

UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL

FACULDADE DE ODONTOLOGIA

PÂMELA DE SOUZA KARGWANSKI

ANÁLISE DA QUALIDADE, CONFIABILIDADE, VISIBILIDADE E POPULARIDADE
DE VÍDEOS EM LÍNGUA PORTUGUESA SOBRE
CÂNCER BUCAL PUBLICADOS NA PLATAFORMA "YOUTUBE™".

Porto Alegre

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Trabalho de Conclusão de Curso apresentado ao Curso de Graduação em Odontologia da Faculdade de Odontologia da Universidade Federal do Rio Grande do Sul, como requisito parcial para obtenção do título de Cirurgião-Dentista.

Orientador: Vinicius Coelho Carrard

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DEDICATÓRIA

À minha família que sempre estiveram presentes de alguma forma durante toda minha jornada acadêmica. Minha eterna gratidão pela educação, carinho, amor e proteção; por sempre acreditarem em mim e nos nossos sonhos.

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“Donde no puedas amar no te demores.”

Frida Khalo

RESUMO

O objetivo deste estudo foi avaliar a utilidade do YouTube™ como fonte de informação em língua portuguesa sobre o câncer de boca. Para a busca dos vídeos realizada em setembro de 2019 foram utilizadas as palavras-chave “câncer de boca”, “câncer bucal” e “câncer oral”. Os primeiros 60 vídeos identificados com estas palavras foram avaliadas de acordo com os critérios de exclusão por examinadores independentes. Visibilidade, popularidade, utilidade e confiabilidade foram categorizadas em um sistema de pontuação. Um total de 81 vídeos foram avaliados. A maioria dos vídeos foi produzida por usuários e empresas independentes (53%, n = 43). O vídeo mais assistido teve 41.407 visualizações enquanto o vídeo mais popular teve 1.000 curtidas. As médias de utilidade, confiabilidade e qualidade foram, respectivamente, 4,9, 1,5 e 2,7. Apenas 13% dos vídeos foram considerados bons ou excelentes. Em geral, a qualidade do conteúdo do YouTube™ sobre câncer de boca em português é ruim. A utilidade dos vídeos influenciou sua taxa de interação e sua confiabilidade mostrou uma associação significativa com o número de visualizações. Existem poucos vídeos de boa qualidade sobre o câncer da boca em português e os profissionais da saúde e as universidades devem assumir a liderança na resolução desta questão, produzindo materiais suportados por evidências científicas.

Palavras-chave: Câncer bucal. YouTube™. Acesso à informação. Internet. Análise.

ABSTRACT

The objective of this study was to assess the usefulness of YouTube™ as a source of information in Portuguese on oral cancer. The key words to used to search for the vídeos “câncer de boca”, “câncer bucal” and “câncer oral” was conducted in September 2019. The first 60 videos identified using each word were assessed according to exclusion criteria by independent examiners. Visibility, popularity, usefulness and reliability were measured using a scoring system. A total of 81 videos were evaluated. Most of the videos were produced by users and independent companies (53%, n = 43). The most watched video had 41,407 views, while the most popular video had 1000 likes. The means of usefulness, reliability and quality were, respectively, 4.9 (scale: 0 to 10), 1.5 (scale range: 0 to 5) and 2.7 (scale range: 1 to 5). Only 13% videos were considered good or excellent. In general, the quality of YouTube™ content about mouth cancer in Portuguese is poor. The usefulness of videos influenced their rate of interaction with other videos and their reliability showed a significant association with the number of views. There are few high-quality videos about oral cancer in Portuguese and Health professionals and universities should take the lead on solving this issue, producing materials supported by scientific evidence.

Key words: Oral câncer. YouTube™. Access to information. Internet. Analysis.

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1 ANTECEDENTES E JUSTIFICATIVA

O câncer de boca é um tumor maligno que afeta as estruturas da boca como, lábios, língua, mucosa jugal, mucosa gengival, palato duro e mole e região sublingual, sendo essa a localização mais comum. O câncer de boca está entre os dez cânceres mais comuns e a sétima causa de morte mais frequente no mundo todo ^{1,2}. O Instituto Nacional de Câncer (INCA) estima a ocorrência de 15.190 novos casos no Brasil para o ano de 2020, sendo o sexo masculino o mais acometido. Fatores comportamentais como tabagismo, etilismo e exposição ao sol sem proteção de filtro solar ou barreira física como por exemplo chapéu, aumentam as chances de desenvolvimento deste tumor¹.

