

Original Research Article

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Anxiety and panic buying during COVID-19 pandemic among the Mizo

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ABSTRACT

Background: Certain behaviours have been observed since the beginning of the COVID-19 pandemic, such as buying and storing a lot of basic food and necessities, or hours spent obsessing over the virus. This research aims to assess the impact of the COVID-19 pandemic on the lives of the people living in Mizoram, a small north-eastern state in India, regarding psychological factors such as coronavirus anxiety and panic buying.

Methods: A total of 300 samples aged 20-66 years (150 males and 150 females) participated in the online survey. Those who consented to participate filled the forms which included socio-demographic details, as well as the Corona Virus Anxiety Scale and the Panic Buying Scale.

Results: Correlation analysis revealed significant positive correlations ($r=0.21$, $p<0.000$) between Coronavirus Anxiety and Panic Buying. Socio-demographic variables such as age ($r=-0.12$, $p<0.05$) and spirituality ($r=0.13$, $p<0.05$) are significantly correlated with panic buying, whereas number of family members was found to be significantly correlated ($r=0.14$, $p<0.05$) with Coronavirus anxiety. Furthermore, females scored significantly higher than males in Coronavirus anxiety ($p<0.002$) and Panic Buying ($p<0.007$). Analysis also revealed that the number of hours spent in thinking about COVID-19 has a significant impact on Coronavirus Anxiety, and that growth in budget significantly influences Panic buying.

Conclusions: One vital policy implication of the present study is that during a pandemic the government and other responsible organizations should ensure delivery of only factual data about COVID-19 and also reassure people about the adequacy of essential commodities so that panic buying is not rampant.

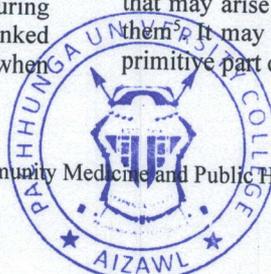
Keywords: COVID -19, Coronavirus anxiety, Mizoram, Pandemic, Panic buying

INTRODUCTION

The Coronavirus disease 2019 (COVID-19) has emerged as a public health crisis globally.^{1,2} One phenomenon not seen in earlier outbreaks, is that of panic buying during the current COVID-19 pandemic, which has been linked to the perception of scarcity.³⁻⁶ Amidst uncertainties when

crises occur, it is common for people to engage in purchasing as many basic needs as possible, to have a sense of control.^{7,8} The reason for the phenomenon may be that of a remedial response to reduce fear and anxiety that may arise from losing control over the world around them.⁹ It may be a method of preparation, caused by the primitive part of our brain, for survival.^{9,10}

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Over the last two decades, one very important effect that has been observed consistently is that infectious pandemics have on mental health and well-being, which is also being seen in the current COVID-19 pandemic.¹¹⁻¹³ Majority of the available literature has focused on common mental health problems such as depression, anxiety, stress, substance use, loneliness and its impact in general population as well as vulnerable groups such as frontline health care workers, homeless, elderly and pregnant women.¹²

A number of studies highlighted that depression, anxiety, and stress were prevalent among the Indian population during the COVID-19 lockdown.^{3,13,14} As far as the COVID-19 pandemic is concerned, what is alarming is the heightened fear related to the coronavirus culminating in people committing suicides.^{15,16}

The emergence and spread of COVID-19 worldwide, has been seen to cause confusion, anxiety and fear among the general public, which has often been observed to be the breeding ground for hatred and stigma.¹⁷ A very distressing observation of the rise of social stigma and discrimination is that of certain populations (Indian north-east people) being targeted as the reason for the COVID-19 outbreak.¹⁸

A number of myths and fake news about the treatment of COVID-19 are spreading through social media platform, which can be disturbing for certain individuals. A certain degree of panic has been found in the public, which may be the result of living in a densely populated country with limited healthcare services, like India.¹⁸

