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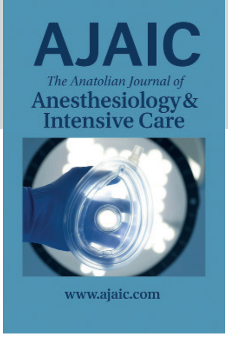

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Assessment of Information Quality of Instagram Posts Related With Intensive Care

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Abstract

Background: Social media has become a prominent source of health information, yet the accuracy and reliability of content remain uncertain. Instagram, as a visually driven platform, is increasingly used for disseminating medical knowledge. This study aimed to assess the quality and reliability of Instagram posts related to intensive care, focusing on four commonly used hashtags: #entübasyon, #mekanikventilasyon, #sepsis, and #yoğunbakım.

Material and Methods: A cross-sectional design was employed. On August 1, 2025, 200 posts were collected for each hashtag (#entübasyon, #mekanikventilasyon, #sepsis, and #yoğunbakım), yielding a total of 800 posts. Each post was analyzed as informative, non-medical, or advertisement-based. To evaluate informational quality and scientific reliability, the Modified DISCERN tool was applied by intensive care specialists. Mean scores were compared between posts shared by healthcare professionals and non-professionals using an independent samples t-test, with $p < 0.05$ considered statistically significant.

Results: Of 800 posts screened, 79 (9.9%) were excluded. Among the 721 analyzed posts, 472 (65.5%) were informative, 202 (28.0%) non-medical, and 47 (6.5%) advertisement-based. Informative content predominated under #entübasyon (95.1%) and #sepsis (92.9%), while #mekanikventilasyon (31.9%) and #yoğunbakım (35.4%) showed markedly lower proportions. Notably, advertisement content was observed exclusively in the #mekanikventilasyon group (25.8%). The mean Modified DISCERN score was 3.17 ± 1.23 for posts shared by healthcare professionals and 3.05 ± 1.18 for those by non-professionals, with no significant difference ($p > 0.05$).

Conclusion: Instagram posts under intensive care–related hashtags often lack reliable scientific information, particularly within #mekanikventilasyon and #yoğunbakım. The presence of substantial non-medical and commercial content raises concerns regarding public access to trustworthy information. Expanding the contribution of healthcare professionals with evidence-based content may help mitigate misinformation and enhance public understanding of critical care.

Keywords: Intensive care, Instagram, Information quality, Social media, DISCERN

Introduction

Over the past few years, social media has emerged as a prominent source of health-related information for the general population [1]. Visually oriented platforms, particularly Instagram, have gained popularity among both healthcare professionals and the public. However, concerns persist regarding the credibility and quality of medical content disseminated on such platforms. The dissemination of inaccurate or misleading information may contribute to patient misperceptions and potentially adverse health outcomes [2,3].

Critical care interventions—such as intensive care unit (ICU) management, mechanical ventilation, sepsis treatment, and endotracheal intubation—are essential, life-saving procedures. Despite their clinical importance, limited evidence exists on how such topics are represented on social media and whether the shared content aligns with current medical standards. These concerns emphasize the need to evaluate the reliability and informational quality of social media content related to critical care.

Accordingly, this study investigates Instagram posts tagged with #entübasyon, #mekanikventilasyon, #sepsis, and #yoğunbakım, aiming to assess their medical accuracy and informational value. Using the Modified DISCERN tool, the analysis seeks to determine the extent to which these posts are aligned with current scientific knowledge in critical care.

Material and Methods

A cross-sectional methodological design was employed. To avoid personalization bias resulting from algorithmic filtering, a new Instagram account was created, and on August 1, 2025, the first 200 posts generated by the Instagram algorithm for each of the following hashtags were collected: #entübasyon , #mekanikventilasyon, #sepsis, and #yoğunbakım. All posts were in Turkish. Inclusion criteria required posts to be publicly accessible and explicitly related to the respective hashtag. Posts were excluded if they were irrelevant to the topic or inaccessible at the time of evaluation.

Each post was examined according to its intent (informational or promotional) and content type (medical or non-medical). In addition, to evaluate potential differences in quality, posts were analyzed according to the background of the uploader (healthcare professional or non-professional).

