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Misinformation on covid-19 Pandemic in Youtube and its Impact on Viewers in Kerala

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Abstract

One of the ways in which large sections of population cope with disastrous events like a global pandemic is by gathering and sharing information related to such events on the internet and on social platforms. YouTube, having over 2.3 billion users, is one of the most searched digital platforms for information collection and dissemination. Although digital channels like YouTube are used to share useful and timely information that creates awareness among its viewers, there is also the possibility of using these channels for sharing malicious and false information. Thus, it is a social responsibility to assess the misinformation content in YouTube videos. The study is to measure the quantum of misinformation spread using YouTube and its impact in Kerala.

Seventy-five YouTube videos -25 each from Hindi, English and Malayalam from March 2020 to November 2020 were analyzed randomly with the Keywords –'Coronavirus India', 'Covid-19 India', 'Covid- 19 Treatments', 'Covid -19 Protocols', 'Covid-19 Malayalam', 'Covid-19 Kerala'. The reliability of these videos was verified by comparing the content of these videos with the advisories published by the World Health Organization (WHO) and such renowned health regulatory bodies. An Online survey was conducted on 325 samples to measure the impact of the misinformation videos on the general public of Kerala. The video analysis revealed that 28% of the videos contain misinformation. The online survey disclosed that the impact of such misinformation is not significant on the people of Kerala. It is concluded that the ill effects of misinformation can be countered through increased awareness on health and hygiene among the people. This study also suggests the need for using media to promote health literacy, effective cyber laws to curb the propagation of fake news as areas that have scope for improvement.

Keywords – Misinformation, Covid- 19, Infodemiology, YouTube, Cyber Laws.

Introduction

The most important change brought about by the digital era as reported by Posetti, et al. (2018) is the shift of focus to audience and it is facilitated by the social media. The study highlighted that the traditional methods of content dissemination gave way to people's networks through social media such as Facebook, YouTube, and Twitter. The same study mentioned that the users having their choice of content, also tend to receive inaccurate, false, malicious, and propagandistic content masquerading as news, thus creating an 'information disorder'. It is seen that this information disorder proliferates in all domains of life - including health, economy, politics, culture, religion and so on. Due to the spread of fake news related to health and diseases, WHO is taking tremendous efforts to provide evidence-based information through the social media channels during Covid-19 pandemic. (WHO, 2020). According to Waszak et al. (2018, p. 116), social media can create both positive and negative impacts on society. The same report viewed that technologies like artificial intelligence and big data analysis help health authorities to coordinate systems through information

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sharing, and to respond swiftly to the pandemic. At the same time spread of misinformation through social media poses the greatest challenge to these efforts. (McKee et al., 2019, p. 4).

With 2 billion people viewing and forwarding contents to other social media platforms, YouTube has the maximum reach and influence on the thinking of people in India. (YouTube, 2021). Manish Singh, Special to CNBC.com(2018) reported that fake news, hoaxes and misleading videos thrive on YouTube without any check. The article also stated that fake news often originate in YouTube and then migrate to other media.

In this post-truth era, fake news and 'deep fakes 'find enormous reach and penetration with the help of digital platforms (Kumar, 2021). The magnitude of this disinformation menace makes this research relevant.

Literature Review

The world finds itself in one of the most difficult situations ever faced by mankind- caught in a still moment, isolated yet deeply connected to one another by a pandemic, scientists are racing to understand. Health experts stress that the govt must have a sound strategy to communicate to the people. The fourth estate, as a guardian of veritas, has a special obligation to society. This paper is an attempt to evaluate this obligation in the background of the Covd-19 pandemic.

Marshall Mcluhan in his essay on 'Understanding Media: The Extensions of Man' states that technology is to be viewed along with the content in the presentation of an idea. In communication the technology of transmission is more important than the content itself when the impact on the society is considered. He asserts the role of the media in creating cultural and social changes, underlining the importance of technological determinism. (Falah&Haider,2020). This research highlights the influence of technology-based media in the thinking and behavior of the society.

In the modern society, the most powerful tool of communication is the internet. Worldwide digital statistics claims that almost 59% of the global population are active internet users and 92% of the global internet users use mobile apps for accessing various data. (Clement, 2020). Health communication is undergoing a revolutionary change with the easy accessibility of medical information through internet. USA's Becker's Hospital survey findings related to the pandemic Covid-19 has concluded that the percentage of internet users for medical information has risen from 60% in 2015 to 72 % in 2017. (Cohen, 2017). According to the study by Silberg WM et al. (1997), internet provides medical resources to inform and connect its users with healthcare professionals. In the same study it is proved that instead of providing a straightforward medical solution, internet presents ineffective mixture of healthcare information and advises. Hence the challenge of choosing reliable health information from an array of data that is available on the internet remains a problem. (Eysenbach et al., 2002, p. 2691)

