The Quality of Information on TikTok Concerning Intrauterine Devices, Labelled #Intrauterinedevice

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Abstract

Objective(s): The goal of our study was to evaluate the overall quality of TikTok content considering intrauterine devices, as well as the quality of TikTok content by uploader and video type.

Materials and Methods: We assessed the first 100 videos tagged #intrauterinedevice, and collected their metadata (number of views, likes, comments, favourites, shares). No video duration limit, neither an upload date restriction was imposed. Videos containing languages other than English language had been excluded. Videos with no language present (i.e. visual demonstrations) were included.

The authors didn't engage with the application/website in any way during data collection.

Two content evaluation tools were used to rate the quality of information- DISCERN, and for rating understandability and actionability PEMAT was used, followed by an appropriate interpretation. Videos were also evaluated based on video type and uploader type.

Data collection, systematisation and basic statistical calculations were done in Microsoft® Excel® worksheets. The Kruskal-Wallis test was performed using IBM SPSS.

Results: Our study has shown that the overall quality of TikTok content considering intrauterine devices is low, however with certain outliers. Mainly, content uploaded by medical professionals (especially obstetrician/gynaecologist) is of higher quality compared to other types of content uploaders. Certain video types ('treatment description', 'device insertion/removal' and 'other') had also shown higher quality than the rest.

Conclusions: Overall quality of TikTok videos is low. The quality of videos uploaded by medical professionals is somewhat acceptable, but in need of improvement and greater popularisation, due to the growing usage and popularity of this video platform.

Keywords: Contraception; Social Media; IUD; Social Networkas

Implications Statement

Show the quality of content about intrauterine device on TikTok and to give a perception of quality of medical content on TikTok and, possibly other social media, in general. It could serve as milestone from which we observe further evolution of medical content quality on social media.

Introduction

In recent years, the expansion of social media platforms has revolutionized the dissemination of medical information, particularly in the realm of reproductive health and contraception. This particularly refers to the fact that nowadays many people tend to search online sources for such information before visiting the doctor's office [1]. Aside from easy accessibility and reduction of time and money for scheduling and visiting physicians, this approach offers anonymity that many, especially those of younger age, desire when it comes to contraception words of advice. One of the most searched types of information on social media relates to intrauterine implants for contraception [2]. However, the lack of information quality control, the impact on the collective mind that social media have, and frequently biased narratives within their discourse on reproductive health, pose a potential danger for spreading and accepting medical advice related to the use of intrauterine devices that can be harmful or misleading [3].

Therefore, through a comprehensive review of relevant TikTok content, we aim at investigating the evolving role of this social network in shaping perceptions and decision-making regarding uterine implants for contraception, as well as the quality of information this platform provides. By synthesizing these findings, we aim to provide insights into the complex dynamics between social media, medical advice, and uterine implants.

Materials and Methods

General methods

We assessed the first 100 videos tagged #intrauterinedevice. Metadata (number of views, likes, comments, favourites and shares) was collected on 5th of February 2024. Neither did the collected videos have a time limit, nor an upload date restriction (any date of posting) was permitted. Videos containing languages other than English had been excluded. Videos with no language present (i.e. visual demonstrations) were included.

Two content evaluation tools were used to rate the quality of information- DISCERN, and for rating understandability and actionability PEMAT (Patient Education Materials Assessment Tool) was used [4-6].

For the DISCERN instrument, the scaling system we used is shown in Table 1 [7,8]. We chose 'fair' quality as the lower limit for acceptable quality, due to the fact that both medical professionals and laymen were content creators.

The cut-off value for video understandability on the PEMAT scale is 70%, and the cut-off value for actionability on the PEMAT scale is 50% [5].

Content quality	DISCERN score
Very poor	16-26
Poor	27-38
Fair*	39-50
Good	51-63
Excellent	64-75
*chosen level for acceptable content quality	

Table 1: Discern score interpretation [7,8].

