Healthcare of the Future 2025
T. Bürkle et al. (Eds.)

doi:10.3233/SHTI250220

Social Media Interventions for Individuals with ADHD: A Scoping Review

Annette BERGSLAND, Elia GABARRON[1]
Department of Education, ICT and Learning, Østfold University College
ORCiD ID: Annette Bergsland: https://orcid.org/0009-0006-4180-8358; Elia Gabarron https://orcid.org/0000-0002-7188-550X

Abstract. *Background and objective*: ADHD affects 5–8% of children worldwide. Social media shows potential for ADHD interventions. This scoping review aims to assess the available literature on social media interventions for ADHD and their reported outcomes. *Methods*: A scoping review was conducted across four databases (ERIC, PubMed, Education Source, PsycINFO) using ADHD and social media keywords. Grey literature was searched via Google Scholar, conferences, and ADHD organizations. Data extracted covered study design, intervention, participants, platforms, outcomes, and quality (QualSyst, MMAT). *Results*: Eight studies were included, seven with strong methodological quality. The studies involved 386 participants (ages 4–18), some with parents/caregivers. Designs varied (feasibility studies, RCTs, mixed methods). Most interventions targeted physical activity or caregiver support, showing feasibility and mixed effects on health behaviors and social skills. One study reported mild adverse effects. *Conclusion*: While studies are limited, social media shows potential as an ADHD intervention, highlighting benefits, risks, and the need for informed choices.

Keywords. ADHD; Social media; Digital interventions

1. Introduction

Attention-Deficit/Hyperactivity Disorder (ADHD), affecting 5–8% of children globally, impacts academic, occupational, and social functioning [1]. Despite treatments like behaviour modification and medication, barriers such as stigma and cost hinder access [2]. Social media offers promise for mental health interventions, including for ADHD, due to similarities with other neurodevelopmental disorders [3]. As smartphone and social media use rises—93% of Norwegian children aged 9–11 own a smartphone [4]—digital interventions offer accessible, less stigmatizing treatment [5]. Studies show effectiveness in promoting health behaviours like physical activity and healthy diets [6]. However, concerns persist about the link between digital media use and ADHD, with longitudinal data suggesting a bidirectional relationship [7]. Additionally, ethical concerns around data privacy and risks of problematic use, poor sleep quality, and cyberbullying are relevant [8]. There is limited information on existing research regarding the use of social media interventions for individuals with ADHD. This scoping review aims to assess the available literature and the outcomes of the use of social media as an intervention for ADHD.

[1] Corresponding Author: Elia Gabarron, Email: elia.gabarron@hiof.no

2. Methods

A PRISMA-ScR [9] scoping review was conducted on November 7, 2023 across four databases (ERIC, PubMed, Education Source, PsycINFO) using ADHD and several social media keywords. Grey literature was searched via Google Scholar (first 100 entries), conference proceedings, and ADHD organization websites. Reference lists of relevant publications were also checked. Articles were managed in EndNote, with duplicates removed. Screening was conducted by one reviewer (AB), with uncertainties discussed with a second reviewer (EG). Studies were included if they involved individuals with ADHD or their caregivers, described social media-based interventions, and reported intervention results. Further details on inclusion/exclusion criteria, search terms used in the database search, and grey literature search are available on Zenodo (DOI: 10.5281/zenodo.15012066). Extracted data were: study design (randomized, non-randomized or mixed-methods studies), intervention duration (as reported in the articles), focus of intervention (aims, goals, targets of the intervention), participants (number of participants, sex and age), social media (name of the channel that was used), reported outcomes, and quality of evidence, measured with QualSyst [10] and MMAT [11].

3. Results

The database search identified 257 articles, with 51 duplicates removed. After screening 206 abstracts and reviewing 11 full texts, 4 articles were included. The grey literature search added 4 more, totaling 8 studies (Figure 1, Table 1). Seven had strong methodological quality. Across all studies, 386 participants (ages 4–18) were included, with four studies also involving parents/caregivers [12-15]. Study designs included five feasibility and acceptability studies [12-14,16,17], one RCT [18], and two as mixed methods [15,19]. Intervention durations ranged from 3 days [19] to 20 weeks [18], with most lasting 8 weeks [12-14,16].