The quality of the included posts was assessed using the Modified DISCERN tool, which measures five domains: (i) whether the aims are clearly stated and achieved, (ii) whether reliable sources of information are used (e.g., citation of references, authorship by a specialist), (iii) whether the information is presented in a balanced and unbiased manner, (iv) whether additional sources are provided for patient reference, and (v) whether areas of uncertainty are acknowledged [3,4]. Each criterion was scored as “yes = 1” or “no = 0.” In this approach, higher total scores indicate greater reliability and quality of the information. Modified DISCERN scores (MDS) were calculated for both professional and non-professional posts. To ensure clinical relevance and professional reliability, all scoring was performed by intensive care specialist physicians.

Statistical Analysis

Data were recorded in Microsoft Excel and analyzed using Python 3.8. To describe the characteristics of the posts, frequencies (n) and percentages (%) were calculated, thereby determining the distribution across content types and hashtag categories. The MDS were calculated to assess the quality of the posts and presented as mean ± standard deviation (SD).

An independent samples t-test was applied to compare the mean MDS between posts shared by healthcare professionals and those shared by non-professionals. A 95% confidence level was used, and a p-value < 0.05 was considered statistically significant.

Results

A total of 800 Instagram posts were screened across four intensive care–related hashtags (#entübasyon , #mekanikventilasyon, #sepsis, and #yoğunbakım). Of these, 79 posts (9.9%) were excluded from the analysis due to irrelevance to the topic or inaccessibility at the time of evaluation. Consequently, 721 posts were included and subjected to full evaluation. The flow diagram summarizing excluded and included posts by hashtag is presented in Figure 1.

Table 1 presents the distribution of the evaluated posts. Under the hashtag #entübasyon, 183 posts were analyzed, of which 174 (95.1%) were classified as informative and 9 (4.9%) as non-medical; no advertisement-related content was identified. For the hashtag #mekanikventilasyon, 182 posts were eligible for evaluation. Among these, 58 (31.9%) were categorized as informative, 77 (42.3%) as non-medical, and 47 (25.8%) as advertisement-based content. Notably, this was the only hashtag group in which advertisement-related posts were detected (Table 1). A more detailed content distribution for the #mekanikventilasyon category is also presented in Figure 2. As shown in the bar chart, posts were classified into three categories: informative (31.9%), non-medical (42.3%), and advertisement (25.8%).

Under the hashtag #sepsis, 198 posts were analyzed, of which 184 (92.9%) were informative and 14 (7.1%) were non-medical; no advertisement-related content was observed. For the hashtag #yoğunbakım, 158 posts were analyzed, including 56 (35.4%) informative and 102 (64.6%) non-medical posts, with no advertisements identified.

In total, of the 721 included posts, 472 (65.5%) were classified as informative, 202 (28.0%) as non-medical, and 47 (6.5%) as advertisement-based (Table 1). Furthermore, the assessment with the Modified DISCERN tool showed a mean score of 3.17 ± 1.23 for posts shared by healthcare professionals and 3.05 ± 1.18 for posts shared by non-professionals. No significant difference was observed between the two groups ($p > 0.05$).

Discussion

The findings of this study reveal that a considerable proportion of Instagram posts shared under intensive care–related hashtags lack reliable scientific content. Notably, prior to inclusion, 9.9% of posts were excluded due to irrelevance or inaccessibility (Figure 1), which may suggest that questions regarding the reliability and consistency of content on these platforms can arise from the very outset.

As summarized in Table 1, the distribution of posts across the analyzed hashtags revealed marked differences in the proportion of informative content. Posts under the hashtags #entübasyon and #sepsis were predominantly informative (95.1% and 92.9%, respectively), whereas much lower proportions were observed for #mekanikventilasyon (31.9%) and #yoğunbakım (35.4%). These findings underscore considerable variation in both the quality and intended purpose of content across different hashtags, with a clear tendency toward non-medical or promotional use in certain categories. Such a pattern raises concerns regarding the accessibility of trustworthy medical information on visually driven platforms such as Instagram.

