

An Analysis of Widely Viewed YouTube Videos on Anal Cancer

Abstract

Background: Rates of anal squamous cell carcinoma have increased over recent decades. The aim of this study was to describe characteristics of widely viewed YouTube videos about anal cancer. **Methods:** A total of 57 videos were identified and reviewed. Videos were assessed and coded with respect to date uploaded, upload source, gender of presenter, number of views, length in minutes, number of likes and dislikes, and selected aspects of content. Each video was assessed to determine if the sole purpose of the video was to provide information regarding anal cancer or existed to serve another purpose. Content related to anal cancer was categorized. **Results:** The mean number of views was 23,548 (range 1014–440,078), and the average length of videos was 8:14 min. The upload source of 57 videos was 19 (33.3%) by consumers, 12 (21.1%) by professional, and 26 (45.6%) by news-based sources. More than half ($n = 30$; 52.6%) had the sole purpose of providing information. The most frequently mentioned topics were treatment ($n = 25$, 43.9%), symptoms ($n = 15$, 26.3%), encouraging screening, human papillomavirus, and pain, respectively ($n = 14$, 26.4% for each); only 6 of the 57 videos (10.5%) specifically mentioned prevention. None of 57 most widely viewed videos were uploaded by any agency of the U.S. Public Health Service or by any other U.S. governmental agency. **Conclusions:** It is important for health practitioners to be aware of the type of information available for their patients on the YouTube platform.

Keywords: Anal cancer, communication, social media, YouTube

Introduction

Rates of anal squamous cell carcinoma and squamous carcinoma *in situ* have increased substantially over the recent decades.^[1] Development of anogenital illnesses, such as cervical cancer, cervical neoplasia, anogenital warts, and anal cancer, are linked to genital human papillomavirus (HPV) infection^[2] About 95% of anal cancers are caused by HPV, most of which are caused by HPV type 16.^[3] Anal cancer is a comparatively rare form of cancer.^[4] Nevertheless, in 2016, 8080 new cases resulting in 1080 deaths are expected in the United States, according to the American Cancer Society.^[4] Anal cancer disproportionately affects women (63.9% of new cases in 2016), men who have sex with men,^[5] and those who receive anal sex,^[6] and it is most common among older individuals.^[4]

We did not identify any published studies describing how individuals learn about ways to reduce exposure to HPV and susceptibility to anal cancer. However, we know that many individuals rely on

the Internet for health information. In one recent study, 72% of adult Internet users reported “researching” various health issues online, with the most popular topics being specific diseases and treatment.^[7] More than 1 in 4 adult Internet users reportedly have read or watched another individual’s health experience about medical problems or health and 16% sought out others who share the same health concerns.^[7] One particularly popular communication channel for learning about health is YouTube. With more than one billion users, which is approximately 1/3 of all individuals on the internet,^[8] YouTube “reaches more 18–34 and 18–49 years old than any cable network in the United States.”^[8] In this study, we sought to describe characteristics of widely viewed YouTube videos about anal cancer.

Methods

A search was conducted using the phrase “anal cancer.” All videos with 1000 or more views as of June 29, 2016 were included in this study. Videos in Spanish ($n = 6$) were excluded from the study. A total of 57 videos were identified and reviewed.

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Videos were assessed and coded with respect to date uploaded, upload source, gender of presenter, number of views, length in minutes, number of likes and dislikes, and selected aspects of content. The upload sources were classified as: (1) consumer – an individual without any professional connection, (2) medical professional – a doctor, nurse or healthcare organization or promotional information uploaded on behalf of a hospital, or (3) news-based – television-based news, commercial television, television-based news clips, Internet-based news and print, or radio-based news. Each video was assessed to determine if the sole purpose of the video was to provide information regarding anal cancer or existed to serve another purpose. The gender of the person (s) reporting information in the video was also assessed to determine if males, females, or both males and females delivered the information. Content related to anal cancer was coded, including mention of HPV, mention of HPV vaccine, risk factors other than HPV, pain involved, mentioning or depicting anal warts, symptoms, treatment, and prevention methods. Additional content associated with screening of anal cancer included the mentioning of screening itself, anxiety or fear of screening, and mentioning or depicting a colonoscopy. Finally, assessments included if a well-known US celebrity who died of anal cancer was mentioned, if a joke about anal cancer was made, and if the video showed a surgery. A single researcher (AB) was responsible for having sorted and analyzed all videos in this sample. A sample of 10% of videos was coded by a second researcher (CB) which demonstrated complete agreement between the two coders ($\kappa = 1.0$). Descriptive statistics, including frequencies percentages, ranges, means, and standard deviations (SDs), were calculated. Due to small frequency counts, we did not assess statistical differences in content between the

various sources. The Human Subjects Committees at William Paterson University and Teachers College, Columbia University do not review studies not involving human subjects.

