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Effectiveness of Digital Health Resources: Analysis of the European Society of Urology's Patient Information Videos

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What's known on the subject? and What does the study add?

Digital video content is increasingly used in patient education, yet few studies have qualitatively assessed the content of such materials in urology. This study conducted a qualitative content analysis of the most-viewed patient education videos on the YouTube channel of the European Association of Urology. It identifies key themes, evaluates educational quality, and provides insights to improve digital health communication.

Abstract

Objective: With advances in communication technologies, digital health resources have become essential in-patient education. Platforms like YouTube allow scientific information to reach large audiences. This study analyzed patient education videos on the European Society of Urology's (EAU) YouTube channel.

Materials and Methods: A total of 163 videos from the EAU YouTube channel were reviewed. The 10 most viewed videos were selected for detailed analysis. Data including views, likes, comments, and video duration were recorded. Videos were transcribed and analyzed using MAXQDA 2024 software via qualitative content analysis to identify main themes and subthemes.

Results: The top 10 videos averaged 876,700 views, 4,278 likes, 179 comments, and a duration of 2.23 minutes, with an average upload time of nearly 6 years. Content analysis revealed that the videos primarily addressed urological interventions and treatment methods. The most viewed topic was kidney stone removal by ureteroscopy. Other frequent topics include kidney stone treatments, bladder cancer therapies, and overactive bladder management. Less common themes involved urodynamic testing and urostomy care. The videos were categorized into four main subthemes: surgical procedures, medical treatments, diagnostic and evaluation methods, and postoperative care.

Conclusion: The EAU's YouTube videos offer comprehensive, accessible, and informative content for patients with urological conditions. These videos support patient education and engagement, potentially improving treatment adherence and health outcomes. Expanding such high-quality digital content in various languages and formats could further enhance patient access and empower informed decision-making in urology care.

Keywords: Patient education, urology, nursing, video

Introduction

The digitalization of healthcare services has profoundly affected the delivery of contemporary healthcare services and facilitated individuals' access to health information (1-3). Digital solutions that increase health literacy have become an important tool in patient education, especially given the abundance of internet-based content (4,5). In line with these developments, the effectiveness of digital health resources is becoming increasingly important in terms of patient-centered approaches and informed decision-making processes (6).

Effective patient education plays a critical role in shaping individuals' health-related knowledge, attitudes, and behaviors (7-15). Traditional training methods, such as brochures and training booklets, are being replaced by digital platforms (16). Video-based content, in particular, has the potential to make

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complex medical information more comprehensible due to its audiovisual nature. In this context, professional organizations operating in the field of health must produce user-friendly, accessible content that is scientifically accurate.

The European Association of Urology (EAU) produces digital video content to inform patients (17) which they can easily access on platforms like YouTube. These educational materials provide comprehensive, up-to-date, evidence-based information about urological diseases. They aim to increase patients' knowledge of diagnoses, treatments, and surgical procedures (18). However, the effectiveness of such content depends not only on the quality of the technical production but also on its appropriateness for the target audience, its comprehensibility, and its ability to convey information successfully.

Studies examining the impact of digital resources are increasing in the health communication literature. Studies have shown that video-based patient education materials can positively impact health-related knowledge, reduce anxiety, and support treatment compliance (19-22). However, the effectiveness of digital content depends on the patient profile. Demographic variables, such as age, education level, and health literacy, can influence how content is perceived. This study systematically analyzed patient education videos on the European Society of Urology's YouTube platform, in terms of scientific content quality, audiovisual presentation adequacy, relevance to the target audience, and knowledge transfer efficiency. Additionally, user feedback and viewership data were used to evaluate the videos' effectiveness in practice. The study's primary objective was to qualitatively evaluate the content of patient information videos on the EAU's YouTube platform. The study addressed the following questions:

- What is the content of the patient information videos provided by the EAU on YouTube?
- What extent do these videos meet the information needs of the target audience?
- According to participants' comments, what impact does digital video content have on patient education?

The findings aim to contribute to the development of digital patient education materials in both academic and practical ways. Additionally, the study aims to increase health literacy by providing evidence-based recommendations for developing patient-centered digital communication strategies.

