

Original Research Article

Pattern of panic-buying and its psychosocial correlates among Pakistani adults during COVID-19 pandemic

Kiran Abbas¹, Amber Tahir^{2*}, Aleena A. Raza¹, F. N. U. Amreek³, Jaish Kumar³,
F. N. U. Sakshi⁴, F. N. U. Aakash¹, Fahham Asghar³, Inam U. Haq⁵

¹Department of Medicine, Jinnah Postgraduate Medical Centre, Karachi, Pakistan

²Department of Psychiatry, Dr. Ruth Pfau Civil Hospital, Karachi, Pakistan

³Dow University of Health Sciences, Karachi, Pakistan

⁴Peoples University of Medical and Health Sciences, Nawabshah, Pakistan

⁵Department of Medicine, Shifa College of Medicine, Islamabad, Pakistan

Received: 27 September 2020

Accepted: 30 October 2020

*Correspondence:

Dr. Amber Tahir,

E-mail: siddiquiambertahir@gmail.com

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ABSTRACT

Background: As the COVID-19 pandemic rages on, one bizarre yet ubiquitous human behavior has resurfaced. Globally, people have engaged in panic buying and hoarding (PBH). This irrational practice of panic buying is driven by deficient, manipulated news amid COVID-19 crisis.

Methods: A cross-sectional study was conducted with Pakistani adults (≤ 18 years). Data was collected through an anonymous self-reported online survey from 17th April 2020 (0800 hours) through 20th April 2020 (2200 hours) via social media platforms. The survey consisted of sociodemographic characteristics, questions regarding food/essential supplies PBH and its psychosocial correlates- attitudes about COVID-19 severity (CA), values related to social responsibility (SR), social trust (ST), and self-interest (SI). Data was entered and analyzed using IBM Statistical package for social sciences (SPSS) version 20.

Results: There were 786 participants in the survey; 59% were females. Mean age was 26.6 ± 7.6 years. Mean PBH score was 2.31 ± 0.85 (range: 1-5). Overall, 28.4% hoarded supplies a few times or more and 47% agreed to have bought more food/essential supplies due to COVID-19. Correlation analysis showed a 12.3% positive correlation of PBH with ST and 8.5% positive correlation with SI ($p < 0.05$). In the multivariate regression model, PBH showed a statistically significant ($p < 0.05$) positive impact on ST and SI.

Conclusions: More than one-fourth of the individuals indulged in panic buying and hoarding during the COVID-19 in Pakistan. Fear of contracting the virus and uncertainty about the duration of lockdown was the common reasons behind PBH. Social trust and self-interest were significant psychosocial contributors to hoarding behavior.

Keywords: COVID-19, Hoarding, SARS-COV, Self-interest, Pandemic, Panic-buying

INTRODUCTION

As the COVID-19 pandemic rages on, one bizarre yet ubiquitous human behavior has resurfaced globally.¹ In these unprecedented times, people are engaging in irrational hoarding also known as stockpiling or panic

buying. This practice of panic buying is driven by deficient, manipulated and highly overplayed information/news amid COVID-19 crisis.²

When consumers start stocking up (hoarding) more than their standard needs, it indicates that their demands are not

being met by the suppliers. Amid a humanitarian crisis like COVID-19 pandemic, people are engaging in practices of hoarding and panic buying, leaving stores out of stock. This act of panic buying has temporarily disrupted the supply chain in different parts of the world.³

Irrational hoarding or panic buying practice has been widely observed during several natural disasters and humanitarian crises, globally. This behavior is more common in countries with large populations or those dominantly dependent on exports. Panic buying of essential goods is a reflection of an individual's perception of the impending crisis threat and subsequent scarcity of goods and the uncertainty of the future which stirs up fear. For some individuals, it is a maladaptive coping strategy to ensure some control over the situation of crisis. Others also succumb to this behavior taking influence from their peers indulging into panic purchasing and hoarding.⁴ Pandemics are major health-crisis which induces fear and panic among masses driving some of the most erratic and baffling displays of behavior.⁵ The act of hoarding or panic buying is often stimulated by a false perception of scarcity. Studies have shown that perceived scarcity of basic food and essential commodities is significantly associated with panic buying among consumers.^{5,6}

There are three proposed theories to explain the behavior of panic buying amid a crisis, these are; a sense of autonomy, relatedness or a sense of belonging, and competency or security. During a crisis, people need to feel that they are in charge or have authority over a particular situation.² Towler, explained that panic buying is considered to be a crowd activity which gives people a sense of relatedness and belonging. Similarly, when people stockpile essential commodities, they feel they are secure and the uncertainties of the outer world would not affect them.⁷

During the COVID-19 pandemic, people all around the globe noticeably in the United Kingdom, Italy and Australia rushed to their local markets swiping the shelves for food, medicines, hand sanitizer, masks, gloves, and toilet papers.^{2,8,9,10} Panic buying and hoarding practices result in more drastic challenges for disaster management, exerting adverse impacts on many aspects of the economy and local communities.

