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EXAMINING THE INFLUENCE OF TIKTOK ON ANOREXIA NERVOSA: A SOCIAL MEDIA PERSPECTIVE - LITERATURE REVIEW

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ABSTRACT

Anorexia nervosa (AN) is a condition classified as an eating disorder that is characterised by a distorted perception of the image of the body. This leads to pathological behaviour caused by the fear of gaining weight. AN has the highest mortality rate of any psychiatric disorder and many starvation-related complications. The incidence of AN appears to be stable, but is increasing in younger patients, especially those under the age of 15. Given the global popularity of the mobile application TikTok, especially among adolescents, we conducted a literature review to examine the impact of this application on anorexia. Research indicates that the use of the TikTok application does affect self-perception. Despite the application's ban on content related to eating disorders, it is still possible to find and interact with such material. There are communities on the platform that support each other in recovery, as well as in persevering through the illness. The work highlights the complexity of the problem.

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Introduction.

Eating disorders (EDs) were first described in the literature in the late 17th century. However, the term 'anorexia', which described women with weight deficiency, was not used until the second half of the 20th century. Later, pathological eating behaviours were added to this definition, including in individuals with body weight within the normal range [1].

Based on current knowledge, eating disorders are defined as unhealthy eating habits accompanied by characteristic behaviours and mindset [1]. Anorexia Nervosa (AN) patients often have a distorted perception of their body image, restrict their energy intake, and experience intense fear of gaining weight. AN has the highest mortality rate of all psychiatric disorders, with a 5.86-fold increase compared to the general population. About half of AN patients recover, one-third recover partially and the residual part remains chronically ill (Tab.1) [2]. It is estimated that approximately half of the reported deaths are caused by starvation-related somatic complications [1,3,4].

The incidence of AN seems to have remained stable in recent years, but the increasing trend of incidence among younger patients, under 15 years of age, is noteworthy [5]. AN is best managed by early recognition and intervention, and treatment includes psychoeducation and psychotherapy [6].

Table 1. Outcome of Anorexia Nervosa Based on 119 Patient Series (N=5,590) [2].

Outcome Variable	Rate of Outcome - mean (%)	Rate of Outcome - SD (%)	Group Size (-)
Mortality	5.0	5.7	5,334
Recovery	46.9	19.7	4,575
Improvement	33.5	17.8	4,472
Chronicity	20.8	12.8	4,927

The TikTok app, known as 'DouYin' in China, has gained immense popularity in over 150 countries since its launch in 2016. According to SensorTower's Q1 2022 Store Intelligence Data Digest report, it was the most downloaded app worldwide in the first quarter of 2022 [7]. With over 1 billion users, TikTok has become a global phenomenon [8]. The application's users come from various age groups, although the majority of them are under 18 years old. The primary function of this mobile application is to share and view short-form videos and live videos. Users can watch these materials one by one by scrolling. The content displayed in the app can be divided into a few main segments. The first segment is 'Following', which enables users to view content from creators they follow. The second is 'For You', which suggests content based on TikTok's algorithm, while 'Discover' allows users to search for content using hashtags or the magnifying glass tool [8, 9].

TikTok's popularity is attributed to its unique algorithm, which uses machine learning and artificial intelligence to match content to users' preferences. The algorithm stores the content that the user has viewed to suggest new material on similar themes that have been flagged as interesting [8]. Young people use TikTok for its attractive videos. However, watching them can lead to addictive behaviour [10, 11].

The purpose of this article is to review the recent literature on the effects of the TikTok mobile application on anorexia nervosa. This will provide a novel perspective on this topic, particularly given the pervasiveness of social media (SM) as a main source of information and communication amongst young people in the contemporary world. It would be beneficial to be aware of the potential risks and benefits of trending mobile applications in order to fully understand the consequences associated with their use.

Studies have demonstrated an association between the use of social media and mental disorders. Our work aims to collect this information and increase awareness of this problem.

Materials and Methods.

Literature selections of medical databases Mendeley, PubMed and Google Scholar were performed. Articles were searched in English using the following key words: “anorexia“, “TikTok“, “eating disorder“. The main criteria for inclusion of publications was whether they addressed the issue of AN in the population that is a user of the TikTok platform, together with their references.

Discussion.

The aetiology of eating disorders is not fully understood, but it is clear that many factors contribute to their development. These include family relationships, psychological aspects, personality, genetics and socio-cultural influences. Currently, the internet has made it effortless to share and search for content. Promoting slim bodies by the media can lead to a growing dissatisfaction with the person's appearance. TikTok, as a tool by which short video content is

published, is a medium that allows such content to be easily disseminated. SMs attempt to block content linked to EDs, but it is relatively simple to find and interact with the creators who promote them [12, 13].

Prucoli J et al. [14] analysed questionnaires from 78 patients with eating disorders during the COVID-19 pandemic in an Italian third-level center for ED in childhood and adolescence (Fig.1). The results of the anonymous questionnaires indicated that TikTok was the most popular social media platform in the study (62.8%). Instagram (21.8%) and YouTube (6.4%) were the next most popular social media platforms. A significant 59% of respondents confirmed that using the TikTok application had made them feel insecure [14].