During data collection the authors did not engage in any way within the application/website (i.e. like, comment, share videos or save in favourites).

Classifications

We classified the videos by an uploader type based on previous papers assessing TikTok content related to medical thematic, however slightly modified according to our papers' requirements [9,10]. The uploader types were: 1. Obstetrician and gynaecologist ('Obgyn' further in text); 2. Medical staff (medical doctors, nurses, pharmacists, medical organizations and medical institutions); 3. Users; 4. Other-uploaders that did not declare they are users, but clearly are not health professionals; 5. Unclear- uploaders about whom we are not sure if they are medical professionals or not.

Videos were also classified by content type: 1. Treatment description; 2. Adverse effects; 3. Insertion/ removal of device; 4. Reaction/ personal experience; 5. Fun; 6. Other.

Programs and statistics

Data collection, systematisation and basic statistical equations were performed in Excel (Microsoft® Excel® LTSC MSO (16.0.14332.20631) 64-bit).

The Kruskal-Wallis test was used to determine the statistical significance of video quality, understandability and actionability between the chosen groups and was performed by using IBM SPSS Statistics version 26 Build 26.0.0.0 32bit version.

Additional information

The raw data with results supporting the claims made in this paper will be made available by the authors.

The authors declare that the research was conducted without any commercial or financial support that could indicate a conflict of interest.

This study did not use any confidential clinical data, no human specimens or laboratory animals were used in this study. All the data used is publicly available on TikTok and regulated by their terms of service.

Results

General data

The reviewed #intrauterinedevice videos had a total of 16 339 055 views, 2 262 167 likes, 30 663 comments, 148 402 favourites, 129 199 shares and averaged 51,06 seconds in length.

Most of the videos uploaded had one clearly identifiable person (n = 69), videos with no discernible people were next (n = 25) and the least number of videos had multiple people participating (n = 6). By gender, participants are classified as:1. female-77,1%, 2. male - 13,25%; Non binary 9,6%; as mentioned before a quarter of videos do not contain discernible participants. All the people present in the videos are of adult age.

Overall, 37% of the videos have a positive tone, 22% have a negative connotation and the relative majority have a neutral tone-41%.

DISCERN and PEMAT scores

The total average DISCERN score came out as 38,63 (SD 14,58), which is just below the lower limit for 'fair' quality (table).

The total average PEMAT score in understandability was calculated to be 68,72%, and the score in actionability was 27,9%.