In Pakistan, which is a third-world country with magnanimous cultural diversity, people also engaged in a similar behavior. Nevertheless, no study has yet explored the driving factors leading to this strange behavior. Hence, in this study we aimed to highlight the main correlates of hoarding or panic-buying among Pakistani population and explore the reasons and possible solutions for future management of food and essential commodities.

METHODS

A cross-sectional survey-based study was initiated with Pakistani adults (18 years and above) during the period of

strict nationwide lockdown (1st April till 15th April 2020) in order to mitigate the spread of COVID-19. Data was collected from 17th April 2020 (0800 hours) through 20th April 2020 (2200 hours). All authors advertised the study through their social media platforms including Facebook, Instagram, Twitter, Whatsapp, and LinkedIn. All participants self-selected themselves into an anonymous 15-minute long online survey (via Google docs). At the beginning of the survey, the participants were briefed about the aims of the study and informed consent was taken. Participants self-reported their age and responses from those of less than 18 years were excluded.

The survey was in English language and consisted of socio-demographic characteristics of the participants. These included their age, gender, marital status, highest education, profession, and employment status during lockdown, their living status, and type of family, status in the family, and total number of adults and children in the family. Panic buying and hoarding (PBH) was assessed on 2-items. Participants were required to indicate how frequently they have hoarded supplies from a grocery or a departmental store in the last 15 days and if they believed that they bought more than usual food and other essential supplies in the last 15 days due to COVID-19. Those who believed so were required to indicate their reasons. Both items were rated on a 5-point Likert scale (1-5) where 1 indicated no visit to a grocery or a departmental store / strongly disagreeing to buying more than usual food and other essential supplies and 5 indicated very often visits to a grocery or a departmental store / strongly agreeing to buying more than usual food and other essential supplies. The pattern of PBH was correlated with four psychosocial parameters adapted from the work of Osterhoff and Palmer with their permission.¹¹ These included attitudes about COVID-19 severity (CA), values related to social responsibility (SR), social trust (ST), and self-interest (SI). All parameters were assessed as described in Osterhoff and Palmer.¹¹ It was hypothesized that more PBH will be associated with higher CA, greater SI, and reduced SR and ST.

Data was entered and analyzed using IBM Statistical package for social sciences (SPSS) version 20. Categorical data was presented as frequencies and percentages. Continuous data was presented as mean and standard deviation (SD). Correlation and regression analysis was performed to study the relationship between PBH behavior and psychosocial parameters.

RESULTS

There were 798 responses received; 3 were discarded due to lack of completeness and 9 participants were of age less than 18 years. Hence, 786 responses were included for analysis. There were more female than male participants (59% versus 41%). The mean age of the participants was 26.6±7.6 years (range: 18-65 years) and more than half of them were of the younger age group (18-25 years). As far

as the marital status was concerned, most of the participants were single (68%).

Table 1: Socio-demographic variables of the study participants (n=786).

Socio-demographic variables		Frequency N (%)
Gender	Male	319 (40.6)
	Female	467 (59.4)
Age in years	Mean ± SD	26.6 ± 7.6 (range: 18-65)
	18-25	405 (51.5)
	26-40	338 (43.0)
	41-65	43 (5.5)
Marital status	Single	532 (67.7)
	Married	236 (30.0)
	Divorced / separated	15 (1.9)
	Widow	3 (0.4)
Highest education	High school	37 (4.7)
	University	521 (66.3)
	Postgraduate	228 (29.0)
Profession	Indoor / office job	212 (27.0)
	Outdoor / field job	75 (9.5)
	Healthcare sector job	115 (14.6)
	Homemaker	58 (7.4)
	Student	326 (41.5)
Employment status during lockdown	Working from home / staying home	148 (18.8)
	Going to workplace	221 (28.1)
	Temporary lay off	98 (12.5)
	Job has been terminated	26 (3.3)
	Classes moved online	136 (17.3)
	Classes abandoned	157 (20.0)
Living status	Urban	754 (95.9)
	Rural	32 (4.1)
Type of family	Nuclear	453 (57.6)
	Joint	333 (42.4)
Status in the family	Head of the family	145 (18.4)
	Other members	641 (81.6)
Total members in the family (living together of age <5 years), mean±SD		5.8±3.3 (range: 1-25)
Total children in the family (living together of age ≥5 years), mean±SD		0.5±0.9 (range: 0-5)

There were 66% participants with the highest education till university. Of our study sample, 41.5% were students, 7% were homemaker women, 27% had office-based jobs, 9.5% had field jobs, and 15% belonged to the healthcare sector. The sociodemographic characteristics of these participants are summarized in table 1.

