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Coping with Covid-19 Lockdown: Optimism and Intolerance of Uncertainty in India

Dr. Chinchu C.

ABSTRACT

Background: Kerala contained Covid-19 effectively in a low-resource setting, offering valuable insights for mental health research in epidemics, particularly for resource-poor countries.

Aims: This study examined optimism, intolerance of uncertainty (IU), and socio-demographics in Kerala, India during the Covid-19 pandemic.

Methods: Observational study where 121 adults were surveyed online via snowball sampling. Standard tools and custom questionnaire were used. Descriptive and inferential statistics were applied.

Results: Strong relationship between inhibitory anxiety and optimism was found. Socio-demographics did not determine IU or optimism. Uncertainty during crises requires further investigation.

Conclusions: The Pandemic's impact on well-being demands further research on anxiety and potential protective factors for better community-based disaster preparedness policies

Keywords: optimism, uncertainty, anxiety, Covid-19, disaster preparedness



About author: Post Doctoral Fellow, Women's Studies Centre, Cochin University of Science and Technology (CUSAT)

INTRODUCTION

Uncertainty can cause anxiety with detrimental consequences on well-being. It could be more stressful than known negative outcomes ^[1,2]. Within the context of illnesses, uncertainty has a negative relationship with optimism ^[3-5]. The relationship between uncertainty and optimism while coping with illnesses is important for public health research.

A significant portion of the world population was affected by the Covid-19 pandemic and the related containment measures ^[6,7]. Studies have shown symptoms of Post-traumatic stress disorder (PTSD) ^[8], and increased risk of symptoms among psychotic disorder patients during the lockdown ^[9] in China. In India, Roy et al. ^[10] found sleep disturbances, worries, paranoia regarding infection, and preoccupation with thoughts related to Covid-19.

Leadership characteristics of authorities could influence the subjective experiences of optimism and uncertainty by individuals ^[11,12]. It has also been pointed out that leadership

characteristics of heads of government have had an impact on the success of Covid-19 containment efforts ^[13]. Experiences from places with better containment outcomes are of interest to disaster preparedness and public policy.

Kerala state in India is known for its high human development, life expectancy ^[14,15], and considerable investment in public healthcare with people's participation and strengthening of the multi-tier healthcare system ^[16-18]. The state is also known for its commendable handling of a 2018 outbreak of the Nipah virus ^[19-21] and for pandemic control during the Covid-19 pandemic ^[22-24].

The present study examined the relationship between intolerance of uncertainty (IU) and optimism among people during the Covid-19-related lockdown in the Indian state of Kerala. The study also looked at the relationship of factors such as age, gender, occupation, and religious attitude with intolerance of uncertainty and optimism.

MEHODOLOGY

Sample:

The study was conducted among participants belonging to the state of Kerala. A convenience sample obtained through snowball method was used. A single-page open survey was conducted on the google forms platform between April 8 and 28, 2020. The checklist for reporting results of internet e-surveys (CHERRIES) was consulted for ethical guidelines and study design [25]. Hyperlink to the survey form was posted on social media platforms and online groups created during the lockdown with instructions regarding inclusion criteria and the study objectives. The form provided information regarding the purpose of the study and the confidentiality of data. Socio-demographic profile, descriptive response fields, and standardised tools were included in the form. No incentives were offered to the participants. After the submission of the filled-up form, the participant was provided with the researcher's contact information for queries or clarifications or to inform his or her intention to withdraw from the study.

Tools Used:

The socio-demographic profile collected places of usual and current residence, age, gender, employment status, and religious attitude. IU was measured with the 12-item short form of the 27-item Intolerance of Uncertainty Scale. The two confirmed factors of the scale are prospective anxiety and inhibitory anxiety. The scale has been shown to possess significant correlation with the original scale for measuring the same construct. It has also shown good internal consistency, convergent validity, and discriminant validity [26]. Optimism was measured with the Life Orientation Test-Revised (LOT-R), which is a 6-item revision of the original Life Orientation Test. The LOT-R tool provides a total score for optimism, along with two subscales - for affirmation of optimism and disaffirmation of pessimism. This scale has demonstrated good internal consistency and test-retest reliability, as well as convergent and divergent validity [27,28].

