



MONITORING THE PLETHORA OF PSYCHOLOGICAL MANIFESTATIONS OF CORONA PHOBIA: COMPARATIVE STUDY ON FEAR PSYCHOSIS AND MENTAL STATE OF THE PEOPLE OF MANIPUR DURING FIRST AND SECOND WAVE OF COVID -19

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Abstract

With the elevated level of the covid crisis in the state of Manipur, fear psychosis called corona phobia affects the general populace. A web-based survey conducted in the state looked at the immediate psychological response and associated factors during the first and second wave of pandemic had been cited. We received a total of 113 respondents in two weeks of the online questionnaire circulated addressing the understanding of covid, level of distress, fear, anxiety and precautionary behaviour, economic depression and trustworthy towards the info media. A drastic difference in the understanding of the pandemic, distress level, stress, anxiety, and precautionary behaviour was observed accounting to 86.7% of the respondents in 2nd wave as compare to 35.5% of the first wave. 65% of the participants (2nd wave of pandemic) experienced psychological trauma due to severity of infections, mutant and highly contagious nature of the virus. Anxiety level was more severe during the second wave. The contemporary analysis suggests that it is the need of the hour to intellect those who have less concerned about the crisis of the pandemic and modify their risk behaviour through several ways to culminate the pandemic.

Keywords: Covid-19, corona phobia, mental state, anxiety, pandemic

Introduction

Pneumonia like flu of unknown cause was first reported to the WHO country branch - China on 31st December, 2019 [1]. The World Health Organisation has not seen such an illness before and tackling the disease that the global health care system has not seen was a challenging task [2]. WHO

was prepared to analyse, monitor the data, advice, correlate, coordinate with the scientific health care community, managing expert networks [3]. The emergency of International concern has been declared on 30 January 2020. Within three months of the appearance, it affected more than 375000 people across 196 countries with the death toll of 16000 in number. With this, an attempt has been made to summarise the importance of non-ignorance of mental health implications encountered based on a survey exclusively for the state of Manipur, India. The study also attempted to address the potential changes in the mental health, social environment and variation in the mental health policy that are rising due to the pandemic [4].

Manipur has been experiencing a surge in Covid-19 in the past 2-3 months since the first detection on March, 2020. One of the classical examples of panic attack of the pandemic in the state was that 21-year-old girl student who on the last day of home quarantine committed suicide. Manipur recorded the confirmed 3853 Covid-19 cases, out of which 1720 are active, 2122 patients recovered and 11 covid deaths are recorded as per the report from National Health Mission, Manipur dated August 10, 2020. Contrastingly the state experienced rapid spike of infection during the second week of the onset of second wave of covid-19. On average, approximately 500 numbers of positive cases, 10-15 deceased per day were reported by the surveillance office. Government order to combat the pandemic such as forced quarantine, complete lockdown created acute panic, anxiety, obsessive behaviour, post-traumatic stress, paranoia, depression etc [5]. The reverse psychoses, social stigmatisation, xenophobic against a particular community reported were also fuelled by the infodemic spread on various social media platforms [6]. However, the frontline Covid care workers of the state are at the highest risk of contracting the virus experienced many psychological disturbances like anxiety, incompatibility, fear of transmission, depressed state and increased substance/alcohol dependence [7]. Alcohol dependence depression was also reported among adults to older people and caused florid mental distress. With this interest, and for better dealing with the psychological crisis, a survey-based consideration of the effects of COVID-19 on the mental health state was studied to monitor/evaluate the impacts on people's daily routine including loss of socialisation which contribute to increase nervousness and stress [8]. What we learn and what we know from previous epidemic should be highly citable in relation with the studies data provided and data available gives a clear indication that we are not yet prepared for the current and future outbreak. Data from high quality study was rare. We observed that Ebola virus survivors were commonly seen to have depression, insomnia, fatigue, anxiety and the post-traumatic stress disorders [9]. The psychological distress was significantly correlated with demographic factor and perception regarding the SARS epidemic from the population-based study in Taiwan [10]. The prevalence of psychotic morbidity was 11.7 % at that time. A higher level of pessimism was observed among the people of the age group ≥ 60 years during SARS epidemic. 20.59 % of post psychotic distress symptom was observed among the doctors and nurses exposed to H7N9 influenza (Finney et.al. 1984).