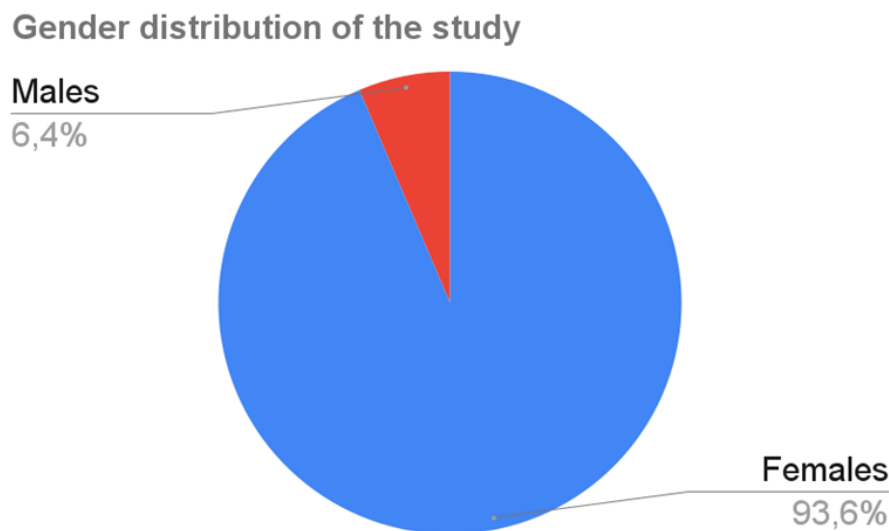


Figure 1. Gender distribution of the study [14].

As mentioned above, the content displayed on the application is algorithm-driven. According to the surveys, 64.1% of patients were exposed to content promoting pro-ED recovery topics, while 55.1% were exposed to content associated with pro-anorexia movements. This suggests that algorithms were 9 percentage points more likely to recommend pro-recovery content to people with eating disorders [14].

However, Pop LM et al. [15] showed in their study, which included a survey of 427 medical students in Romania, that increased time spent on TikTok or Snapchat corresponded to higher levels of body esteem. They also found a negative correlation between weight status and the use of these applications. Their research highlighted a relationship between the use of social media applications, self-esteem and body esteem. They emphasised that the clinical approach to patients should recognise the impact of social media on the therapeutic process in mental health patients and consider their potential addiction to social media [15].

An interesting case of a 14-year-old girl diagnosed with anorexia nervosa was described by Logrieco G et al.[16] A young female patient began to refuse food during the COVID-19 pandemic and started taking laxatives in order to lose weight. During the interview with the neuropsychiatrist, she acknowledged that the reason for her weight loss was to encounter the extreme experience of hospitalisation. She chose not to eat consciously, not because she disliked her appearance, but because it would harm her physical health. She claimed to have been inspired by TikTok, where she found content related to eating disorders and self-harm.. Creators were outdoing each other by posting parameters of their condition, such as calorie intake, to prove that they were sicker than other users. Although it is difficult to draw far-reaching conclusions from a single case report, this work aims to raise awareness among parents

and doctors of how easy it is for young people today to access content that is harmful to their mental and physical health. In this case, it was content about self-harm and anorexia that triggered the teenage girl's disorder [16].

It is also worth referring to the study conducted by Greene AK et al. [17] on the recovery communities on TikTok. The researchers conducted an analysis of 241 videos selected by hashtags. The hashtags were associated with five specific eating disorders and were correlated with the term "recovery" (Fig.2). A significant majority of creators, 80.50%, used storytelling to explain their recovery process to viewers, highlighting the many ups and downs they experienced along the way. About half of the content was about giving or receiving help to people who needed support in their recovery process. They also shared their experiences of seeking professional medical help. However, despite the seemingly positive content about recovery and support during illness. The researchers found that several of the videos tagged with the recovery hashtag contained the opposite of what one would expect. This included content related to ED, such as calorie restriction or images of very thin bodies. The researchers emphasise that the distinction between potentially harmful and potentially beneficial content in the videos available on the platform is very thin. Therefore, more research should be done to analyse the content uploaded on TikTok [17].

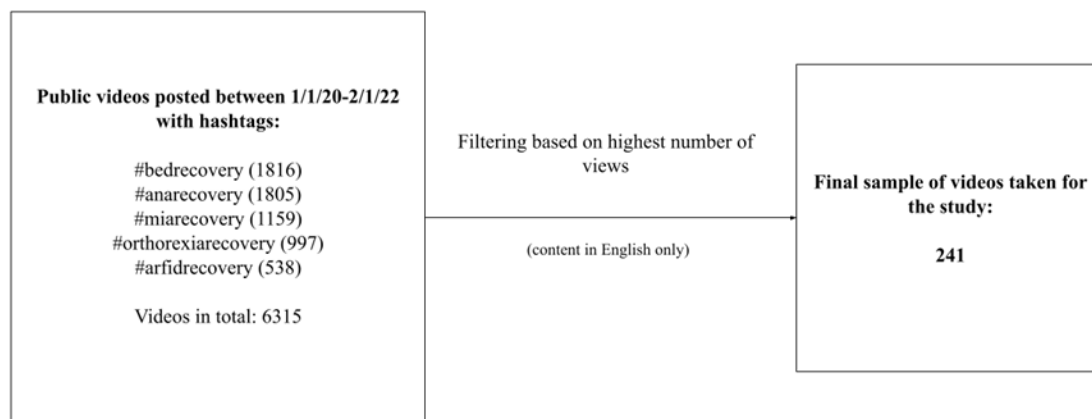


Figure 2. Methodology in the study [17].

Conclusions.

The impact of the TikTok application on Anorexia Nervosa is a relatively new area of research that requires further investigation. However, research indicates a connection between this platform and young people's self-esteem. Additionally, on this platform, we can identify communities of individuals who seek to support each other in both recovery from and perseverance with the illness. Although social media platforms have implemented policies to restrict sharing content related to eating disorders, locating and interacting with such content remains relatively simple.

It is important to note that the incidence of anorexia nervosa is increasing among younger teenagers and that TikTok is one of the most popular social media platforms among this demographic.

Furthermore, efforts should be made to raise awareness of the content published on these platforms. Both children and their parents should be educated on how to deal with the potential dangers of SM.

Conflict of Interest Statement.

The authors declare that they have no conflict of interest.

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