


Perspective Piece

Social media and ADHD: implications for clinical assessment and treatment

Y. Hartnett  and E. Cummings

Cluain Mhuire Community Mental Health Service, Blackrock, Co. Dublin, Ireland

Abstract

The interaction between social media use and mental health is complicated. The mental health information shared on these platforms is frequently of poor quality but has the potential to exert powerful influence on users. Social media trend peaks in some mental disorders have led to increases in illness behaviour through social contagion. There has been a marked upsurge in online interest in attention deficit hyperactivity disorder (ADHD) over the last number of years, which has been particularly noticeable since the onset of the COVID-19 pandemic. The exponential increase in online ADHD interest has the potential to contribute to overloading mental health services with referrals. Mental health professionals and organisations need to consider strategies to ensure that quality health information is disseminated to younger audiences.

Keywords: Psychiatry; attention deficit hyperactivity disorder; online health information; social media

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Social media and mental health

The public health implications of social media are important to consider, particularly for psychiatrists. The interaction between mental health and social media is complex and the negative aspects have been well documented in the literature (Schønning *et al.*, 2020). Mental health information and personal experiences of mental disorders are widely shared online, with users commonly describing their own mental health difficulties including experiences of suicide/suicidal ideation, self-harm or hospitalisation (Basch *et al.*, 2022). Peer-to-peer information sharing of medical information is widespread (MacKinnon *et al.*, 2021) and can be more impactful on health behaviour than a traditional physician-patient relationship (Forgie *et al.*, 2021). However, the quality of this information may come into question in settings where users are rewarded by the platform, through 'likes' and 'follows', for content that is engaging for their audience, irrespective of its accuracy (Marengo *et al.*, 2021). Confirmation bias in seeking health information online (Meppelink *et al.*, 2019) is also compounded by the powerful algorithms that feature on social media (Herrman 2019). These algorithms are machine learning processes where platforms determine the content presented to users based on their previous online behaviour, a process which is opaque and goes largely unnoticed to the end-user (Swart 2021). These algorithms, whose purpose is to keep the user online, have been criticised for creating echo chambers where no alternative or critical viewpoints are presented (Aiken, 2016; Hari 2022). These processes allow psychological mass persuasion that can influence the behaviours of a large number of people (Matz *et al.*, 2017).

Corresponding author: Y. Hartnett; Email: hartnety@tcd.ie

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Attention Deficit Hyperactivity Disorder (ADHD)

ADHD is a common neurodevelopmental disorder globally affecting 1132 per 100,000 people which is greater than the combined prevalence of bipolar affective disorder and schizophrenia (GBD 2019 Mental Disorders Collaborators, 2019). The prevalence in adults is estimated to be 4.4% (Kessler *et al.*, 2006) though estimates of ADHD persistence into adulthood vary based on how this is defined (Faraone *et al.*, 2006). People with ADHD have higher rates of anxiety, mood, substance use and personality disorders than those without ADHD (Cumyn *et al.*, 2009), and they suffer greater functional impairment (Able *et al.*, 2007). The quality of life of people with ADHD was disproportionately affected by the COVID-19 pandemic (Nakai *et al.*, 2022), and young people with ADHD in particular struggled with social isolation and the move to remote work and learning (Sibley *et al.*, 2021). Young people with ADHD are more likely to use social networks excessively and experience a deterioration of ADHD symptoms with increasing screen time (Boer *et al.*, 2020; Ra *et al.*, 2018; Werling *et al.*, 2021).

Information dissemination and concentration

The speed at which information is created and disseminated is speeding up, meaning our collective attention focuses on individual topics for shorter and shorter intervals (Lorenz-Spreen *et al.*, 2019). Our brains have not caught up to this acceleration and this impacts our ability to concentrate (Hari 2022). Social media platforms are exemplary of this, where we have moved from YouTube, launched in 2005 and with a maximum video length of 12 hours (Hosch, 2023), to Tiktok where the upper limit is three minutes (Kasrenakes 2021). Capturing the attention of users and keeping the user online longer through its design

