



A Review of You Tube Content to Assess US Mental Health During the Covid-19 Pandemic

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Abstract

Mental health concerns have increased in prevalence since the beginning of the COVID-19 pandemic. Many turn to online resources for relevant information. The purpose of this study is to describe the availability of mental health information on YouTube, and to assess the relevance of the videos' content in relation to the actual need of the population. The 100 most-watched YouTube videos in English resulting from a YouTube search of "COVID-19" and "mental health" were evaluated. Of mental health conditions, anxiety and depression were mentioned in over 50% of the videos. A positive correlation was found between videos that mentioned anxiety and those that mentioned depression ($p < 0.001$). The numbers of videos focused on anxiety and depression were correlated with themes such as life stressors and social distancing ($p < 0.05$). Videos that did not make recommendations for dealing with stressors had more positive ratings than videos that did make such recommendations ($p = 0.002$). The content of YouTube videos addressing mental health issues during COVID-19 reflects the actual prevalence of specific mental health conditions during this same time period. Viewer ratings may be indicative of the public need for information about mental health conditions and validation for difficult experiences on social media sites. YouTube must be better utilized to disseminate information about mental illness.

Keywords COVID-19 · Mental health · YouTube · Social media · Anxiety · Depression · Coping

Introduction

During the early days of the novel Coronavirus (COVID-19) and quarantines across the United States, many individuals struggled with mental health problems. Mental Health organizations including the National Alliance on Mental Health [1], United Nations Children's Fund [2], Mayo Clinic [3], and New York State's Office of Mental Health [4] have reported relevant mental health statistics since the beginning of the pandemic. The leading mental health concerns emphasized include anxiety, depression, loneliness, substance use, suicidal ideation, and the need for safe housing. In fact, the Center for Disease Control and Prevention [5] reports that

over 20% of adults in the United States have received mental health treatment since the start of the pandemic. A report from the National Institute of Mental Health (NIMH); [6] shares that the 30-day prevalence of anxiety and depression nearly doubled from pre-pandemic rates. Furthermore, the prevalence rate of depression was 31.4% and 31.9% for anxiety among the general population in the first few months of COVID-19 [7]. Other investigations report nearly a three-fold increase in depressive and anxiety symptoms pre- to post-Covid [8, 9].

Campion et al. [10] noted that pandemics most greatly affect those who are unemployed, food insecure, impoverished, physically inactive, and isolated. The inaccessibility of mental health resources among individuals struggling with these factors may serve as a barrier to adequate treatment, leading to an escalating public health burden. Campion highlights the need for "population-scale... public mental health treatment" during the current pandemic.

Accordingly, social media has played an integral role in disseminating information about mental health and strategies for coping. Research has found that social media, including YouTube, Facebook, and Twitter, can be beneficial for those

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struggling with mental health problems [11]. The opportunity to interact with, receive and provide support to, and learn information and skills from peers are some of social media's greatest strengths. Despite these advantages, mental health professionals have identified the need for a more strategic use of social media to combat the detrimental effects of distancing and isolation that resulted from COVID-19. Ihm and Lee [12] suggest directing resources at target demographic audiences using social media, encouraging increased social connections and resources which would be unavailable otherwise.

YouTube, specifically, has shown to be a powerful resource for information. YouTube remains one of the most widely used social media platforms, with approximately 81% of Americans using the website [13]. Whereas the platform undoubtedly has many functions, about a quarter of adults in the United States report using YouTube as a news source [14], with about half of those adults prefer to watch videos containing factual information. Dutta et al. [15] analyzed YouTube content regarding COVID-19 and found that over half of YouTube videos held informative information and a quarter provided recent news updates.