Atualmente, os pacientes utilizam diversas formas de pesquisa sobre sua condição de saúde, tendo maior busca por tratamento, sintomas e expectativas quando a doença. Através da internet, sites como portais universitários e sites de acesso aberto como o YouTube™, a população pode acessar o conteúdo para qual está buscando esclarecimento. Contudo, é importante ressaltar que o conteúdo disponibilizado na Internet não é devidamente revisado e isso pode ser prejudicial quanto ao risco de divulgação sem embasamento científico⁴. Um exemplo atual de uso destas plataformas é a busca por sintomas, medicamentos e formas de prevenção para contaminação ao COVID – 19, tendo um crescimento significativo durante o primeiro trimestre do ano de 2020, após a confirmação do primeiro caso no Brasil³.

Além disso, durante esse período de pandemia as instituições tiveram que se atualizar e encontrar formas de dar continuidade ao ensino. Uma das formas utilizada foi o Ensino Remoto Emergencial (ERE), onde são utilizadas diversas plataformas de pesquisa e compartilhamento de conteúdo. O YouTube™ é, na maioria das vezes, o canal mais utilizado para este compartilhamento já que consta com um vasto depósito de vídeos sobre diversos temas e sendo também uma plataforma de fácil acesso⁵. Diariamente são vistos 4,950,000,000 vídeos na plataforma e todos os meses o YouTube™ é visitado 900,000,000 vezes e são vistas 3.250.000.000 horas de vídeos⁶.

No Brasil, a maioria dos casos de câncer bucal é diagnosticado em estágio clínico avançado, o que resulta em pobre prognóstico e alta mortalidade⁷. Entre os motivos do atraso no diagnóstico estão a falta de informações disponíveis sobre a doença e sua baixa qualidade⁷. Além disso, observou-se que fatores socioeconômicos influenciam na busca por tratamento, sendo a escolaridade o principal fator^{7,8}.

De acordo com pesquisas realizadas pelo *Pew Research Center*, as decisões feitas por 75% dos pacientes sobre como tratar sua condição foram influenciadas pelo conhecimento adquirido através de pesquisas on-line sobre informações de saúde⁹. Estes resultados sugerem que o YouTube™ tem potencial como importante veículo para compartilhar e disseminar informação oportuna relacionada à saúde^{10,11}.

No entanto, mais estudos são necessários para garantir que os conteúdos disponíveis na internet sobre câncer de boca tenham maior qualidade, visibilidade e utilidade quando acessados para pesquisa.

2 OBJETIVOS

2.1 OBJETIVO GERAL

Avaliar os vídeos a respeito de câncer bucal disponíveis na plataforma YouTube™.

2.2 OBJETIVOS ESPECÍFICOS

- Avaliar visibilidade, popularidade, qualidade, utilidade e confiabilidade dos vídeos a respeito de câncer bucal em língua portuguesa disponíveis na plataforma YouTube™.

- Avaliar a influência da origem e do tempo de duração dos vídeos sobre câncer bucal em língua portuguesa disponíveis no YouTube™ na sua visibilidade, popularidade, qualidade, utilidade e confiabilidade.

3 ARTIGO CIENTÍFICO

Youtube™ as source of information about oral cancer.

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Introduction

The integration of new technologies has had a significant impact on education. Currently, multimedia presentations and e-learning platforms are commonly used in teaching at many universities. Through the internet, sites like university portals and open access sites like YouTube™, students can access content at their own pace and

convenience. The number of educational videos available on YouTube™ has been progressively increasing, from 22% in 2007 to 38% in 2009. Some institutions host their own channels on YouTube™, allowing teachers and students to publish videos to improve learning¹. According to Duncan ², its use provides a new approach, facilitates the connection between theory and practice and promotes discussion and critical thinking. Recent studies report the use of self-instructional videos on YouTube™ focusing on medical/health issues, such as immunization, human papillomavirus vaccination, prostate cancer, the H1N1 flu pandemic, rheumatoid arthritis and infantile spasms³, in addition to it being a learning resource in nursing ^{2,4}, superficial anatomy³ and cardiopulmonary resuscitation¹. The significant increase in the use of YouTube™ has been attributed to the creation of a social and digital community of people interested in topics and expertise. One of the strategies to be employed for evaluation of the platform in this context involves using the number of views and likes to identify topics most desired by users. This way of improving student learning can also be used to fill gaps in areas with limited access to education in certain professions¹.