Table 1. Distribution of Eligible Instagram Posts by Content Type Under Intensive Care–Related Hashtags

Hashtag	Informative	Non-medical	Advertisement	Total
#entübasyon n (%)	174 (95.1 %)	9 (4.9%)	–	183 (100 %)
#mekanikventilasyon n (%)	58 (31.9 %)	77 (42.3%)	47 (25.8%)	182 (100 %)
#sepsis n (%)	184 (92.9 %)	14 (7.1%)	–	198 (100 %)
#yoğunbakım n (%)	56 (35.4 %)	102 (64.6%)	–	158 (100 %)
Eligible Posts n (%)	472 (65.5 %)	202 (28.0%)	47 (6.5%)	721 (100 %)

n: Number

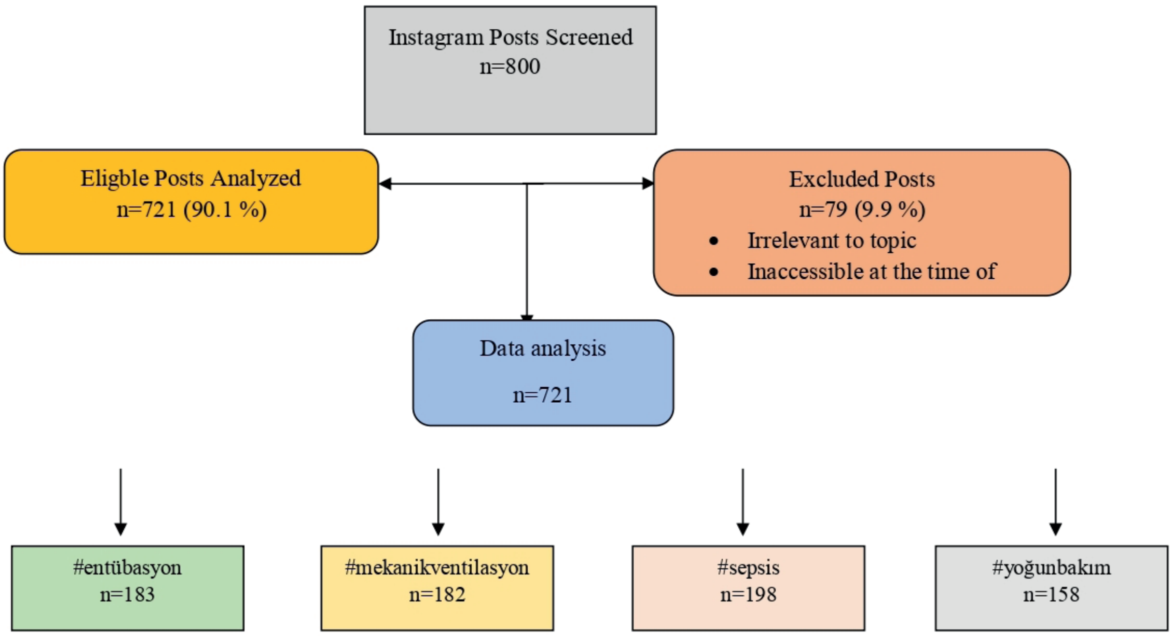

Figure 1. Flowchart of Instagram Post Selection and Analysis Across Critical Care–Related Hashtags

Research done in the past had suggested that social media content in obstetrics, dentistry and other medical specialties isn't always educational [5–8]. We found similar challenges when reviewing studies focused on platforms like YouTube and TikTok, specifically with regard to the abundance of commercial or narrative posts relative to scientific messages. The current study broadens these findings into intensive care medicine, a specialty in which misinformation can lead to particularly harmful implications towards patient care and public opinion [2,9]

The study also identified a noteworthy finding regarding the prevalence of advertising content. Under the hashtag #mekanikventilasyon, approximately one in four posts contained commercial material (Table 1) (Figure 2). This suggests that institutions and individuals may utilize medically oriented hashtags to promote products or services not directly related to medicine. This observation is consistent with similar findings reported in the literature [6]. Such practices may reduce the visibility of evidence-based content and mislead patients and healthcare professionals who are seeking reliable information.

The comparison of Modified DISCERN scores revealed no significant differences between posts shared by healthcare professionals and those shared by non-professionals ($p>0.05$). This finding is consistent with previous studies on social media, which have also reported that professional posts often lacked detailed information or were primarily promotional in nature, focusing on self-presentation rather than providing comprehensive medical knowledge [9]. These results emphasize the need for healthcare professionals to prioritize the quality and accuracy of their messages over visibility.