While YouTube became a source of information about COVID-19, it has a history of functioning as a resource for education on topics of mental health. Devendorf et al. [16] described information portrayed about depression through YouTube videos. They found that the media focuses primarily on the causes, course, and treatment of depression. Furthermore, Martini et al. [17] evaluated consumer engagement with mental health topics presented through social media platform, noting YouTube and Facebook as the most popular sites through which consumers seek out mental health topics. Information that had the most views was accessed through a number of platforms, included personal anecdotes, incorporated humor, and provided information about treatment [17].

YouTube has proven to be a compelling source of information for both COVID-19 and mental health topics. However, there is a lack of understanding about how YouTube has been utilized to disseminate knowledge about mental health or teach effective coping skills during COVID-19. The purpose of this study is to evaluate and describe the availability, quality, degree of consumer engagement, and content of YouTube videos during COVID-19 in the context of changing mental health concerns as a result of the pandemic. It is hypothesized that the number of views of YouTube videos will realistically reflect the prevalence of mental health concerns during COVID-19, such that a majority of videos will make mention of the most common mental health conditions during COVID-19: anxiety, depression, substance abuse, and suicidal ideation. Videos with mention of stressors specific to COVID-19 (social distancing, isolation) will be highly correlated with mention of mental

health conditions (depression, anxiety). Videos that mention anxiety and/or depression will be rated more favorably compared to those that do not. It is also predicted that videos that offer suggestions for treatment or coping skills will be associated with greater positive ratings. And finally, it is expected that videos that feature a shared personal experience with mental health or COVID-19 will be associated with greater positive ratings.

Methods

The YouTube videos were coded in September 2021 using the keywords "COVID-19" and "mental health." Videos were searched using Google Chrome and were listed by the number of views. The study included the top 100 videos with the most view counts. 8 videos were excluded as they were either in a language other than English or exceeded 30 min in length. The videos were replaced with the next 8 videos on the list. The source of the video upload was identified as one of the following: consumer, professional (MD, RN), television or internet-based news, entertainment TV, and other. A description of the categories can be found below:

1. Consumer referred to any video which advertised a product or service.
2. Professional referred to videos presented by an individual/individuals with licensed credentials clearly indicated in the video or description.
3. Television News referred to videos uploaded by news channels (e.g. Fox News, CNN, etc.). Internet News included sources such as online newspapers and media companies (e.g. Buzzfeed or Mic).
4. Entertainment referred to talk show videos.
5. Other entailed any video for which the source could not be clearly identified and as such could not be grouped into any of the first four categories.

The metadata for each video were then distinguished including the URL, number of views, upload date, length in minutes and the number of likes/dislikes. The following content categories were used: general mental health, anxiety/fear, depression, trauma or post-traumatic stress (PTSD), obsessive compulsive disorder (OCD), suicidal ideation, substance abuse/addiction, life stressors (finances, employment, education etc.), loneliness due to COVID-19, quarantined due to COVID-19, social distancing due to COVID-19, interpersonal relationships, physical health conditions or variables (excluding COVID-19), impact of having COVID-19 on mental health, cultural differences, adult mental health, child/adolescent mental health, gender differences, mental health stigma, political change/policy, statistics and prevalence of mental health disorders, statistics

and prevalence of COVID-19, cost of mental health, biological and neurological influences of mental health, COVID-19 vaccinations, returning to “normal”, personal experience, and treatment or suggestions for coping. Responses were coded as “yes”/1 or “no”/0 for whether the categories were mentioned in each video. Written information was added to the “treatment” categories as it required further specification. The quantity of treatment suggestions mentioned in the video was counted as well.

Results

In total, 100 YouTube videos on COVID-19 were reviewed for this study. One reviewer (EB) watched all 100 videos for particular content. A random 10% sample of all videos was also watched by a second reviewer (CB). The two reviewers differed on only 3 out of 262 data points resulting in an inter-rater reliability score of $\kappa=0.98$. Descriptive statistics and independent one-tailed t-tests ($\alpha=0.05$) were conducted with MS Excel and IBM SPSS.

