Content and Linguistic Analysis of YouTube Comments on Adolescents' Diabetes Videos

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INTRODUCTION

- Diabetes affects approximately 283,000 Americans under the age of 20
- Adolescents commonly seek health information online
- Few studies have explored engagement, specifically the comments, with YouTube videos about diabetes diagnoses of adolescents

🎯 **The purpose of this study was to understand diagnosis disclosures and sentiment in comments on adolescents' diabetes diagnosis story video on YouTube.**

METHODS

This study used content analysis and Linguistic Inquiry and Word Count (LIWC) software to evaluate video comments, thus was exempt from the IRB at the University of Wisconsin–Madison.

Search Strategy

- 5 most recent YouTube videos posted in the last decade
  - Search terms: diabetes story, adolescent/teenage diabetes
- Inclusion criteria:
  - English, individual owner for the account, self-disclosure of diabetes diagnosis at an age of younger than 18, not containing advertisement

Data Collection & Analysis

- Main video recorded were post date, duration, number of likes, views, comments, and account subscribers.
- The top 40 comments from each video were evaluated for disclosure of diagnosis, diagnosis age, and associated symptoms
- 200 comments in total were processed by a linguistic analysis with specific categories of keyword.

Video Information

Content Analysis for Diagnosis Disclosure

Linguistic Analysis for Sentiment

LIWC Keywords: Emotional Tone, positive emotion, negative emotion, anxiety, anger, sadness, biological processes, health, body
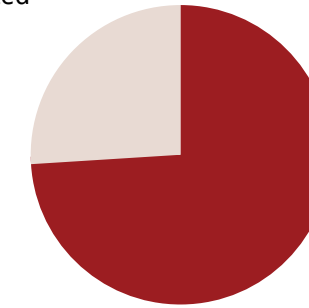
RESULTS

Video Info Table

Video ID	Date of posting	Duration	views	likes	comments	subscribers
1	09/26/2021	18:52	8760	474	231	27600
2	05/30/2019	21:39	1029858	39000	3973	454000
3	01/31/2014	18:41	51933	723	369	4780
4	01/01/2018	7:59	64628	1400	551	34600
5	04/29/2020	13:27	155256	10000	818	1500000

Comments and Diabetes Diagnosis Content
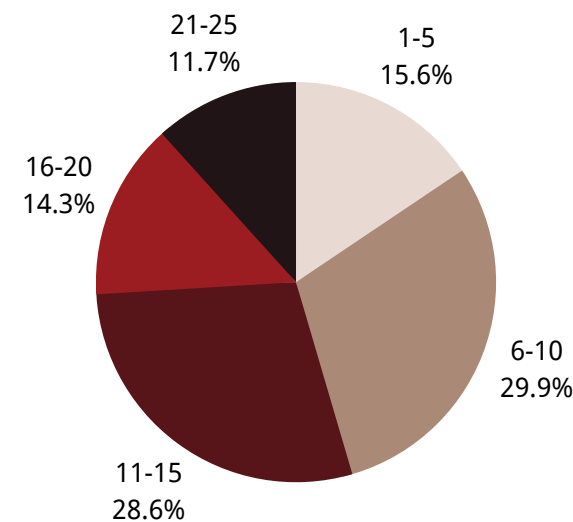

Not Related 26%

Diagnosis Related 74%

- A total of 57% of the comments (84) related to diabetes diagnosis (148) were related to a diagnosis of adolescent diabetes.
  - Note: This study considered a diabetes diagnosis at age 25 and younger as adolescent diabetes.
- Symptoms
Of all the comments, 25 mentioned diabetes-related symptoms, with the three most frequently cited symptoms being: frequent urination, thirst, and unexplained weight loss.
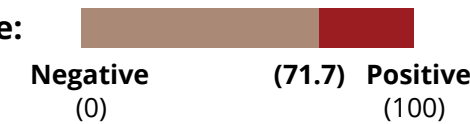
Adolescent Diabetes Diagnosis Disclosures

This study recorded the age of diagnosis mentioned in the comments related to the diagnosis of adolescent diabetes, and a total of 78 comments disclose the age of diagnosis, with the following age distribution:
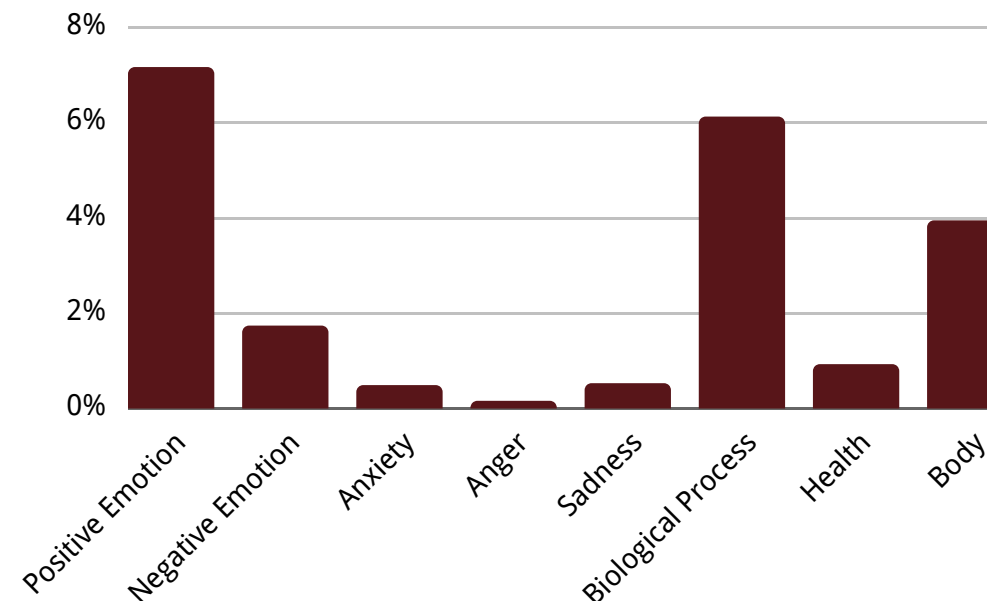

21-25 11.7%
1-5 15.6%
16-20 14.3%
6-10 29.9%
11-15 28.6%

LIWC Analysis for Sentiment in Comments

Overall Tone:

Negative (0) — (71.7) Positive (100)

keywords Analysis:

Positive Emotion, Negative Emotion, Anxiety, Anger, Sadness, Biological Process, Health, Body

CONCLUSIONS

- Users tend to share the diagnosis related content and reveal the age of diagnosis in the comments of YouTube videos about adolescent diabetes.

- In terms of the content of the comments, the overall emotional tone was on the positive side; while in comments demonstrating negative emotions, expressions of sadness and anxiety were more common than expressions of anger.

- Linguistic analysis revealed that words consistent with biological processes and body categories were an important part of the comments, which correlated with users' experiences with physiological processes, test results, and visits when talking about adolescent diabetes.

IMPLICATIONS

- The overall positive tone in the comments section of YouTube videos on adolescent diabetes and the atmosphere of sharing stories within the community may facilitate emotional support for adolescent diabetics.

- The information could inform the development of resources that effectively communicate diabetes management strategies, and support the emotional well-being of adolescents living with diabetes.

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