Methodology

On the basis of the questionnaire prepared, a state wide online survey was conducted to compare the correlation of anxiety level and perception of the citizens during the 1st wave and 2nd wave of covid-19. The survey based on the age groups from 10 years to 60 and above years was circulated in a week. A total of 113 participants gave responses regarding the level of fear psychosis and anxiety related to covid-19, knowledge, infections, severity and preventive or precautionary behaviour and medication during the 1st wave. The respondents were asked to answer the same questions during 2nd week of the 2nd wave of the pandemic. The questions circulated through the questionnaire-based survey was assumed yet updated with questions about anxiety levels, depression, fear psychosis regarding the severity of infection, deaths, treatment etc [11]. The respondents were well informed that their participation was temporary and solely for research purposes. The data analysis was analysed using SPSS for windows (IBM Corp, India).

Results

A total of 113 participants responded to the survey within a week. The majority of the responders were from age group of 25- 45 years (n=68). Approximately 67% (n=75) of the respondents were male and 33% (n=37) female participants responded the survey. The educational qualification of 86.4% (n=96) of the responders were graduate and above. 89% of the participants were conscious that COVID-19 is an infectious disease caused by severe acute respiratory syndrome corona virus (SARS-CoV-2). 75% of the participants in the survey correctly responded that the virus caused severe respiratory illness and the mode of transmission was via respiratory droplets. Eighty five percent of the participants were well aware of the personal protective equipment (PPE), effect of double masking and preventive measures.

Table 1: Responder profile of the survey

Demographic	Sub-group	Number	Percentage
Age group in years	10-25	39	33.9
	25-45	68	61.7
	45 and above	5	3.5
Gender	Male	75	67
	Female	37	33
Educational Qualification	Graduate and above	96	86.4
	Matriculate	11	10
	Non-Matriculate	5	4

Table 2: The response of questions during the 1st wave of covid pandemic

Sl. No.	Question		Age-group in years					
			10-25 (n=39)		25-45 (n=68)		45-60 (n=5)	
			No.	%	No.	%	No.	%
1	Name							
2	Age							
3	Sex							
4	Education							
5	How much aware are you about Covid-19?	Moderate	20	51.2	24	35.2	1	20
		Fully	19	48.8	44	64.8	4	80
6	Have the pandemic affected your normal life?	Yes	38	98	56	82	3	60
		No	1	2	12	18	2	40
7	How do you feel at present due to Covid- 19?	Helpless	14	35.8	21	30.9	0	0
		Apprehensive	11	28.2	35	51.4	2	40
		Horrified	14	35.8	12	17.6	3	60
8	How often do you feel what will happen if you if you become Covid-19 positive?	Sometimes	13	33.3	36	52.9	2	40
		Never	0	0.0	3	4.4	0	0
		Always	26	66.7	29	42.6	3	60
9	How often do you feel when there is news about the fresh positive case in the neighbouring areas and locality?	More horrified	32	82	52	76.4	4	80
		No Effect	7	18	16	23.5	1	20
10	If any family members need	Its	32	82.1	46	67.6	2	40

	to consult health care worker, first thought in your mind	Mandatory						
		Will not be affected	7	17.9	22	32.4	3	60
11	Do all the family members strictly follow the sop of Covid -19 during the pandemic?	Yes	32	87.17	40	58.8	3	60
		No	1	2.56	10	14.7	0	0
		Maybe	6	16.6	18	26.5	2	40
12	Do you feel that the lockdown will be helpful in flattening the curve of pandemic	Yes	35	89.7	31	45.6	3	60
		No	1	2.6	6	8.8	0	0
		Maybe	3	7.7	31	45.6	2	40
13	How often do you enjoy physical exercise during pandemic?	Sometimes	23	59.0	52	76.5	2	40
		Always	12	30.8	14	20.6	3	60
		Never	4	10.3	2	2.9	0	0
14	Do you think your mental health state is good during pandemic?	Yes	8	20.5	33	48.5	2	40
		No	10	25.6	18	26.5	1	20
		Maybe	21	53.8	17	25	2	40
15	What is your reaction after hearing/seeing news of affected persons and deaths due to the pandemic	Extremely tensed	24	61.5	37	54.4	2	40
		Not tensed	8	20.5	19	27.9	2	40
		Little tensed	6	15.4	12	17.6	1	20
16	How often have you felt nervous, anxious or depressed and had physical reaction like sweating, troubled breathing, nausea or a pounding heart when you think about the increase in number of affected persons and deaths per day?	Always	20	51	13	19.1	2	40
		Sometimes	10	25.64	41	60.3	1	20
		Often	9	23.07	14	20.6	2	40

