Evaluating online YouTube resources for cervical cancer brachytherapy

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Abstract

Purpose: With cancer as the leading cause of mortality in Canada, patients often turn to the internet for health information. However, few studies have evaluated the quality of these resources. The aim of this study is to describe and evaluate the current landscape of YouTube videos available to patients on cervical cancer brachytherapy.

Materials & methods: Using a clear-cache Chrome browser in incognito mode, YouTube was searched using "cervical cancer brachytherapy", "cervical cancer radiation brachytherapy", and "cervical cancer brachytherapy treatment" on January 30, 2023. Videos were sorted by relevance and the first 50 videos from each was collected. Videos were excluded if they were not accessible (i.e., scheduled for future release), behind a paywall, not in English (either audio or in-video subtext), or >1 hour in duration. Duplicates were removed. Videos were aggregately ranked and evaluated for general parameters, source information, and content. Two coders evaluated the first 10 videos to ensure consistency. Descriptive analyses were carried out.

Results: Of 150, 47 unique videos were included in the analysis. Videos were published between November 2, 2009 and January 27, 2023, with 53.2% of videos published within the past 3 years as of February 2023. Median length was 4 minutes 42 seconds. Median view, like, and comment counts were 8150, 43, and 3, respectively. Over half of videos (55.3%) were published from the USA. Videos were most commonly published by a healthcare facility/organization (36.2%), or else a commercial (21.3%) or personal (17.0%) account. Most videos were presented by a physician (53.2%), unknown (27.7%), or patient (19.1%), often as an interview (42.6%). Videos largely targeted patients (66.0%) compared to healthcare professionals/students (34.0%). Around half generally discussed the spectrum of treatments for cervical cancer including surgery, chemotherapy, and radiation therapy (53.2%), as well as described brachytherapy (48.9%) and its use in treating cervical cancer (46.8%). Commonly, videos discussed logistics of brachytherapy treatments (36.2%), treatment applicators (34.0%), and brachytherapy advantages and disadvantages (27.7% each). Few explained the procedure (19.1%) or described side effects (12.8%). Only 12.8% was an advertisement and 4.3% contained grossly misleading/inaccurate information.

Conclusions: Here we present an overview of the videos available to patients on cervical cancer brachytherapy. Videos generally presented a balanced overview of the treatments for cervical cancer, including brachytherapy. However, few videos included pertinent patient-relevant information such as side effects. This may inform physicians of the limitations of online videos and guide the development of additional patient educational resources. Further research should appraise other online resources for cervical cancer radiation therapy.
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Background

- Cervical cancer remains the third most common cancer in females 25-44 years of age
- Brachytherapy is an important modality of treatment for cervical cancer
- Patients often rely on the internet to seek cervical cancer information; however, few studies have described the quality of these resources
- This study aims to investigate and evaluate the current landscape of YouTube videos available to patients on cervical cancer brachytherapy

Methods

- Using a clear-cache Chrome browser in incognito mode, YouTube was searched in February 2023 using select search terms
- Videos were sorted by relevance and the first 50 from each search were collected
- Duplicates were removed & exclusion criteria applied
- Videos were independently ranked and evaluated for general parameters, source information, and content
- Two coders evaluated the first 10 videos for consistency

Results

Table 1. General video parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time since published</td>
<td>5 years</td>
<td>2 years</td>
</tr>
<tr>
<td>Length of video</td>
<td>5:42 min</td>
<td>4:46 sec</td>
</tr>
<tr>
<td>No. of views</td>
<td>452</td>
<td>24</td>
</tr>
<tr>
<td>No. of comments</td>
<td>54</td>
<td>2</td>
</tr>
</tbody>
</table>

- Presentations
  - Patient: 8 (50)
  - Physician: 23 (147)
  - Scientist / Researcher: 7 (45)
  - Other: 17 (108)
- Videos available
  - Free: 40 (250)
  - Fee: 1 (1)
- Intended audience
  - Internet: 20 (132)
  - Professional associations: 7 (45)
  - Trade show presentation: 10 (67)
  - Video paths: 3 (20)
- Video length
  - Short: 11 (75)
- Target audience
  - Patient: 36 (225)
  - Healthcare professionals/students: 10 (67)
- Not specified
  - 6 (40)
- Advertisement
  - 6 (40)

Conclusions

- Physicians and healthcare professionals should be aware of the strengths and limitations of online resources
- Major aspects of cervical cancer brachytherapy are covered
- Few videos included pertinent patient-relevant information such as brachytherapy side effects
- These findings can be leveraged to develop additional educational resources that empower patients in their cancer journey

References