Materials and Methods

This qualitative study aims to systematically evaluate the content of the EAUs patient information videos. The study employs qualitative content analysis to assess the informativeness and suitability of digital health resources for the target audience. The data source consists of patient information videos published on the European Urological Association's official YouTube channel (https://www.youtube.com/@urochannel). In March 2024, the researchers systematically scanned all videos on the platform and recorded a total of 163 videos. The videos were sorted by number of views, and the ten most-viewed videos were selected as the research sample. The rationale behind this selection is that the number of views reflects the videos' potential to reach the target audience and their impact. The following quantitative data were collected for each selected video:

- Total number of views
- Number of likes
- Number of comments
- Video duration (in minutes: seconds).

This data were manually recorded directly on the YouTube platform. The visual documents were systematically analyzed under meaningful themes and categories. The MAXQDA 2024 software program was used for analysis. First, each video was transcribed, and then a systematic coding process was performed. During open coding, the types of information, conceptual frameworks, narrative styles, and content density in the videos were determined. Then, these codes were categorized according to their similarities, and main themes and sub-themes were created. At the same time, coding trends were created for the comments made on the videos. To increase the reliability of the analysis process, Inter-researcher comparisons were made during creating and categorizing of the codes, and consensus was reached.

Ethical Assessment

This study did not require ethics committee approval because it was conducted using publicly available digital content that did not contain any personal data. The principles of academic ethics were followed throughout the research process, and the obtained data were used only for scientific purposes.

Results

The average number of views of the ten most-viewed patient information videos on the European Society of Urology's YouTube channel, which were included in the study, was 876,700±1,372,000. Significant differences were observed in the number of views of the videos. With an average duration of 2.23±0.26 minutes, the videos provided brief, targeted information. On average, videos have been on the platform for 5.9±0.31 years. On average, videos received 4,277.5±7,930 likes and 179.4±373.1 comments (Table 1).

A qualitative content analysis was conducted using MAXQDA 2024 software, which revealed that most videos focused on urological interventions and treatment methods. The most-viewed video was one about kidney stone removal by ureteroscopy. According to the overall content distribution, the videos covered the following topics:

- Removal of kidney stones (n=4)
- Bladder cancer treatment (n=2)
- Treatment of overactive bladder (n=2)
- Urodynamic tests (n=1)
- Urostomy care (n=1)

The content identified in these videos was categorized under four main themes: surgical procedures, medical treatments, diagnosis and evaluation methods, and postoperative care (Figure 1).

Theme 1: Surgical Procedures: This theme focuses on surgical interventions, which comprise a significant portion of the videos. Common procedures such as cystectomy (bladder removal), ureteral stent placement, and lithotripsy (kidney stone crushing or removal) are covered in detail. The videos generally use a three-stage narrative: the purpose of the procedure, the process, and the expected results. Surgical procedures are supported by animations and simulations. Additionally, the risks and possible complications of the procedures are explained in simple, easy-to-understand terms to improve patient understanding.

Theme 2: Medical Treatments: This theme is dominated by videos on drug therapy. In particular, the videos comprehensively explain pharmacological treatments for common urological conditions, such as an overactive bladder, benign prostate enlargement, and urinary incontinence. The videos detail drug groups, mechanisms of action, routes of administration, dosage information, and possible side effects. To increase patient compliance with treatment, the videos present the importance of regularly taking medications and provide guidance on follow-up processes during treatment. These videos are informative and motivational, especially for patients on long-term medication.

Theme 3: Diagnosis and Assessment Methods: Diagnostic videos typically focus on functional tests and imaging methods. They explain how procedures such as urodynamics, ultrasonography, cystoscopy, and specialized laboratory tests are performed when they are preferred and what the patient can expect. The visual narratives show the patient's step-by-step experience during the test and are structured into sections such as pre-procedural preparation, the procedure itself, and post-procedural evaluation. These videos aim to increase knowledge about diagnostic methods and reduce patient anxiety by preparing them for the procedures.

