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Health Information in Social Media: An Evaluation of YouTube Videos

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ABSTRACT

New media hold the rapid dominance over the health information. People acquire the health information in different social media which includes YouTube, popular video sharing site. A systematic protocol was used to locate the 200 videos on YouTube in 20 different health topics. Blind coding was followed with two independent coders in the topics of authorship, channel types, information in video, elements shown in video, and the authenticity of the health information was analyzed using the eight standard HONCode principles. Profit organization took the major role of presenting the 109 (54.5%) health information videos on YouTube. Majority of the health information video produced by the profit organization lay in the field of medium (3-5) HONCode result, even the consumer authorship was the highly represented in the profit organization. The authenticated sources like educational institutions, Government organizations, Medical center, and Non-Profit organization do produces the highly authenticated (6-8 HONCode) health information; but their volume of producing the videos is quite low.

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Introduction

Health communication is the process of advocating the desired health behaviour, attitude, and practices on the individual or the community by different communication channels [1]. Even though having a great development in the health sector in developing as well as developed countries, wide variety of problems are yet unanswered. Several countries spend lot of money in the health campaign to inform the general public, which have positive as well as neutral outcomes. Globally there are several health issues that are directly or indirectly related to the communication [2].

New media has seen a rapid dominance over traditional media in the last few years largely because of it nature of connecting people horizontally rather than using a top-down approach [3]. People use the internet for their educational, entertainment, e- commerce and much more purposes as well; even it is an integrated part of their life [4]. Though the medical professional remains the primary source of information; people tend to use lot of other source of information to enrich their knowledge on their health concerns (Online Nursing, 2018). People are no longer solely dependent on traditional sources of information like physician's advice, radio, newspapers or television for their health information needs. In fact, online health information seeking has been becoming increasingly popular in recent years. This increasing penetration of the internet into various communities and its growing utilization has seen people largely turning to it, for answers to their health queries [5]. The information that they sought through the internet might be for their personal use or for their loved ones. The purposeful information seeking tends to have a positive effect among the audience [6].

The increase in the usage of internet for the health information over the other medium might be because of several causes, low and negligible cost of internet usage for the health issues, the ability to stay anonymous when the sensitive information is needed about their health. Even internet can be used to validate or cross check with the information provided by the physician, prepare them for a routine health check-up or even held to answer the question which they might forgot to rise in the physician meet. This gives them the control over their health outcomes [6-10]. Even the previous researches marked that nearly 70% of initial search for the health issues begins with the internet [11]. ZOCDOC report mentioned that 90% Millennials people never initiate for the physician check-up [12]. Even many people are very optimistic about the internet as the source of information for the health. These initial way of acquiring health information will be in different format in the internet as a text message in a website, images from any social media and as well as the video and audio format of health information's.

YouTube as a Source of Health Information

The consumption of videos for the information gain is rapidly increases over the time, it is expected that nearly 84 minutes a person spend in the year 2020 in the videos alone [13]. The World Health Organization (WHO) mentions that all literate level

people can easily access to health information videos without any hassle. The health information through the video has plays a significant role in acquiring the desired health behaviour [14, 5]. The social networking sites like YouTube delivers the good number of videos in health [15]. YouTube is the massive online source for video content with the user base of 1.8 billons for an hour in mobile application [16]. The health topics that are available on YouTube comprise of the latest medical treatments, symptoms, preventive measures and much more. Any registered user on YouTube can post a video; which may or may not meet quality, credibility and authenticity of health information [17, 18]. Their coverage therefore about a disease and its treatments is distorted and at times erroneous [7]. Even sometimes the modern medical treatments were avoided just by using the health information through YouTube which can lead to death also [19]. Despite concerns being raised, people continue to turn to YouTube repeatedly for their health information needs, which might at times mislead with the wrong information [20, 21]. YouTube videos in the field of health communication have not been studied much, this study explores the credibility and authenticity of YouTube videos in the field of health communication [16].