Results

All videos were uploaded between November of 2007 and May 2016. The mean number of views was 23,548 (range 1014–440,078), and the average length of videos was 8:14 min (SD = 12:04, range 00:15–59:25 min). Of 57 videos, 19 (33.3%) were uploaded by consumers, 12 (21.1%) were uploaded by professional, and 26 (45.6%) were uploaded by news-based sources. On average, viewers gave ten times more “thumbs up” than “thumbs down” per video, with the mean number of “thumbs up” of 156.8 (range: 0–7116), compared with 6.8 (range: 0–102) “thumbs down.” The majority of videos ($n = 43$) featured people presenting material, with 17 featuring a male presenter, 11 female, and 15 both genders. More than half ($n = 30$; 52.6%) had the sole purpose of providing information.

The most frequently mentioned topics were treatment ($n = 25$, 43.9%), symptoms ($n = 15$, 26.3%), encouraging screening, HPV, and pain, respectively ($n = 14$, 26.4% for each) [Table 1]. Only 6 of the 57 videos (10.5%) specifically mentioned prevention. While 5 of the news-based videos mentioned vaccination, none of the 19 consumer or 12 professional videos mentioned this topic. None of 57 most widely viewed videos were uploaded by any agency of the U.S. Public Health Service or by any other U.S. governmental agency.

Discussion

To the best our knowledge, this is the first study of YouTube videos related to anal cancer. With a rise in anal

Table 1: Frequencies and percentages of features of anal cancer YouTube videos according to their source

Features of videos	Source, n (%)			
	Consumer 19 (33.3)	Medical professionals 12 (21.1)	News site (TV, internet, print) 26 (45.6)	Total 57 (100)
Shows colonoscopy/endoscopy	2 (10.5)	4 (33.3)	2 (7.7)	8 (14.0)
Strongly encourages screening	1 (5.3)	1 (8.3)	5 (19.2)	14 (24.6)
Mentions HPV	2 (10.5)	3 (25.0)	9 (34.6)	14 (24.6)
Mentions HPV vaccine	0	0	5 (19.2)	5 (8.8)
Mentions other factors than HPV	2 (10.5)	2 (16.7)	5 (19.2)	9 (15.8)
Mentions pain	3 (15.8)	3 (25.0)	8 (30.8)	14 (24.6)
Mentions anxiety, fear of diagnosis and screening	2 (10.5)	3 (25.0)	7 (26.9)	12 (21.1)
Mentions/shows anal warts	5 (26.3)	0	5 (19.2)	10 (17.5)
Mentions symptoms	3 (15.8)	4 (33.3)	8 (30.8)	15 (26.3)
Mentions treatment	6 (31.6)	8 (66.7)	11 (42.3)	25 (43.9)
Mentions prevention	1 (5.3)	1 (8.3)	4 (15.4)	6 (10.5)
Mentions celebrity	1 (5.3)	2 (16.7)	6 (23.1)	9 (15.8)
Jokes about anal cancer	3 (15.8)	0	6 (23.1)	9 (15.8)
Shows surgery	0	2 (16.7)	1 (3.8)	3 (5.3)

HPV= Human papilloma virus

squamous cell carcinoma and squamous carcinoma *in situ*, it is important that clinicians and public health professionals be aware of the type of information available and widely accessed on this topic. In our sample of videos, roughly one quarter encouraged screening, yet there are no guidelines for population-wide screening. In contrast, while we know that HPV infection increases the risk of developing anal cancer^[9] and that HPV vaccination lowers risk for anal cancer,^[10] only 5 of the 57 videos mentioned HPV vaccination, all of which were uploaded by a news-based source.

The most common theme among the videos was that of treatment. Yet, these videos were rarely posted by medical professionals but instead came from news-based outlets. In addition, there was less of a focus on prevention, which is an important factor to consider in the fight against anal cancer. In fact, this study did not identify any of these widely viewed videos as produced by a government agency. This study is limited by its cross-sectional design, small sample size, and arbitrary cutoff point for inclusion of 1000 or more views. In addition, the ever-changing state of the internet indicates that widely viewed videos can change. However, this study does fill a gap in the literature on an important topic.

Conclusions

It is important for health practitioners to be aware of the type of information available for their patients on the YouTube platform

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Conflicts of interest

There are no conflicts of interest.

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