Overall, 34.5% participants did not hoard supplies from a grocery or departmental store at all during the 15-days of strict lockdown and 28.4% hoarded supplies a few times or more than that. In the last 15-days 53% strongly disagreed / disagreed to have bought more food and essential supplies than usual while 47% partially agreed / agreed / strongly agreed to have bought more food and essential supplies than usual due to COVID-19. The mean score of panic buying among our participants was 2.31±0.85 (range: 1-5) (table 2). The fear of contracting the virus and uncertainty about the duration of lockdown were the most common reasons contributing to panic buying (table 3).

Table 2: Pattern of panic buying behavior and its reasons among the study participants (n=786).

In the past 15-days, how frequently have you hoarded supplies from a grocery or department store?		In the past 15-days, I have bought more food and essential supplies than usual due to COVID-19	
Not at all	271 (34.5%)	Strongly disagree	152 (19.3%)
Once or twice	292 (37.2%)	Disagree	267 (34.0%)
A few times	176 (22.4%)	Partially agree	173 (22.0%)
Often	34 (4.3%)	Agree	132 (16.8%)
Very often	13 (1.7%)	Strongly agree	62 (7.9%)
Mean score	2.02±0.94 (range: 1-5)	Mean score	2.60±1.19 (range: 1-5)
Mean score of panic buying behavior		2.31±0.85 (range: 1-5)	

Overall, the study participants scored a mean of 2.12±1.02 (range: 1-7) on CA, 4.36±0.69 (range: 1-5) on SR, 3.01±0.95 (range: 1-5) on SI, and 3.77±1.38 (range: 1-7) on ST. Correlation analysis was performed for all psychosocial correlates as seen in table 4. It shows a 12.3% positive correlation of PBH behavior with ST and 8.5% positive correlation with SI. These correlations were statistically significant (p<0.05). However, CA and SR did not show a significant correlation with PBH.

Multivariate regression model showed that PBH behavior had a statistically significant (p<0.05) positive impact on ST and SI, a non-significant positive impact on CA, and a non-significant negative impact on SR (Table 5).

More importantly, their study found an overall prosocial behavior compared to the current study where almost two-fifth of the adults claimed their engagement in hoarding grocery and other supplies during the lockdown. In a short chapter published in an e-Book written by Cheema et al, tweets were analyzed during the first week of the lockdown.¹⁷ It was found that among Twitter users in Pakistan, there were significantly higher numbers of positive and motivating posts compared to negative ones, indicating an overall healthy state of mind among masses.

Table 3: Reasons behind panic buying behavior among the study participants (n=786).

Reasons behind panic buying behaviour	Frequency, N (%)
I feared contacting the virus if I go out shopping every day	266 (33.8)
There were special discount offers	4 (0.5)
I deliberately stockpiled in order to be prepared for this and other crises	44 (5.6)
I was worried that soon nothing will be available	54 (6.9)
I was uncertain how long the lockdown may last	206 (26.2)
I feared the supermarkets might run out of food supplies	89 (11.3)
Average food consumption of the household increased	19 (2.4)

Table 4: Correlation analysis of outcomes with studied parameters.

Psychosocial correlates	Panic buying behavior	
	Correlation (r)	P value
Attitudes about COVID-19 severity	0.037	0.298
Social responsibility	-0.012	0.742
Social trust	0.123	<0.01*
Self-interest	0.085	0.01*

*p<0.05 was considered significant for Pearson Correlation (r)