Statistical analysis:

The response rate was not available because of the open nature of the survey. The sample size available for analysis was 121.

Analysis was done using the free and open-source Jamovi software package [29]. Descriptive

and inferential statistics were calculated. The level of significance for statistical testing was set at 5%. The total score of intolerance of uncertainty scale and prospective anxiety and inhibitory anxiety subscale scores were calculated. From the life orientation test-revised (LOT-R), the total optimism score and the two subscale scores of optimism and pessimism were calculated.

RESULTS

The participants were relatively young, with a median age of 26. Age ranged from 17 to 69 and 90% were aged 45 years or less. While 81.8% were residing in Kerala at the time of the study, 18.2% were residing outside, either in other states or outside the country. Majority of the respondents (80.2%) were at their usual place of residence. Females constituted 62.3% of the sample. Only 18.2% were taking some form of medication at the time of the study. Around one-third (30.6%) were students, 25.6% were permanently employed, 20.7% were temporarily employed, and 14.9% looking for a job. Self-employed persons, professionals, and those who quit or retired from jobs constituted 8.3%. More than one-third of the participants (36.4%) considered themselves religious, 32.2% as spiritual, 19.8% as atheists, and 11.6% as agnostic/others.

Intolerance of Uncertainty

The mean score of total intolerance of uncertainty scale was 31.3 ($SD = 10.1$). Prospective anxiety was higher among the respondents ($M = 18.4, SD = 5.9$) than inhibitory anxiety ($M = 12.9, SD = 5.0$). Prospective anxiety is related to anticipation of future events. Given the unprecedented nature of the present pandemic situation, it is understandable that prospective anxiety was higher than inhibitory anxiety, which is concerned with inaction or helplessness when faced with uncertainty. The satisfactory performance of the state government in dealing with the pandemic could also have contributed to the lower levels of inhibitory anxiety. Respondents who were staying outside Kerala ($M = 33.1, SD = 10.2$) possessed higher IU than those staying in Kerala ($M = 30.9, SD = 10.1$) but the difference was not significant, $t(119) = 0.92, p = .358$.

There was no significant gender difference in terms of IU, $t(119) = 1.08, p = .282$, though females scored higher ($M = 32.1, SD = 10.8$) than males ($M = 30.0, SD = 9.0$). In general, and during a pandemic, women report more anxiety than men.^[30] But there have been no similar evidence for a significant gender difference in IU, even though women may be more prone to express it^[31].

Optimism

Mean score of total optimism was 14.4 ($SD = 3.5$). Mean score of the optimism subscale ($M = 9.21, SD = 2.8$) was higher than that of the pessimism subscale ($M = 6.83, SD = 2.5$). This difference is in agreement with earlier findings about the two dimensions^[32,33] where mean scores of optimism tend to be higher than those of pessimism. Independent samples t-test showed no significant difference in total optimism $t(119) = 1.93, p = .055$, between participants residing in Kerala ($M = 14.1, SD = 3.7$) and those residing outside ($M = 15.7, SD = 2.5$). There was no significant difference in optimism $t(119) = 1.04, p = .300$ between those staying at their usual place of residence ($M = 14.5, SD = 3.3$) and others ($M = 13.7, SD = 4.4$) either.

There was only a slight difference in optimism between males ($M = 14.1, SD = 3.0$) and females ($M = 14.5, SD = 3.8$) which was not statistically significant, $t(119) = 0.63, p = .533$. This finding is in agreement with the earlier research that showed only a small gender

difference in optimism^[32]. The mean difference between those under medication ($M = 13.5, SD = 3.7$) and others ($M = 14.6, SD = 3.5$) was also non-significant, $t(119) = 1.30, p = .197$.

No significant difference was found between age groups in terms of optimism $F(3, 117) = 1.77, p = .157$. The highest mean score of optimism was expressed by those belonging to the group 36 to 45 ($M = 16.4, SD = 3.0$). Concerning employment status also, no significant difference was observed $F(5, 115) = 1.38, p = .237$. Participants belonging to the different occupational groups such as students, job seekers, employed, self-employed, and retired/quit did not vary significantly in their optimism levels. The finding related to religious attitude was also similar, with no significant difference observed between various groups $F(3, 117) = 0.57, p = .636$. The disagreement of this finding with the existing evidence on the relationship between religiosity and optimism^[34,35] could be explained by the peculiar situation around the world, where places of worship and other religious institutions remain shut because of the lockdown.