The 100 videos sampled received a total of 19,694,685 views ($M=196,947$, $SD=1,039,834.65$). The mean of positive ratings (thumbs up) was 2,314 ($SD=7155.78$), and the mean of negative ratings (thumbs down) was 216 ($SD=877.73$). The average video-length was 6.93 min ($SD=5.49$ min). The longest video reviewed was 30.09 min and the shortest video reviewed was 0.3 min. Of the videos, 12% were posted by consumers, 13% by professionals (MD, RN, etc.), 43% by television or internet-based news, 19% by entertainment tv, and 19% by other. The videos were reviewed for 28 different content categories. Table 1 shows these categories; it also includes a count of videos including each content along with associated number of views, thumbs up ratings, thumbs down ratings, and percentages relative to the sum of views per category.

Seven content categories appeared in a majority (> 50) of the videos. These categories were general mental health (99), anxiety/fear (79), suggestions for coping strategies (70) interpersonal relationships (59), distancing due to COVID-19 (58), depression (57), life stressors (53). Even though videos with this content made up the majority, the combined views of each video in the categories did not account for the majority of the views. For example, videos that mentioned anxiety received 39% of overall views, and those that mentioned depression received less than 20% of the total views. The five most viewed categories were general mental health, interpersonal relationships, treatment, child/adolescent mental health, and anxiety/fear.

A chi-square test was run to evaluate the extent to which depression, anxiety, and factors related to COVID-19 appeared in the same YouTube videos. A significant relationship was found such that depression and anxiety, anxiety

and life stressors, anxiety and social distancing, depression and life stressors, and depression and social distancing were predictably mentioned in the same videos (see Table 2).

A series of independent samples t-tests were conducted to evaluate the difference in rates of positive and negative video ratings based on whether or not anxiety, depression, or both were mentioned. While no significant differences were found between the ratings of content category, there was a trend towards more negative ratings of videos that *did not* mention anxiety ($M=0.45$, $SD=1.52$) compared to those that did ($M=0.13$, $SD=0.17$), $t(99)=1.86$, $p=0.066$. Furthermore, no significant difference was found between ratings of videos that mention depression compared to those that did not. No significant difference was found between ratings of videos that mention both anxiety and depression compared to those that did not.

Next, the difference in ratings of videos that do and do not offer treatment suggestions and video ratings was evaluated. Independent samples t-tests showed that videos that made no treatment recommendations had more positive ratings ($M=2.60$, $SD=2.83$) than those that did ($M=1.40$, $SD=0.94$) relative to their view count, $t(99)=3.19$, $p=0.002$. Pearson correlations showed that whether or not videos share a personal experience had no relationship with view count or ratings. Similarly, the number of mental health conditions mentioned per video did not correlate to view count or ratings.

Discussion

The aim of the present study was to understand the trends of mental health topics through YouTube videos in the context of the COVID-19 pandemic. In addition to facilitating networking and social connectedness, social media is a growing platform through which individuals gather information [14]. YouTube in particular has been cited as a source of information-gathering regarding mental health conditions. Information on COVID-19 and its variants are no exception, as millions of individuals have turned to YouTube to learn more about the pandemic. Research has shown an increased need for mental health treatment and dissemination of coping skills during the pandemic [10]. The present research describes the 100 most-watched YouTube videos mentioning Mental Health and COVID-19 through a number of relevant content categories.

Six categories appeared in more than half of the videos observed, including anxiety and depression. Other mental health conditions, including suicide, were mentioned less frequently. As predicted, anxiety and depression, the most common mental health conditions experienced generally and during COVID-19, were highly prevalent themes throughout the videos. Anxiety and depression are among

the most prevalent mental health disorders, especially during the pandemic [1], and have been featured with similar prevalence in the content of YouTube videos about mental health during COVID-19. Meanwhile, the combined view count of the videos mentioning anxiety and depression represented close to 40% and 20% of the total views, respectively. Given the estimated 31–32% prevalence rates of anxiety and depression during COVID-19 [7], we propose that the number of views of videos featuring common mental health disorders roughly mirrors their actual prevalence rates.