Table 3: The response of questions during the 2nd wave of covid pandemic

Sl. No.	Question	Age-group in years						
		10-25 (n=39)		25-45 (n=68)		45-60 (n=5)		
		No	%	No	%	No	%	
1	Name							
2	Age							
3	Sex							
4	Education							
5	How much aware are you about Covid-19?	Moderate	2	5.1	10	14.7	1	20
		Fully	37	94.87	58	85.28	4	80
6	Have the pandemic affected your normal life?	Yes	34	87.17	61	89.7	5	100
		No	5	12.8	7	10.29	0	0

7	How do you feel at present due to Covid- 19?	Helpless	2	5.1	6	8.82	2	40
		Apprehensive	5	12.8	12	17.6	1	20
		Horrified	32	82	50	73.5	2	40
8	How often do you feel what will happen if you if you become Covid-19 positive?	Sometimes	5	12.8	40	58.8	1	20
		Never	1	2.5	8	11.7	1	20
		Always	33	84.6	20	29.4	3	60
9	How often do you feel when there is news about the fresh positive case in the neighbouring areas and locality?	More horrified	30	76.9	62	91.1	5	10
		No Effect	9	23	6	8.82	0	0
10	If any family members needs to consult health care worker, first thought in your mind	Its Mandatory	29	74.3	52	76.4	3	60
		Will not be affected	10	25.6	16	23.5	2	40
11	Do all the family members strictly follow the sop of Covid -19 during the pandemic?	Yes	35	89.7	60	88.2	2	40
		No	2	5.12	2	2.9	1	20
		Maybe	2	5.12	6	8.82	2	40
12	Do you feel that the lockdown will be helpful in flattening the curve of pandemic	Yes	36	92.3	63	92.6	4	80
		No	1	2.56	2	2.9	0	0
		Maybe	1	2.56	3	4.4	1	20
13	How often do you enjoy physical exercise during pandemic?	Sometimes	25	64.1	10	14.7	1	20
		Always	10	25.6	50	73.5	3	60
		Never	4	10.2	8	11.7	1	20
14	Do you think your mental health state is good during pandemic?	Yes	28	71.7	61	89.7	4	80
		No	4	10.2	2	2.9	0	0
		Maybe	7	17.9	6	8.82	1	20
15	What is your reaction after hearing/seeing news of affected persons and deaths due to the pandemic	Extremely tensed	36	92.3	55	80.8	4	80
		Not tensed	1	2.56	3	4.41	0	0
		Little tensed	2	5.12	10	14.7	1	20
16	How often have you felt nervous, anxious or depressed and had physical reaction like sweating, troubled breathing, nausea or a pounding heart when you think about the increase in number of affected persons and deaths per day?	Always	25	64.1	50	73.5	3	60
		Sometimes	5	12.8	8	11.7	2	40
		Often	9	23	10	14.7	0	0

Table 4: Analysis of variance for the respondents based on the first and second wave of Covid-19

Groups	First wave				Second wave			
	N	Mean	Std. Dev.	Std. Error	N	Mean	Std. Dev.	Std. Error
Group 1	20	42.2335	27.1638	6.074	32	37.3944	35.6202	6.2968
Group 2	28	38.8964	22.9198	4.3314	33	37.2573	34.7267	6.0452
Group 3	27	42.963	18.9767	3.6521	32	37.5	30.374	5.3694

Table 5: ANOVA Summary on the first and second wave of Covid-19

	First wave					Second wave				
Source	Degrees of Freedom DF	Sum of Squares SS	Mean Square MS	F-Stat	P-Value	Degrees of Freedom DF	Sum of Squares SS	Mean Square MS	F-Stat	P-Value
Between Groups	2	253.6775	126.8388	0.2431	0.7848	2	0.9636	0.4818	0.4001	0.9996
Within Groups	72	37566.1276	521.7518			94	106522.9324	1133.2227		
Total:	74	37819.8051				96	106523.896			