When we look at the data presented in figures 1-6 we can see that our classifications offer a different perspective. We can see that the videos achieving the highest median DISCERN are the ones uploaded by medical professionals, especially by Obgyn (figure 1). The median PEMAT scores for understandability show similar results- videos uploaded by medical professionals were above the 70% limit (figure 2). The median actionability PEMAT scores were under the 50% limit for all video uploaders (figure 3).
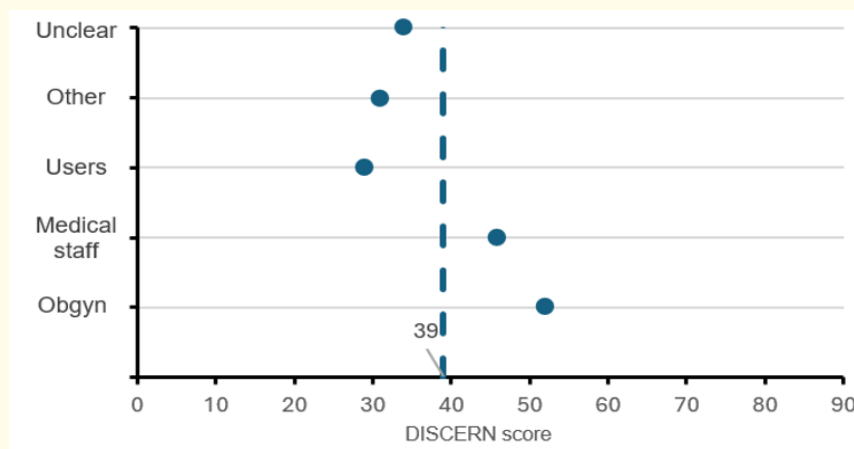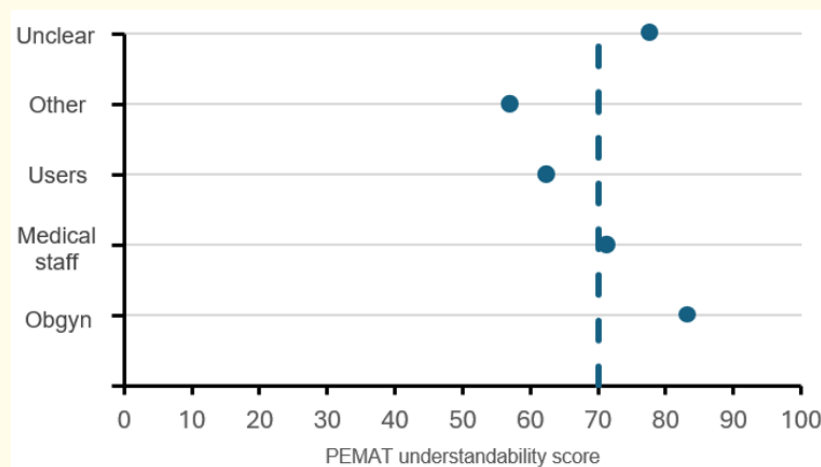

Figure 1: DISCERN scores by uploader type.
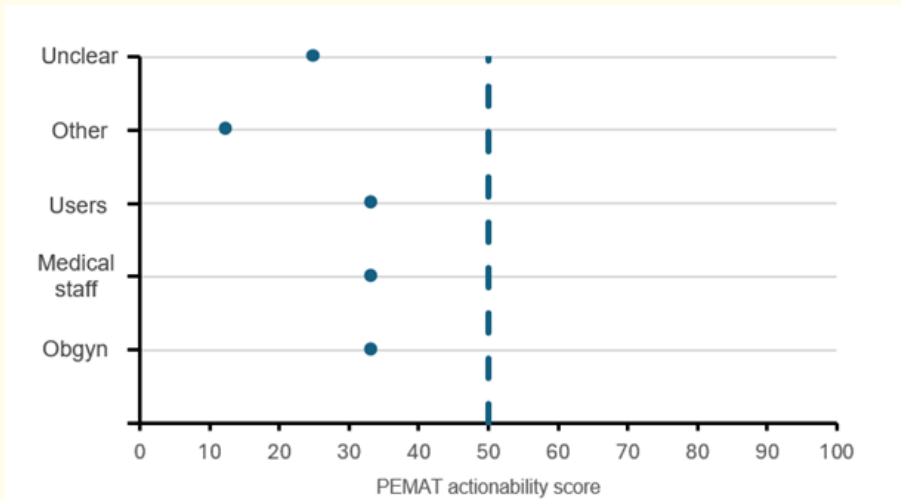

Figure 2: PEMAT understandability scores by uploader type.

