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Media portrayal of panic buying: A content analysis of online news portals

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Abstract

Objectives: Media reporting has an influential role in panic buying (PB). We aimed to evaluate the media portrayal of PB during this COVID-19 pandemic.

Methods: We searched, collected, and analysed the news reports from the English media discussing the PB events. The search was done between 23 and 30 May 2020.

Results: A total of 525 news reports were analysed. Approximately half (49.3%) discussed the government action to handle the situation, 36.4% discussed the expert opinion regarding PB, 20.6% discussed the psychology of PB, 21.5% discussed the rumours, and 18.5% suggested remedial measures. Concerning the negative aspects, 96.6% of the titles mentioned panic buying, 75.4% mentioned the cause, and 62.3% mentioned the photos of empty shelves. The media in low–middle-income countries are 1.5 times more likely to include expert opinion (p = 0.03), 2.1 times more likely to discuss rumours regarding PB (p = 0.001), almost thrice more likely to report the cause of PB (p = 0.001), and thrice more likely to mention its impact (p = 0.001).

Conclusion: Media has been portraying more negative aspects of PB. Further, there are variations in reporting patterns between high-income and low–middle-income countries.

INTRODUCTION

Panic buying (PB) is an interdisciplinary phenomenon that has been observed episodically during several public health emergencies and disasters (Arafat et al., 2020a; Jennings et al., 2008; Bonneux and Van Damme, 2006). Although this phenomenon overlaps among multiple disciplines such as behavioural science, marketing, supply chain management, economics, sociology, public health, political administration, disaster, and emergency management, there is a dearth of empirical studies explaining it (Arafat et al., 2020b). During the COVID-19 pandemic, it has been observed across the continents irrespective of the income category of countries (Arafat et al., 2020a; Sim et al., 2020). Speculatively, this widespread phenomenon has been explained on the basis of a

sense of perceived scarcity, a way of gaining control over the uncertainties, social learning, and also by lack of confidence in the authorities during the PB episodes (Arafat et al., 2020c; Yuen et al., 2020).

The media has an important role in spreading as well as controlling PB (Arafat et al., 2020b). Media can spread news as well as rumours. They can display the photos of empty shelves indicating the scarcity of goods, specify the goods and increase tension, anxiety, and fear among the general population, resulting in a further increase in PB (Arafat et al., 2020b). Conversely, media can also distribute healthy messages to reduce fear, to modify the social cognition in a positive direction, nullify the rumours, and increase the confidence of general people towards the local and national authorities (Arafat

et al., 2020b). In the situation of PB, the decisions of purchasing by consumers are influenced by peer choices. Hence social learning has an important role in consumers' PB decisions and media can shape and decide this learning by its widespread reach (Zheng et al., 2020). One previous study revealed that 46% of the media reports mentioned the item related to PB, 82% mentioned the causes, 67.3% showed the images of empty shelves, and about 10% blamed the government (Arafat et al., 2020a). On the other hand, 27.1% of the reports discussed the remedial measures of PB and 30.8% of reports discussed the underlying psychology (Arafat et al., 2020a).

PB is a newsworthy issue, and media portrayal should be sensible. Positive reporting on PB discussing the authority (government) action, expert opinion, underlying psychology, nullifying the rumours, suggesting remedial measures, and mentioning the impact of PB could change the behaviour in a positive direction. Negative presentation of reports on PB mentioning the term "panic buying", showing the photos of empty shelves indicating the shortage, referring to previous events, blaming the public and/or business persons and government, and dramatizing could potentially increase the behaviour. A study in China reported that spreading rumours created negative emotions, which in turn stimulated people to indulge in PB (Hou et al., 2020). Another study conducted in Iraq also reported that social media posts increased anxiety and PB (Ahmad & Murad, 2020). In India, goods were sold in black markets in response to PB (Singh & Rakshit, 2020). In low- and middle-income countries (LMICs), people usually have mistrust of the public representatives and government, which increases during emergency situations as a result of small pieces of rumour (Hossain et al., 2020). Therefore, a cautious approach is warranted when reporting the news on PB especially during the pandemic. There is a dearth of literature on how media portrays PB throughout the world. Hence, we aimed to evaluate the media portrayal of PB during this COVID-19 pandemic. We divided the positive and negative aspects of reporting and also aimed to see any variation in reporting on the basis of the income category of the country.

