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Quality of bladder cancer information on YouTube

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Introduction YouTube is one of the social networks most widely used as a source of information. However, there are doubts about the scientific quality of the information available. This study aims to characterise this by analysing videos about bladder cancer posted on YouTube.

Material and methods This was a cross-sectional descriptive study of the first 50 Spanish-language videos published on YouTube, leaving 38 for analysis. The videos were evaluated by three urologists using two validated questionnaires: Patient Education Materials Assessment Tool (PEMAT) and DISCERN (quality criteria for consumer health information), classifying them according to the score of the latter, in poor quality (1–2 points) and moderate/good quality (3–5 points).

Results The median PEMAT score was 71.6% (16–5–100%) for understanding and 35.5% (0–100%) for action. According to DISCERN, 26 videos (66.7%) were of poor quality and 12 (30.8%) of moderate/good quality. We found significant differences in terms of PEMAT of understanding (p = 0.004) and action (p = 0.000). In total, 90.9% of those involving medical staff were of low quality, which is paradoxical, but statistically significant (p = 0.01). Furthermore, 52.4% of those describing relevant information were of moderate/good quality, and 94.1% of those not describing relevant information were of poor quality (p = 0.02).

Conclusions More than 60% of the videos published on YouTube about bladder cancer in Spanish are of low quality. This represents an important risk of misinformation for the general public to whom most of them are addressed.

Key Words: bladder cancer ‹› social networks ‹› quality

INTRODUCTION

The globalisation of social networks has made them a very important source of information, where many patients seek to find answers about their ailments. YouTube is one of the most popular social networks used as a source of advice [1, 2, 3]. However, the dissemination of information found on this platform is often erroneous, creating a problem of misinformation.

Bladder cancer is the second most common urological cancer worldwide after prostate cancer [1, 4], but there is little data on the quality of the information published about this pathology on social networks, and none in Spanish.

The aim of our study was to characterise the quality of information and the presence of misinformation about bladder cancer in videos published on the YouTube platform in Spanish.

MATERIAL AND METHOD

This was a cross-sectional descriptive study of the first 50 videos in Spanish published on YouTube, searching on 9 March 2021 in incognito mode, without a logged-in session, using 'bladder cancer' as the search criterion. Those with duration <4 minutes were filtered, sorting them by number of views and excluding videos without text or voice, leaving 38 for analysis.

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A descriptive analysis of the characteristics of the video was performed taking into account the year of publication, video duration, number of 'likes' and 'dislikes', views, and comments, video content, target audience, main topic, description provided, author of the channel and protagonist of the video.

The videos were evaluated by three urologists using two validated questionnaires: Patient Education Materials Assessment Tool (PEMAT) and DISCERN (quality criteria for consumer health information). PEMAT is a systematic method to assess and compare the understandability and actionability of patient education materials. It is designed as a guide to help determine whether patients will be able to understand and act on the information. It is a questionnaire containing 17 items (thirteen items on understandability and four on actionability) that are scored as agree = 1, disagree = 0, or not applicable = N/A. Separate tools are available for the use of printed and audio-visual materials [5]. DISCERN is a reliable and valid instrument for judging the quality of written consumer health information. It consists of 16 items and scores are grouped into three categories: 'no', 'partially' or 'yes', respectively [6]. They were classified according to the latter score into poor quality (1–2 points) and moderate/good quality (3–5 points).

Univariate analysis was performed according to the DISCERN questionnaire classification (poor quality vs. moderate/good quality). The following variables were analysed: length, number of views, number of likes, number of dislikes, number of comments, author, audience, protagonist, description, PEMAT of understanding and PEMAT of action.

RESULTS

The descriptive analysis of the characteristics of the videos is shown in Table 1.

The median duration of the videos was 2 minutes (0:40–3:55), comments 2 (0–21), views 5676 (2167–56256), 'likes' 27 (0–293) and 'dislikes' 2 (0–51). A total of 84.6% of the videos were aimed at the general public, 5.1% at patients and 7.7% at medical professionals.

The main topic of the videos was 5.3% on basic explanations and anatomy, 10.5% on symptoms and signs, 5.3% on diagnostic tests, 47.4% on treatments, 23.7% on non-medical videos and the remaining 7.9% on other topics.

Regarding the description, 55.3% presented information relevant to the pathology, 13.2% advertising, 10.5% did not have any and the remaining 21.1% other.

Regarding the author of the video, 2.6% were medical journals or societies, 2.6% were commercials or industries, 7.75% were medical professionals, 33.3% were medical or health channels, 10.3% were hospitals or health clinics, 35.9% were news media and the remaining 5.1% were unknown authors or others.

Regarding the protagonist of the video, 20.5% of them were animations, 23.1% were public figures or celebrities, 41% were medical staff, 10.3% were patients and the remaining 2.6% were others.