Method

This study uses content analysis to carry out the systematic evaluation of various YouTube videos. Combining the WHO report 2016 and other major health concern the following health topics are acquired Alzheimer, Arthritis, Asthma, Breast cancer, Common cold, Dengue, Depression, Diabetes, Diarrhoea, Drinking alcohol, Drug abuse, Heart attack, HIV/AIDS, Lung cancer, Malaria, Obesity, Stroke, Tuberculosis, Typhoid, Washing hands [22]. The health information seeking pattern is subcategorized into types of health information and the source of health information. In this research it was further extended to type of channels, elements present in the video and the author type. Even the large portion of research on content analysis was carried with the information on one specific health topic; researcher has mentioned that breaking from one specific health topic to general health information studies [6]. This is the first study which mentions about the different health topics in a single study.

Type of Channel

Government, professional organizations, and healthcare professionals actively participate on YouTube by developing and uploading health videos. Studies have identified that the information provided by such sources are of authenticated and credible health information [15]. Therefore this study analyse authenticity and credibility of different YouTube channels, the types of channels are

- Educational Institution – Video from educational institutions.
- Government Organization - produced by govt. agencies (with .gov domain)
- Health Professional - Individual doctors / Health care assistants
- Medical centre - Uploaded by medical centres /hospitals/ departments
- News Sources - Recognised news source
- Non-Profit Organization – Organization which work for people health
- Others - Videos that could not be categorized in the other formats.
- Professional organization – Associations working related to medicine (Eg. American Medical Association).
- Profit organization - video of commercial origin
- Individual/User Generated Content (UGC) - Created by a layperson [17, 23].

Format of Video

The video presentation is one of the major concerns for the viewer to adapt and acquire the knowledge from it. The video formats are categorized into

- **Public Service Announcement** (PSA)- To inform, educate and to raise awareness on the health issues
- **Testimonial** – videos which were about the caregiving or care receiver experiences
- **News Story and Interview** - videos which are journalistic in nature or broadcasted in a news program
- **Non News Interviews** are videos that are professionally made but not meant to be journalistic in nature
- Presentations that were made by the researcher or health care professional (eg conference, webinar etc) are coded under the **Formal presentation** category.
- Computerized voice, layperson presentation or the student's presentation are coded to being an **informal presentation**.
- The videos which do not fall under any of the above categories were classified as **others** [24].

Types of Information

It is essential to understand the type of information presented on YouTube and it has to be estimated with the authenticity and credibility aspect as well. The information that was present in the video was analysed with the following categories: Awareness, Caregiving Experiences, Causes, Clinical Trial and support, Complications, History, How it Spreads, Protective factors/ prevention, Quality of Life of the Affected, Resources of Support, Risk, Screening/ diagnosis, Symptoms, Treatment, Visually Shown Disease [24].

Elements Shown in the Video

The elements shown in the videos were analysed with Anthropomorphizing or representation of the disease/germ, Animation of what takes place inside the body due to internal conditions, Appearance of doctors/hospitals, Depiction of home remedies, Has a summary of Information, Humour, Intake of Medicine is shown, Onscreen textual reinforcement, Use of Statistics. In the Types of information and as well as in the Elements shown multiple selection process was indulged. A video can be marked with different set of options, since the videos can be produced with more numbers of information and elements. So it was followed with the multiple selection option.

Mobilizing Information

People get most of the information about the health in the video itself, so it essential to analyse the mobilizing information in the video alone. Mobilizing information that includes the website link, physical address, Contact person numbers and other information (Date, Place, etc) within the video were coded [24].

Honcode

Medline plus quoted the process of evaluating health information in online, which questions the basic of 5W's such as what, when, where, who, why on the content and its providers. Even the National Center for Complementary and Interactive Health (NIH), National Cancer Institute, Family Doctor.org mentions the point to evaluate the health information [25-27]. It talks about the source of information and when it is get updated in the platform. These point matches with the HONCode eight principles, Health on the Net (HON) is a non-profit organization, which was founded in the year 1996 with the group of medical experts to validate the credibility and authenticity of health information in online. It was assured using the eight standard codes which were quoted to be as HONCode, through the eight standards HONCode's the website

were certified. Since it is essential to analyse the authenticity of health information on YouTube, this research uses those eight standard codes to assess it by checking it in all the video with these standards. If the video provides the source of information for the health content then appropriate score will be given for that video, likewise the video will be tested with all the eight standard HONCode principles. The video which scores the values of standards between 0-2 is quoted to be as Low, 3 – 5 as medium, and 6 – 8 as high authenticated of information as well [17].

