



User-driven conversation on COVID-19 in a developing country: A content analysis of Facebook group from Bangladesh.

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Abstract

Introduction: The pandemic caused by the novel coronavirus (SARS-CoV-2) has made the world standstill. Social media can play an important role to identify the thoughts and perception of general people of a developing country during this crisis.

Aim: To explore the information from an open Facebook group related to the pandemic situation in Bangladesh.

Methods: An open Facebook group with the highest member was selected for this study by searching the following keywords: Corona, COVID-19, Korona, করোনা (Corona in Bangla language), and কোভিড ১৯ (COVID 19 Corona in Bangla language). A qualitative thematic analysis was performed to the contents gathered during the one-week time period of March 17, 2020, to March 23, 2020, from the selected group.

Results: Five major themes were identified: 1) Raising general awareness, 2) Information sharing, 3) Seeking information, 4) Personal opinion and 5) Others. The majority of the posts fall under the "Information sharing" theme (55.9%). The theme of the posts was significantly associated with the type of user engagement.

Conclusion: Findings of this study represents a snapshot of the thoughts of general people of a developing country during the novel coronavirus pandemic and how the member uses this platform to build community wise awareness and prevention of this disease.

Keywords: COVID-19, Facebook group, Content analysis, Communication



Introduction

The novel coronavirus disease 2019 (COVID-19) is primarily a respiratory tract illness resulting from the infection with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) [1], which has become a worldwide pandemic threatening millions of lives. While some developed countries have already shown struggles to handle the COVID-19 situation, management of this spread is particularly difficult for developing countries as the health care system in most of the developing countries are not optimal to handle such pandemic.

In the age of the internet, information sharing and communication have become very effortless due to various social networking sites (SNS). Facebook is one of the most popular social media platforms with billions of active users [3]. Features of Facebook allow users to create groups with people having a common interest with a view to promote, share and discuss relevant topics [4]. There are a number of disease-specific groups and pages available on Facebook providing information, support and patient engagement [5]. Users can create three types of Facebook groups based on their preference: open (public), closed (members only), and secret (through invitation only). Groups can be moderated where particular users act as admin/moderators and determine the group's rules and regulations. Any Facebook user can access content posted on the open/public Facebook groups without any restriction hence served as a common space for sharing and gathering information, awareness, and a place for peer support. In this study, we focused on a moderated open Facebook group related to COVID-19 in a developing country (Bangladesh) to assess the general characteristics of the posts that were shared via this platform.

Method

A systematic search was performed on March 18, 2020 using the search criterion; geographic location: Bangladesh, group privacy: open, and using the following keywords: Corona, COVID-19, Korona, কেরানা (Corona in Bangla language), and কোভিড ১৯ (COVID-19 in Bangla language). The initial search resulted in 85 groups. We selected the group with the largest number of members for this study. The name of the group is "Corona Update Bangladesh" and was created on March 8th 2020. This is a moderated group with 298,126 members including 38 admins and moderators. This group was focused on raising awareness and sharing information about COVID-19 in Bangladesh. Members can join this group by sending a request and upon agreeing on the group rules and terms imposed by group admins. Once joined a member can post in the group wall after getting admin approval for that particular posts. Group's activity was followed for one week from March 17, 2020, to March 23, 2020, and all the posts during this time-period were extracted from this group to an excel sheet. Other relevant information such as type of the post, number of reacts, number of comments and number of shares were also collected. Using the method of content analysis, all posts were coded and categorized based on the theme of the posts [5, 6]. Verbatim (also translated to English) was used for all the posts.

Descriptive statistics were obtained for all the relevant variables. The chi-square test was used to measure the difference between post type and post theme as well. Differences in the number of reacts, number of comments and number of shares among post theme were calculated by Kruskal-Wallis test. A two-sided p-value <0.05 was deemed significant. All statistical analysis was performed in IBM SPSS 25.

Result

During the one-week of data collection, the group "Corona Update Bangladesh" had 298,126 members and 1620 posts. Examining all the text-based post, we have identified five themes: (1) Raising general awareness, (2) Information sharing, (3) Seeking information, (4) Personal opinion, and (5) Other and the majority (55.9%) of the posts belongs to Information sharing theme. The frequency of themes along with the summary statistics for the types of user engagement associated with each theme are presented in Table 1. Among the themes, Information sharing had the highest number of median reacts (747) and shares (20), while Seeking information had the highest number of median comments (38.50). Kruskal-Wallis test shows a significant difference in the number of



reacts, number of comments and number of shares among the different themes (Table 1).

Theme of post	Frequency (%)	Type of user engagement		
				Reacts
Raising general awareness	444 (27.4)	Median 183 (IQR ¹ : 49.75-618.50)	Median 2(IQR 0-9)	Median 7(IQR: 1-45)
Information sharing	905 (55.9)	Median 747(IQR: 181.50-3500)	Median 7 (IQR: 0-40.75)	Median 20 (IQR: 4-109.75)
Seeking information	123 (7.6)	Median 155.50(IQR: 64.50-428.50)	Median 38.50(IQR: 13.75-121.25)	Median 0.50(IQR: 0-2.25)
Personal opinion	106 (6.5)	Median 427(IQR: 91-1600)	Median 18(IQR: 2-70.50)	Median 3.50(IQR: 1-32.75)
Other ²	41 (2.5)	Median 256(IQR: 105-907.75)	Median 11.50(IQR: 1-49)	Median 1.50(IQR: 0-9.50)
Kruskal-Wallis test: H values		170.077	161.177	212.170
P value		<0.001	<0.001	<0.001

Table 1. Type of user engagement in the Facebook group across the theme of posts NB. IQR: Interquartile range. The theme other consists post about admin instruction, posting rule and admins request.