Mizoram, a small north-east Indian state, saw its first case of COVID-19 on 24th March, 2020, at the start of complete lockdown throughout the whole country. The one positive case in the state was cured during the 3rd lockdown, and till the end of the fourth lockdown, Mizoram had no other positive cases. With a large number of Mizos who were stranded in different parts of the country coming home and preparing to come home during this time, the whole state prayed to have no new positive cases. With uncertainty of the future and tense waiting for further announcements of lockdowns by the Government, a sense of anxiety and panic buying was witnessed amongst the people of the state. Then, as the whole country started facing the 5th lockdown, the news of positive cases from the samples tested from those who had returned home from different states hit Mizoram on 2nd June, 2020. Since then, the number of positive cases rose every day, most of them being asymptomatic, all of them returnees from other states. As on 17th June, 2020, out of a total of 6035 samples tested, the number of positive cases had risen to 121, with only 1 cured and discharged case, but no deaths so far.¹⁹ However, even as the fear of community transmission (if and when it would happen) loomed in the minds of the people, the pandemic has witnessed the collective contributions of different people in the community, to help each other and fight

against the disease which has caused so much disruption in their daily lives.

This study aims to assess the impact of the COVID-19 pandemic on the lives of the people living in Mizoram, a small north-eastern state in India, regarding psychological factors such as coronavirus anxiety and panic buying. So far, no research has been published on panic buying and coronavirus anxiety in Mizoram. With this background, the present study is carried out with the following objectives in mind:

To assess panic buying behaviour and coronavirus anxiety, and their socio-demographic correlates in the Mizo population during the COVID-19 outbreak.

To analyse the relationship between panic buying behaviour and coronavirus anxiety among the Mizo population.

To assess gender differences in panic buying behaviour and coronavirus anxiety among the Mizo population.

To examine the socio-demographic variables responsible for Coronavirus anxiety and panic buying among the people living in Mizoram.

METHODS

Study design and participants

The study was conducted from the 22nd of May 2020 to 17th June 2020, using convenience sampling technique. Data was collected through web-based online survey. The questionnaires were forwarded through Google forms, with a consent form appended to it. Those who consented to participate filled the forms which included socio-demographic details, as well as the Corona Virus Anxiety Scale and the Panic Buying Scale.

In total, 300 participants (150 males and 150 females), with the age range from 20-66 years took part in the online survey, completed the questionnaires and were included in the analysis.

Measures and tools

Demographics

The socio-demographic variables included age, age group, gender, type of family, number of family members, religion, spirituality, education, employment status, occupation and monthly income, budget increase in grocery.

Respondents were also asked to respond to the following COVID-19 items: (i) time spent searching for information about COVID-19 on media in a day, and (ii) time spent

thinking about COVID-19 per week. Likert type of response choices were provided to these items.

*Corona virus anxiety scale*²⁰

The Corona Virus Anxiety Scale (CAS) is a brief mental health screener to identify probable cases of dysfunctional anxiety associated with the COVID-19 crisis. This 5-item scale discriminates well between persons with and without dysfunctional anxiety using an optimized cut score of ≥ 9 (90% sensitivity and 85% specificity).

*Panic buying scale*²¹

Panic Buying Scale (PBS) during COVID-19 pandemic is a scale to measure Panic buying which occurs when fear and panic influence behaviour leading people to buy more things than usual. It contains variables such as (1) panic buying, (2) impulse buying, (3) temporal focus, (4) optimism, (5) risk perception, (6) need for cognition. PBS has seven items and for each statement, the respondent has to point out the degree of disagreement or agreement, considering [his/her recent behaviour during the new coronavirus pandemic] (1 = “strongly disagree” and 7 = “strongly agree”).

Statistical analysis

Data was analysed with SPSS Version 19.0. First, descriptive analysis was used to illustrate the socio-demographic and other selected characteristics of the respondents. Next, Spearman’s correlation method was used to assess the correlations between socio-demographic variables, coronavirus anxiety, and panic buying. In addition, a univariate analysis (Nonparametric test) was used to explore the significant associations between socio-demographic variables and coronavirus anxiety as well as panic buying during the assessment period. A two-tailed $p < .05$ was considered statistically significant.

RESULTS

An online survey on coronavirus anxiety and panic buying was conducted in the Mizo population during the corona pandemic. A total of 300 respondents (150 males and 150 females) participated in the online survey, their age ranging between 20-66 years.

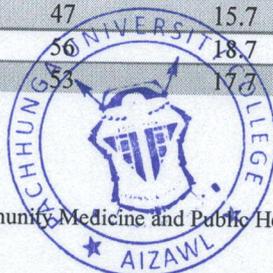
The socio-demographic characteristics of the respondents and the distribution of individual responses to coronavirus-related variables as well as the Mean and Standard Deviations are given in Table 1.