As predicted, mention of mental health conditions in videos was related to mention of stressors specific to COVID-19. Mention of anxiety or depression were highly correlated, such that 93% of videos that mentioned depression also mentioned anxiety. In addition to anxiety and depression being mentioned together, their mention was frequently coupled with themes of life stressors and social distancing. During the COVID-19 lockdown, many faced difficulties in areas such as finances, employment, and education, as well as social restrictions causing isolation and loneliness. As Champion et al. [10] suggest, those whose mental health is most likely to be affected in pandemics are those struggling with unemployment, poverty, and isolation. Palgi et al. [18] found that early in the pandemic, anxiety and depression were more frequently comorbid than experienced on their own. Furthermore, loneliness was the strongest predictor of anxiety, depression, and their comorbidity. The overwhelming overlap in thematic content of the sample of videos observed herein further supports the proposition that the content of these YouTube videos reflects the prevalence and experience of anxiety and depression during COVID-19.

Viewers' subjective appraisal of the YouTube videos were observed through the proportions of "thumbs up" and "thumbs down" assigned, relative to the number of total views. A trend of dislikes was observed in videos that did not mention anxiety compared to those that did. No trends were found when comparing ratings on videos that mention depression and when comparing videos that mention both anxiety and depression. This finding suggests that individuals may be more inclined to assign "thumbs down" to videos about mental health that do not corroborate or reinforce the common, shared experience of anxiety. In a recent video discussing the rationale of the rating system, a YouTube administrative associate explained that the function of the "thumbs down" button is to help tailor video recommendations to individual viewers [19]. In this way, individuals who assign a "thumbs down" to a video effectively signal that they prefer *not* to see similar videos. The fact that videos that mentioned anxiety had a lower percentage of "thumbs down" indicates that, during COVID-19, viewers preferred videos that mentioned anxiety over those that did not. It is likely that viewers struggling with symptoms of anxiety

preferred to have their symptoms validated on this social media platform.

The prediction that videos that offer suggestions for coping skills will be associated with positive ratings was partially supported by this research. Videos that did *not* offer treatment recommendations to increase wellbeing had more positive ratings than those that did. This finding may indicate that viewers prefer to watch videos that offer information and validate negative experiences rather than provide advice. However, mention of a personal experience was not correlated with viewer ratings. These findings differ from research by Martini et al. [17] findings that viewers prefer videos that include personal anecdotes and information about treatment. Due to the overarching reality of COVID-19 and the needs of consumers during this time, it is likely that the needs of American consumers vary from those studied by Martini et al. [17]. Boulanger [20] discusses treating survivors of Hurricane Katrina, and states that validation and understanding are a critical first step in treatment and growth for a traumatized population. Often, those who experience life threatening events seek therapists who demonstrate a deep understanding of their experience [21]. During the current pandemic, it is likely that Americans seek validation and understanding for their trauma and prefer videos that simply reflect an understanding of their ensuing distress.

The limitations of this study include the small sample size, non-experimental and cross-sectional design, and the inclusion of videos in English only. In addition, videos were surveyed in September represent the most-watched videos at that point in time. Findings from this study would vary had data been collected at the beginning of the Pandemic or if it were to be repeated at a later date. However, this study offers insight regarding this relevant matter. The findings may be further enhanced through analysis of various social media sites, including TikTok, Instagram, or Facebook. Surveyal of major news sources' mention of mental health and COVID-19 and its comparison to social media sources would also provide rich detail regarding the issue.

Ultimately, social media is an increasingly relevant and influential source for sharing information and its prevalence must be considered in analysis of wide-spread social issues. The present study reveals that the issue of mental health during COVID-19 is prevalent on YouTube and millions of individuals have been able to turn to the site for such information. Social media, especially YouTube, must be better utilized by public health and government agencies as a way to reach their constituents in efforts to disseminate coping skills and destigmatize mental illness.