METHODS

We conducted the study in two phases. In the initial phase, we assessed the nature, extent, and impact of PB as reported in the media. We also did the feasibility study as to whether it is possible to get contextual information from media reports of PB during phase I. Subsequently, we tried to identify reporting characteristics of PB along with the country-wise variations of reporting on PB.

Data collection

All the search engines have been identified by the investigators. Three independent investigators searched the allotted search engines using the "panic buying" keyword. We searched, collected, and analysed the news reports published in English discussing the PB. The search was done between 23 and 30 May 2020. All online news articles, channel interviews, news forums, personal views, and panel discussions (online published non-video reports) were included. Journal articles, journal posts, and social media posts were excluded. After the data collection was completed, two independent researchers carried out cross-checks of the data and data cleaning. Duplications were checked and removed by tracing the date of publication and title of the reports. Also, we removed the responses that were analysed in the initial phase study (Arafat et al., 2020a).

The instrument

We used the same instrument that was developed during our previous study (Arafat et al., 2020a). The instrument included country of publication of the report, country to which the news report relates, type of newspaper, newspaper name, area (city) of publication, dates of publication, the scarce object for panic purchase, media report material, and relation to similar events of panic purchase in the past. The news that reported no specific countries, multiple countries, or a mix between developing and developed countries was excluded from the analysis. We evaluated the positive and negative aspects of media reporting based on the contents available in the reports. The list of positive and negative aspects was finalized prior to the beginning of data analysis by the process of consensus building between the authors (qualified psychiatrists/public health experts with clinical and research experience of working with PB) based on the face validity of selected queries.

Data analysis

We compared the reporting patterns in the countries divided on the basis of the Human Development Index report by the UNDP. In terms of percentages and proportions, the data collected were presented. A chi-square test was used to make distinctions between the LMICs and high-income countries (HICs). The p-value of <0.05 was found important in this analysis.

RESULTS

Distribution of the reports

From 23 May until 30 May 2020, a total of 525 news reports regarding PB were analysed. The vast majority of the news came from the US (22.1%), followed by the UK (18.5%), India (15%), and Australia (5.5%). Each of the other countries has in total less than 10 reports. Approximately half of the news (48%) specified the scarce object in the report. The scarce objects include essential medicines, masks, hand sanitizers, gloves, toilet paper, groceries, fuels, food grains, and even firearms and ammunition. Concerning the context of PB news, the vast majority were related to the recent COVID-19 pandemic (95%) and the remaining include disasters and economic events (1%) and other events such as festivals, fuel price hike, and even war (<1%).

Positive characteristics of the reports

Concerning the positive aspects of news content posts related to PB, approximately three-fourth of the news mention the impact of the PB (71%) and approximately half (49.3%) discuss the government action to handle the PB issues. Furthermore, around one-third (36.4%) discuss the expert opinion regarding PB and approximately one-fifth discuss the psychology of PB (20.6%), the rumour about PB (21.5%), and suggest the remedial measures (18.5%).

Negative characteristics of the reports

Concerning the negative aspects of the news content, the vast majority of post titles refer to PB (96.6%) and approximately three-fourth of the news mention the cause (75.4%). Pictures or images of people in line for purchasing stuff or empty groceries were also common (62.3%). The public's PB behaviour was blamed by around a quarter of the news posts (26.3%). People involved in business also became the object of blame by some media (9.3%). Meanwhile, a few media blamed the government for the PB action (8%). The details of the content analysis are summarized in Table 1.

Country-wise variations

Media in LMICs were 1.5 times more likely to include expert opinion with regard to ongoing PB ($x2 = 4.7$, $p = 0.03$) and 2.1 times more likely to discuss the rumour regarding PB ($x2 = 11.4$, $p = 0.001$) as compared to HICs. However, the media in LMICs were almost thrice more likely to report the cause of PB ($x2 = 14.3$, $p = 0.001$) and also thrice more likely to mention

Table 1. Distribution of news reports (n = 525).