Three studies targeted physical activity via social media and mobile health (Facebook, Zoom) with caregiver support [13,14,17]. One used LINE for parent training [15], while another adapted RELAX intervention with Zoom for caregiver support [12]. Three studies explored online games and apps to improve prosocial behaviour, time management, motivation, and social behaviour in children with ADHD [16,18,19].

Regarding reported outcomes, four studies assessed the feasibility and acceptability of social media interventions for ADHD, all concluding that such interventions are feasible and acceptable [12,14,15,17]. These studies, rated for strong to good methodological quality, explored social media for supporting both individuals with ADHD and their caregivers. Two publications [16,18] evaluated an intervention that improved time management and social skills by using elements from Bandura´s Cognitive Theory, and another one found positive effects on game performance and socialization [19]. Three studies focused on health behaviour changes, such as increasing physical activity, with mixed results: one found increases in steps and reductions in ADHD symptoms [17], while another one reported a decrease in children's step counts [14], and a third one found minimal changes in activity levels across in-person and telegroups [13]. Additionally, studies using Zoom for group-based programs reported higher attendance rates [12,13]. Only one study [18] reported mild to moderate adverse effects, including finger pain, irritability, and headaches.

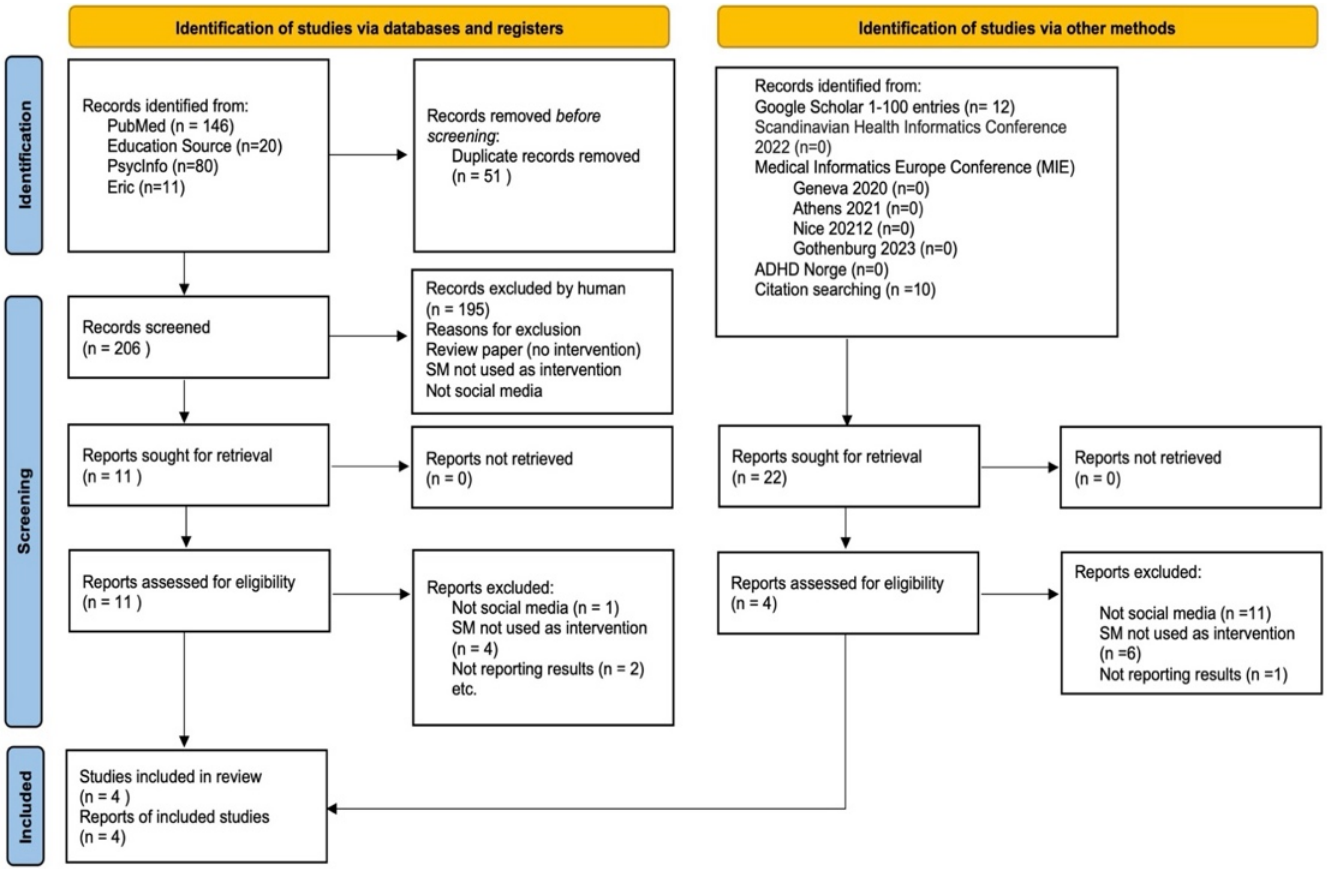

Figure 1. PRISMA-ScR flowchart

Table 1. Summary of the studies included in this scoping review (n=8)

Reference	Study design /duration	Focus of intervention (primary outcomes measured)	Study participants	Type of social media used	Findings	Quality of evidence
Bul et al. 2016 [18]	RCT 20 weeks	Determine the effects of Plan-It Commander on daily life skills of children with ADHD	n=170 children aged 8-12 diagnosed with ADHD	Plan it commander social media chat called "Space Club"	Intervention showed significant improvement in daily life functioning across domains of time management, social skills and working memory	Strong*
Schoenfelder et. al. 2017 [17]	Non-randomized Pilot study 4 weeks	Evaluate feasibility and acceptability of intervention mHealth and activity tracker	n=11 adolescents aged 14-18 diagnosed with ADHD	Fitbit flex and Facebook group	Intervention showed that it is feasible with relativity high acceptability and significantly increased daily steps	Strong*