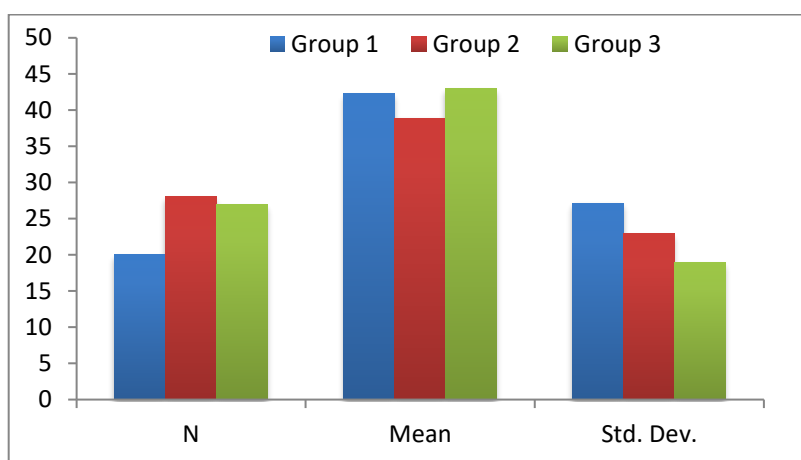


Figure 1: Comparison of the mean, standard deviation of the three groups of first wave of Covid-19

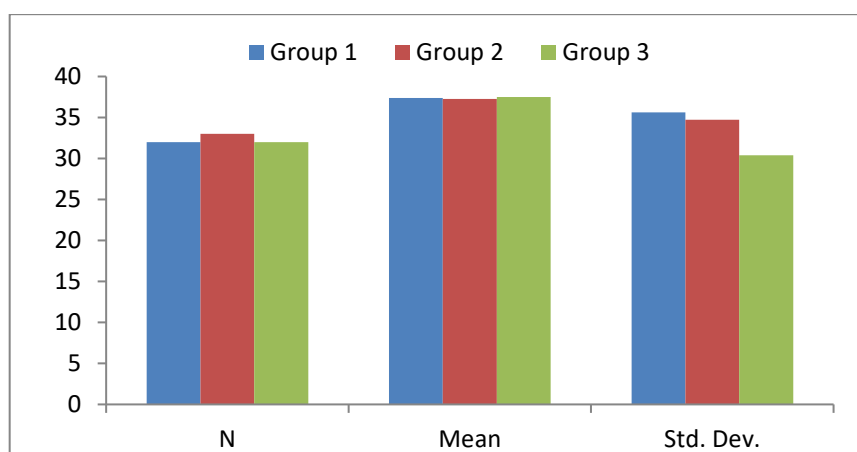


Figure 2: Comparison of the mean, standard deviation of the three groups of second wave of Covid-19

Statistical F-value=0.243 and p-value= 0.784 has been observed after the analysis of variance among the group I,II and III data based on the questionnaire prepared in accordance with the first wave of Covid-19. The important findings were as follow. Firstly only 10-25 % respondents had very little knowledge or low understanding of the pandemic. Those participants having low understanding of the Covid-19 virus reported no stress or anxiety of being infected. In addition most of the participants were not at all concerned about the spreading of the pandemic. The high anxiety

and unease level of being infected has been observed significantly among the group II (25-45 years) and group III (45 and above years).

A marked difference was observed in the awareness level of the respondents with 86.7 % in the second wave as compared to 35.5 % in the first wave of the Covid-19 pandemic. The mutant variant of the second wave is taking a major toll in severity and death rate resulting in 65 % of participants extremely horrified as compared to the 35 % reported in the first wave data. For the state of Manipur, maximum number of positive cases has been reported (average of 500 persons per day and 10-15 deceased every day) in the last two weeks since the onset of the 2nd wave thereby adding more psychological trauma. Because of the severity of the prevailing situation in the 2nd wave, respondents adhere to the use of double masks and follow strict Covid protocol. 66 % of the respondents felt panic attack like anxiety, nervousness, depression etc and have physical reactions like sweating, troubled breathing, pounding heart, nausea when they think about the increase in number of infected persons and deaths as compared to the 24.3 % of the first wave.