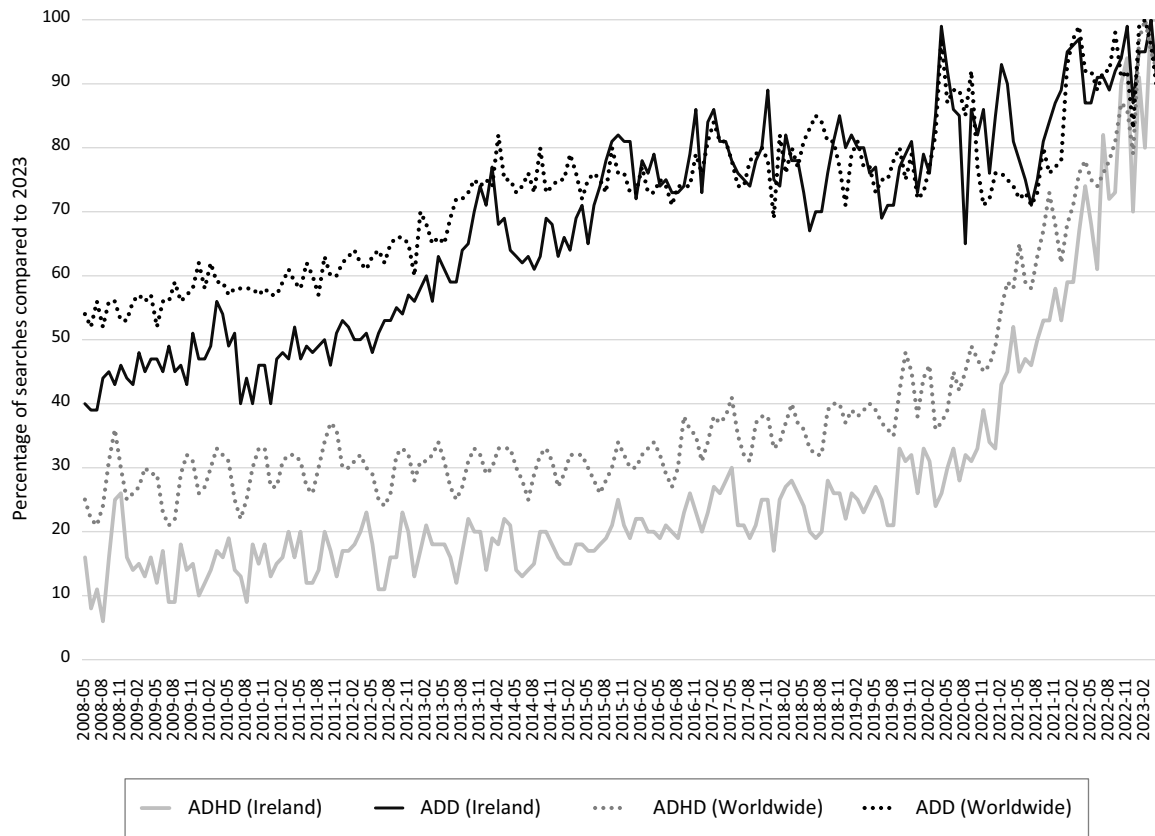


Figure 1. Google Search Trends 2008–2023. *Trends for the search term ‘attention deficit hyperactivity disorder’ were similar.

features is a primary target of social media companies; an example of this is the ‘continuous scroll’ on most platforms (Montag *et al.*, 2019).

Online information seeking

Due to these external pressures on our attention, it is not surprising that many people are interested in their struggle to focus attention. Google search trends dating back to 2008 indicate a steady rise in search engine interest in ADHD, with a marked increase since 2020 (Figure 1) (Google 2023). Historical hashtag trend data is not freely available from many social media platforms, but limited data are available from TikTok. TikTok is a popular social media platform where users can create and disseminate short videos, to which one or more ‘hashtags’ (a metadata description) are attached to signify its content (Herrman 2019). In Ireland, TikTok had 2.3 million users as of July 2022, with 47.8% of its users aged 18–24 years, and 25% aged 25–34 years (Lawton, 2022). Data are not available from the company on users under the age of 18 in Ireland though it has been reported that 25% of all users in the United States are aged 10–19 years (West 2023). An interesting development is that as many as 40% of younger users utilise it as a search engine in lieu of Google (Raghavan 2022; Southern 2022), and so it is a primary source of health information for the younger population (Goodyear *et al.*, 2019).

ADHD on social media

In recent times, ADHD has featured heavily on social media platforms, such as TikTok where it is one of the most popular health-related hashtags (Zenone *et al.*, 2021). Data extracted by this

author from Tiktok on 5 February 2023 indicate that hashtags that refer to ADHD are ‘extremely popular’ in Ireland (TikTok 2023). The hashtag ‘#add’ has had 165.3 million views in Ireland in the last three years of which 98.6 million were in the last twelve months, and 11.4 million in the last 30 days. Worldwide, ‘#adhd’ has over 20.6 billion views and 1.6 million posts in the last three years of which over half (11.4 billion views and 874.3 thousand posts) were in the last twelve months. Other popular related hashtags include ‘#add’ (3 billion views), ‘#adhdinwomen’ (2.6 billion views), ‘#adultadhd’ (363.7million views), ‘#adhdmemes’ (125.4million views), ‘#adhdmeds’ (66.5 million views), ‘#adhdtraits’ (21.1 million views), ‘#adhdadvice’ (15.3 million views), ‘#adhdidiagnosis’ (13 million views), ‘#adhdassessment’ (13 million views), ‘#attentiondeficithyperactivitydisorder’ (10 million views), ‘#adhdadultdiagnosis’ (7.5 million views), and ‘#adhdtiktokers’ (2 million views). ‘#adhdireland’ emerged as a hashtag in June 2021 and accelerated in interest from August 2022 and peaked between 16 and 22 October 2022. Though dropping slightly, interest has remained near peak levels in early 2023. There were similar peaks in interest in other ADHD-related hashtags both worldwide and in Ireland in October 2022 and again in January 2023, with the emergence of these trends in popularity from late 2020 to mid-2021. In summary, these data indicate that ADHD content on TikTok has grown significantly since the middle of the pandemic and has continued to grow.

