Social distancing suspend COVID-19	188	172	360(100.00)
Using gloves while shopping thwarts COVID-19	188	172	360(100.00)
Sanitizer (alcohol based) disinfects hand from COVID-19	188	172	360(100.00)
Cough & sneeze hygiene control COVID-19	188	172	360(100.00)
Avoiding hand-shaking/ hugging prevents COVID-19	188	172	360(100.00)
Cough, cold, fever, loose motion & breathing difficulty are common symptoms of COVID-19	188	172	360(100.00)

Figs. in the parenthesis indicate percentages

**Table 4:** Gender based preventive practices to avert COVID-19

Preventive behaviour (n-360)	Follower (no. & percent)		Total (No. & percent) p value
	Male (188)	Female (172)	
Washing hand with soap & water twice a day at least before meals	188	172	360(100.00)
Using mask while outdoor for daily need/work	188	172	360(100.00)
Following social distancing	188	172	360(100.00)
Using gloves in markets & shops	132	100	232(64.44) Chi-sq 5.7 p<0.05
Daily bath & maintaining personal hygiene	188	172	360(100.00)
Using alcohol based sanitizer to disinfect hand	188	172	360(100.00)
Complying with cough & sneeze hygiene	188	172	360(100.00)
No shaking hand or hugging	188	172	360(100.00)

Figs. in the parenthesis indicate percentages

**Table 5:** Outlook on social & administrative issues on COVID-19

Perspectives of the respondents(n-360)	Respondents (No. & percent)		Total (No. & percent) p value
	Male (188)	Female (172)	
Lock-down is essential to contain COVID-19	188	172	360(100.00)
Govt. actions would help control COVID-19	140	172	360(100.00)
Govt. support in issuing free food items helped poor tide over the crisis	188	172	360(100.00)
Social distancing is vital to control COVID-19	188	172	360(100.00)
Ban on religious festival/gathering is needed to thwart COVID-19	188	172	360(100.00)
Stress on using alcohol based sanitizer to disinfect hand is helpful	188	172	360(100.00)
Cough & sneeze hygiene is required to prevent COVID-19	188	172	360(100.00)
Avoiding hand shake/hug is crucial to prevent COVID-19	188	172	360(100.00)
Public transport services would resume fully near future	188	172	360(100.00)
Bar on family function & marriage celebration helped to avert COVID-19	188	172	360(100.00)

Figs. in the parenthesis indicate percentages

working ladies contributing to family income. Majority (78.6%) savoured high per-capita income of a range of 30-50K in a family with around 4 members. Socioeconomic status, life style and living standard appeared quite high and not comparable to general community at large.

Every single individual knew about transmissibility, infectivity, common protective measures for prevention of COVID-19 and applied the knowledge strictly in their day-to-day life with unflinching conscientiousness. Studies in recent past documented comparable knowledge and

application of COVID-19 preventative measures among Kolkata residents akin to present intent.<sup>7,8</sup> However awareness index observed in the present intent is higher as contrast to findings documented in previous Indian study.<sup>9</sup>

All reiterated the elemental essence for lock-down, Govt actions & policies on COVID-19 control, social distancing including ban on festive gatherings and endorsed the value of hand sanitizer, cough hygiene, evasion of hand shaking/hug and bar on marriage celebrations. Everyone was optimistic about restoration of services of