Theme 4: Postoperative Care: This theme focuses on care processes after surgery. Topics such as post-urostomy care, bladder replacement, skin care, infection prevention, hydration, and hygiene practices are presented in detail in the videos. The points to be considered during the postoperative period are presented in a way that is easy to understand for both patients and caregivers. Additionally, information is provided about the symptoms of potential complications and the measures to address them. The importance of controlling visits and continuity of care is emphasized. These videos provide a valuable educational resource for patients and aim to improve the quality of home care.

Table 1. Basic quantitative data on included videos

Features	Mean ± SD
Number of views	876.700±1.372,000
Video duration (minutes)	2.23±0.26
Time since publication (years)	5.9±0.31
Number of likes	4.277,5±7.930
Number of comments	179.4±373.1

SD: Standard deviation

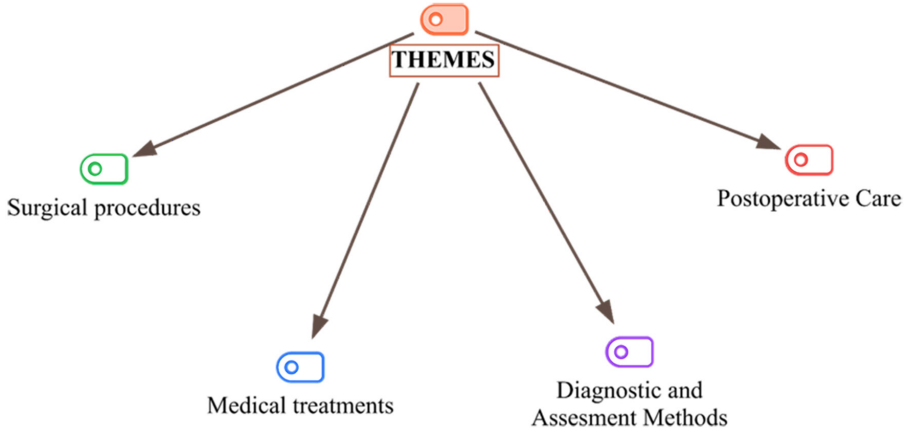

Figure 1. Hierarchical code-sub code model (themes)

Figure 2 shows the code trends generated from comments on videos. According to these trends, the most striking topic is "Cystoscopy (Overactive Bladder)"; this code has the highest comment rate at about 43%. This indicates that users discussed this topic the most. The topic "Changing stoma bag (after bladder cancer treatment)" received the fewest mentions, at about 6%. "Bladder Cancer Treatment Cystectomy" and "Urodynamics for Overactive Bladder" received moderate interest (9-18%). Procedural topics, such as "Removal of Kidney Stones URS", "Removal of Kidney Stones PCNL", "JJ Stent (Removal of Kidney Stones)", and "Removal of Kidney Stones ESWL", attracted 35-40% interest.

Discussion

This study analyzed, using content analysis, informative videos prepared by the EAU for patients. The findings were then evaluated under thematic categories. Four main themes were identified as a result of the analysis: surgical procedures, medical treatments, diagnostic and evaluation methods, and postoperative care. These themes highlight the importance of digital resources for patient education and information in all urological treatment and care processes. While viewers mostly commented on practical and procedural topics, such as endoscopic procedures and stent removal, they commented less on diagnostic content, such as symptoms and tests. Topics such as ostomy bag replacement received significantly less user interest.

In terms of surgical procedures, videos generally contain detailed explanations of topics such as the preoperative process, how the surgery is performed, possible risks, and expected outcomes. Visual animations and explanatory voiceovers are thought to support the stages of interventions such as bladder removal, stone crushing, and stent placement, allowing patients to develop realistic expectations about the surgical process. However, although YouTube has become a popular source of medical information for patients, studies evaluating urology-related content have reported significant quality problems. Studies analyzing videos on ureteroscopy (22), transrectal ultrasound-guided prostate biopsies (14), prostate cancer treatments (23), and ureteral stent placement (24) consistently revealed that most of the content provided low- to moderate-quality information. These studies emphasize that, in its current form, YouTube is inadequate as a source of urological information for patients, and a need exists for higher-quality, patient-oriented content. However, the videos in this study were produced by the European Urological Association, which increases their reliability as a source of information. These videos may play an important role in reducing patients' surgical anxiety and increasing their satisfaction.