Table 1: Socio-demographic profile of respondents.

Variables	N	%	Mean	SD
Gender				
Male	150	50		
Female	150	50		
Age	300		38.64	8.94
Young adults (20-30 years)	164	54.7		
Middle adults (31-59 years)	131	43.7		
Old adults (above 60 years)	5	1.7		
Family type	300		1.42	0.57
Nuclear	185	61.7		
Joint	103	34.3		
Living alone	12	4.0		
Religion	300		1.03	0.315
Christian	296	98.7		
Hindu	1	0.3		
Lalnam	1	0.3		
Atheist	1	0.3		
Rather not say	1	0.3		
Number of family members	300		5.85	2.69
.00	2	.7		
1.00	6	2.0		
2.00	8	2.7		
3.00	32	10.7		
4.00	47	15.7		
5.00	56	18.7		
6.00	53	17.7		

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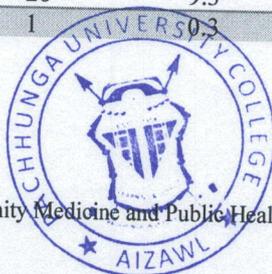


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Variables	N	%	Mean	SD
7.00				
8.00	32	10.7		
9.00	24	8.0		
10.00	10	3.3		
11.00	13	4.3		
12.00	6	2.0		
13.00	7	2.3		
16.00	1	0.3		
17.00	1	0.3		
20.00	1	0.3		
Education				
Primary	300		4.21	0.97
High school	2	0.7		
Higher secondary school	17	5.7		
Graduate	36	12.0		
Post-graduate	121	40.3		
Mphil/PhD	108	36.0		
Employment				
Employed	300		1.33	0.72
Unemployed	240	80.0		
Housewife	29	9.7		
Retired	24	8.0		
Occupation				
Govt. Employed/ Private full-time employed	7	2.3		
Business/ Self-employed	300		2.75	1.78
Teacher	94	31.3		
Contract/ Part-time	64	21.3		
Housewife	64	21.3		
Retired	31	10.3		
Others	20	6.7		
Monthly income				
Rs.5000- Rs.20000	3	1.0		
Rs.20001- Rs.35000	24	8.0		
Rs.35001- Rs.50000	300		2.92	1.65
Rs.50001 - Rs.65000	92	30.7		
More than Rs.65000	52	17.3		
Spirituality				
- Totally disagree	36	12.0		
1	29	9.7		
2	91	30.3		
3	11	3.7		
4	1	0.3		
5	2	0.7		
6	1	0.3		
7	1	0.3		
8	10	3.3		
9	6	2.0		
10 – Totally agree	5	1.7		
Budget increase in grocery				
No increase	32	10.7		
Twice	26	8.7		
Thrice	205	68.3		
Four times	300		1.75	0.63
	105	35.0		
	166	55.3		
	28	9.3		
	1	0.3		

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Variables	N	%	Mean	SD
Time spent searching for information about COVID-19 on media in a day	300		2.24	1.11
Less than 15minutes	97	32.3		
16-30 minutes	82	27.3		
31minutes- 1 hour	85	28.3		
1-2 hours	24	8.0		
Time Spent thinking about COVID-19 per Week	300		2.78	1.38
Less than 1 hour	62	20.7		
1-2 hours	75	25.0		
2-5 hours	80	26.7		
5-10 hours	47	15.7		
More than 10 hours	36	12.0		

Table 2: Spearman’s correlation between socio-demographic variables, CAS and PBS and reliability coefficients for CAS and PBS.

Variables	CAS	PBS	Reliability (Cronbach Alpha)
Gender	0.18**	0.16**	
Age	-0.02	-0.12*	
Age Group	0.04	-0.05	
Type of Family	-0.09	-0.02	
Number of family members	-0.14*	-0.03	
Religion	0.02	-0.07	
Spirituality	-0.04	0.13*	
Employment	0.02	0.08	
Job	-0.01	0.07	
Education	-0.04	0.03	
Monthly Income	-0.01	0.03	
Budget increase in grocery	0.05	0.28**	
Time spent searching for information about COVID-19 on media in a day	0.08	0.04	
Time spent per week thinking about COVID-19	0.19**	0.15**	
CAS	x	0.21**	0.53
PBS	0.21**	x	0.90