Table 2 describes the types of posts in relation to the themes of the post. The post consists of different types, including text-based post, image, post with video, and external link of text, image, or video. Most of the posts are text-based posts (60.8%). A significant association between all the types of post and the themes of the post was observed except external links (image) type post where a non-significant association with the themes of post observed.

Type of post	Theme of post						
	Raising general awarenessN (%)	Information sharingN (%)	Seeking informationN (%)	Personal opinionN (%)	Others ¹ N (%)	Total	P value
Text							
No	161 (36.3)	454 (50.2)	0 (0)	10 (9.4)	10 (23.8)	635 (39.2)	<0.001
Yes	283 (63.7)	451 (49.8)	123 (100)	96 (90.6)	32 (76.2)	985 (60.8)	
Image							
No	318 (71.6)	804 (88.8)	119 (96.7)	84 (89.6)	41 (97.6)	1377 (85)	<0.001
Yes	126 (28.4)	101 (11.2)	4 (3.3)	11 (10.4)	1 (2.4)	243 (15)	
Video							
No	419 (94.4)	879 (97.2)	122 (99.2)	106 (100)	42 (100)	1568 (96.8)	0.004
Yes	25 (5.6)	25 (2.8)	1 (0.8)	0 (0)	0 (0)	51 (3.1)	
External link(text)							
No	357 (80.8)	258 (28.5)	123 (100)	97 (91.5)	27 (64.3)	862 (53.2)	<0.001
Yes	85 (19.2)	647 (71.5)	0 (0)	9 (8.5)	15 (35.7)	756 (46.7)	
External link (image)							
No	441 (99.3)	903 (99.8)	123 (100)	106 (100)	42 (100)	1615 (99.7)	0.475
Yes	3 (0.7)	2 (0.2)	0 (0)	0 (0)	0 (0)	5 (0.3)	
External link(video)							
No	375 (84.5)	835 (92.3)	122 (100)	104 (98.1)	41 (97.6)	1477 (91.2)	<0.001
Yes	69 (15.5)	70 (7.7)	0 (0)	2 (1.9)	1 (2.4)	142 (8.8)	

Table 2. Type of user-generated posts on the Facebook group by the theme of posts NB. The theme other consists post about admin instruction, posting rule and admins request.



Theme 1: Raising general awareness:

Among all the posts, 444 (27.4%) posts were related to raising general awareness about COVID-19. The majority of these posts discussed how to raise awareness among the community, promote social distance, contain the spread and what measures can be taken as prevention. One example of such a post is, *"Increase awareness among the people you know who have relatives coming from abroad. If anyone breaks the rule of home quarantine, inform the person about this law, if this does not work out inform local administration. Be aware and make others aware."* The majority of the posts related to raising general awareness were text-based posts (n=283).

Theme 2: Information sharing:

Out of 1620, 905 posts were related to sharing information about COVID-19. Most of these posts were regarding preventive measures, some discussed steps taken by foreign governments to contain the spread, and health professionals also shared their expertise via this platform. For example, one physician and researcher from an academic institution posted about social distancing and lockdown as follows: *"... the main preventive measure of coronavirus is to stay at home. Because the virus won't be able to spread that way. If someone has the virus it would be possible to isolate them..."*

Theme 3: Seeking information:

In total, 123 (7.6%) posts were regarding seeking information about COVID-19. People seek advice about how to prevent COVID-19, what steps to take if they or anyone close to them are affected by the novel coronavirus. For example, one person seeks advice about how to disinfect the surrounding areas of a COVID-19 affected patient, *"...what type of chemical spray is used in the space where a coronavirus patient resides or walks..."*

Theme 4: Personal opinion:

In this Facebook group, 106 (6.5%) posts were related to personal opinion such as measures taken by the person during the lockdown. One example of such a post is:

"Decided that won't leave the house unless extreme emergency. If I get infected by coronavirus my family and others will too. It is possible to spend 14-15 days at home somehow, but it does not make sense to get affected and spread the virus among others..."

Theme 5: Others:

Forty-one (2.5%) posts were identified as others. Posts in this group mainly contributed to admin's instruction of positing rules and asking group members to share their ideas about how to control the spread of coronavirus in Bangladesh. One such example of this post is: *"We are expecting your advice about how to control the corona situation in Bangladesh. We will bring your advice to the relevant administration..."*

Discussion

In this study, we explored a Facebook group's contents, whose main goal was to create a platform for discussion about COVID-19 in Bangladesh. Five main themes emerged from the analysis of this Facebook group: Raising general awareness, Information sharing, Seeking information, Personal opinion and Others. These themes were also commonly found in other studies of SNS use as online support for health and wellness issues [7-10]. Similar to previous studies, we observed that interactions about information sharing were more frequent than other themes [11-12]. In healthcare, social media is becoming an important tool for patient engagement, creating awareness and spreading information. It has been reported that patients are active in social media to find



information related to health and find support through discussion groups, whereas physicians are using social media to communicate or network with colleagues, disseminate their research findings and to a lesser extent communicating with the patients [13]. Especially during the time of a pandemic, highly trafficked SNS site like Facebook provides an example of how user-initiated online groups can be used to share important information about disease prevention and management.

Though our study showed a high level of activities and interactions among users regarding information sharing about COVID-19, few limitations should be acknowledged. We did not consider image or video posts for our thematic analysis, and only text-based posts were considered to reduce biased interpretation of image and video. Also, we selected an open group as the content of a close group is restricted for general users of Facebook.

In summary, the content analysis of the social media group on COVID-19 provided us with an idea about the thoughts and perceptions of the general population of a developing country like Bangladesh. The results of this study showed specific findings that could contribute to the growing literature on how to mobilize SNSs as a platform for raising awareness and spreading essential information more effectively.

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