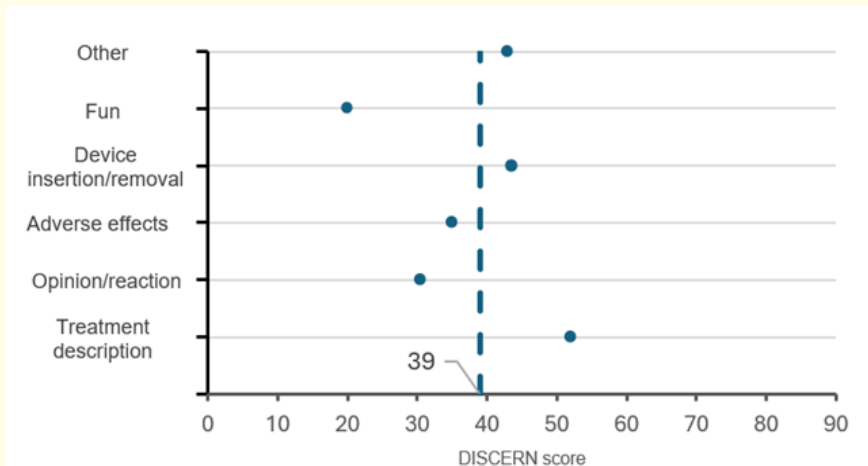**Figure 3:** PEMAT actionability scores by video type.

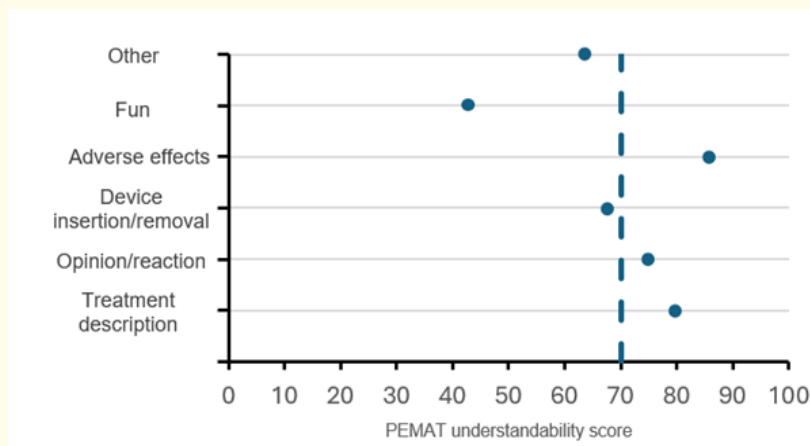**Figure 4:** DISCERN scores by video type.

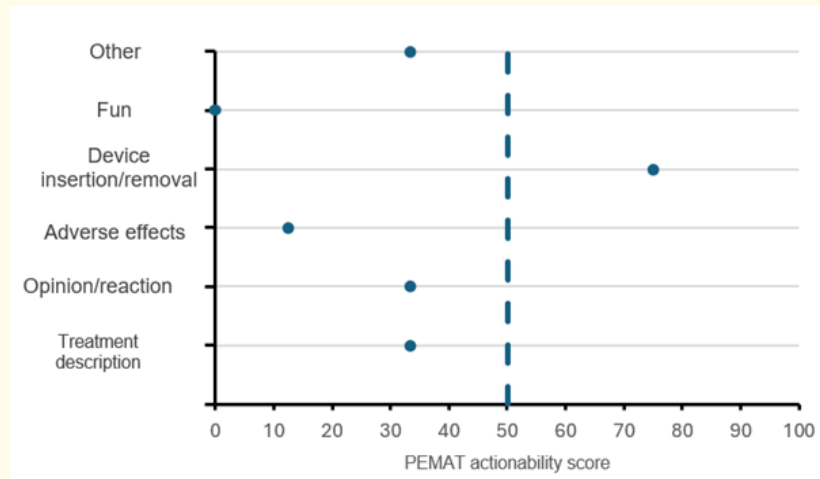**Figure 5:** PEMAT understandability scores by video type.

Figure 6: PEMAT actionability scores by video type.

For video types DISCERN and PEMAT results are presented in figures 4-6, respectively.

Videos marked 'treatment description', 'device insertion/removal' and 'other' are above the lower limit on the DISCERN scale (figure 4).

Videos marked 'treatment description', 'reaction/personal opinion' and 'device insertion/removal' scored higher than the 70% mark on the PEMAT scale for understandability (figure 5).

The only video type category that scored above the 50% mark for actionability was the 'device insertion/ removal' (figure 6).