Types of Author

It is necessary to find the author type and analyse the video without seeing the channel type, since the individual channel (User Generated Content) channel might post a video which satisfy the basic credibility materials. The category of author were subdivided as professional, those with the videos featuring one or more health care professional or clinical credentials. Those with no clinical credentials or might be from the lay person or advertisement or in the aim profit making were quoted consumer videos. Basch 2015 mentions that the majority of the videos were from the consumer category.

This research hypothesizes that

H1: Consumer videos are significantly higher than professional videos on YouTube.

H2: Screening/ Diagnosis will be higher in the professional videos on YouTube.

H3: Home remedies depiction will be higher in the consumer videos on YouTube.

Research Questions

This research also investigates the following research questions:

RQ1) What type of YouTube channel posted the health videos with the highest HONCode results?

RQ2) Which format of video posted in the YouTube has the highest HONCode results?

Sample Selection

Computers were set to incognito mode in order to restrict the previous browsing history while search for the health information videos on YouTube. Keywords that were used to acquire the videos were extracted from the Keyword planner programs like LSI Graph and the related queries field from the Google Trends [28, 29]. In case of 'heart attack', that particular keyword was posted in the Lsigraph. The suggested keywords were monitored and noted down; the same way it was checked with Google trends and its suggestions also. Comprising the keyword suggestions from both the sites were taken into account. Those suggested keywords were used in the YouTube search and the filters were turned to high views. The videos which hit multiple times in several keywords with the highest views were taken for the analyses. The top 10 highly viewed videos in each health topic were observed for the study [30, 31]. In that, the videos which were not in English were eliminated and searches were made until each topic fulfils the criteria of 10 videos each. So the total of 200 videos were analysed, these video which were acquired on the date of 26th December 2018.

The analysis was done by two independent coders using a codebook; who were trained and followed the same standard for locating and analysing the video. Coding training also included the watching and coding of 10 different health information videos each, which were excluded from the final study. Blind coding was followed so that the coding process by the coders does not have any bias from the research questions.

Coding Scheme

The intercoder reliability was analysed for initial 20% (40) of the videos. Cohen's kappa for the intercoder reliability score is 0.90. Thus further fetching and coding of the video was carried by the coders. The following data were extracted from the video: Duration of the video, video posted date, Channel type, Number of subscribers.

Result

The total number of videos that were analysed for the study was 200 which were posted in different years across the YouTube. From the analysed videos it was found that the highest health information videos were present in the year 2016 with 40 (20%) followed by 2015 with the 26 (13%). Even though the study was acquired these videos in the end of year 2018, there was not much videos from 2017 and 2018. The number of channels with below one million subscribers is 141 (70.5%) of which six channels did not provide the number of subscribers list. The average viewership of the videos is 2783013.

The length of the video was subcategorized into each minute, with 02-03 minutes score the highest number of videos with 36 (18%), followed by 03-04 minutes with 30 (15%) and 01- 02 minutes with 28 (14%) of videos. The video which is having the duration more than 15 minutes are quoted in a single category which is having 11 (5.5%) videos. Even four videos were above the 30 minutes slot. Though 02-03 minutes of videos register the high count in the analyses, the average run time of those 200 videos is 5.42 Minutes. This implies the major finding that the videos which have the minimum duration were highly watched by the audiences.

Mobilizing Information

When video were checked with the website URL for further information, only 76(30%) videos were found to contain the website link for further information. Of the total 200 videos analysed the physical address was present in 14(7%) of videos, phone number was present in 5 (2.5%) of videos, place and other information was supported by 13(6.5%) of videos. In general, the mobilizing information's in the videos were poorly mentioned.