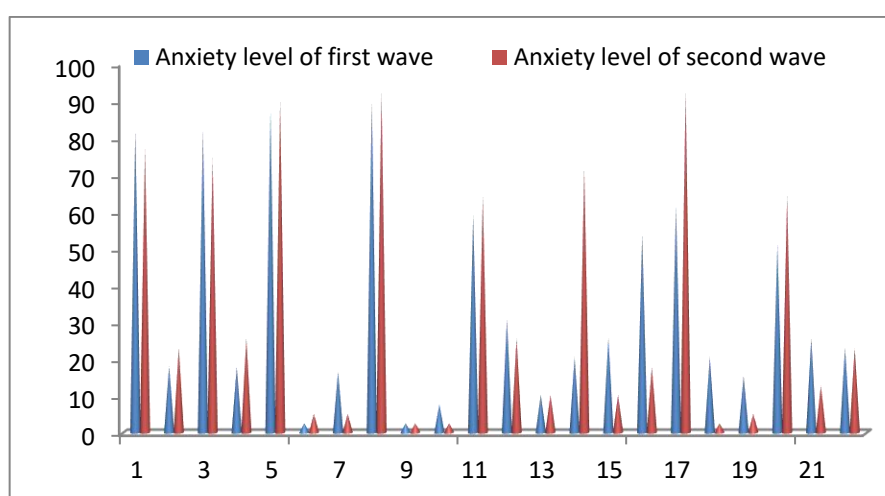


Figure 3: Comparing the anxiety and depressed level during the first and second wave of covid 19

Anxiety level of 2nd wave is more severe as shown in figure 2. Spearman correlation coefficients of depression/anxiety level about Covid-19, fear of being infected, anxiety level of having infection and on hearing news of deaths reported in the neighbourhood were 0.377, 0.415, 0.315, 0.39 respectively with p-value $0.7 > 0.001$ in all the cases. Figure 3 indicates the significant increased in spike during the 2nd-3rd week of the 2nd wave of the pandemic.

The difference of anxiety and perception between age group I (10-25 years), group II (25-45 years) and group III (45 years and above) had been examined. It was found that group II were more concerned and likely to understand COVID-19 (ANOVA, $p < 0.001$). Similarly they seem to be more anxious about the covid infection, severity and fast spreading mutant variant of the second wave (ANOVA, $p < 0.001$). Apparently, there was no significant difference between the age groups responding the stress, anxiety, depressed state about being infected or infecting neighbours.

On the other hand, contrasting difference was observed in the psychological manifestation of fear psychosis/high level anxiety in the group III more during the onset of the second wave as compared to the first wave of the pandemic. The respondents who had neighbours/family members infected or having history of infection understood more about the complications and trauma caused by the outbreak. Also the respondents who were in the category of graduates and above understood the pandemic much better and strictly followed the COVID protocols, SOPs, medication etc. ($p \leq 0.001$). After examining the difference of general awareness in respondents' understanding, the level of understanding the covid-19 was more significant during the 2nd wave. Correlation analysis shows the relationship between the mean score of covid awareness of the respondents who have not been affected so far and number per capita of respondents with family members or neighbours having

covid infection. The result indicates there were significant difference in the 2nd wave of covid ($p < 0.05$) vs 1st wave (Pearson correlation = -0.18, $P = 0.274$).

Regarding the frequency of following covid protocol, it is reported that most of the respondents wear masks (double masking), avoid crowded places and show avoidant behaviour towards people who cough /sneeze, contacted infected persons or attend religious mass gathering, persons who return from other state or persons under quarantine.

Other tangential or secondary tests were also applied to analyse the clarity of characteristics or behaviour of the respondents who were concerned about COVID-19 (2nd wave). After thorough study of the responses during the 1st wave vs the onset of the 2nd wave, respondents of the three groups were graded with ratings 1-2 (low), 3-5 (average) and 6-9 (high). The respondents reported average and high rating grade most often during the 2nd wave (ANOVA, $p = 0.465$) as compared to the 1st wave where respondents score average and low grade ($p < 0.001$). In particular, they were outstandingly less likely to follow covid protocols, SOPs ($p < 0.01$) other than high graded group ($p = 0.45$) avoiding crowded places, unwanted meetings, well informed covid knowledge and understanding. Comparing with other groups, low graded rating (1-2) was less concerned about their health. Group II and III were more anxious about health, covid-19 (ANOVA, $p \geq 0.001$).