(*= $p < 0.05$, **= $p < 0.01$)

More than half of the respondents (54.7%) were young adults, 43.7% middle adults and only 1.7% old adults. 61.7% of the respondents live in nuclear families, 34.3% live in joint families and 4% live alone. 98.7% of respondents are Christians. The highest percentage of participants are graduates (40.3%), and 36% post-graduates. 80% of the respondents are employed, among which the highest percentages are Government employed or full-time employed in the Private sector (31.3%). 30.7% of respondents have a monthly income between Rs.5,000-Rs.20,000 and 30.3% earn more than Rs.65,000 per month.

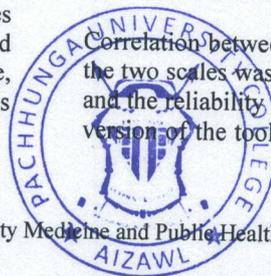
Participants were asked to rate their spirituality on a 0-10 rating scale (0 being totally disagree, 10 being totally agree) and their responses show that the highest percentages of participants (68.3%) consider themselves to be spiritual persons. Most respondents (56%) reported a two-fold increase, 9% reported a three-fold increase, while 35% reported no increase in budget for groceries

since the COVID-19 pandemic. With regards to the amount of time they spent each day in searching for information about COVID-19 on media, 87.9% of the participants reported spending less than 1 hour in searching for information about COVID-19, 8% reported spending about 1-2 hours each day, while 4% reported spending more than 2 hours per day for the same. 20.7% of participants reported spending less than 1 hour per week in thinking about COVID-19, 25% reported spending about 1-2 hours of their time per week, 26.7% reported spending about 2-5 hours per week, and 15.7% reported spending 5-10 hours while 12% reported spending more than 10 hours per week in thinking about COVID-19. (Table 1)

Correlation analysis

Correlation between the socio-demographic variables and the two scales was assessed using Spearman’s Correlation and the reliability was estimated for each of the translated version of the tools used in the study i.e., CAS and PBS,

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using Cronbach's coefficient alpha.²² The results reveal that the reliability coefficient of the tests emerged to be satisfactory over the levels of analysis for the whole

sample, indicating the trust-worthiness of the tools used in the study.

Table 3: Univariate analysis (Kruskal-Wallis test) of socio-demographic characteristics on Coronavirus anxiety and panic buying.

Variables	N	CAS			PBS		
		Mean Rank	Chi Square	P	Mean Rank	Chi Square	P
Gender							
Male	150	139.75	9.36	0.00	136.97	7.31	0.01
Female	150	161.25			164.03		
Time Spent thinking about COVID-19							
Less than 1 hour	62	141.08	14.77	0.01	128.17	8.14	0.09
1-2 hours	75	140.03			144.07		
2-5 hours	80	147.41			159.11		
5-10 hours	47	160.99			171.14		
More than 10 hours	36	181.71			156.28		
Budget Increase in Grocery							
No increase	105	145.06	7.11	0.07	113.88	30.71	0.00
Twice	166	154.61			171.54		
Thrice	28	141.68			158.80		
Four times	1	285.50			271.50		
Spirituality	11	132.55					
.00	1	120.00	16.36	0.09		10.41	0.41
1.00	2	189.00					
2.00	1	258.00					
3.00	1	298.00					
4.00	10	151.35					
5.00	6	143.00					
6.00	5	183.20					
7.00	32	149.31					
8.00	26	171.50					
9.00	205	146.90					
10.00	11	132.55					

Gender was found to be significantly and positively correlated with CAS ($r = 0.18, p < .01$) and PBS ($r = 0.16, p < .01$). Age was found to be significantly and negatively correlated with PBS ($r = -.12, p < .05$).

A significant negative correlation was also found between the number of family numbers and CAS ($r = -.14, p < .05$). Spirituality and PBS were also found to be significantly and positively correlated ($r = .13, p < .05$).

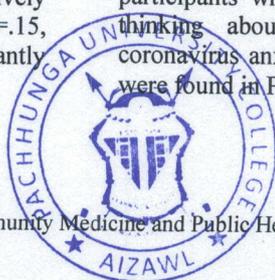
A significant positive correlation was also found between the budget increase for groceries and panic buying ($r = .28, p < .01$).