Type of Author

The type of authorship of the videos were analysed for all the 200 videos, the result shows that the professional category were present in 81(40.5%) videos and the consumer category were present in 119 (59.5%) videos. This mentions that the consumer category of video is high among the analysed videos. Hypothesis 1 was supported with $\chi 2 = 7.22$ (1), $P < 0.007$. It clearly mentions that consumer videos outnumber the professional category videos.

Honcode

It is essential to provide the source of content for the viewer to get more information on the health topic, which was poorly mentioned in the videos with 66 (33%). This helps the audiences to acquire more knowledge about the health topic which was not mentioned in the health information videos. Even the benefits of practicing the specific behaviour should have been supported with the HTML link, but which was not present in most of videos 72(36%). The contact information / website link was quite low than other parameters which scores 77(38.5%) only. In case of contributions of funds for the video production, several channels do not provide the details of funding agency. Those videos which does not mention about the funds were awarded with one point, so it reaches the score of 189 (94.5%). Same in case of support from the advertisers for making a video which was not mentioned

clearly, the video which does not mention about those was again awarded with one score for it and it is having the score of 190 (90%). The videos which does not include the patients list are having the physical presentence of patients in the video were awarded with the right to confidentiality score, it is having the score of 167 (83.5%) (see Table 1).

Table 1: HONCODE Values

S.No.	Title	Score
1.	Any medical or health advice given in the video must come from a qualified health professional unless it is clearly stated that the information does not come from a qualified health source.	127
2.	The information provided in the videos must be designed to support the patient's self-management but is not meant to replace a patient–physician relationship.	159
3.	The information in the video maintains the right to confidentiality and respect of the individual patient featured.	167
4.	Each video contains references to source data on information presented or contains a specific HTML link to source information.	66
5.	Each video containing claim on the benefits or performance of specific, skills/ behaviours, interventions, treatments, products, and so on must be supported by evidence through references or HTML links.	72
6.	The video must provide the viewer with contact information, or a Web site link to more information.	77
7.	Any individual or organization that contributes funds, services, or material in the posted video must be clearly identified in the video or video description.*	189
8.	If advertisement supports funding to the video or the video's developers, it must be clearly stated. Included advertising must be clearly differentiable to the viewer: There should be a clear difference between the advertising material and the educational material in the video.	190

*Criteria did not apply to all videos, videos believed do not have any funding/ advertising materials were scored as not applicable and awarded one point.

Type of Channel

Among the analysed videos Profit organization took a major of share producing the health information videos, with 109 (54.5%) of videos among it. Followed by the Individual or the User generated content (UGC) are the second top among the channels with 33 (16.5%) of videos. RQ1: The highest HONCode videos were from again the Profit Organization 40(47.6%), since the number of videos produced by these channels is quite high which results in the high HonCode result as well. The credible source of channels like educational institutions, government organizations, health professional and medical centre produced the videos in high HONCode category (6-8) but the total number of videos produced by these channels is quite low. The highest consumer authorship among the channels was found in the profit organization with 84 (77.06%) and it was followed by the individual channel with 22 (66.6%). Educational institution, Non-profit organization and the professional organization does not have a video in the consumer authorship (see Table 2).

Table 2: Type of channels and its HONCODE

Type of channel	HONCODE			AUTHOR		Total (%)
	0 - 2	3 - 5	6 - 8	C	P	
Educational Institution	0	0	1 (1.2) [100]	0	1	1 (0.5)
Government	0	0	7 (8.3) [100]	2	5	7 (3.5)
Health Professional	0	3 (3.06) [42.8]	4 (4.7) [57.1]	1	6	7 (3.5)
Individual	6 (33.3) [18.18]	17 (17.3) [51.5]	10 (11.9) [30.3]	22	11	33 (16.5)
Medical centre	0	2 (2.04) [66.6]	1 (1.2) [33.3]	2	1	3 (1.5)
News Sources	0	6 (6.12) [37.5]	10 (11.9) [62.5]	5	11	16 (8)
Non Profit	0	5 (5.1) [71.4]	2 (2.3) [28.5]	0	7	7 (3.5)
Others	2 (11.1) [22.2]	2 (2.04) [22.2]	5 (5.9) [55.5]	3	6	9 (4.5)
Professional organization	1 (5.55) [12.5]	3 (3.06) [37.5]	4 (4.7) [50]	0	8	8 (4)
Profit organization	9 (50) [8.25]	60 (61.2) [55.04]	40 (47.6) [36.7]	84	25	109 (54.5)
Total	18 [9]	98 [49]	84 [42]	119	81	200