But no statistically significant observation was observed in high graded groups (ANOVA, $p = 0.54$). Overall comparison of 1st wave and 2nd wave shows that respondents were more well informed, anxious about the pandemic during the 2nd wave (ANOVA, $p = 0.999$) vs 1st wave (ANOVA, $p = 0.7$). Statistical significance difference was also much more in the 2nd wave (ANOVA, $F \text{ stat} = 0.4001$, $p > 0.001$) as compared to the 1st wave ($F \text{ stat} = 0.243$, $p = 0.784$). There is more significance difference in the respondents' precautionary behaviour towards COVID-19 protocol in 2nd wave as compared to the 1st wave.

Discussion

The survey was conducted to investigate the netizens understanding about the corona phobia, knowledge of covid-19, anxiety level, depressed state, protective behaviour during the third wave of March, 2021 (1st Covid wave) and month of May (second wave of Covid-19). The fear psychosis of Covid, responsibility towards Covid protocols, SOP guideline, and respondents' level of anxiety, stress, fear, distress and precautionary behaviour was evaluated. All the criteria above were analysed comparatively based on the people's response during the 1st and 2nd wave [12].

Various studies suggested that media reports about the number of positive cases had significant relationship with the degree of anxiety levels. The study also focussed on participants accounting to around 10-15 % who delineate misinformation or less understanding of covid positively modulates the higher level of stress and anxiety [13]. These participants comprised many in the Group I and Group III and adopted little precautionary behaviour and rarely follow SOPs, information sources compare with other participants. However no variations in the level of depression were observed amongst the different groups. Respondents with immune compromised state had higher level of fear psychosis. The relationship between the knowledge of covid-19 and degree of stress level is complex [14]. The positive association between them encourage the importance of being anxious for the preventive behaviour. The positivity towards the degree of knowledge about the covid-19 is directly proportional to the association of proper precautionary behaviour [15].

Respondents with proper preventive behaviour implemented the use of double masking, timely medication, exercise, steaming etc. The relationship between respondents' cognitive and behavioural response and distress state, anxiety level was amalgated model [16]. Those respondents who do not adopt the precautionary behaviour even if they were well informed about the risk associated with covid-19 were less anxious about their health. It may be because of the lack of proper understanding about the covid. In addition, the level of irresponsibility and inexperience of actually getting infected following risky behaviour makes the condition more reckless. Even if they had covid infection, many people never revised their behaviour because 70-80 % of carriers only show mild and asymptomatic as noted by World Health Organisation.

Conclusion

The contemporary analysis suggested that it is the need of the hour to intellect those who have less concern about the crisis of the pandemic and their risk behaviour through ways to culminate the pandemic. Apart from covid-19 which is one of the most dreaded diseases, psychological distress would be the modern day madness. The fear psychosis of covid-19 – “Corona phobia” results in many challenges that can lead to the development of anxiety and stress. The common symptoms of experiencing strong emotions in adults, children and senior citizens were anger, sadness, fear, numbness, frustration, worry, nightmare, difficulty in sleeping etc. the stressful mind urge to develop worsened chronic health problems, augmented mental state, physical reactions like body ache, stomach problem and increased use of intoxicants. Higher level of anxiety was developed among the immune compromised individuals – SLE patients, persons with co morbidity. After all it is common and natural to feel mental distress, anxiety, depression, worry during the pandemic. However, we should find ways to cope with stressful mind. Some healthy ways to subside anxiety includes limiting the info media- information of covid updates and continue with routine precautionary behaviour. It is of utmost importance to take care of both the mental and physical health by maintaining well balanced diet, regular exercises, remaining well hydrated, having plenty of sleep, avoiding excessive intoxicants and connecting with the community or faith organisations. The state, media, social organisation, police, health care worker, leaders etc. need to work with mutual cooperation to remove social stigma and targeted blame at community level associated with covid, racism and religious advocacy. Setting up of number of covid hospital, testing laboratories well equipped with enough equipments, medical supplies and health care workers may minimised the mental state of the people.

The implementation of research institutions like ICMR, IISER focussing on basic and medical research will foster the health care system in the state. The use of social media in a good sense, educate the people on disease system dynamics , level of awareness and strict government laws, regulations regarding social rumours, false media report and misinformation would lessen the mental disturbance during the pandemic. The covid-19 pandemic has shown that corona virus have negatively impacted the lives of all including children. The corona virus is real and happening and thus there is need for social, psychological, defensive preparedness from metaphysical to molecular level in order to combat the wave of the pandemic.

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Declaration

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Competing Interest: For this paper, the authors say they have no competing interests.

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Conflict of Interest

No conflict of interest has been declared by the authors.

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