Today Covid-19 pandemic presents an unprecedented situation for the people all over the world to stay isolated but connected. According to WHO (2020), technology and social media are effectively used by the administrations to keep people informed, safe and connected. The director general of WHO at Munich security conference in February quoted "We´re not just fighting and epidemic; we're fighting an infodemic". Infodemic is defined as an explosion of information that is spread on social media platforms - including conspiracy theories, magical cures, information on vaccines and other deliberate attempts to spread misinformation - that can jeopardize the efforts of health workers and cause panic in the society. There is no way to prevent the spread of Covid-19, but it is important to verify the information on the internet to prevent the panic and misinformation associated with the disease. Experts from WHO (2020) who claims that fake news spreads faster than the virus, also emphasizes that an 'infodemic' could carry wrong data deliberately to weaken the government's efforts and help in promoting alternative agenda of individuals. Reports published by the WHO and on the medical journal Lancet prove that people find it hard to select trustworthy sources of information. (Zarocostas, 2020, p. 676). Hence a new research discipline, a science to manage

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'infodemics' called as 'infodemiology' have been developed by Gunther Eisenbach, to assist health professionals and public to gain quality online health information. (Infodemilogy,2020). According to an analysis of global 'Infodemiology' on Covid-19,Rovetta and Bhagavathula (2020) establishes that even though infodemiological methods have been in use in Covid-19 situation, the extent of misinformation present in the internet is not fully quantified. Misinformation can be defined in many ways.Scheufele and Krause (2019, p.7663) defined misinformation as information that is incorrect, possibly by accident. The research report from the Council of Europe on information disorder identified misinformation as any information that is false, but not created with the intention of causing harm (The Council of Europe, 2017). In a study on misinformation in the times of Covid-19, Krause et al. (2020, p. 6) stated that misinformation is any message that conflicts with the best-available evidence about Covid-19. In this context, an analysis by Barua et al. (2020, p. 100119) on the effects of misinformation on Covid-19 revealed that during march/april2020 , 26% of all the videos related to Covid-19 uploaded on social media platform YouTube where misleading in nature, whereas Facebook placed warning labels on 90 million pieces of content which were found misleading. There are a wide range of reasons and motivations behind the spreading of misinformation. (Reuters Institute for the study of Journalism, 2020). According to a report from Observer Research Foundation (2020) documented that India has about 376 million people using social media platforms making her a center of action for most of the social media companies, also resulting in many Indians being susceptible to fake information. The report also mentioned about the doctored videos and fake messages which were circulated to create communal hatred. Following the scenario, Prime ministerNarendraModi highlighted on the fake news menace in his address at NAM summit. (The Wire, 2020).

University of Oxford (2020) in their study revealed the advantages that YouTube as a medium has over other social media platforms in terms of its reach to educate the public, thereby prompting health authorities to make use of its potential. However, the study also revealed insights on the role played by YouTube as a source of misinformation related to the pandemic. According to the survey conducted in UK, it was concluded that 60% of the respondents were exposed to misinformation through YouTube, associating Covid19 with conspiracy theories and claiming 5G networks behind the cause of the pandemic. The study proves that between Oct 2019 and June 2020, misinformation videos on Covid-19 from YouTube were shared in platforms like Facebook, WhatsApp, twitter, Instagram thereby making the total shares to 20 million.

Pandey et al. (2010) conducted studies on information availability on YouTube about pandemics like H1N1, Zika Virus and Ebola virus. Another research paper on 'YouTube as a source of information for Ebola virus' by Pathak et al. (2015, p. 306) proved that although YouTube had a large amount of information about the pandemic; authentic videos from institutions like WHO/CDC were scarce. A case study on the YouTube videos during the Zika Virus pandemic by Bora et al. (2018, p. 325) identified that a large number of misleading videos were available in YouTube, clearly outnumbering trustworthy videos.

This paper is of the view that since Covid-19 pandemic has no precedent in recent history, there is a shortage of authentic content from reliable sources. This situation is exploited by content creators on social media platforms by posting information in a 'free for all' manner. The magnitude of the pandemic can be assessed from the fact that out of a total number of 53,766, 728 confirmed cases, a total number of 1,308,975 persons died due to the virus as on 15th November 2020 (WHO, 2020). A research from BBC (2020) claims that some of the mainstream media reports on Covid-19 resulted in fear and anxiety among public, causing panic ridden searches related to this topic on YouTube. This resulted in an increased viewership of genuine videos as well as misleading videos; with reports from BMC global Health (Li et al., 2020) suggesting that misleading videos were viewed as many as 62million times more than genuine videos. The study also indicates that the videos posted by Govt and health department in YouTube were less viewed since they were too technical in nature and lacked appeal.

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This research is an attempt to investigate the multidimensional impact of misinformation on the society. It is understood that misinformation and disinformation is harmful to people's mental health, increase stigmatization, threaten health gains, and endanger country's ability to fight the pandemic. Social media companies manipulate the visibility of their content through designed algorithms to gain maximum viewership which as a result impacts human behavior in different ways. (*The Real-World Effects of 'Fake News,'* 2020). Hartley and Vu (2020, p. 756) reported that Govt's efforts in combating the pandemic have been hampered by misinformation. Researchers noted that the global leaders like Donald Trump were also susceptible to misinformation, by promoting the anti-malarial drug hydroxychloroquine—a drug about which the scientific community lacked, at the time, full evidence of its efficacy in treating Covid-19. India is also not an exception. Widespread misinformation through social media created hatred towards a minority community and affected business sectors like poultry and meat (Menon, 2020). The fake videos on TablighiJamaat Congregation at Nizamuddin created polarization among people (Sebastian, 2020).