( ) – Column percentage [ ] – Row percentage
C- Consumer, P- Professional

Format of Video

In the format of the videos 76(38%) are from in the category of informal presentation, followed by public service announcement with 40 (20%) of videos. RQ2 Even though the informal presentation videos are high in number, it does not reflect the highest HonCode result in the final analysis. The formats of public service announcement register the highest HONCode 24(28.57%) video, it was followed by news story and interviews with 19 (22.61%) videos in total (see Table 3).

Table 3: Format with Honcode

Formats	HONCODE			
	0 - 2 (%)	3 - 5 (%)	6 - 8 (%)	Total (%)
Formal Presentation	1 (5.55) [6.66]	6 (6.12) [40]	8 (9.52) [53.33]	15 (7.5)
Informal Presentation	15 (83.33) [19.73]	47 (47.95) [61.82]	14 (16.66) [18.42]	76 (38)
News Story and Interview	1 (5.55) [3.57]	8 (8.16) [28.57]	19 (22.61) [67.85]	28 (14)
Non News and interview	0	6 (6.12) [75]	2 (2.38) [25]	8 (4)
Others	1 (5.55) [6.25]	9 (9.18) [56.25]	6 (7.14) [37.5]	16 (8)
Public Service Announcement	0	16 (16.23) [40]	24 (28.57) [60]	40 (20)
Testimonial	0	6 (6.12) [35.29]	11 (13.09) [64.7]	17 (8.5)
Total	18 [9]	98 [49]	84 [42]	200

( ) – Column percentage [ ] – Row percentage

When compared the channel type and the format of the video, it is found that informal presentation was high in the profit organization with the share of 56 (51.3%) of videos. Informal presentation was even high in the Individual (User Generated) Channels. Out of 7 videos from the government channel 6 were PSA (see Table 4).

Table 4. Channel Type with Format of the Video

Channel Type	Format of video							Total
	Formal Presentation	Informal Presentation	News story and interview	Non New interview	Other	PSA	Testimonial	
Educational Institution	1(6.67) [100]	0	0	0	0	0	0	1
Government	0	0	0	0	0	6 (15) [85.71]	1 (5.88) [14.28]	7
Health Professional	2 (13.33) [28.57]	0	2 (7.14) [28.57]	1 (12.5) [14.29]	1 (6.25) [14.29]	0	1 (5.88) [14.29]	7
Individual	0	15 (19.74) [45.45]	1 (3.57) [3.03]	1 (12.5) [3.03]	2 (12.5) [6.06]	7 (17.5) [21.21]	7 (41.18) [21.21]	33
Medical center	0	1 (1.32) [33.33]	0	0	0	1 (2.5) [33.33]	1 (5.88) [33.33]	3
News Sources	0	1 (1.32) [6.25]	14 (50) [87.5]	0	1 (6.25) [6.25]	0	0	16
Non Profit	0	0	1 (3.57) [14.29]	0	1 (6.25) [14.29]	5 (12.5) [71.43]	0	7
Others	0	3(3.95) [33.33]	2 (7.14) [22.22]	0	1 (6.25) [11.11]	3 (7.5) [33.33]	0	9
Professional Organization	4 (26.67) [50]	0	2 (7.14) [25]	0	0	1 (2.5) [12.5]	1 (5.88) [12.5]	8
Profit organization	8 (53.33) [7.34]	56 (73.68) [51.38]	6 (21.43) [5.5]	6 (75) [5.5]	10 (62.5) [9.17]	17 (42.5) [15.6]	6 (35.29) [5.5]	109
Total	15	76	28	8	16	40	17	200

( ) – Column percentage [ ] – Row percentage

Types of Information

Causes, Awareness, Protective measures are the highly presented information. Hypothesis 2 was rejected with $\chi 2 = 0.77$ (1), P< 0.78, so it is found that there is no significant difference in the representation of screening/diagnosis between the consumer and professional type of author [32]. The number of videos, which have the screening and diagnosis, is quite low and their representation as consumer and professional category was almost equally divided (see Table: 5).