Social media and illness behaviour

Concern has already been voiced about the ‘sick role subculture’ pervading platforms such as TikTok (Harness and Getzen 2022)

where users may refer to their illness in the production of posts and videos to obtain validation in the form of ‘likes’ and ‘follows’. Exposure to these videos potentially has the ability to induce illness behaviour in others through social contagion: for example, various social media platforms, including TikTok and YouTube, have been implicated in a form of functional tic-like disorders among young people seemingly triggered by exposure to ticking behaviour online (Amorelli *et al.* 2022; Heyman *et al.*, 2021; Müller-Vahl *et al.*, 2022; Nagy *et al.*, 2022; Olvera *et al.*, 2021; Paulus *et al.*, 2021) and expert consensus guidelines have been developed to help clinicians assess and manage these cases (Malaty *et al.*, 2022). Self-proclaimed dissociative identity disorder has also spread online in a similar manner and the term ‘Social Media Associated Abnormal Illness Behaviour’ has been proposed to encapsulate this phenomenon of ‘Munchausen’s by internet’ (Giedinghagen 2023).

The theory of social looping, where the very act of labelling a person, influences them to behave according to that label, was proposed by the philosopher Ian Hacking (Hacking 1996). He argued that diagnostic classification systems are, in turn, altered so that the boundaries of what is considered mental disorder are expanded (Hacking 2006; Haslam 2016). Young people co-opting psychiatric labels in such a manner has been demonstrated with the terms ‘anxiety’ and ‘depression’ (Lindholm and Wickström 2020). It is possible that a similar phenomenon is occurring with the label of ADHD, where the online discourse has broadened the meaning of the diagnosis to the general public, potentially lowering the threshold of referral for assessment. Empirical studies are needed to examine the relationship between online trends and help-seeking behaviour for mental illness, although the rate of change online far outstrips the pace of scientific research and there are many gaps in the literature (Orben 2020).

An increase in demand for ADHD assessment

In Ireland, a National Clinical Programme for Adults with ADHD was launched in 2021 to meet the widespread unmet need in services for ADHD assessment and treatment in adults. In areas in which it currently operates, ADHD referrals are accepted via community mental health teams (Health Service Executive 2021). Prior to this National Clinical Programme, services for ADHD in adults were limited to the private sector. Although rating scales, such as the Wender Utah Rating Scale (Gift *et al.*, 2021), are used to screen patients before they are accepted for assessment in the ADHD services, these screening instruments are subject to substantial limitations. A concern for all services involved in the assessment and treatment of ADHD is that the explosion of interest on social networks could cause referrals to escalate to an unmanageable level, and that service planning will be unable to keep up with the demand.

Quality of online health information

Online health information is frequently not of high quality, particularly for psychiatric illnesses (Daraz *et al.*, 2019). A recent content analysis of the top 100 most popular TikTok videos related to ADHD indicated that the majority (52%) were misleading and only 21% were useful from a clinical accuracy perspective (Yeung *et al.*, 2022). The authors of that study found that 71% of the misleading videos attributed symptoms such as anxiety, depression and mood swings as being specific to ADHD. Information on ADHD on YouTube has been found to be biased (Ward *et al.*, 2020) and a content analysis of YouTube ADHD content highlighted credibility issues with posted videos (Kang *et al.*,

2017). Another study found that only 5% of the videos were deemed to have very useful information, although concerningly, misleading videos received more attention, garnering higher numbers of ‘likes’ and ‘dislikes’ than useful ones (Thapa *et al.*, 2018).

Counteracting misinformation

The treatment of this misinformation requires novel approaches. Could mental health professionals and organisations harness TikTok to counteract the spread of false information and provide accurate information to the public; particularly the younger cohort that is more difficult to reach using traditional means (Comp *et al.*, 2021; Zenone *et al.*, 2021)? TikTok can allow direct interaction between researchers and the groups directly impacted by their research, thus removing barriers to evidence-based information (MacKinnon *et al.*, 2021). Current evidence from Ireland suggests that institutional social media accounts such as @hselive (www.tiktok.com/@hselive; official TikTok account of the Health Service Executive, HSE) have lower engagement with younger audiences than so-called individual ‘influencer’ accounts (McCashin and Murphy 2022). Mental health professionals as influencers is already a reality, though mainly in the United States (Pretorius *et al.*, 2022). Organisations and services in Ireland have yet to engage with the TikTok audience, with @adhdireland (www.tiktok.com/@adhdirelandofficial) having an account, but without posted content or followers, and @hselive focussing mainly on COVID-19 related content. The Irish based HSE has consciously utilised social media to reach younger audiences to combat COVID-19 misinformation during the pandemic (McDermott and Ryan 2021), and a similar approach may be warranted to ensure high quality information is available to young people regarding ADHD.

Conclusion

Despite its high prevalence, there remains substantial levels of unmet need for assessing and managing ADHD. Online interest has drastically increased in recent years and the full impact of this needs further research. Services and clinicians should be alert to the consequences of online interest on referral patterns, and healthcare institutions should consider developing an online presence to counteract the spread of misinformation through social media.

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