**Table 6:** Anxiety expressed by the respondents

Anxiety Factors (n-360)	Responded as often & always		Total (%) p value
	Male (188)	Female (172)	
In last fortnight, how often did you think about COVID-19?	146	154	300 (83.33%) Chi-sq 9.1 p<0.02
In last fortnight, how often you felt about contracting COVID-19?	85	59	144 (40.00%) Chi-sq 4.5 p<0.05
In last fortnight, how often you avoided shopping?	148	156	304 (84.44%) Chi-sq 9.8 p<0.05
In last fortnight, how often you discussed with family members about current pandemic?	161	135	296 (82.22%) Chi-sq 3.1 NS
In last fortnight, how often you avoided large meetings?	78	46	124 (34.44%) Chi-sq 8.6 p<0.05
In last fortnight, how often you had disturbed sleep due to COVID-19 worry?	10	21	31 (8.61%) Chi-sq 5.4 p<0.05
In last fortnight, how often you got upset by social media posts about the pandemic?	64	60	124 (34.44) Chi-sq 0.02 NS
In last fortnight, how often you got afraid by news on pandemic in newspaper/TV?	86	58	144(40.00%) Chi-sq 5.4 p<0.05
In last fortnight, how often you grew anxious if any known reported being sick?	85	59	144 (40.00%) Chi-sq 4.5 p<0.05
In last fortnight, how often you used sanitizer & gloves?	122	130	252 (70.00%) Chi-sq 4.8 NS
In last fortnight, how often you washed your hands?	148	156	304 (84.44%) Chi-sq 9.8 p<0.05
In last fortnight, how often you behaved odd with any for fear of COVID-19 spread?	63	61	124 (34.44%) Chi-sq 0.15 NS
In last fortnight, how often you felt not to see newspaper/news channel?	123	130	253 (70.28%) Chi sq 4.4 p<0.05

**Table 7:** Perceived affective support

Perceived support/need	Respondents (n-360)		Total
	Male(188)	Female(172)	
More time needed with working spouse at home	104	120	204(56.67%) Chi-sq 7.9 p<0.05
Someone who could absolve anxiety	82	99	181 (50.28%) Chi-sq 6.9 p<0.05
Requirement of a counselor/professional	106	120	226(62.77%) Chi-sq 6.8 p<0.05
Online counselling support	83	100	183(50.83%) Chi-sq 7.0 p<0.05
Restriction on media painting dim picture	188	172	360(100.00)
Better TV programs to divert mind in spare time	106	126	232(64.44%) Chi-sq 8.1 p<0.5

Figs. in the parenthesis indicate percentages

transport and communication. Comparable findings have been documented in studies of the recent past.<sup>8</sup>

Anxiety was experienced more significantly by the ladies manifested as frequent hand washing(84.4%) with repeated use of sanitizer & gloves(70%), avoiding shopping(84.4%), discussion on current pandemic with family members(82%), fear of contracting COVID-19(40%), skipping TV news & media(40%) and sleep disturbances(8.6%). An Indian study revealed that more than 80% were anxious with thoughts of COVID-19, 72% expressed the need for gloves & sanitizers, 37.8% were worried about catching COVID-19, 36.4% experienced distress related social media posts and 12.5% had sleep difficulties<sup>10</sup>. Similar study in Jan 2020 in 194 cities in China showed 53.8% people had severe psychological effect with 16.5%, 28.8% and 8.1% had moderate to severe levels of depression, anxiety and stress respectively with many of them (84.7%) spending 20-24 hours/day at home worrying about acquiring COVID-19 (75.2%).<sup>1</sup>

Significantly more ladies divulged the need for psychological comfort in the form of more time with working spouse (56.7%), actual/virtual reprieve to ameliorate anxiety (50%), counselling for stressful feelings (62.8%) and restricting media portraying looming grim (100%) instead demanded entertaining TV programs to divert mind. It has been recorded in an Indian study that 66.5% desired for someone who could absolve anxiety, 75% wished for mental health support and 83.5% even wanted professional help from psychiatrists.<sup>10</sup>

During the current pandemic, most of the educated & elite appeared to be aware of COVID-19 with possible preventive measures and followed that conscientiously to halt the spread of infection. However, there were heightened worries and apprehensions regarding acquiring COVID-19 and the bleak prospect heralded by print/news media resulted in an intensified call to deal with psycho-behavioural afflictions. There is a need to look-up and reinforce mitigation of psychological issues of people during this COVID-19 pandemic and formulate effective intervention strategies. This is a limited study conducted

among privileged urbanites therefore the result may not stand universally apposite. However, information generated would add to body of scientific episteme and can be utilised for planning and strategy formulation in future.

## 5. Source of Funding

None.

## 6. Conflict of Interest

None.

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