Table 5: Types of Health Information

Types of health information	Consumer	Professional	Total	Chi-square (degree of freedom): P value
Awareness	41	38	79	0.11 (1): .73
Care giving experiences	12	10	22	0.18 (1): .67
Causes	46	34	80	1.8 (1): .18
Clinical trial and support	1	4	5	-
Complications	10	6	16	1.0 (1): .31
History	4	3	7	-
How it spreads	13	5	18	3.56 (1): .05
Protective measures	41	32	73	1.1 (1): .29
Quality of life affected	34	36	70	0.57 (1): .81
Resources of support	6	10	16	1.0 (1): .31
Risk	21	30	51	1.5 (1): .20
Screening / Diagnosis	6	7	13	0.77 (1): .78
Symptoms	35	19	54	4.74 (1): .02
Treatment	29	23	52	0.69 (1): .40
Visually shown disease	20	15	35	0.71 (1): .39

Elements Shown

Among those videos, animation of what takes place inside the body have the highest repetition which was present in 41 (20.5%) of videos. The home remedies is highly depicted by the consumer category and the hypothesis 3 was supported with $\chi 2 = 25$ (1), P< 0.000(see Table 6) [32].

Table 6. Elements present in the video

Elements shown	Consumer	Professional	Total	Chi-square (degree of freedom): P value
Anamorphic or representation of disease	12	4	16	4 (1): .04
Animation of what takes place inside body	23	18	41	0.61 (1): .43
Appearance of doctor / Hospitals	8	23	31	7.25 (1): .007
Depiction of home remedies	33	3	36	25 (1): .000
Has a summary of information	5	6	11	0.91 (1): .76
Humour	4	7	11	0.81 (1): .38
Intake of medicine is shown	6	13	19	2.57 (1): .10
Onscreen textual reinforcement	18	17	35	0.02 (1): .86
Statistics	15	13	28	0.14 (1): .70

Discussion

The result of duration of the health information videos expresses that the minimum length of video is preferred by the audience. There is very limited number of videos which is having the high duration in the analyzed videos. Che (2015) mentions in a research that 95% of videos posted in YouTube were less than 10 minutes. But in case of health information video, the average run time of around 6 minutes was highly viewed. The YouTube channels which have the highest subscribers can easily achieve the scale of high views than other videos, but in this study nearly 3 out of 4 videos having the subscribers list below than one million which can eliminate those problems.

The finding of this study reveals that the causes, awareness, protective measures and the quality of life affected are the most common information addressed in the health information videos. When the type of information was analyzed with the type of author, it is found that most of the health information was statistically insignificant among the type of author. In those each type of information was equally shared by the consumer and as well as the professional category. When the audiences check those videos which fall under the category of professional might end up believing the information since it might represent the health care professional or the clinical credentials were present in that video [33, 34]. The process of screening / diagnosing the disease carries importance in

several health topics, but this information was poorly addressed among the analyzed videos [24]. In contrast to the study of Basch, Symptoms are quite well addressed in the consumer type of author rather than professional category, which was statistically proven with $\chi 2 = 4.74(1)$ p value of <0.02. Even the screening/diagnosis was highly expressed in the professional type of author in the study of Basch, which was again contradicted in this study. This might be because of the number of health topics that was addressed in this research was quite high when it is compared with the previous study. So the mix of all topics makes the consumer to address the symptoms more than the professional type of author. Even the category of spreading of the health issues was quite well addressed in the consumer category which was statistically proven with $\chi 2 = 3.56$ (1) p value of <0.05.

In case of anamorphic character representation it is found that consumer category were highly depicted the characters when compare with the professional category. This representation can illustrate the audiences about the internal function of disease or the remedies that they going to take. Even in case of home remedies the consumer outnumbers the professional category this was highly supported by the previous research, still combining different kind of the health issues consumer category outnumbers the professional [32]. In the elements, appearance of doctor / hospital was categorized with the authorship of professional 23 and the consumer as 8. The images of the hospital alone shown in those 8 videos, it was categorized under the consumer category.