Kerala is one state in India that has education and health awareness parameters matching with global standards. (*Kerala Tops the List for Best Performing State in Health*, 2020). Even before Covid-19 was spotted in India, which incidentally was in Kerala, the state was prepared to combat the pandemic. It is also reported that as soon as the virus broke out in Wuhan- China, expert committees were formed in Kerala. (Mathrubhumi News, 2020, 03:15–05:21).Awareness campaigns and treatment protocols were planned according to WHO protocol and the experts from the Kerala Cyberdome worked swiftly and effectively to identify and remove misinformation videos from social media. (Anand, 2020). The chief minister himself provided the public with authentic information through daily news briefings. All of these factors added up in minimizing the adverse effects of misinformation on the people of Kerala.

It has been understood that no detailed study has been done about the influence of YouTube misinformation videos related to Covid-19 on the people of Kerala. The primary objective of this research is to address the said gap. The adequacy of existing cyberlaws to curb misinformation and to handle offenders who spread fake information related to the pandemic is the secondary objective of this study.

To conclude, the research argues that a concerted effort by the Govt, health authorities, cyber police, social media platforms and public is needed to minimize the negative influence of misinformation. Therefore, a future study on the subject involving all the above parameters is advised to devise newer ideas on the subject.

Methodology

The research is intended to assess the extent and impact of misinformation spread through YouTube videos in Kerala related to Covid-19 pandemic.

Theoretical Framework- The research is broadly based on the following theories:

1) **Medium Theory** – According to medium theory, communication channels play a great role in influencing society and its thoughts and behavior. Canadian communication theorist Marshall McLuhan in his research paper states that the nature of medium is more important than the contents of the message. In other words, the means of expression greatly influences the spread of a message and how it is perceived by the masses. McLuhan's theory is much relevant in the modern communications platform and social media because of the following characteristics:

    a) Participatory culture, ability to connect like-minded audience and real time interaction between the content creator and the audience.

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b) Ubiquity of the medium and speed of information dissemination
c) The ability to promote personalized content based on audience's choices.

This research evaluates the role played by online media such as YouTube in spreading information in society because of the unique characteristics as mentioned above, that differentiates it from traditional medium.

2) **Propaganda Theory**- According to the theory by Edward Herman & Noam Chomsky, wealth and power has an influence on the content and discourse seen on popular media, making it vulnerable to manipulation and systematic bias. YouTube and other social media channels have liberated content from the clutches of traditional power houses and democratized the medium through its egalitarian and participative approach. However, we can still identify the concepts of propaganda theory and the influence of financially and politically privileged entities in creation and propagation of media content on YouTube. This study investigates how YouTube as a medium has been used during a global pandemic to serve information that suits entities and organizations with vested interests. The motivation of such vested interests could be political, financial, or social. The political reason could be to destabilize or unpopularize a government institution. In the context of the Covid-19 situation, the negative propaganda discredits the efforts of the government and health department and creates fear, uncertainty, and doubt in the minds of the public, which in turn is used for political mileage. Deliberate dissemination of fake news content has helped certain untested and unverified products being widely sold as the 'cure' for Covid-19, thereby providing financial gain for certain individuals and companies with vested interests. (*Coronil Demand at 10 Lakh Packs a Day*, 2020). A recent report from RSA claims that fraudsters and cyber attackers have capitalized on the fake news forwarded through YouTube and social media channels to create scams targeting unsuspecting users and causing huge financial losses to them. (*Pandemic Fuels Cybercrime: 8 Scams to Watch For*, 2020). The social impact and human cost of misinformation campaigns include deliberate targeting of certain individuals and stereotyping certain sections of society, resulting in discrimination, polarization and spread of hatred against minorities and other vulnerable communities, including attacks on health workers and paramedics. Fake news claiming the pandemic to be a hoax (Frenkel et al., 2020), non-vegetarian food as the cause for virus spread (IndiaTV, 2020, 03:15-05:21), as well as the news claiming that Covid-19 is a bioweapon (Kartha, 2020) has created huge repercussions in the society. The use of propaganda theory as a foundation of this research is thus justified.

3) Attribution Theory- According to Fritz Heider's attribution theory, people attribute causes to action and behavior. When faced with a difficult situation, people rely on either dispositional attribution, which reside firmly within the individual, or situational attributions, which refer to external factors outside of the individual. (Dunning &Pownall, 2020).Using attribution theory, this research attempts to explain the public's perception of a health catastrophe and their response to news content related to this. Public response is often guided by dispositional attributions like self-serving biases, casual judgements, misconceptions, lack of scientific temperament and that of situational attributions like lack of trust in the government system, belief in conspiracy theories and skepticism about modern medicine etc. - all of which contribute to the spread of fake news. (Van Bavel et al., 2020, p. 45). The human tendency to attribute reasons to their predicaments is evident in the presence of You Tube videos accusing the origin of the pandemic on some country, inept handling of the crisis by governments, and organisations. The research is founded on external attribution envisaged in the attribution theory in analysis of misinformation videos in YouTube.