The amount of time spent per week in thinking about COVID-19 was found to be significantly and positively correlated with both CAS ($r = .19, p < .01$) and PBS ($r = .15, p < .01$). CAS and PBS were also found to be significantly and positively correlated ($r = .21, p < .01$). (Table 2)

Univariate analysis of respondents in coronavirus anxiety and panic buying

Gender differences in CAS and PBS were analysed using Kruskal-Wallis Test and the results revealed significant gender differences in both CAS ($p < .01$) and PBS ($p < .01$), with females scoring significantly higher in both CAS and PBS. Since correlation analysis indicated a significant and positive correlation between the amount of time spent per week in thinking about COVID-19 with both CAS ($r = .19, p < .01$) and PBS ($r = .15, p < .01$), differences in CAS and PBS based on time spent thinking about COVID-19 per week were analysed using Kruskal-Wallis test and the results are shown in Table 3. Significant differences were found in CAS ($p < .01$), with participants who spent more than 10 hours a week in thinking about COVID-19 scoring the highest in coronavirus anxiety. However, no significant differences were found in Panic Buying.

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Since correlation analysis indicated a significant and positive correlation between Spirituality and PBS ($r=.13$, $p<.05$), between Budget increase in groceries and PBS ($r=.28$, $p<.01$), as well as the amount of time spent per week in thinking about COVID-19 with both CAS ($r = .19$, $p<.01$) and PBS ($r = .15$, $p<.01$), differences in CAS and PBS based on time spent thinking about COVID-19 per week were analysed using Kruskal-Wallis test and the results are shown in Tables 3.

No significant differences were found in CAS and PBS based on Spirituality. However, results showed a significant difference in Panic Buying based on differences in Budget Increase in groceries ($p<.01$). Respondents reporting four times increase in budget tend to indulge in panic buying more than those having lesser increase in grocery budget (Table 3).

DISCUSSION

This study was conducted to assess panic buying behaviour and coronavirus anxiety, and their socio-demographic correlates in the Mizo population during the COVID-19 outbreak. This is the first scientific literature that highlights the impact of COVID-19 crisis in a sample of the Mizo population. The findings of the study indicated that women have higher levels of coronavirus anxiety, and thus indulging in panic buying more than men. This could be because Mizo women, like their counterparts in various parts of the world, engage in multiple roles – being a mother, a wife, and a homemaker. Moreover, most Mizo women are bread winners of the family, working from dawn to dusk and the fact that they have to work even during the COVID-19 pandemic may have specifically contributed to the higher levels of coronavirus anxiety reported by them. This naturally incites them to indulge in panic buying to maintain a constant supply for their family. This finding is consistent with other studies in different parts of the world which have found females more likely to be anxious than males.²³⁻²⁶

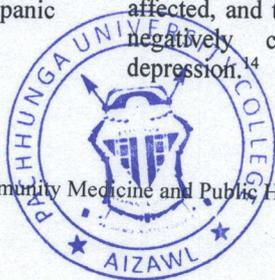
Moreover, the findings of the present study highlight that the age of the participants is negatively associated with panic buying. Perhaps, for younger participants the fear of not being able to procure basic necessities may have aggravated the need to buy more items than the usual. Spirituality is also found to be positively associated with panic buying. The Mizo community in essence is built on spirituality and most of their behaviour is influenced to a certain extent by this. Those who reported themselves to be more spiritual may have a tendency to procure more items as a form of sustenance to take care of their families which according to them may have been a very spiritual act. Further, budget increase in grocery and the time spent thinking about COVID-19 per week are found to be significantly and positively associated with panic buying. Thus, increase in grocery budget and increase in time spent thinking about COVID-19 resulted in more panic buying.