In the age of cost-conscious care, universities and educational centers should consider disseminating information through social media and sharing videos and websites, especially in countries with good use of the Internet and social media. Providing information on health care could potentially reduce unnecessary medical visits and, as a consequence, hospital admissions for improper reasons⁵.

Professional journals, health organizations, scientific societies and patients use social media (YouTube™, Twitter™, Facebook™) as a way to disseminate or receive information. Among the available portals, YouTube™ stands out. Founded in February 2005, it is characterized as a free video sharing resource, a two-way means of communication that allows you to interact in a virtual community and share alternative views⁶. With more than 100 million videos and exceeding 2 billion views a day,

YouTube™ is currently one of the most frequented sites worldwide, with a diffusion capacity that can affect the field of health education as a source of communication that should not be underestimated⁷, acting, for example, as a modulator in decision making regarding the HPV vaccine⁸.

According to research carried out by the Pew Research Center, the decisions made by 75% of patients on how to treat their condition were influenced by the knowledge acquired through online research on health information⁹. These results suggest that a platform like YouTube™ has the potential to serve as an important vehicle for sharing and disseminating timely health-related information, both in its role as a video repository and as a social network interface where users can interact and socialize^{10,11}. In relation to dentistry, studies have focused on videos in the English language and evaluated topics such as childhood caries, dental implants, orthognathic surgery, burning mouth syndrome, Sjögren's syndrome, oral leukoplakia and oral cancer. In relation to oral cancer in Portuguese, a study by Passos et al.¹² assessed oral cancer information in Google and Instagram, with a preliminary analysis of YouTube™ videos.

In this context, the objective of this study was to evaluate videos about oral cancer available in Portuguese on the YouTube™ platform in terms of visibility, popularity, quality and reliability and their association with the origin and duration of these videos.

Material and methods

Study design and sample

The sample of this cross-sectional analytical study comprised videos about oral cancer available on YouTube™ (www.youtube.com). The video search was performed using the terms “câncer bucal”, “câncer de boca” and “câncer oral” in September 2019¹³. Taking into account that 95% of users who search for videos watch no more than the first 60 videos found¹⁴, the first 80 videos found with each term comprised the initial sample.

Exclusion criteria

The videos were screened according to the following exclusion criteria by two examiners (PSK and BDG):

- Videos about oral cancer in animals
- Videos in other languages

- Videos with no sound
- Duplicate videos
- Surgical videos
- Anti tobacco programme videos
- Videos describing research results
- Videos produced for specialized professionals (Congress and conferences)

Video evaluation

User interaction

The following information was extracted for each video: date of upload, number of views, number of positive interactions (likes), and number of negative interactions (dislikes). This data was used to calculate the interaction index and viewing rate, as shown in Table 1.

Figure 1. Formula used to calculate the interaction index and viewing rate¹⁵.

VIEWERS' INTERACTION	VIEWING RATE
<u>number of likes – number of dislikes x 100</u> number of views	<u>number of views x 100</u> number of days since upload

Analysis of video quality (General Quality Scale-GQS)

Analysis of the quality of the videos was based on the Global Quality Scale – GQS (Figure 1)¹⁶. The evaluation criteria used were: very poor quality, poor flow, lack of information, nothing useful for patients (score 1); generally poor quality, low level of flow, some information is provided, but there are many important topics, of very limited use for patients (score 2); moderate quality, flow below ideal, some important

information is adequately discussed, but other pieces of information are poorly discussed, somewhat useful for patients (score 3); good quality, generally good flow, most of the relevant information is provided, but some topics are not addressed, useful to patients (score 4); excellent quality, excellent flow, very useful for patients (score 5).

Usefulness score

The usefulness of the videos was based on the number of topics related to oral cancer, such as: aetiology/risk factors, clinical presentation, prevention/early detection, and prognosis/outcome (Table 1). Scores ranged from 0 to 10. The videos were scored as not at all useful (score 0), somewhat useful (score 1–3), moderately useful (score 4–7), and very useful (score 8–10). Disagreements over the initial evaluations were decided by discussion with a third evaluator (VCC), until a consensus was reached.

Table 1. Scoring criteria used for usefulness assessment²⁰.