Methods

i) A YouTube video search was performed using the keywords 'coronavirus India', 'Covid-19 India', 'Covid- 19 Treatments', 'Covid -19 Protocols', 'Covid-19 Malayalam', 'Covid-19

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Kerala'. Google Chrome browser was used in "incognito mode" when browsing YouTube. This was done so that no personal recommendations affected the search results. Search results were filtered by 'views' to obtain the most widely viewed YouTube videos at the time of search. The videos searched were from March 2020 to November 2020. 25 numbers of videos relating to the keywords were selected from English, Hindi, and Malayalam. Based upon content, they were classified as: informative or misleading. Descriptive characteristics of all videos including video title, video hyperlink, number of views, number of likes and dislikes, upload date of video, and video publishing category/ source were included in a spreadsheet for data collection. Video sources were also categorized into eight groups-CDC, WHO, Govt of Kerala/DHS, Govt of India, NGO/INGOs, academic health institutions / hospitals, news agencies/channels and independent users. The reliability and quality of the video Contents were verified against the following parameters:

a) Factuality of content based on advisories and best practices advised by WHO, CDC, Ministry of Health and Family Welfare and Kerala government directorate of health services.
b) Credibility of the content creator – whether the person who is the creator of the content is part of renowned professional societies and/or academic institutions.
c) Scientific basis – Whether the content is a video-based representation of an evidence-based research published in reputed and peer reviewed journals.

Based on these factors, a credibility score - CQS (Content Quality Score) was given to videos that were analyzed subject to a maximum of 5 points. High score represented reliable videos. score between 0-2 are represented as nonfactual videos. The compliance of point (a) was given a score of 3 points, while (b) and (c) carried 1 point each. This score was developed based on previously published work on public health emergencies (Li et al., 2020), a review of the Covid-19 literature and expert input.

ii) Online surveys– Random sampling method is done on the General Public in Kerala in the age group of 18-70 who watch You tube videos.

A structured questionnaire was used to determine the individual responses toward Covid-19 as the effects of misinformation through You Tube. The pandemic Covid-19 peaking in almost every corner in the world, including Kerala, data collection using online media is best suitable, so did the current research. *E*-mail and social media networks were used for collecting data from Kerala respondents, and 325 individuals responded to the survey.

out of an estimated population of 25million active You Tube users in Kerala (Mitter, 2018), 325 samples were selected at random. (0.001 %). Responses from the online survey collected, tabulated, and statistically analyzed.Online in-depth interview of Mr. Suhas IAS, District Collector, Ernakulam, Kerala was collected and analyzed as part of the research.

Analysis

Video Analysis-Findings

A total number of seventyfive YouTube videos related to Covid-19 pandemic, 25 each from English, Hindi and Malayalam were selected and reviewed. Videos were categorized as factual and misinformation based on parameters like -factuality of content based on advisories like WHO, CDC, Govt of Kerala/DHS, Govt of India, NGO/INGOs, academic health institutions / hospitals, news agencies/channels and independent users, credibility of the content creator and scientific basis. Based on these factors scores of each video was calculated.