From a clinical standpoint, the spreading of wrong or incomplete information about ICU, sepsis, or invasive mechanical ventilation may impact the families of patients and even health care trainees, who are increasingly turning to social media as a resource of information [1] Disinformation in these sensitive settings could lead to misunderstandings about treatments, prognostics and the integrity of intensive care medicine [2,7–9]

Several implications can be drawn from these findings. First, health professionals should be encouraged

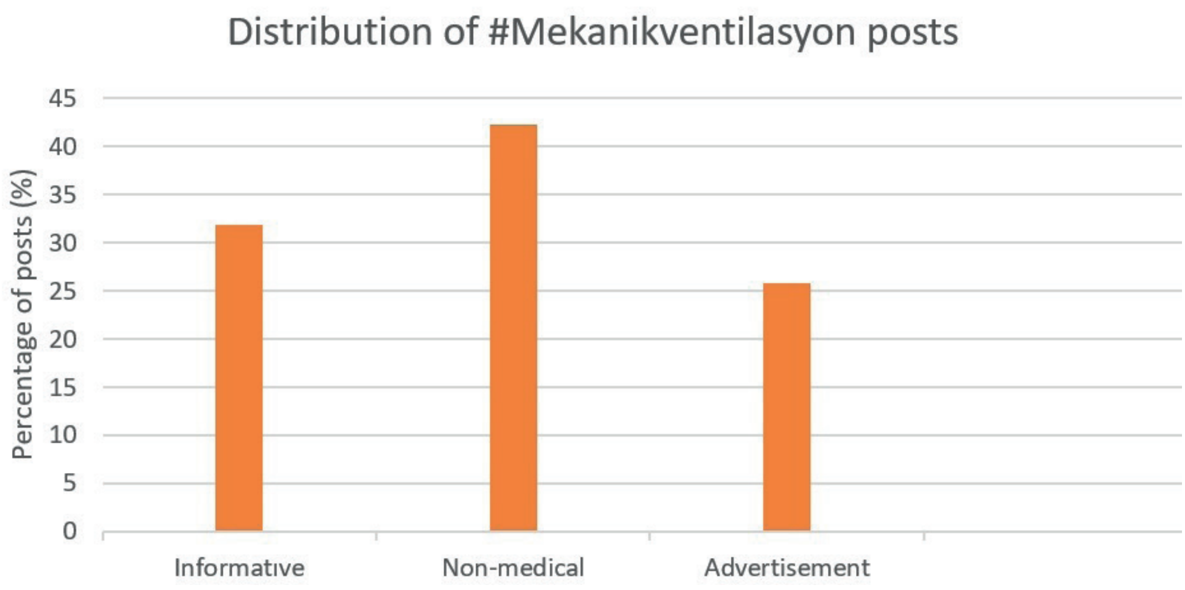

Figure 2. Distribution of Informative, Non-Medical, and Advertisement-Based Content in the #mekanikventilasyon Category

to generate and distribute more evidence-based health educational information [4,6,8,10]. Second, cooperation between medical societies and social media platforms may promote creation of verification measures (e.g. tagging of evidence-based content) to identify trustworthy posts as opposed to those being anecdotal or commercial [3]. Finally, it is important to increase the awareness of social media users about the limitations of health information on Instagram to prevent the spread of misinformation.

In general, this study highlights the importance of including medical knowledge into digital solutions. As influence of social media on health information-seeking behaviour grows, verifying the quality and trustworthiness of online health information will be critical to protecting patient education and facilitating informed choices.

Limitations

This study has several limitations that should be acknowledged. First, its cross-sectional design provides only a snapshot of Instagram content at a single time point. Given the dynamic and ephemeral nature of social media platforms such as Instagram—where algorithms and trending content constantly evolve—post frequency, content quality, and user behavior are subject to rapid change. Therefore, the findings may not fully reflect long-term trends or be generalizable to other timeframes. Second, the classification of posts into informative, non-medical, and advertisement categories, while based on predefined coding criteria, involves an inherent element of subjectivity. Third, although the scoring was performed by intensive care specialist physicians to ensure clinical relevance, inter-rater reliability was not formally assessed, which may represent a methodological limitation. Finally, the analysis was restricted to Turkish-language content, which may limit the generalizability of the results to other linguistic, cultural, or regional settings.

Conclusion

The analysis of Instagram posts under intensive care–related hashtags indicates that accurate medical information is often limited. In particular, the hashtags #yoğunbakım and #mekanikventilasyon were predominantly composed of non-medical or commercial content. Strengthening the contribution of evidence-based posts from healthcare professionals may support the dissemination of reliable information and improve public awareness and understanding of critical care.

Ethics / Informed Consent

No ethical approval was required as the study was based on publicly available, anonymous secondary data.

Data Availability Statement

The datasets generated and analyzed during this study are available from the corresponding author upon request.

Disclosure

The authors report no potential conflicts of interest with respect to the research, authorship, or publication of this article.

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