

How does social media affect adolescents living with type 1 diabetes?

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Social media has become an integral part of life, changing how people interact and connecting them across geographical barriers. Users can take advantage of online platforms to educate, entertain and engage with other users with similar interests. Despite this, social media can play a part in the decline in physical and mental health of its users, with the spreading of false information and reduced in-person social interactions. These issues, alongside condition specific challenges, can be heightened for those living with type 1 diabetes. This article aims to increase awareness of the impact of social media has on those living with type 1 diabetes. It outlines the physical and psychological challenges they face, and how healthcare professionals can support teenagers with the condition.

As the management of type 1 diabetes has advanced, healthcare professionals (HCPs) have adapted their methods of delivering care accordingly. When social distancing was in place during the COVID-19 pandemic, the delivery of healthcare using digital technology was embraced. Social media (SM) also rose in popularity at this time, providing platforms for entertainment to alleviate boredom and for people to stay in touch.

Social media

Social media platforms enable users to express themselves by sharing and creating content. The first platform was created in 1997 and, since then, SM has become an integral part of people's lives. Social displacement theory suggests that the more time that is spent on SM, the less time is spent interacting with people in the real world (Hall et al, 2017).

While SM can help users connect with others who share similar interests, it can also be used inappropriately, such as to spread inaccurate information or provide a means to cyber-bully (Akram and Jumar, 2017). Cyber-bullying is the

repeated infliction of harm on an individual using digital devices. It can cause a person to experience distress and/or mental health problems (Giumetti and Kowalski, 2022). Children and adolescents with type 1 diabetes who are bullied may experience stress, which can complicate their ability to follow their healthcare plan. These consequences can have a psychological impact into adulthood.

Companies use SM to attract business by running personalised adverts for users who may be interested in their products. This can be valuable for people living with type 1 diabetes, helping them to learn more about diabetes technology and healthcare advances. However, being constantly reminded of their condition may have negative implications for the user's mental well-being. Advertisements used may provide a false reality, by showing the procedures as being stress-free, when these tasks can have much higher emotional impact (Chibueze, 2018).

Brain development

At around 25 years of age, the brain becomes fully developed, with the pre-frontal cortex (responsible

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Article points

1. Social media has become an integral part of our lives and has changed the ways that adolescents interact.
2. Teenagers undergo a multitude of changes during their development, which impacts their decision-making processes and influences.
3. Healthcare professionals should continually reflect on and adapt the techniques that they use to support the people in their care and keep them engaged.

Key words

- Adolescents
- Social media
- Type 1 diabetes

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for cognitive function and social interaction) being the last region to mature (Kolk and Rakic, 2022). During adolescent development, the brain adapts to new experiences and situations, helping the person to build resilience (Parr et al, 2021). Heavy SM usage has been linked to worse performance in cognitive tests and reduced neuroplasticity in the brain.

Changes in the pre-teen brain also make social rewards, such as compliments, feel more satisfying. Studies have demonstrated that peer support, in the form of SM “likes”, comments, views and follows, provides immediate rewards in the form of a dopamine release (Sherman et al, 2016). This peer support is very important to young people, and indicates how influential SM can be for their mood.

Physical health

Physical health is a complex concept that is vital for a person to be in a state of optimal well-being (NHS England, 2024). Maintaining this, by balancing healthy eating, exercise, sleep, stress and personal hygiene, helps a person live a healthy life.

Activity

Regular physical exercise has many health benefits including contributing to healthy weight, improved mood and better sleep. Society is, however, becoming less active. Guidance from the NHS recommends that children under the age of 5 years aim to spend 3 hours per day being active, and those aged 5 years and over to be active for at least 60 minutes per day (NHS, 2021). Despite this, only 44.6% of children met these recommendations in 2020–2021 (Office for Health Improvement & Disparities, 2022). This increasingly sedentary lifestyle is thought to be related to prolonged sitting periods in school and the presence of screen-based devices at home.

Physical inactivity in people living with type 1 diabetes is associated with increased insulin resistance, which promotes weight owing to the need for more insulin, and cardiovascular complications (Riddell and Peters, 2022). By promoting a physical lifestyle in people with type 1 diabetes, HCPs not only benefit the individual’s overall health, but also reduce incidences of long-term complications associated with the condition (Wyatt and Ferrance, 2006).

Musculoskeletal issues

Prolonged periods of looking down at electronic devices can lead to musculoskeletal problems, such as neck, back, wrist and hand pain. The head-forward and hunched-shoulders posture that people often adopt to use these devices is suboptimal (Amro et al, 2020). One study followed office workers and students using computers for at least 3 hours per day. It found that 41% experienced neck pain and 16% wrist pain, concluding that musculoskeletal symptoms are associated with regular and prolonged use of electronic devices (Borhany et al, 2018).

Muscle cramps, peripheral neuropathy, carpal tunnel syndrome and adhesive capsulitis are just some of the potential musculoskeletal complications of diabetes (Wyatt and Ferrance, 2006). Type 1 diabetes is also related to lower bone mass and bone strength, increasing risk of fractures (Hofbauer et al, 2022). While these side effects are more likely in later in life, HCPs can alert younger people with type 1 diabetes of the impact that technology use may have.

The eyes

Computer vision syndrome, also known as digital eye strain, is a group of eye and vision-related problems that can result from frequent and prolonged screen use. Symptoms include dry eyes, redness, headaches and blurred vision (Randolph, 2017).

Disruption to circadian rhythm

Getting enough sleep at night is vital for bodily function and repair. As adolescents spend increase their time online, sleep becomes more irregular and the body’s natural circadian rhythm is disrupted (Murnane et al, 2015). Blue light emitted from screens can further influence alertness, hormone production and sleep cycles (Touitou et al, 2017). As an interactive pastime, SM is more likely to disrupt sleep than passive activities, such as reading, listening to music or watching television (Murnane et al, 2015).