Table 1. *Descriptive analysis of the characteristics of the videos*

Video	38
Duration	2:01 (0:40–3:55)
Visits	5.676 (2.167–56.256)
Comments	2 (0–21)
Like	27 (0–293)
Dislike	2 (0–51)
Audience	
General public	84.6%
Patients	5.1%
Medical personnel	7.7%
MAIN TOPIC	
Basic explanations/anatomy	5.3%
Symptoms/signs	10.5%
Diagnostic tests	5.3%
Treatment	47.4%
Non-medical video	23.7%
Other	7.9%
DESCRIPTION	
Information relevant to the pathology	55.3%
Advertising	13.2%
Not available	10.5%
Other	21.1%
AUTHOR	
Review or medical society	2.6%
Commercial/industry	2.6%
Medical professional	7.75%
Medical/health channel	33.3%
Hospital/clinic	10.3%
News media	35.9%
Other/unknown	5.1%
FEATURE	
Animation	20.5%
Public figure/famous people	23.1%
Medical personnel	41%
Patient	10.3%
Others	2.6%
PEMAT	
Understanding	71.67% (16.5–100%)
Action	35.5% (0v–100%)
DISCERN	
Total	34 (20–63)
Question 16	1.5 (1–4.5)
Poor quality (score 1–2)	26/38 (66.7%)
Moderate/good quality (score 3–5)	12/38 (30.8%)

PEMAT – Patient Education Materials Assessment Tool; DISCERN- quality criteria for consumer health information

Regarding the validated questionnaires for consumer health information: videos had a median score of 71.6% (16.5–100%) in PEMAT understanding and 35.5% (0–100%) in PEMAT action. In addition, a median score of 34 (20–63) on DISCERN and a median score of 1.5 (14.5) on question 16 of the latter questionnaire. This item classifies the overall quality of the video as a source of information on treatment options as poor (scores of 1–2), moderate (scores of 3–4) or good (scores of 5). Thus, 26/38 videos (66.7%) were of poor quality and 12/38 (30.8%) were of moderate or good quality.

We observed significant differences in PEMAT for both understanding ($p = 0.004$) and action ($p = 0.000$) comparing the poor and moderate/good quality groups.

In the univariate analysis according to the DISCERN questionnaire classification (poor quality versus moderate/good quality) (Table 2), we observed that 90.9% of the videos starring medical staff were of poor quality, a paradoxical but statistically significant finding ($p = 0.01$). Of those that described relevant information, 52.4% were of moderate/good quality and 94.1% of those that did not were of poor quality ($p = 0.02$).

In the rest of the variables analysed in the univariate analysis we found no statistically significant differences: length ($p = 0.941$), number of visits ($p = 0.825$), likes ($p = 0.818$), dislikes ($p = 0.870$), comments ($p = 0.502$), author ($p = 0.337$), audience ($p = 0.301$).

Table 2. *Univariate analysis according to the DISCERN questionnaire classification (poor quality versus moderate/good quality)*

	Poor quality (66.7%) N = 26	Moderate/ good quality (30.8%) N = 12	p-value
AUTHOR			0.337
Medical professional	76.5% (13)	23.5% (4)	
Unqualified personnel	61.9% (13)	38.1% (8)	
AUDIENCE			0.301
General public	72.7% (24)	27.3% (9)	
Patients	40% (2)	60% (3)	
MAIN SPEAKER			0.001
Medical personnel	90.9% (20)	9.1% (2)	
Non-medical staff	37.5% (6)	62.5% (10)	
DESCRIPTION			0.002
Relevant information	47.5% (10)	52.4% (11)	
Non-relevant information	94.1% (16)	5.9% (1)	

DISCERN – quality criteria for consumer health information; N – number of videos

DISCUSSION

Access to the internet and with it the use of social networks has rapidly globalised, becoming a very important source of information, easily and quickly accessible, in which many patients seek to find answers about their ailments [2, 3]. A study on the analysis of social media usage in the Americas found that YouTube is the most widely used platform [1, 3].

The COVID-19 pandemic has forced many visits to telephone consultations, making doctor-patient communication more difficult, which can lead to more doubts about their pathology and lead patients to search for information on social networks. To avoid misinformation, healthcare professionals should provide their patients with additional reliable sources of information, as well as participate in the dissemination of quality medical pathology on social media [1].

Unfortunately, the dissemination of poor quality and incorrect information on social platforms is abundant, posing a serious social problem [1, 7]. Different studies that analysed the quality of information on YouTube about different urological pathologies have shown a high percentage of erroneous content in the publications: 77% of prostate cancer videos on YouTube had potentially uninformative content within the video or in the comments section [8]; more than half of the videos on pelvic organ prolapse had moderate to poor comprehensibility and actionability [9]; and across a wide range of benign and malignant urological conditions (urological oncology, female pelvic organ health, endourology and sexual medicine and infertility), studies show a significant amount of commercial, biased and/or inaccurate information present on popular social networks (Facebook, YouTube, Twitter, Pinterest and Reddit) [10].

Bladder cancer is the second most common urological cancer after prostate cancer [1, 4], a pathology suffered by many patients, which means that many people seek information about it. There is little data on the quality of the information published about this pathology on social networks, and there are no reviews of it on videos in Spanish.

In an article published in European Association of Urology in 2021, whose objective was to analyse the quality of information and presence of misinformation about bladder cancer on YouTube, analysing videos in English, they identified that the median understanding and action of the videos was 71% and 33% respectively (according to the PEMAT questionnaire); and that the quality of the information was moderate to poor in 67% of the videos (scores

of 1–3 out of 5 in the general DISCERN criteria) [1]. These data coincide with the results obtained in our study.

A limitation of our study is that we only evaluated videos on YouTube and not on other social networks, as well as using the filter of videos in Spanish and <4 minutes long, although it is a fact that the public tends to choose shorter videos over longer ones for their information. However, given that YouTube is the most widely used social network and the videos analysed had a large number of views, this is an important first step, which may lead to further studies that expand the social networks analysed.

CONCLUSIONS

According to our study, only 30.8% of the bladder cancer videos posted on YouTube were of moderate/good quality, with up to 66.7% being of poor quality. This poses a significant risk of misinformation for the general public at whom most of them are aimed. The findings of this study lead us to consider improving the quality of information posted on social media as a quality objective for health service providers, such as health services or scientific societies.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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