No.	Variable	N	%
1	Country of report		
	High and very high income countries	131	25
	Low–middle-income countries	394	75
2	Content of report		
	Positive		
	Discuss the government action	259	49.3
	Discuss the expert opinion	191	36.4
	Discuss the psychology of PB	108	20.6
	Discuss about the rumour*	113	21.5
	Suggest remedial measures	97	18.5
	Mention the impact of PB	373	71
	Negative		
	Title of news post refers to PB	525	96.6
	Mention the cause of PB	396	75.4
	Show the picture or image of PB	327	62.3
	Refer to similar incident elsewhere or in the past	163	31
	Media blame the public	138	26.3
	Media blame people involved in business	49	9.3
	Media dramatize PB	46	8.7
	Media blame the government	42	8
3	Search engine		
	Bing	168	32
	Yahoo	110	20.9
	Google	101	19.3
	Others	146	27.7
	Total	525	100

the impact of PB ($x2 = 19.6$, $p = 0.001$) as compared to HICs. Meanwhile, the media in HICs and very HICs were almost twice more likely to report similar incidents in the past or elsewhere ($x2 = 7.63$, $p = 0.005$). The details of the crude odds ratio of each content of news reports and their association are presented in Table 2.

DISCUSSION

Panic buying is an emerging entity with a dearth of empirical studies exploring its various aspects. The current study aimed at analysing the media reports of PB under different heads like positive and negative along with country wise (high-income vs. low-income countries) media reporting. The current study revealed that events of PB were mostly related to the recent COVID-19 pandemic (95%); however, they were also related to disasters (1%), festivals, fuel price hike, and even war (<1%). The scarce objects include essential medicines, masks, hand sanitizers, gloves, toilet paper, groceries, fuels, food grains, and

Table 2. The association between content of reported news on PB and the Human Development Index of countries.

	Country Human Development Index				
	Low–Middle Income (n, %)	High Income (n, %)	OR (95% CI)	x2	p-value
Content of report					
Positive					
Discuss the government action	71 (54.2)	188 (47.7)	1.2 (0.8–1.9)	1.65	0.19
Discuss the expert opinion	58 (44.3)	133 (33.8)	1.55 (1.01–2.37)	4.7	0.03*
Discuss the psychology of PB	19 (14.5)	89 (22.6)	0.5 (0.3–1.01)	3.93	0.047
Discuss about the rumour*	42 (32.1)	71 (18)	2.14 (1.33–3.43)	11.4	0.0001*
Suggest remedial measures	34 (26)	64 (16.2)	1.80 (1.08–2.96)	6.11	0.013
Mention the impact of PB	113 (86.3)	260 (66)	3.23 (1.85–5.89)	19.64	0.0001*
Negative					
Title of news post refers to PB	130 (99.2)	377 (95.7)	5.86 (0.89–246.7)	3.74	0.053
Mention the cause of PB	115 (87.8)	281 (71.3)	2.89 (1.61–5.45)	14.3	0.0001*
Show the photo of PB	73 (55.7)	254 (64.5)	0.69 (0.45–1.05)	3.2	0.07
Refers to similar incident elsewhere or in the past	28 (21.37)	135 (34.3)	1.91 (1.18–3.17	7.63	0.005*
Media blame the public	42 (32.1)	96 (24.4)	1.46 (0.92–2.30)	3	0.083
Media blame people involved in business	18 (13.7)	31 (7.9)	1.8 (0.94–3.58)	4.01	0.045
Media dramatize PB	8 (6.1)	38 (9.6)	0.60 (0.23–1.37)	1.54	0.21
Media blame the government	15 (11.5)	27 (6.8)	1.75 (0.8–3.55)	2.82	0.09

even firearms and ammunition. Although there is a dearth of studies on PB, a nearly similar pattern was found in a previous study in respect of the distribution of reports and proportions of positive and negative characteristics of media reporting (Arafat et al., 2020a).

The current study revealed differences in reporting patterns when compared between the countries on the basis of income. The media in LMICs were 1.5 times more likely to include expert opinion with regard to ongoing PB (p = 0.03) and 2.1 times more likely to discuss the rumour regarding PB (p = 0.001) as compared to HICs. However, the media in LMICs were almost thrice more likely to report the cause of PB (p = 0.001) and also thrice more likely to mention the impact of PB (p = 0.001) as compared to HICs. Meanwhile, the media in HICs and very HICs were almost twice more likely to report similar incidents in the past or elsewhere (x2 = 7.63, p = 0.005) when compared to the LMICs (Table 2).