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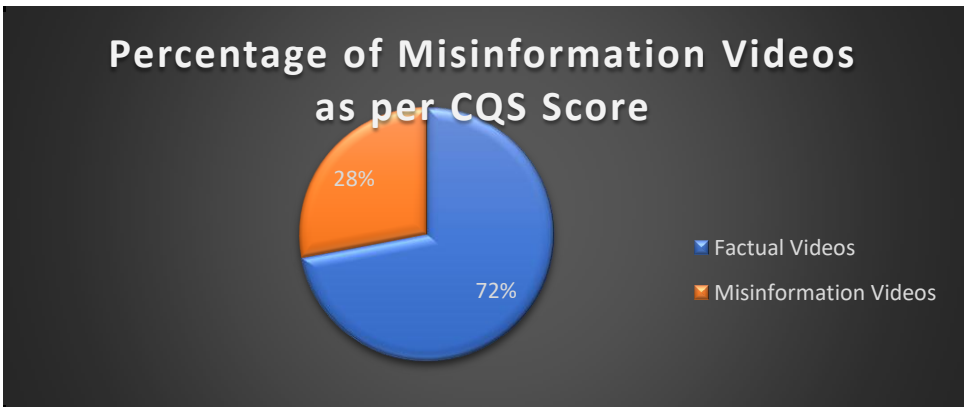
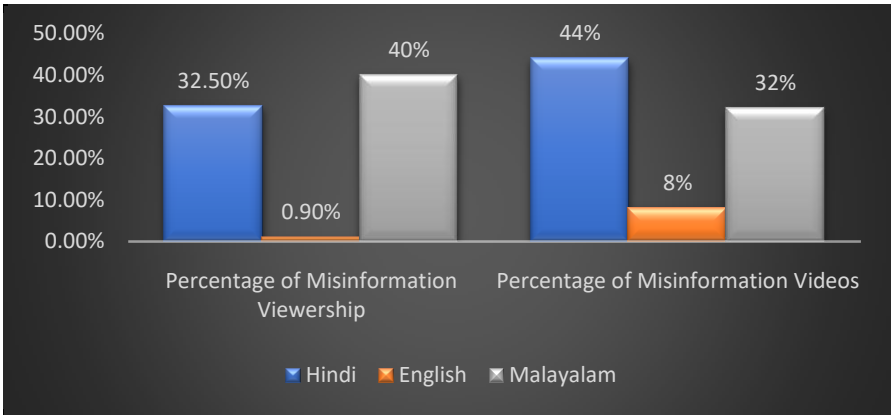
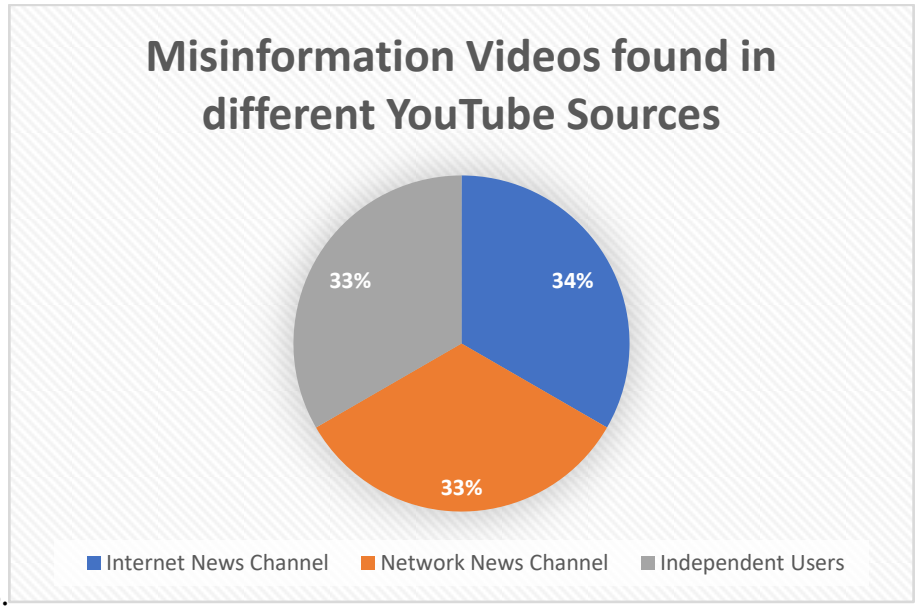
1. 

A total number of 21 videos were classified as misinformation videos, based on CQS scores which comes to 28 % of the total.(Chart 1) Number of viewers for the above misinformation videos was found to be 1,43,38922, which amounts to 21% of total viewership.

2. 

In Hindi though there is 44 % of videos giving misinformation; only 32.5% viewers viewed such videos. In English language videos though 8% videos come under misinformation category, only 0.9% viewers viewed it. In Malayalam, there is 32% misinformation videos and 40% viewership for videos containing misinformation. (Chart 2)

3. 

Source wise analysis of the misinformation videos showed that 33.3 % each came from Internet news channels, Network news channels and Independent users. (Chart 3)

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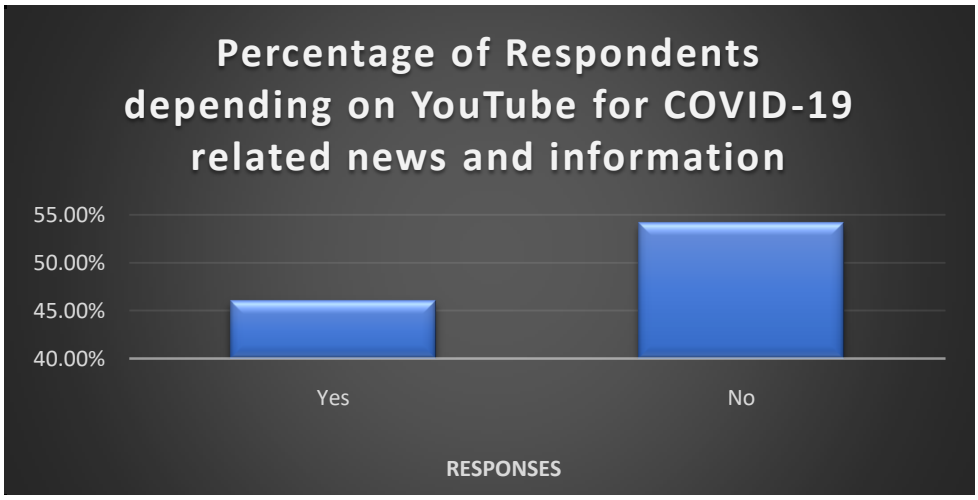
Therefore, researcher concludes that the highest number of misinformation videos on Covid -19 is found in Hindi videos. But the highest number of people exposed to the misinformation videos are from Kerala.