Scoring item		Score
Video mentioned the main risk factors for oral cancer		
	Tobacco smoking	2
	Alcohol	1
	Excessive sun exposure	1
	Chewing tobacco	1
Video mentioned the main signs/symptoms of oral cancer		
	Colour change (red/white)	1
	Nodule	1
	Ulcer/sore	1

Video used representative images of oral cancer and premalignant oral disorders	1
Video promoted prevention by means of early detection/avoidance of risk factors	1
Total score	10

Reliability analysis (DISCERN QUESTIONNAIRE)

In order to analyse the reliability of the videos, a questionnaire proposed by Singh et al.¹⁷ was used. For each aspect addressed, the videos received 1 point, with possible scores ranging from 0 to 5 points. The criteria used in this analysis were as follows: (a) Are objectives clear and achieved? (b) Are the sources of information used reliable? (c) Is the information presented balanced and unbiased? (d) Are additional sources of information listed for patient reference? (e) Are areas of uncertainty mentioned?¹⁷.

Analysis of source of upload

The source of upload was classified according to: (1) independent users/company adds; (2) university channels/professional organizations.

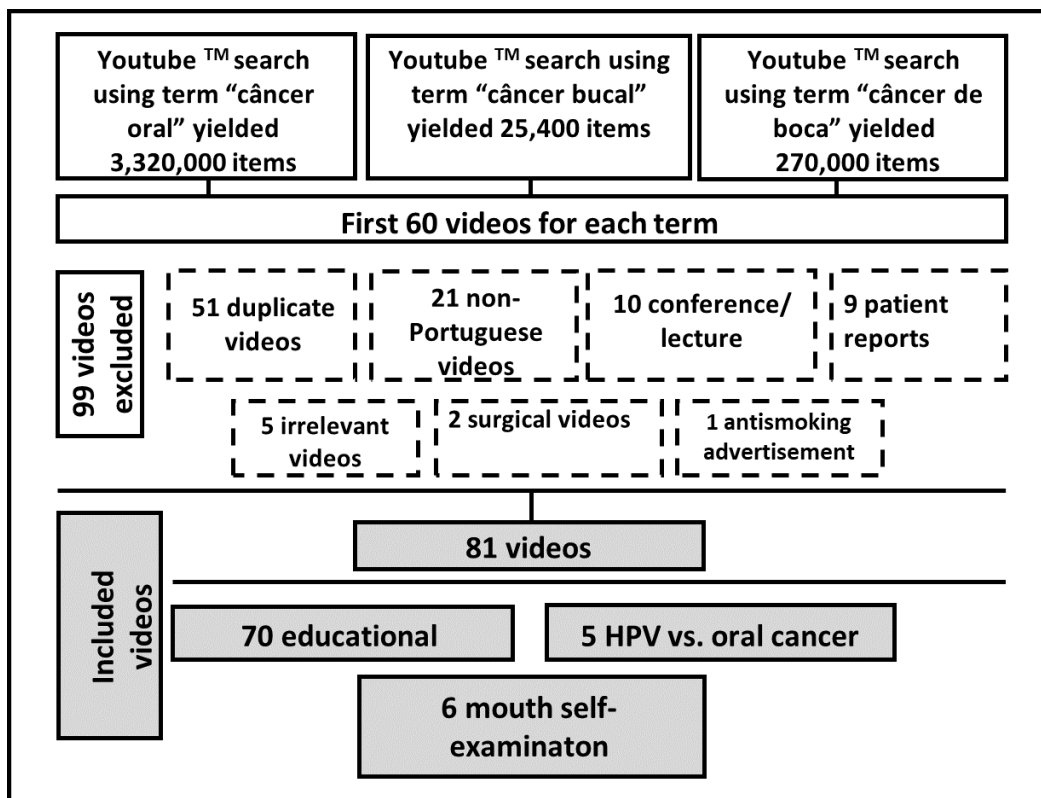
Statistical analysis

The influence of video source and duration on visibility, popularity, quality, usefulness and reliability was assessed via the Mann-Whitney test. Duration and quality were dichotomized using the median to allow the evaluation of their association with the other parameters. All tests were performed using PASW Statistics 18.0 and the p-value was set at 5%.

Results

The initial search yielded a total of 180 videos. After application of the exclusion criteria, 81 videos were evaluated. These 81 videos that comprised the sample accounted for 357 min 88 s of screen time (Figure 2).

Figure 2: Flowchart of video selection:



Tables 2 and 3 present the characteristics of the sample and performance of the analysed videos, respectively. The majority of the analysed videos were produced by independent users or as company advertisements (53.1%, n=43). The average duration of the videos was 4 min 23 s, ranging from 5 s to 21 min 42 s. In the visibility assessment, the least seen video had 2 views, and the most had 41407 views. The most popular video had 1000 likes and the most unpopular received 81 dislikes. In general, the most videos present a utility mean of 4.9 and reliability of 1.5 (mean). Regarding quality, 13% of videos were classified as good or excellent.