Appendix A

See Tables 1 and 2.

Table 1 Observed content, thumbs up, and thumbs down for 100 COVID-19 YouTube videos

	N	Views	%	Thumbs Up	%	Thumbs Down	%
General Mental Health	100	19,322,748	100	231,397	1.20	21,586	0.11
Anxiety/Fear	99	19,313,488	99.95%	230,397	1.19%	21,583	0.11%
Suggests Coping Strategies	79	7,577,541	39.22%	159,534	2.11%	9706	0.13%
Interpersonal Relationships	70	14,558,884	75.35%	106,878	0.73%	14,215	0.10%
Distancing Due to COVID-19	59	15,131,941	78.31%	152,612	1.01%	14,564	0.10%
Depression	58	6,681,347	34.58%	185,163	2.77%	9103	0.14%
Life Stressors	57	3,808,301	19.71%	100,549	2.64%	7268	0.19%
Loneliness Due To COVID-19	53	4,359,632	22.56%	134,145	3.08%	12,912	0.30%
Personal Experience	46	3,053,315	15.80%	90,588	2.97%	3166	0.10%
Quarantined Due to COVID-19	40	6,493,675	33.61%	173,520	2.67%	9003	0.14%
Adult Mental Health	40	2,924,972	15.14%	112,907	3.86%	6932	0.24%
Statistics and Prevalence of Mental Health Disorders	33	2,150,445	11.13%	54,343	2.53%	2059	0.10%
Child/Adolescent Mental Health	31	1,565,487	8.10%	29,894	1.91%	1798	0.11%
Returning to "Normal"	29	11,392,550	58.96%	29,981	0.26%	11,606	0.10%
Physical Health Conditions (Excluding COVID-19)	22	4,828,401	24.99%	139,066	2.88%	11,897	0.25%
Biological and Neurological Influences of Mental Health	21	2,535,768	13.12%	54,179	2.14%	6171	0.24%
Impact of Having COVID-19 on Mental Health	21	2,133,629	11.04%	37,256	1.75%	1764	0.08%
Trauma/PTSD	20	3,506,398	18.15%	76,731	2.19%	6496	0.19%
Cultural Differences	17	2,292,690	11.87%	59,050	2.58%	6159	0.27%
Suicide	16	1,139,048	5.89%	51,291	4.50%	964	0.08%
COVID-19 Vaccinations	13	903,682	4.68%	16,236	1.80%	854	0.09%
Mention Mental Health Stigma	11	4,065,716	21.04%	131,661	3.24%	6615	0.16%
Statistics and Prevalence of COVID-19	11	1,494,541	7.73%	42,880	2.87%	5635	0.38%
Cost of Mental Health	11	343,811	1.78%	4,663	1.36%	708	0.21%
OCD	8	1,861,126	9.63%	51,348	2.76%	5748	0.31%
Gender Differences	8	368,338	1.91%	13,962	3.79%	440	0.12%
Political Change/Policy	5	188,466	0.98%	4906	2.60%	207	0.11%
Addiction	4	679,026	3.51%	17,793	2.62%	571	0.08%
	4	1,579,641	8.18%	41,324	2.62%	1926	0.12%

Table 2 Chi-Square shows overlap between anxiety, depression, life stressors, and social distancing in popular YouTube videos

Relationship	Contain both	Con- tain neither	X^2	p
Anxiety × Depression	53	17	15.62	< 0.001
Anxiety × Life Stressors	47	15	6.37	.012
Anxiety × Social Distancing	50	13	4.32	.038
Depression × Life Stressors	36	26	5.49	.019
Depression × Social Dis- tancing	38	23	4.09	.043
Life Stressors × Social Distancing	33	22	0.84	.359

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Declarations

Conflict of interest Not applicable.

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Research Involving Human and Animal Participants This study does not meet the definition of research involving human subjects.

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