The major findings of the study were that media reporting of PB was imbalanced and the tone and tenor of the reports were mostly negative. Highlighting panic buying in the title, mentioning the cause of PB, and illustrating the report with photographs of people involved in PB were some of the commonly observed negative and undesirable reporting characteristics. In contrast, positive aspects of reporting such as mentioning the impact of PB, discussing corrective governmental steps, and educative aspects such as expert opinions and explaining the psychology behind PB were less frequently observed. Overall, the phenomenon of PB was more commonly reported from high-income nations as opposed to LMICs. A systematic review on PB suggests that PB is influenced by a perceived threat, scarcity of products, fear of the unknown, and social and psychological factors of individuals' social networks (Yuen et al., 2020). All these factors are in turn influenced by media. Hence, it is imperative to understand the positive and negative reporting practices.

The above results suggest that media may be unwittingly contributing to the phenomenon of PB by virtue of their imbalanced reporting focus. Although there are no comparable reports analysing media coverage of PB, some parallels can be drawn with extant literature on media reporting of suicides, which is another phenomenon of immense public health relevance. Repeated studies revealed that media reports have been playing an influential role in the events involving general people such as suicide contagion and mass psychogenic illness. There might be a similar role of media in PB. However, further studies are needed to explain the degree and direction of influence.

What is already known

Media reporting has an influential role in PB from spreading the behaviour to controlling it (Arafat et al., 2020b). There are no comparable reports analysing media coverage, and there is also a scarcity of evidence exploring the media portrayal of PB.

What this study adds

To the authors' best knowledge, this is the first study to report the media portrayal of PB. The paper also assessed the variations of media reporting on the basis of income of countries. Although a large number of expert opinions and media reports have been published as non-scientific literature, this study is among the handful of scientific studies that have looked into an important area of media reporting of PB.

Study limitations

The current study has several limitations. First, we only included the reports published in English. The reports in non-English languages have been completely excluded, which represent a significant chunk of media reports. Second, there might be biases regarding the country reporting the PB as the search engines tend to pick up the news that is read widely. The PB present in small countries with limited Internet access and less powerful websites might have been missed in this study. The search for reports is based on the search engine; the more popular the website for reporting, the more the chance to be picked up. Third, the psychometric property of the instrument was not tested.

Recommendations

Certainly, empirical studies exploring its several aspects are warranted to understand the phenomenon as well as to consider its negative effects. Also, further studies in this area from the consumer perspective are needed as well (Habel et al., 2020). There is a need for reporting guidelines for the PB as it is a mass behaviour and occurs mostly at the time of public health or other emergencies. As there is no guideline that addresses the media reporting on PB, we may suggest several recommendations such as that media should not sensationalize the mass panic behaviours like PB, catastrophize, and post the photos and videos of scarce objects and empty shelves. Side by side, media should avoid blaming, address the worries, anger, and frustration of mass people, avoid mentioning the public reaction in news reports, and avoid interrogating people on sensitive matters related to PB.

Challenges

Certain aspects of PB may be the potential source of challenges such as that the behaviour is usually sudden, happens during emergency events, the items could vary, the behaviour could be rational, and the problem is under-researched (Arafat et al., 2020d; Tsao et al., 2019; Kulemeka, 2010). Moreover, it is fundamentally difficult to predict the event (Arafat et al., 2020d; Tsao et al.,

2019; Kulemeka, 2010). However, mentioning the negative characteristics in the reports would increase fear and insecurity, which in turn increases PB and destroys the equilibrium. At the same time, reporting the helpful characteristics could reduce fear and insecurity even though there is a shortage. For example, if the media mentions that the government is trying to maintain the supply, then fear may be reduced.

Future directions

Panic buying is a dynamic phenomenon. As the COVID-19 pandemic progresses, the needs of people change and disaster preparedness also changes. The media also lose interest in PB, and the focus moves to other important things as the pandemic progresses. There is a need for the sequential evaluation of media reports on PB to gain better insight into this topic.

CONCLUSION

The finding suggests that the media have been portraying more negative aspects of PB and there are variations in reporting when compared between HICs and LMICs. Speculatively, we suggest the formulation and implementation of media guidelines, which could be beneficial in controlling episodes of PB in the population.

CONFLICT OF INTEREST

None. Although SMY Arafat is an editorial board member he had no influence on peer review and acceptance.

DECLARATION OF ETHICS

The study was conducted complying with the declaration of Helsinki (1964). As already published papers have been reviewed, no formal ethical approval was obtained.

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DECLARATION OF INFORMED CONSENT

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