Table 2. Sample characteristics

Source	
Independent users/company advertisement	43 (53.1)
University channels/professional organizations	38 (46.9)
Publication time (days)	
Mean (SD*)	1383.2 (849.9)
Min–Max	474–3891
Duration (min:s)	
Mean (SD*)	04:23 (03:22)
Min–Max	00:05–21:42
Views	
Mean (SD*)	2749 (7467.5)
Min–Max	2–41407
Likes	
Mean (SD*)	55.0 (136.8)
Min–Max	0–1000
Dislikes	
Mean (SD*)	4.8 (14.0)
Min–Max	0–81

*SD – standard deviation

Table 3. Evaluation of videos about oral cancer in Portuguese.

Variable	
Interaction index	
Mean (SD*)	19.4 (39.7)
Min–Max	0.0–271.0
Viewing rate	
Mean (SD*)	7,136.7 (17,192.5)
Min–Max	5–100,561
Usefulness (1-10)	
Mean (SD*)	4.9 (2.4)
Min–Max	0–9
Reliability (1–5) – DISCERN	
Mean (SD*)	1.5 (1.2)
Min–Max	0–5
Quality (GQS), no (%)	
Mean (SD*)	2.7 (0.9)
Scores	
Poor	6 (7.4)
Limited	28 (34.6)
Moderate	34 (42.0)
Good	11 (13.6)
Excellent	2 (2.5)

*SD – standard deviation.

Tables 4 and 5 present the sum of values obtained using different evaluation criteria (GQS, usefulness and reliability) for the top 10 videos. The results indicate wide variability in the different analysed parameters. The majority of these videos were produced by university channels and professional organizations (n=6). The overall evaluation showed the source of the video did not influence their visibility, popularity, quality or reliability (Table 6). One video had the best score using each of the criteria, accounting for 18 points, and was the only video classified as very useful (Table 4).

Table 4: Performance of the 10 videos according Global Quality Scale (GQS), utility and reliability (DISCERN).

Title - Channel	Source	Publication time (days)	Duration (min:s)	GQS	Utility	DISCERN	TOTAL
1.Cancer bucal	UC/PO	1177	315	5	9	4	18
2.Viver Ciência - Câncer Bucal – Completo	UC/PO	965	137	5	8	4	17
3.Câncer de boca - Sintomas, Diagnóstico, Tratamento e Prognóstico Dr Jônatas Catunda	IU/CA	499	223	4	7	4	15
4.12 MESES PELA VIDA - CÂNCER DE BOCA	IU/CA	822	1302	4	9	2	15
5.Autoexame Bucal da Disciplina de Estomatologia Unit-SE	UC/PO	2655	329	4	8	3	15
6.CÂNCER DE BOCA	UC/PO	2786	204	4	8	3	15
7.Câncer de Boca	IU/CA	3165	220	4	8	3	15
8.Informação é aliada na prevenção do câncer de boca	UC/PO	1013	197	4	7	3	14
9.Como fazer o autoexame de prevenção do cancer de boca?	IU/CA	1037	349	4	7	3	14
10.PATOLOGIA ORAL - CÂNCER BUCAL	UC/PO	508	420	4	7	2	13

UC/PO= University channels/professional organizations, IU/CA= Independent users / company advertisement.

Tabela 5: Visibility and popularity of the top 10 videos.

Title - Channel	Source	Publication Time (Days)	Duration(min:s)	Views	Viewing rate	Likes	Deslikes	Interaction index
1.Cancer bucal	UC/PO	1177	315	6202	526.9	48	2	0.7
2.Viver Ciência - Câncer Bucal - Completo	UC/PO	965	137	639	66.2	8	1	1.1
3.Câncer de boca - Sintomas, Diagnóstico, Tratamento e Prognóstico Dr Jônatas Catunda	IU/CA	499	223	268	53.7	22	0	8.2
4.12 MESES PELA VIDA - CÂNCER DE BOCA	IU/CA	822	1302	632	76.9	13	0	2.1
5.Autoexame Bucal da Disciplina de Estomatologia Unit-SE	UC/PO	2655	329	46726	1,759.9	122	26	0.2
6.CÂNCER DE BOCA	UC/PO	2786	204	18344	658.4	66	8	0.3
7.Câncer de Boca	IU/CA	3165	220	4175	131.9	30	1	0.7
8.Informação é aliada na prevenção do câncer de boca	UC/PO	1013	197	1073	105.9	14	0	1.3
9.Como fazer o autoexame de prevenção do cancer de boca?	IU/CA	1037	349	2402	231.6	23	0	1.0
10.PATOLOGIA ORAL - CÂNCER BUCAL	UC/PO	508	420	859	169.1	151	0	17.6

UC/PO= University channels/professional organizations, IU/CA= Independent users / company advertisement.