Videos focusing especially on medical treatments highlight information about medication use. They convey the mechanisms of action, dosages, and possible side effects of drugs used to treat overactive bladder in simple, understandable language. This information can boost patients' confidence in their treatment and positively impact their medication compliance. However, studies have found that videos on YouTube and TikTok about OAB are generally of low quality and limited comprehensibility (11,25). Only 12.5% of urinary incontinence videos on YouTube were both understandable and actionable (26). Although videos

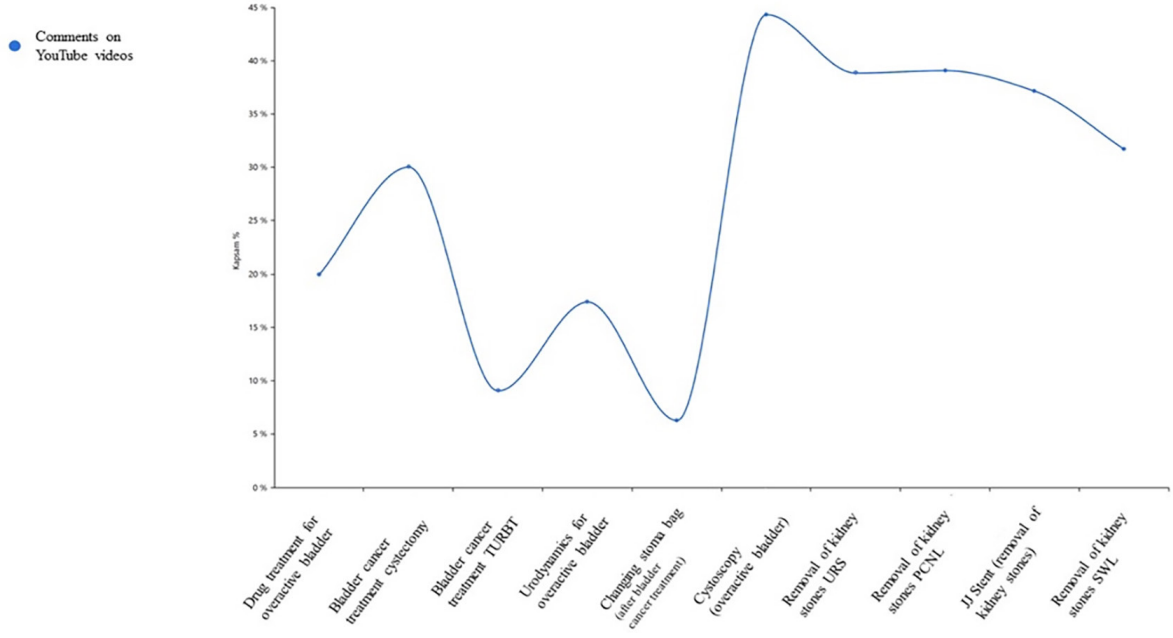

Figure 2. Code trends

featuring physicians are of higher quality, they often do not appear in the top search results (11). Similarly, quality issues have been identified in bladder pain syndrome videos on YouTube. In contrast, the videos in this study, produced by the European Society of Urology, stand out for their content quality, scientific accuracy, and reliability. Such quality content may help patients obtain information about the treatment process, increase their confidence in treatment, and contribute positively to medication adherence and overall patient satisfaction. These findings suggest that more qualified and reliable content should be disseminated for patient education on social media platforms. Additionally, having prior knowledge of potential problems that may arise during treatment may lead to more effective and efficient communication between patients and physicians.

The videos on diagnostic and evaluation methods thoroughly explain the purpose, performance, and considerations of functional examination methods, such as urodynamic tests. This type of content clarifies complex or anxiety-provoking diagnostic procedures, encouraging patient participation and increasing the utilization of health services. A study evaluating the educational value of YouTube videos about neurogenic bladder and intermittent catheterization found that videos with instructions from a healthcare professional were significantly more effective than videos narrated by patients (27). A lack of information about functional diagnostic tests can cause unnecessary anxiety in patients. For this reason, explanatory video content is valuable in closing this information gap. However, diagnostic videos on social media platforms generally have some limitations in terms of content quality, comprehensibility, and scientific accuracy. Conversely, the videos analyzed in this study, which were produced by the European Society of Urology, were found to be of high quality in terms of information reliability, clarity, and patient education. Such content may encourage patients to actively participate in the process and utilize health services more effectively by alleviating their concerns about the diagnostic process.

