Cleveland Clinic Florida

"CAN I TREAT MY DIVERTICULITIS WITHOUT ANTIBIOTICS?" ASSESSING ONLINE PATIENT-FACING HEALTH INFORMATION FOR NON-ANTIBIOTIC TREATMENT OF UNCOMPLICATED DIVERTICULITIS

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Background

- The management of acute uncomplicated diverticulitis (AUD) without antibiotics has gained acceptance as a safe treatment strategy because of accrued high-quality evidence.
- An important hurdle to implementation of non-antibiotic management is patient awareness and acceptance.

Objectives/Purpose

- Since the internet has become one of the greatest sources of medical information for patients, we sought to determine whether online health-related information and education could fill this gap.
- This study aimed to systematically review the quality, readability, and appropriateness of online health patient information about non-antibiotic management of AUD.

Methods

- This systematic review assessed online patient information available on the searchable internet and on a publicly available online Artificial Intelligence (AI) interface.
- Three reviewers participated in this study.

Part 1

- A Google search in private mode was conducted using the query, **"Can I treat my diverticulitis without antibiotics?"**
- Inclusion of websites: English only, free of charge, explicitly designed for patients to read alone without the support of a healthcare professional
- Exclusion of websites: password protected, support groups/blogs, wrong type of website (advertisement, news article, book, video only), irrelevant to diverticulitis, websites intended for healthcare professionals or requiring a healthcare professional's support when reading them.
- The top 25 retrieved websites were assessed by two independent raters for 1) readability using the **Flesch Kincaid Grade Level index**, 2) quality using the **DISCERN instrument**, and 3) content based on a predefined checklist of **7 key concepts** from diverticulitis guidelines.

Methods (continued)

Part 2

- Based on guidelines, we also created **11 layman questions** addressing fundamental concepts of non-antibiotic management for AUD.
- Each question was posed on **Google's AI Overview** feature (powered by Google Gemini) and the responses were recorded. Two reviewers graded each response as either "appropriate," "partly appropriate," or "inappropriate" based on their clinical judgment and the content of the response.

7 key concepts

1. Does it address pathophysiology (inflammatory vs. Infectious)?
2. Does it present who is a candidate for non-antibiotic therapy in terms of patient and disease characteristics
3. Inversely, does it state who should not use nonantibiotic therapy (fever, immunosuppressed, etc.)
4. Does it present short term and long-term data to support non-antibiotic treatment (resolution of episode, risk of complications, risk of recurrence)?
5. Does it present advantages of avoiding antibiotics?
6. Does it state what conservative management without antibiotics entails – specifically diet, analgesia?
7. Does it state what the red flags are that would warrant seeking medical attention to escalate care?

11 layman questions

Feasibility of nonantibiotic treatment

1. I have diverticulitis do I really need antibiotics?
2. Can I treat my diverticulitis without antibiotics?
3. Can I not take antibiotics for diverticulitis?

Safety

1. Is it risky if I don't take antibiotics for diverticulitis?
2. Is it harmful if I don't take antibiotics for diverticulitis?
3. Is it safe to not take antibiotics for diverticulitis?

Diet/treatment

1. What should I eat if I have diverticulitis managed without antibiotics?
2. What should I take for pain control if I have diverticulitis managed without antibiotics?

Other

1. What do I benefit by avoiding antibiotics for my diverticulitis?
2. Will it take longer for my diverticulitis to heal if I don't take antibiotics?
3. What should I look out for when recovering from diverticulitis treated without antibiotics?

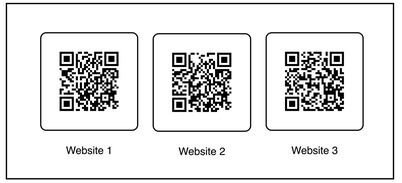
Outcomes

Part 1

Table 1. Assessing the Readability, Quality and Content of the Websites

	Result
Median readability level	9.5 (min 7 – max 13.8) Required reading level ≥ 9th grade education to understand
Median quality score	33.5 (min 15 – max 60) Clearly defined aims: 6/25 (24%) Sources disclosed: 11/25 (44%) High quality: 4/25 (16%) Specifically addressed non-antibiotic management of AUD: 9/25 (36%)
Content	Average number of key concepts included per website: 2/7 (29%)

Figure 1. Top Three Websites



Outcomes (continued)

Part 2

Figure 2. Accuracy and Reference Appropriateness of the Google AI Overview Responses

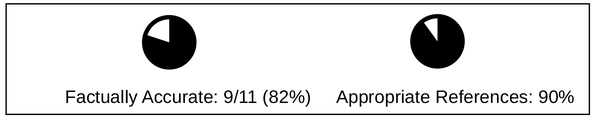
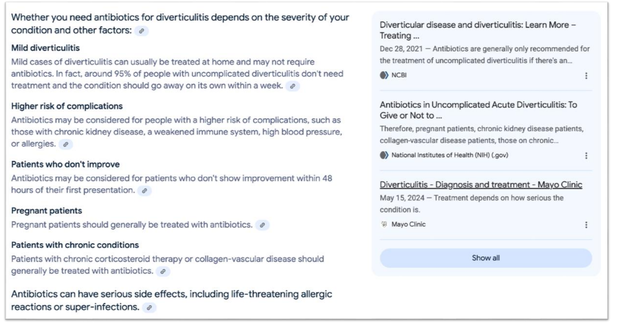


Figure 3. Example of the Google AI Overview Response to the Question "I have diverticulitis do I really need antibiotics?"



Conclusion

- Current online information regarding non-antibiotic management of AUD is generally insufficient, with significant variability in readability, quality and content.
- Much of the searchable online information does not cover key concepts regarding non-antibiotic management of AUD.
- However, online AI shows potential in delivering accurate and consistent information, possibly surpassing standard internet search results.
- Tailored, high-quality patient materials should be created to support the effective implementation of non-antibiotic management of AUD.