The analysis of video content according to source revealed that videos produced by independent users and as company advertisements focused on clinical characteristics, symptoms and treatment of oral cancer. In the majority of cases, the information included in these videos was incomplete and not supported by scientific evidence. On the other hand, videos produced by students, professors or health professionals, which were usually longer in duration, were more didactic, had images with higher quality and were based on the scientific literature. Furthermore, these videos had a higher number of views, likes and dislikes. Students', professors' and health professionals' videos also displayed better scores for reliability.

Table 6. Comparison according to video source.

	Independent users/company advertisement (n=43; 53.1%)		University channels/professional organizations (n=38; 46.9%)		P
	Mean (SD*)	Median P25–P75	Mean (SD*)	Median P25–P75	
Views	2,107.4 (6,264.1)	277.0 38.4–1,920.2	3,458.3 (8,637.1)	531.0 178.0–1,438.5	0.26
Viewing rate	10,709.7 (22,476.8)	1,107.5 357.8–4,011.0	3,187.6 (6,385.3)	770.0 270.5–2,273.3	0.16
Likes	80.6 (182.2)	13.5 6.3–33.0	26.7 (40.3)	8.0 4.0–40.5	0.13
Interaction index	14.4 (19.0)	7.0 3.0–20.3	25.0 (53.8)	7.0 3.0–17.0	0.98
GQS	2.6 (0.8)	3.0 2.0-3.0	2.8 (1.0)	3.0 2.0–3.0	0.39

Usefulness	4.7 (2.5)	5.0 3.0–7.0	5.2 (2.2)	6.0 4.0–7.0	0.50
Reliability (DISCERN)	1.4 (1.1)	1.0 0.8–2.0	1.7 (1.3)	2.0 1.0–2.0	0.37

Mann-Whitney Test. * SD – standard deviation. Global Quality Scale – GQS.

Table 7 shows that the number of likes and usefulness were positively associated with video duration.

Table 7. Comparison of videos according to time (min:s).

	Up to 03:24 (n=35; 43.3)		More than 03:24 (n=46; 56.7)		P
	Mean (SD*)	Median P25–P75	Mean (SD*)	Median P25–P75	
Views	2,258.8 (5,668.7)	520.0 116.0– 1,526.0	3,264.5 (9,031.8)	302.0 48.5–1,832.0	0.8
Viewing rate	5,093.8 (13,903.5)	817.0 305.5– 2,219.0	9,284.4 (20,044.4)	1,319.0 537.0– 5,269.0	0.14
Likes	25.8 (49.1)	8.0 3.0–20.0	85.7 (185.7)	15.0 5.0–57.0	0.02
Interaction index	17.8 (45.6)	6.0 2.0–13.0	21.1 (32.9)	8.0 4.0–24.0	0.09

GQS	2.5 (0.9)	3.0 2.0–3.0	2.9 (0.9)	3.0 2.0–4.0	0.09
Usefulness	4.4 (2.3)	5.0 3.0–6.5	5.5 (2.3)	6.0 4.0–7.0	0.03
Reliability (DISCERN)	1.5 (1.3)	2.0 0.0–2.0	1.6 (1.0)	2.0 1.0–2.0	0.47

Mann-Whitney U test. * SD – standard deviation. Global Quality Scale – GQS.

Table 8 shows that video quality did not influence the visibility and popularity of the videos. Usefulness had a significant influence only in relation to the interaction index (Table 9). The influence of reliability (DISCERN) was significant in the view's variable (Table 10).