Survey Analysis

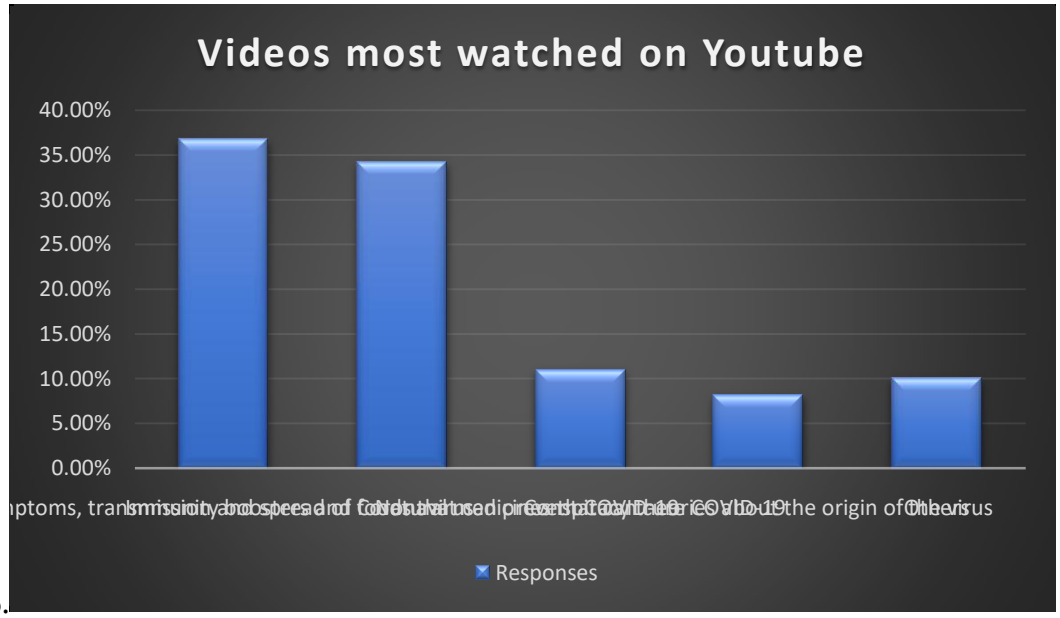
A sample online survey was conducted from the public of Kerala to assess the impact of misinformation on viewers who watched YouTube videos related to Covid-19 pandemic. Out of the population of 25 Million active YouTube users, 325 samples were selected at random. This survey was conducted on 23/11/2020.In the age group of 18-70, 54 % of the participants were male and 46% female. 47.08% of participants were graduate holders and 43.9% were post graduate holders.

Finding 1

From the first part of the survey, researcher finds out the percentage of people searching YouTube channels for Covid related information and the pattern of search.

4. 

46% of the participants searched YouTube for Covid19 related news and information. (Chart 4)

5. 

37% of the persons searched for videos related to symptoms, transmission, and spread of Covid19.While 34% searched for videos related to immunity boosters and foods. 11 % were

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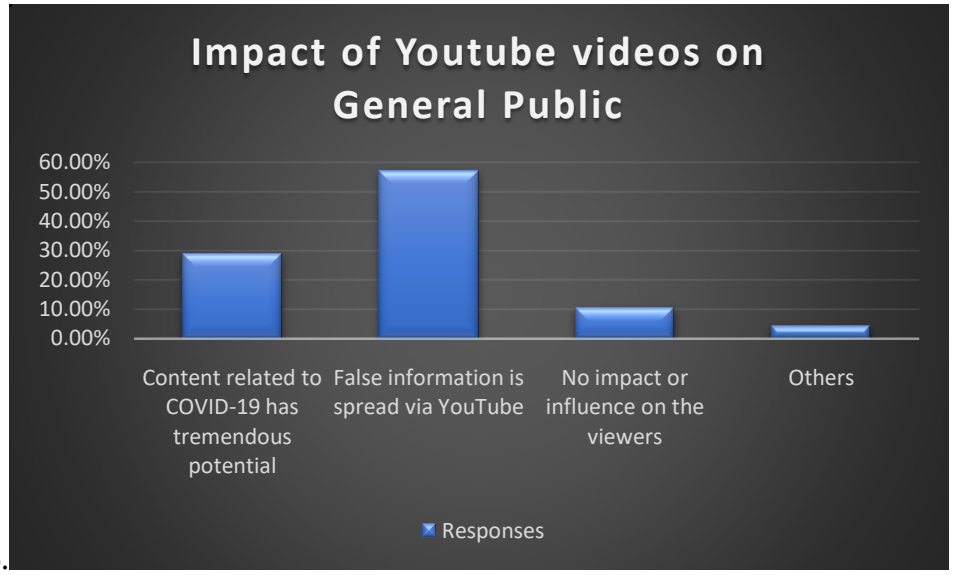
interested in natural medicines for cure and only 8% were interested in conspiracy theories related to videos. (Chart 5)