Studies were identified that the anecdotal patient's information is an influencing factor for the audience decision [15]. Even the audience seeks to get advice from the testimonial videos posted by the individual [35]. The smokeless tobacco mass media campaign produced by the India with the testimonial video added in it, received a significant result among the rural and the urban population [36]. Even the audience likes to interact with the people who posted the testimonial video since they talk about their personal experience which makes them comfortable [37]. Thus the testimonial videos play a significant role in the health decision making, this study identified that the 17 testimonial videos were posted mostly by individual channel and followed by the profit organization with the share of 7 and 6 videos respectively. Government, Health care professional, Medical center, Professional Organization shared one testimonial video, thus utilizing the proper authenticated testimonial video can produce the significant result among the audience. Likewise the adolescents who were high health consciousness were more persuaded through the PSA format of videos. The PSA were the top share for the Government channels with 6 (85.71%) were PSA. But the PSA were highly shared by the profit organization in the total PSA of 40 videos, profit organization took the count of 17 (42.5%).

From the result of mobilizing information and HONCode, it is found that further reading links are poorly supported among the health videos analysed. Only quarter of videos presented the source of information, benefits of performing skills and the further contact information which can lower the authenticity as well the credibility aspect of the videos [24]. Even in some cases, the information was not provided in the channel details also. Medline plus express that the validation of health content by the health professional is highly credential one [33]. This study found that the representation of doctors are quite well addressed in the health videos, even it is highly fallen under the professional category with $\chi 2 = 7.25(1)$ P value of 0.0001. The consumer type of author does not provide the contact persons address in it which leaves the audience left in a blank space of health information alone. In addition to that the website link was given in 20% of consumer videos alone which again make the audience to grasp the information without having any supporting or enriching information post that video.

Researches mention that the User Generated Content or the news sources produced videos were having the high representation in the YouTube [38, 39]. But these studies mention about either of one particular topic among the health issues. When combining with different health topics profit organization took a major role of producing high amount of videos. A study on Myocardial Infarction mention that profit organization makes the highest videos, which have the high number of views, the information that is provided in that channel is not required to scientifically correct [21]. Since profit organization makes most of videos in the health topics there quality and credibility is questionable [40]. Even the HONCode results of these profit organization and individual channels lies in the medium category. Some videos which are analysed under the profit organization posted a caution messages stating that the health information provided in the videos are subjective to change for individual or expressed to check with their doctors for further clarification which was a good sign.

It is found that nearly 70% of videos from the Educational Institution, Government organization, Health professionals, News sources and Professional Organization lies in the professional category in the authorship, along with these channels medical center, and Non-profit organization carry most of the videos in high (6 – 8) HONCode results as well. Even these channels does not have a video in the HONCode Low category (0 - 2). This is a significant finding that these channels follow and produce the authenticity as well credential health information. But the number of videos from these institutions in the highly viewed videos is quite low, when it is compared with profit organization. Even studies revealed that these sources increase the authenticity and credibility among the viewer's [21].

Conclusion

This study in the field of health communication analyses several health topics present in the YouTube. Mentioning that communication alone is not a solution for all the health issues, but it plays a significant result in the health decision making [2]. This encompasses to analyze the major information provided in the YouTube for the health. Anyone can claim credentials and publish content on their own in YouTube. There is a lack of monitoring controls [8, 23]. Several studies questioned the authenticity and the credibility aspect of the YouTube health information the authenticated sources like educational institution [7, 20, 21], Government organization, Health professionals, News sources, Professional Organization, medical center, and Non-profit organization provide more quality and credential information to the general public, still their volume of representation is quite low in all cases. It is also even essential for individual and the profit organization to post the caution message in the beginning of the health videos that is subjective change for each individual, which can alert the user to validate the information provided by these channels in other modes like doctors and the trusted online sources [17, 21].

Conflict of Interest

The authors does not a have conflict of interest.

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