Relationship between Intolerance of Uncertainty and Optimism

Total IU score and total optimism score were correlated negatively, but not significantly, $r(119) = -.16, p = .079$. The association of IU with resilience, which is influenced by optimism, has been documented earlier in the context of illness coping^[36]

Table 1

Correlation Between Intolerance of Uncertainty and Optimism

	1	2	3	4	5	6
1. Total Optimism	—					
2. Optimism Subscale	0.711***	—				
3. Pessimism Subscale	-0.626***	0.103	—			
4. IU Total	-0.160	-0.292**	-0.097	—		
5. Inhibitory Anxiety	-0.231*	-0.325***	-0.033	0.914***	—	
6. Prospective Anxiety	-0.078	-0.224*	-0.138	0.939***	0.718***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Total optimism score had a significant positive correlation with the optimism

subscale, $r(119) = .711, p < .001$, and significant negative correlation with the pessimism subscale, $r(119) = -.626, p < .001$ scores. Significant positive correlations were observed between the total IU score and the subscale scores of inhibitory anxiety, $r(119) = .914, p < .001$, and prospective anxiety $r(119) = .939, p < .001$. Total optimism was correlated negatively and significantly with the inhibitory anxiety subscale of IU, $r(119) = -.231, p = .011$. Inhibitory anxiety is related to helplessness when faced with uncertainty. It had earlier been found to have associations with trait anxiety, depression, and symptoms of seasonal affective disorder (SAD) [37], which have a negative relationship with optimism.

A significant negative correlation was found between optimism subscale score and inhibitory anxiety, $r(119) = -.325, p < .001$. The optimism subscale score also had a significant negative correlation with the total IU, $r(119) = -.292, p = .001$, and the prospective anxiety score $r(119) = -.224, p = .013$. This higher correlation of the optimism subscale with inhibitory anxiety when compared with the other variables supports the view that optimism can be a supportive factor when an individual is faced with helpless situations, and possibly protect against anxiety and related issues including depression.

DISCUSSION

The study aimed to explore the link between optimism and IU during a global pandemic for policy insights on individual well-being. Participants from Kerala, India were studied, considering socio-demographic factors. Prospective anxiety was higher than inhibitory anxiety. Optimism scores surpassed pessimism scores. While total IU and optimism scores were not significantly correlated, a strong negative correlation was observed between optimism subscale scores and inhibitory anxiety. Socio-demographic factors did not significantly impact IU or optimism.

The results of the study have emphasized the unprecedented effect of the

Covid-19 pandemic on the mental state of people. Most socio-demographic factors could not influence either IU or optimism. It had been discussed earlier that while under normal circumstances men tend to express more optimism than women, the difference almost disappears when faced with sharp economic downturns [38]. The present study is in agreement with this trend. The findings related to optimism subscale and inhibitory anxiety extend the already discussed relationship of optimism with anxiety, helplessness, and depression to the context of uncertainty in times of a global pandemic [39–42]. Another inference that can be made is that optimism can act as a supportive factor when an individual is faced with helpless situations. Optimism could also protect against anxiety and related issues, including depression. Policy-level interventions and the state's communication channels could benefit from adopting strategies aimed at strengthening optimism among people. Also, given the impact of conspiracy theories, especially in the medical domain, on uncertainty [43–45] governments should take up an active role in curbing misinformation and conspiracy theories related to the Covid-19 pandemic.

The study had limitations including online data collection due to lockdown and small sample size through snowball sampling, making generalization difficult. Baseline data on IU and optimism for comparison was not available. Further studies in the general population could inform epidemic and disaster preparedness policies.

Conclusions

The Covid-19 pandemic presented an unprecedented situation regarding the well-being of individuals. The present study has shown a notable relationship between inhibitory anxiety and optimism. Socio-demographic factors were not much influential in determining either IU or optimism. The impact of the pandemic situation had surpassed the confines of many social and demographical determinants of well-being. Further studies on anxiety and

related issues, and protective factors during similar situations of uncertainty are needed

for policy and practice related to community-level disaster preparedness.

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