Several explanations have been highlighted for panic buying.⁴ Firstly, the desire to maintain regular routines versus uncertainty about the duration of the pandemic may lead to anxiety and panic buying. Secondly, trying to maintain stability through stocking of food and other basic necessities for the family may be a coping response. Such psychological responses may have aggravated due to the increase in social media and digital connectivity which has improved considerably since the earlier outbreaks of SARS/MERS, H1N1 pandemic.²⁷ Researchers have also suggested the need for the media to be more careful and responsible in their reports of panic buying, so as not to cause panic among the public.²⁸ Presenting information and data is important for the public to make informed decisions. In accordance with the social learning theory, too much information – both reading material and visuals – of empty shelves in supermarkets may lead to more panic buying.^{4,28} Furthermore, it is often observed that the mistrust of public representatives and government that people in developing countries have, may lead to panic buying when rumours of the pandemic spread.²⁹

Findings also manifested that the number of family members is negatively associated with coronavirus anxiety. Social support provided by members of a large family could lead to emotional strength in times of a crisis such as a pandemic, resulting in low anxiety. Furthermore, the time spent thinking about COVID-19 has a significant impact on the level of coronavirus anxiety the respondents experienced. The more the hours spent in thinking about COVID-19 per week (more than 10 hours) the higher the coronavirus anxiety. Continuous thinking about a particular topic may result in the desire to gain more information about that topic through media exposure for instance. The exposure to media, especially false information and false reports about COVID-19 have been linked to anxiety and depressive symptoms in the general public, which has been noted even in previous events such as the 9/11 terrorist attack, the Boston Marathon Bombings, and the 2014 Ebola epidemic.³⁰⁻³²

A survey conducted by the Indian Psychiatry Society during the beginning of lockdown indicates 20% rise in patients suffering from mental illness.³³ Researchers have found that the fear of infection during epidemics may result in anxiety, stress, depression, etc.³⁴ Studies in China and Spain have also reported severe psychological distress (anxiety, stress, and depression) during COVID-19.^{3,23,35} Poor mental health status has also been linked to different causes of worry, such as inadequate supply of masks and not being able to work from home, for being infected by COVID-19 in Hong Kong.³⁶ High level of anxiety, preoccupation with thoughts of the COVID-19 pandemic, sleep difficulties, paranoia and distress related social media has also been reported in the Indian population.¹⁷ A study indicated that people who do not have enough supplies to sustain the lockdown were most affected, and the prosperity of a family was found to be negatively correlated with stress, anxiety, and depression.¹⁴

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Limitations: The current study has several limitations. Firstly, the sample chosen through convenience sampling may not represent the Mizo population. With regards to the data collection method, using online tools (Google Forms) may under represent older participants, as well as the underprivileged since they may not be technology savvy and may not have internet facility to participate in the study.

As mentioned, the study is limited to the people who had smartphones, e-mail IDs and the ability to read. This represents the educated population of the state, so the study findings in the present study might not be generalizable to other populations.

Moreover, all the responses were self-reported, and this could cause recall bias. Furthermore, pre-existing diagnoses of depression and anxiety could not be ascertained since the study was conducted online. So it was not possible to control them during the analysis

CONCLUSION

In conclusion, the findings of the present study suggested that there is gender difference in coronavirus anxiety and panic buying behaviour among the Mizos. Furthermore, socio-demographic factors such as age, number of family members, spirituality, budget increase in grocery, times spent thinking about COVID-19 in a week are all associated with coronavirus anxiety and panic buying. One vital policy implication of the present study is that during a pandemic the government and other responsible organizations should make use of the digital platforms to deliver, in a timely manner, only factual data about COVID-19 and also reassure people about the adequacy of essential commodities so that panic buying is not rampant.

The promotion of positive psychosocial support to the citizens should be a chief concern during a pandemic. This can be done through media platforms, as well as supplying printed brochures and flyers about the nature and impact of COVID-19 on mental health. Increase in psychological distress is a common phenomenon during pandemics, and therefore awareness programs to address the mental and physical health concerns of people should be the main objective. Finally, to prevent unwanted occurrences of the phenomenon during public health emergencies, further empirical studies may be undertaken so that preventive measures are taken up. Responsible media reporting guidelines may be developed to reduce fear and panic among the readers as reports of panic buying could lead to panic buying and stockpiling of goods and commodities.

Strengths of the study: Empirical studies related to panic buying behaviour and coronavirus anxiety is scarce as far as the Mizo population is concerned. To the best of our knowledge, this study is the frontrunner in research about corona virus anxiety and panic buying in Mizoram. This study would contribute to existing literature and serve as a baseline research for future projects during pandemics.

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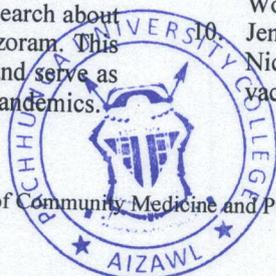
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