Videos on postoperative care focus on hygiene practices for conditions that require special care, such as urostomy. They also cover ways to prevent complications and to integrate care into daily life. These videos are an important source of information for both patients and caregivers. However, studies have shown mixed results regarding the quality and reliability of these videos. While some videos provide useful information (28,29), many may be misleading. Videos uploaded by health professionals, universities, and professional organizations tend to be more reliable and higher quality (28). Despite the potential of YouTube videos as complementary educational tools, the open-access nature of YouTube requires guidance from healthcare professionals to select appropriate videos (29). The smooth progression of postoperative home care is especially important in reducing hospital readmission rates and improving quality of life. In this context, the videos prepared by the European Urological Association and evaluated in our study were found to consistently provide reliable information on postoperative care. Such quality content is thought to reduce the risk of complications, increase patient satisfaction, and contribute to a healthier postoperative process by meeting the informational needs of patients and caregivers.

The analysis reveals that the patient information videos provided by the EAU on YouTube are well-structured and scientifically sound. Addressing basic health topics such as diagnosis, treatment, and postoperative care, these videos largely meet the information needs of the target audience, providing an effective resource for patient education. Literature frequently emphasizes the positive effects of digital health materials on patient education, and this study shows that EAU videos can significantly contribute to the patient education process due to their reliable, understandable, and systematic structure. Participant comments support the informative nature of these videos and reveal that they increase patients' awareness and participation in the treatment process. Overall, the study concluded that EAU content can be used as an effective, high-quality digital health communication tool. However, it is important to note that all videos analyzed in this study were presented solely in English. This monolingual presentation limits the accessibility and usefulness of the content for patients from diverse linguistic and cultural backgrounds. In multicultural societies, language barriers can significantly hinder patients' ability to understand, engage with, and act on health information. To ensure equitable access to reliable patient education materials, professional organizations like the EAU should consider offering multilingual versions of their content, including translated subtitles or dubbed narration. Such efforts would expand the reach of digital health communication tools and promote health equity on a broader scale.

Study Limitations

This study has some methodological and contextual limitations. First, it was unable to assess how the target audience perceived the video content in relation to their knowledge, expectations, and experiences. Furthermore, the videos were only presented in English, which significantly limits accessibility for individuals who are not proficient in the language. This monolingual approach may hinder the comprehension of essential health information and reduce the utility of the videos for diverse populations, particularly those from non-English-speaking backgrounds. The lack of multilingual content not only poses a barrier to equitable access but also restricts the potential for cross-cultural applicability and relevance. Future studies should prioritize the inclusion of subtitles or dubbed versions

in multiple languages and evaluate how language diversity influences understanding, engagement, and satisfaction across different patient groups. Incorporating multilingual content on various platforms can enhance inclusivity and provide more meaningful, comparative insights into the effectiveness of such educational tools.

Conclusion

In conclusion, the EAU's patient information videos are comprehensive and informative. They present a wide range of information, including surgical procedures, drug treatments, diagnostic tests, and post-operative care. Thus, they support patients in participating in health processes in a more informed and prepared manner. This study once again demonstrates that audiovisual content is an effective tool in patient education and health communication. Future studies comparing content in different languages and directly evaluating patients' benefit from video content could contribute to the development of digital health materials.

Ethics

Ethics Committee Approval: This study did not require ethics committee approval because it was conducted using publicly available digital content that did not contain any personal data.

Informed Consent: Not necessary.

Footnotes

Authorship Contributions

Surgical and Medical Practices: F.V., N.G.Ö.Ö., Concept: F.V., N.G.Ö.Ö., Design: F.V., N.G.Ö.Ö., Data Collection or Processing: F.V., N.G.Ö.Ö., Analysis or Interpretation: F.V., N.G.Ö.Ö., Literature Search: F.V., N.G.Ö.Ö., Writing: F.V., N.G.Ö.Ö.

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