Kruskal-Wallis test

We also used the Kruskal-Wallis test to determine a difference in quality, understandability and actionability between the groups of video uploaders and video types that we previously classified.

It has shown that according to the DISCERN instrument uploaders marked 'Obgyn' create higher quality videos than other types of uploaders, especially those marked 'Users' and 'Other'. (Kruskal–Wallis test, chi-squared: 27.878, df = 4, p < 0.010).

When categorized by video type, videos labelled 'Treatment description', 'Device insertion/removal' and 'Other' had shown a significant difference in quality on the DISCERN scale as opposed to videos labelled 'Fun' or 'Opinions/ reaction'. (Kruskal–Wallis test, chi-squared: 54.814, df = 5, p < 0.010)

When comparing PEMAT scores in understandability by video type, results had shown that videos labelled 'treatment description' and 'device insertion/removal' were of higher quality when compared to videos labelled 'fun' (Kruskal–Wallis test, chi-squared: 33.902, df = 5, p < 0.010).

Similar results were found for PEMAT scores in proactivity by video type - videos marked 'treatment description', 'device insertion/removal', 'other' and 'opinions/reactions' were found to score higher than those marked as 'fun' (Kruskal–Wallis test, chi-squared: 39.305, df = 5, p < 0.010).

No statistically significant differences were found between any of the groups in PEMAT scores for understandability and PEMAT score for proactivity, considering the videos classified by uploader type.

Discussion

The key finding of this study is that the average quality of TikTok videos tagged #intrauterinedevice is low. We also have to point out that the quality of videos differs when the type of video uploader is considered- videos uploaded by gynaecologists and other medical staff had higher quality content. However, even those videos had a median score of 52 putting them in the 'good' category, slightly above the 'fair' category.

To understand why most videos, have low scores in quality, we have to take several things into account.

Firstly, TikTok is foremost a lifestyle activity platform whose users seek easy-going, light-hearted and fun videos. This concept makes funny, light-hearted videos susceptible to lower quality ratings, since they lack detailed information about the treatment/procedure to score high on DISCERN and/or PEMAT scale and rather focus on relatability. On the other hand, credible educational videos uploaded by professionals have a mainly neutral, monotonous and mostly unbiased tone which make them less appealing to watch and interact.

On average, the most viewed videos were the ones uploaded by gynaecologists. However, the most liked ones on average were videos uploaded by intrauterine device users.

Chen and Zhang [11,12] found that shorter videos garnered more popularity, with Chen noting that the typical TikTok video length is between 15-40 seconds [11], while our results show the average and median length for the most credible videos to be over 50 seconds long, possibly contributing to lower number of likes.

Other factors need to be considered as well. Video quality assessment tools used in this study are not of absolute relevance as they are subjective in essence. These tools are not constructed specifically for TikTok videos and therefore are not adapted to evaluate short-length videos. Short videos simply do not have the time to check all the marks needed for a high-quality video and since short-lengths videos are more favourable [11,12], they in turn are the ones that are more frequent and the ones that score lower on quality assessment scales.

Female audience is mostly to be expected, considering the field of medicine being gynaecology and obstetrics.

Due to more than 50% of video uploaders being medical professionals in one way or another, most of the videos have a predominantly unbiased approach with a neutral tone.

The potential downside of our study is that the tag #intrauterinedevice could be less popular than synonymous hashtags such as #IUD and #LARC, which we didn't analyse. We also didn't analyse the effect of overlapping hashtags which could have influenced the metadata of videos that have multiple hashtags. The content and sentiment of comments was also not analysed.

Conclusion

This study shows that the overall quality of TikTok videos on intrauterine devices is low.

The quality of videos uploaded by medical professionals is somewhat acceptable, but in need of improvement and greater popularisation, due to the growing usage and popularity of this video platform.

Disclaimer

We, the authors, hereby claim that the findings and conclusions of our study are were made of volition.

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