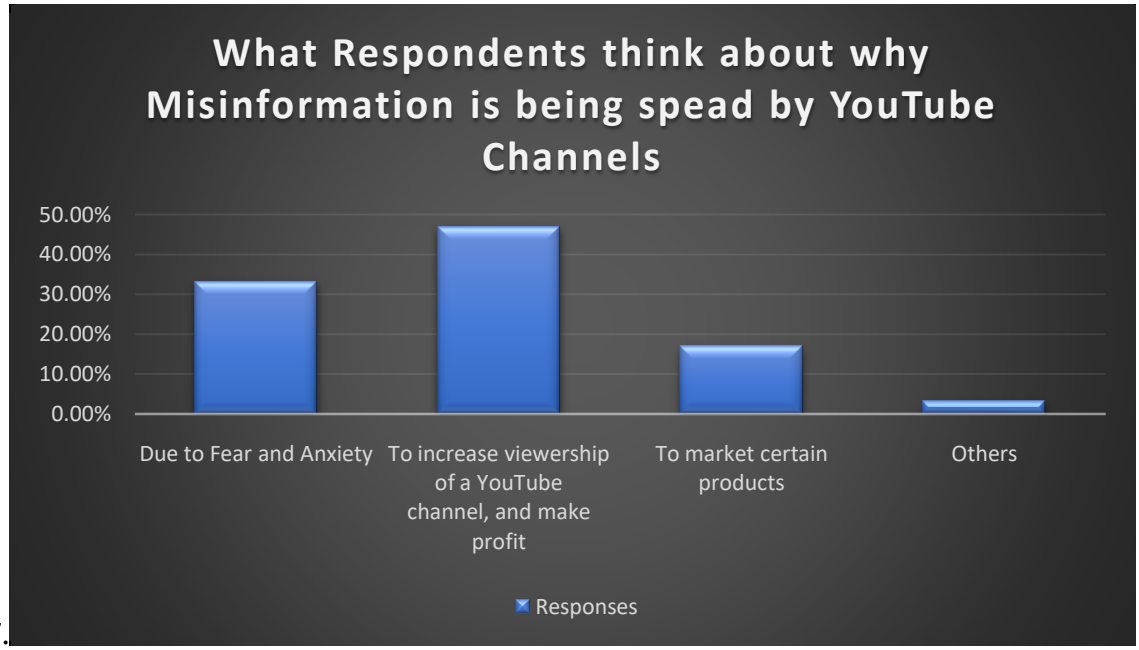
Finding 2

Part 2 of the research brings out the influence of YouTube videos on viewers and the possible reasons for spread of misinformation.



6.

29 % of the participants felt that YouTube videos have tremendous influence on viewers. 57% were of the opinion that YouTube videos cater false information. Others mentioned that YouTube videos do not influence viewers. (Chart 6)



7.

33% believed that misinformation is spread out of fear and anxiety about the pandemic. 47 % indicated that misinformation is spread to increase viewership of channels. 17 % believed that misinformation videos are posted for marketing certain products. (Chart 7) .

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63% of the viewers believed that videos posted in YouTube by private individuals have more visibility than official videos, and at the same time 62% of participants disagreed to the view that private videos are more trustworthy.

Researcher concludes that though a substantial number of viewers viewed misinformation videos, the impact of such videos among the Kerala audience were found considerably less , for the following reasons :

1) 93% of YouTube viewers in Kerala were graduates and above.
2) 61.5% of viewers do not believe private videos.
3) 57% of the participants believed that false info is spread through YouTube videos.
   Therefore, it is proved that misinformation videos in YouTube channels on covid 19 pandemic had no significant impact in Kerala.

Discussion

The primary objective of the analysis was to understand the extent of misinformation spread through YouTube videos related to Covid -19 pandemic, and the impact of such videos on the public of Kerala. It is now widely acknowledged that a pandemic of global proportion like Covid-19 is an unprecedented occurrence and there is no blueprint to follow in the fight against it. (ET HealthWorld, 2020). Communication and sharing of factual data is of vital importance for nations to combat the spread of virus. Vraga(2021) disclosed how misinformation spreading through media is hampering the covid-19 prevention strategies. This research, which is an attempt to analyze the type and nature of misinformation related to the pandemic spread through YouTube channels, becomes all the more important in this context.

As part of the research, 25 YouTube videos each from Malayalam, English and Hindi related to Covid-19 were selected randomly. The study found out that 28% of the selected videos reaching 1,43,38922 viewers, contained misinformation indicating the substantial reach of YouTube among the masses. The misinformation videos were from internet news channels, network news channels and independent users. Government videos, as low as 7 in number, showed higher accuracy and quality highlighting awareness programs.

The scoring of each of the videos have been done by comparing the content of these videos with the advisories published by the World Health Organisation (WHO) and such renowned health regulatory bodies. The research identified a number of videos with misleading titles including - ‘how to treat Coronavirus using Ayurveda medicines’, ‘What foods to eat to avoid Covid-19’, ’Capsule to prevent Coronavirus’,’ drinking Cows urine can cure Corona’ , ‘Corona Virus is manmade’ and so on, which were clearly classified as misinformation. The analysis shows that there is an alarming tendency of misusing such huge informative platforms for increasing viewership and for marketing medically unproven products, posing a serious challenge to the health care sector. The basic theory on which this research is carried out, namely ‘The Propaganda Theory ‘is thus established. Bellemare, Nicholson, &Ho(2021) have reported that once misinformation videos get viral, they easily spread to other social media platforms. Their study identified that Alt-Tech platforms, working as alternatives to mainstream social media platforms, work as reservoirs for content flagged and removed from main sites.