In those living with type 1 diabetes, disruption to the circadian rhythm can lead to unstable blood glucose levels and increased insulin resistance (Farabi, 2016). Considering that adolescents with type 1 diabetes may already have their sleep disturbed by alarms on diabetes technology, the further disruption caused by SM use at night is concerning (Perez et al, 2018).

How we can help

Educating adolescents on maintaining a healthy lifestyle by staying physically active and limiting screen time is crucial. Adolescents may be reluctant to reduce screen time, as spending long periods online has become normalised. It is important, therefore, to empower and educate adolescents to make informed choices to develop healthier habits (Fairclough, 2021). Healthcare professionals should collaborate with the adolescent to set realistic goals, such as taking a break from screen-based activities every 2 hours by going for a walk or participating in a sport.

Adolescents may choose to turn off diabetes alerts or alarms overnight to avoid being woken up, which pose risks to their health. Healthcare professionals can encourage adolescents to allow their trusted adult to receive alarms for their diabetes technology. This ensures that the adolescent can sleep overnight while knowing that abnormal glucose levels will be picked up by a trusted adult (Welsh et al, 2019).

Psychological well-being

Mental health

Optimal mental health is a state where an individual can cope with stresses of life, realise their abilities, and learn and work effectively (The World Health Organization, 2022). Mental health problems can affect how a person thinks, feels and acts.

Research into how beneficial or detrimental SM is on a person's mental health is ongoing. It may be a double-ended sword because, while its use has played a part in the rise of mental health conditions, SM can help users to connect with others for peer support (Sadagheyani and Tatari, 2021).

Adolescents diagnosed with type 1 diabetes are at significantly higher risk of developing a number mental health conditions, including mood and anxiety disorders (Anton-Paduraru, 2022). There is, however, a lack of research into the mental health impact of SM on people living with type 1 diabetes.

Diabetes stigma

Negative attitudes, judgement, discrimination or prejudice against someone because they have diabetes is known as diabetes stigma. It can take a significant toll on a person's physical and mental well-being, impacting their ability to manage their condition. SM can spread misleading information, which may upset the reader. Raising awareness of

diabetes through public education is one way to reduce stigma, an approach that has been used by diabetes charities (Liu et al, 2017).

How we can help

Diabetes psychological care is part of comprehensive diabetes management. Acknowledging an individual's emotional distress is crucial to understanding the challenges diabetes presents (Davies, 2022). Empathetic communication ensures that an individual's feelings are validated and controls judgement (NHS England, 2023). Healthcare professionals should continually update their knowledge of diabetes management to provide accurate and effective care, to reduce spread of misinformation and to signpost patients to relevant services as required. Adopting these strategies helps to build the HCP-patient relationship, which, in turn, encourages effective self-management of the condition (de Iongh, 2014).

Shared experiences

Living with type 1 diabetes can be isolating and lonely. Healthcare professionals may try to ease these feelings by bringing together patients who may have similar experiences and/or interests. They may, however, seek alternative methods to connect with others. Social media provides the opportunity for like-minded people to share experiences and discuss new technologies and advancements in diabetes care beyond geographical boundaries (Akram and Jumar, 2017). This can help people to reflect subconsciously on their own knowledge and progress, empowering them to stay motivated to self-manage their condition (Lim et al, 2019). The flexibility of SM enables it to be used around daily commitments, and is practical for those with physical and communication difficulties (Akram and Jumar, 2017).

Education platform

Social media can act as an educational tool, particularly for the newly diagnosed and their families, who lack experience and seek more information. This can reduce the time clinicians need to spend on education, freeing up more time for patient care (Sadagheyani and Tatari, 2021). However, the lack of regulation allows distorted and potentially contradictory advice to spread.

Limited time and resources make it challenging

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for HCPs to provide the varied teaching strategies needed to accommodate people with different learning styles (Campos et al, 2021). Digital resources, such as [Digibete](#), have been created by HCPs to address these challenges, with the aim of helping support self-management of diabetes by sharing educational videos and resources. Healthcare professionals can direct patients to these resources, which can be used to complement more formal diabetes education.

Role of healthcare professionals

NHS England’s *Language Matters* initiative sets principles for effective communication for HCPs to follow when interacting with service users (NHS England, 2023). In this guidance, emphasis is made for HCPs to learn adaptive ways to engage successfully with their patients. The language used in SM may not be as sensitive, with the potential to cause emotional harm (Phillips et al, 2020). It is crucial, therefore, for HCPs to engage with their patients in a non-judgemental manner, using language the young person understands, to help ease health anxiety.

With the increased usage of SM, HCPs should take advantage of these platforms to educate, organise educational social events and connect with their patients in an accessible way.

Conclusions

Young people face many difficulties growing up, but those with diabetes encounter additional challenges. As well as the burden of relentless self-management, they face the physical and emotional complications of SM use.

On the positive side, SM provides access to health information, helping people gain a greater understanding of their condition. Utilising SM provides opportunities to improve services for young people and to counter misinformation. Appreciating the benefits of a young person with type 1 diabetes using SM, as well as having an awareness of negative implications, can help HCPs interact with young people and aid productive conversations.

The NHS must continue to modernise how it provides education to service users (Campos et al, 2021). Using SM to deliver education helps to ensure that patients are not misled and may improve patient health outcomes.

As SM platforms evolve, further research is vital

to understand how SM impacts teenagers with type 1 diabetes, and how HCPs can adapt to help them overcome these challenges. ■

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