Table 8. Influence of quality on videos' visibility and popularity

	GQS 1 and 2		GQS 3, 4 and 5		P
	(n=34, 42.0%)		(n=47, 58.0%)		
	Mean	Median	Mean	Median	
	(SD*)	P25–P75	(SD*)	P25–P75	
Views	2,270.5 (7,025.6)	290.0 38.9– 1,402.5	3,085.1 (7,820.0)	564.0 116.0–2,527.0	0.37
Viewing rate	7,065.7 (16,858.3)	927.0	7,186.6	923.0 573.0–4,020.0	0.35

		270.0– 1,990.0	(17,604.4)		
Likes	55.1 (177.4)	9.0 3.0–22.5	54.9 (101.2)	14.0 7.0–48.0	0.18
Interaction index	12.5 (15.8)	6.0 3.0–18.0	24.2 (49.7)	7.0 3.0–20.0	0.72

Mann-Whitney test. *SD – standard deviation

Table 9. Influence of usefulness on videos' visibility and popularity

	Slightly useful		Moderately –		P
	(score 0–5)		very useful (score 6–9)		
	n=43; 53.0%		n=38; 47.0%		
	Mean	Median	Mean	Median	
	(SD*)	P25–P75	(SD*)	P25–P75	
Views	3,024.5 (8,700.6)	509.0 41.0–1,695.5	2,444.7 (5,915.9)	391.0 158.0–1,652.0	0.85
Viewing rate	9,362.8 (21,352.4)	925.0 270.5– 3,012.8	4,676.3 (10,679.3)	874.5 492.5–3,776.3	0.92
Likes	61.3 (171.4)	8.5 3.0–22.5	48.1 (85.5)	14.5 7.0–43.5	0.12

Interaction index	9.0 (9.9)	6.0 2.8–12.0	30.9 (54.7)	10.0 3.8–32.5	0.04
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Mann-Whitney test. *SD – standard deviation

Table 10. Influence of reliability (DISCERN index) on videos' visibility and popularity

	DISCERN 0–1 (n=39; 48.0%)		DISCERN 2–5 (n=42; 52.0%)		P
	Mean (SD*)	Median P25–P75	Mean (SD*)	Median P25–P75	
Views	2,030.7 (6,494.4)	259.0 34.9–1,257.0	3432.4 (8311.7)	639.0 232.4–2,552.5	0.03
Viewing rate	7,375.2 (16,054.4)	821.0 269.0–4,020.0	6909.8 (18406.7)	932.0 592.5–3,029.5	0.49
Likes	60.3 (172.3)	9.0 3.0–24.0	49.9 (93.2)	14.0 7.0–45.0	0.13
Interaction index	11.2 (11.0)	7.0 3.0–16.0	27.2 (53.5)	7.0 3.0–20.5	0.87

Mann-Whitney test. * SD – standard deviation.

Discussion

Oral cancer, if detected early, has a good prognosis. However, in most cases, it is diagnosed late. This is partly due to the lack of adequate knowledge about the signs and symptoms of this disease and the population's awareness^{18,19}. The recent increase in the use of educational social media shows that users today are likely to actively seek information using these platforms. This trend suggests that videos available on YouTube™ could be a valuable tool for teaching in Schools and Universities and also spreading knowledge to the general population¹.

Recently, Passos et al.¹² evaluated the information about mouth cancer available in Portuguese on Google™, YouTube™, and Instagram™, showing that the information available from these sources is of little use. In the present study, we improved the analysis in relation to the videos available on YouTube™, evaluating other factors such as quality and reliability, as well as their influence on the visibility and popularity of the videos.

Most videos that mention oral cancer on YouTube™ indicate the importance of early detection through self-examination and symptoms, although these are not reliable parameters²⁰. Analysis of the videos showed that most videos are not of satisfactory quality. With regard to usefulness, only the interaction rate showed a significant association in the assessed sample, indicating that the viewing rate does not necessarily have a relationship with information quality. Passos et al.¹² has previously shown that the videos available on YouTube™ are not very useful and that the information in other media such as Instagram™ and Google™ is not very reliable. Previously published studies found a similar result in relation to other health issues such as Ebola virus⁵, diabetes²¹, dental implants²², oral leukoplakia²³, Sjogren's syndrome¹⁴, burning mouth syndrome²⁴ and childhood caries²⁵. According to these studies, and regardless of the subject addressed, few videos were considered to be of good or excellent quality, corroborating the data presented in this study¹⁴. Regarding the origin of a video, we observed that 53.1% of the videos on oral cancer were produced by independent users or as advertisements by companies. This finding contrasts with other studies such as the one presented by Hassona et al.²⁰, who found that 50% of the videos studied originated from university channels and professional organizations, which would be desirable, since they have the most profound and current knowledge. However, the present study found that the origin of a video had no impact on the quality, usefulness or reliability indices, diverging from data presented in the literature²⁴, which indicated that videos produced by professional university channels have a higher quality, usefulness and reliability index^{14,20,21}.