The researcher conducted an online survey to assess the impact of the misinformation videos on the general public in Kerala, who search YouTube videos for Covid -19 related information. The participants, a vast majority of them graduates and postgraduates expressed the view that though private videos have more visibility, they do not trust their content.61% of the participants revealed that misinformation is spread through private videos appearing on YouTube. They are aware of the spread of misinformation through YouTube and hence 52% of them do verify the authenticity of content. The strength of this study is that it is being done in the state of Kerala. Studies by Menon et al. (2020) have viewed that Kerala has a strong public health system backed by the community

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participation and a pro- active administration. It is also understood from the same study that the Nipah epidemic experience proved useful to make the health system on alert in a short notice. The same report also highlighted the Kerala chief minister's daily press meetings that helped to communicate right information to the public. The highlight of research was to find out the impact of misinformation on people of such a well-prepared state, known for 'the Kerala model'. The survey also revealed that even though 34% of participants preferred to watch videos related to spread and transmission of corona virus, 8% of participants watched videos related to rumors and conspiracy theories which is perturbing. A research from ABC News (2020) indicated that some people tend to propagate conspiracy theories just for the pleasure of getting attention. The same article also published that conspiracies often reflect anxieties and fears of the society where people have no say in decision making. Another principle on which this research is based, mainly 'Attribution Theory' is relevant here, being a theory related to human behavior of attributing reasons to their predicaments.

The research concludes that the impact of Covid-19 related misinformation videos on YouTube viewers in Kerala is not significant, which is contrary to the hypothesis. The aforementioned analysis is due to the high percentage of literacy, effective actions from the Kerala Govt and the Govt'scyberpolice wing 'Cyber dome' and effective interference from YouTube authorities. Cyber dome of Kerala police has been conducting cyber safety awareness events and workshops throughout the state.(OnManorama,2020).Researcher's Survey also suggests that 85% of people in Kerala spend less than one hour in a day to search for information regarding covid on YouTube. They trust government bodies for information. According to the interview given by the district collector of ErnakulamShri.S.Suhas.IAS, every district has a district disaster management team to prevent fake news using best ways of technology consisting of technocrats, cyber police team, official media people, etc and legal actions were initiated whenever necessary. Based on the reports from Google, YouTube has implemented a Covid-19 medical misinformation policy where they remove contents that spread medical misinformation which contradict WHO protocol (YouTube,2020). YouTube authorities claimed that they brought back human moderators for this purpose to replace AI filters for implying the importance of the mission. (Vincent, 2020)

The study has the limitation that only online survey could be conducted due to the prevailing pandemic situation with reduced sample size. The results however have not been impacted due to this, due to the diversity of samples collected.

The survey reveals that misinformation videos related to Covid-19 have no significant impact on viewers in Kerala. The reasons can be attributed to the unique features of Kerala, like high percentage of literacy leading to a higher level of health and hygiene awareness, and public participation in Govt programs with as many as 5 lakhs volunteers registering for Covid-19 related duties.

Conclusion

The emergence of social media can be attributed to the sweeping changes that happened in digital communication technology in the late 80s and early 90s, that enabled better networking and connectivity, faster data transfer mechanisms and cheaper costs for data transmission and storage. This enabled people and businesses to connect and exchange messages in real time across geographical borders. One of the results of this communication revolution was the emergence of diverse forms of popular culture, bringing about a collective transformation of society. With the arrival of digital technology, every individual could become a producer and broadcaster, reducing the scope for content analysis. This opened up avenues for the spread of misinformation.

YouTube, the second most popular social network, has 2.3 billion users worldwide according to the latest statistics. The study presented that a substantial percentage of YouTube videos related to Covid-19 pandemic carry misinformation. The misinformation videos reach crores of viewers either

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directly or through reposting through various social media. During the Covid19 pandemic, it was widely reported that all over the world, healthcare professionals had to deal with fear, uncertainty, and doubt in the minds of public due to these fake news and misinformation campaigns. However, this study found that the impact of misinformation videos on Covid-19 has had no significant impact on viewers in Kerala. This study concludes that the impact of misinformation was minimized due to the high percentage of literacy and awareness among public, effective interference of the cyber wing of the police to curb misinformation and campaigning done by the Govt including daily press briefing by the chief minister.

A concerted effort by the Govt, health authorities, cyber police, social media platforms and public is needed to minimize the negative influence of misinformation. The researcher suggests creation of cyber laws to ensure punishment to persons spreading misinformation, instead of merely removing fake videos from YouTube. This will persuade people to think twice before sharing a suspect video. At the government level awareness campaigns on technical fact checking methods should be implemented to benefit the general public. At this hour of the crisis, media should stand firm on its commitment as custodian of veritas and use its resources to effectively check the ingress of misinformation into its channels. For future researchers on the subject, it is of paramount importance to explore feasibility of cyber laws to check misinformation and it's spread without infringing upon personal freedom of expression.

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