DISCUSSION

The present study demonstrated that overall, during the 15-days of strict lockdown in Pakistan, at least 30% participants claimed to engage in hoarding supplies a few times or more than that. The mean score of panic buying among our participants was 2.31±0.85 (range: 1-5). The fear of contracting the virus and uncertainty about the duration of lockdown were the most common reasons contributing to panic buying. There was a positive and statistically significant relationship between panic buying and self-interest and social trust. Human nature is driven by fear, especially in a humanitarian crisis like this humans are prone to indulge in irrational behaviors that they deem as necessary for their survival.⁴ Moreover, the lack of trust and perceived risk of the exhaustion of resources can

explain the panic buying behavior among Pakistani population.¹²

COVID-19 pandemic has devastatingly disrupted lives all around the world, both socioeconomically and psychologically. Millions of people are facing unemployment, financial collapse, and are at risk of developing different psychological coping mechanisms to deal with the fear and uncertainty associated with the current humanitarian crisis.¹³ In the present study, it was reported that about 12.5% participants faced a temporary lay off from work and about 3.3% participants were terminated from their jobs. The uncertainty about their future further promoted fear and anxiety among the masses. In fact, Mamun and Irfan noted that there have been an increased number of suicides among Pakistani population which are mostly attributed to the lockdown-related economic recession. It was highlighted that sudden unemployment aggravated the life-threatening situation in the country.¹⁴ However, the situation is not that different in the most developed countries. A recently published article in The Guardian reported that due to the increasingly high number of COVID-19 cases in the United States (US), many financially privileged people started stockpiling essential supplies to prepare themselves for government-ordered quarantine or lockdown. This caused food supply disruption as the panic-buying practice led grocery stores to be out of stock, leaving people who relied upon the day-to-day grocery shopping washed up.¹⁵ Stockpiling leaves four grave impacts on the society- a clogged supply chain, failure of maintaining a fair buying environment for people of all ages and socioeconomic backgrounds, health hazards resulting from more frequent store visits and far travel for store visits, and a compulsion to buy at higher prices even in these times of economic shutdown.^{1,16}

Osterhoff and Palmer reported that there was a relationship between hoarding and less socially responsible and more self-interested individuals. However, their study was only limited to US adolescents and did not include the adults of the country.¹¹

Moreover, it was found that the element of trust was much higher compared to the global trend. However, the authors did not comment on why such a high level of trust existed. We could speculate that initially there was a very gradual spread of virus, and people, or may be due to religious purposes. The relationship between religious coping mechanisms leading to reduced anxiety is well-established. People have used religion to cope with times of strain and uncertainty.¹⁸ Nevertheless, the current study reported that with the pandemic and lockdown participants scored a mean score of 3.77±1.38 (maximum score 7) on ST; however SI and SR mean scores were higher (3.01±0.95 and 4.36±0.69 respectively, maximum score 5). The element of SI was also positively correlated with PBH among the participants (p=0.02). The irrational practice of panic buying has significantly affected the health-care practitioners, daily wage workers, and has

disrupted the overall integrity of the economy of Pakistan.¹⁹ The findings of this study are crucial in comprehending the psychological framework of Pakistani adults, their preferences, behaviors, and attitudes, and reasons behind those behaviors during a public healthcare crisis. Factors like attitude about COVID-19 and social responsibility can be improved with the aid of effective messages that target and emphasize social responsibility

and ingrain communal interest along with building trust in communities hence reducing panic buying behavior among the public. Much efforts are needed to decrease the masses' self-interest values and inculcate more social responsibility and mutual trust for a better public response and as a preventive measure for suspected second wave of COVID-19 and also future pandemics, if any.

Table 5: Multivariate regression model to estimate the effect of CA, SR, ST and SI on panic buying behavior.

Dependent variables	Independent variables	Beta coefficient	SE	t-value	P value	95% CI	
						Lower bound	Upper bound
PBH behavior	Intercept	1.93	0.241	7.999	<0.01*	1.456	2.403
	CA	0.019	0.031	0.611	0.54	-0.042	0.079
	SR	-0.03	0.046	-0.765	0.44	-0.125	0.055
	ST	0.07	0.022	3.292	<0.01*	0.030	0.117
	SI	0.07	0.032	2.219	0.02*	0.008	0.134

*p<0.05 was considered significant for beta coefficient

CONCLUSION

Panic buying and hoarding of essential supplies was frequently seen among Pakistani adults. More than one-fourth of the individuals indulged in panic buying behavior. Individuals reported the fear of contracting the virus and uncertainty about the duration of lockdown as the most common reasons for hoarding behavior. Social trust and self-interest were the significant psychosocial contributors of hoarding behavior.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Abbas K, Tahir A, Raza AA, Amreek FNU, Kumar J, Sakshi FNU et al. Pattern of panic-buying and its psychosocial correlates among Pakistani adults during COVID-19 pandemic. *Int J Res Med Sci* 2020;8:4206-11.