The longer videos were viewed more and were more useful, reinforcing previous results²¹. Apparently, the duration of the videos should be long enough to develop the content, but not so long as to lose the users' attention. According to

YouTube™ data, each user spends an average of 15 minutes a day on the platform. In our study, the most accessed videos were those lasting more than 3 minutes and 24 seconds. Based on this, we suggest that videos should last less than 5 minutes, aiming to approach the subject in depth, but without going into so much detail that they lose the audience's attention.

Greater usefulness favoured a higher rate of interaction with users and the most reliable videos were the most frequently viewed. Thus usefulness, quality and reliability influenced the viewing rate and popularity of the videos. Based on the joint evaluation of all criteria (quality, usefulness and reliability), the top 10 most viewed and most popular videos were confirmed. Surprisingly, these results are consistent with the findings presented by Hassona et al.²⁰ on oral cancer, which showed that the most viewed videos were the least useful.

This study has some limitations that must be considered. As it is a constantly changing platform, YouTube™ allows videos to be added and removed at any time, causing results to vary constantly according to the search date²⁰. Another issue is that it is not possible to identify whether the videos are being viewed by professionals in the field or by the lay public, making it difficult to interpret the meaning of the viewing rate and popularity parameters.

It may be concluded that there are many videos about oral cancer on YouTube™. Few of these are in Portuguese, the vast majority being in English and Spanish. The need to produce more videos in Portuguese is of paramount importance and they should be used as a way to promote teaching, learning and awareness in schools and universities, engaging students and teachers in the production of materials with a didactic focus, but available to everyone who seeks knowledge. In this way, we can educate the population about this disease, which is an important public health problem.

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4 CONSIDERAÇÕES FINAIS

Com este estudo podemos observar a importancia de continuar realizando pesquisas sobre o tema e utilizar a tecnologia a nosso favor, seja para aprender como para ensinar. A utilização de vídeos como fonte de conhecimento está sendo cada dia mais utilizada e esta deve promover fontes seguras de informação, tanto para população leiga como para público especializado. Atualmente estamos presenciando um momento em que o uso de tecnologias é primordial para o seguimento do ensino e disponibilizar conhecimento de qualidade para todos os estudantes afetados pela pandemia. Deixamos como sugestão as instituições de ensino que continuem a publicar materiais nas plataformas on-line fazendo com que a utilidade e qualidade desses conteúdos sejam maiores e mais pessoas possam ter acesso a informações com embasamento científico. Acreditamos que com este estudo estamos contribuindo para que estes mecanismos sejam melhor aproveitador como fonte de saber.

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ANEXO I – PARECER DA COMISSÃO DE PESQUISA/ODONTOLOGIA

Projeto de Pesquisa na Comissão de Pesquisa de Odontologia

Inbox x



rodrigoarthur.ufrgs@gmail.com via ufrgs.br

7:09 PM (3 hours ago)



to me

Prezado Pesquisador VINICIUS COELHO CARRARD,

Informamos que o projeto de pesquisa ANÁLISE DA PLATAFORMA ?YOUTUBE? COMO FONTE DE INFORMAÇÕES SOBRE CÂNCER BUCAL E LEUCOPLASIA BUCAL encaminhado para análise em 25/10/2017 foi aprovado quanto ao mérito pela Comissão de Pesquisa de Odontologia com o seguinte parecer:

Trata-se de estudo observacional transversal analítico cujo objetivo é analisar qualitativamente o conteúdo disponível na plataforma sobre o tema câncer bucal e leucoplasia bucal. Especificamente, pretende-se avaliar a visibilidade, a qualidade, a utilidade e a confiabilidade dos vídeos em língua inglesa disponíveis na plataforma Youtube a respeito de leucoplasia bucal e de câncer bucal. A busca por vídeos será realizada utilizando termos pré-determinados e os 100 primeiros vídeos de cada busca serão avaliados. Serão obtidos índice de interação (manifestações positivas e negativas) e índice de visualização/popularidade. Os vídeos selecionados serão avaliados quanto à qualidade, utilidade e confiabilidade das informações apresentadas.

O presente projeto foi analisado pela Comissão de Pesquisa e o parecer é favorável pela aprovação.

Atenciosamente, Comissão de Pesquisa de Odontologia