Breaux et al. 2023 [12]	Pilot study 90 min group sessions	Evaluation of Feasibility acceptability and efficacy of Relax intervention for families and adolescents diagnosed with ADHD in person vs online	n=32 families with adolescents 11-16 years diagnosed with ADHD (n=18 in person, n= 14 zoom, tele-health)	Zoom and Zoom breakout rooms	Strong preliminary evidence for the feasibility, acceptability, and efficacy of the RELAX intervention for families of adolescence diagnosed with ADHD both in-person or via telehealth	Strong*
Sinnari et al. 2019 [19]	Mixed methods 3 days	Develop and test chit-chat usability and satisfaction and its effectiveness on behavior	n=7 children diagnosed with ADHD aged 6-8 years old	Chit-Chat	Chit-Chat is an effective chatting tool for children with ADHD. Significant improvement in performance in ACTIVATE posttest	Strong**
Yam-Ubon et al. 2023 [15]	Mixed methods 7 weeks	Develop and test feasibility of social media-based parenting program for children with ADHD	n=32 parents and caregivers of children 4-10 diagnosed with ADHD	LINE app	Qualitative feedback indicated the program was feasible, accessible and well received by participants. High completion rate	Strong**
Gonzalez et al. 2023 [13]	Non-randomized trial 8 weeks	Evaluate LEAP a BMT program with focus on health behaviors in telegroup vs in person delivery	Children aged 5-10 with ADHD and their caregiver n=61 total (n=37 in person n=24 Telegroup)	Garmin Vivofit 4 and Garmin Vivofit Jr., Facebook group And Zoom	Leap is feasible, with high participation and acceptability. No significant difference was found between in-person and telegroup for pre- and post-outcome changes, though telegroup showed higher attendance	Strong*
Bul et al. 2015 [16]	Pilot study 8 weeks	Development and user satisfaction of Plan-it Commander for children with ADHD	n=42 children aged 8-12 years diagnosed with ADHD	Plan- it Commander game with chat function between players	Usability and satisfaction findings indicated positive acceptance of the game and a RTC is deemed necessary	Strong*
Ola et al. 2021 [14]	Non-randomized pilot trial 8 weeks	Evaluate feasibility and acceptability of LEAP to promote physical activity	n=31 parents and their children aged 5-10 years diagnosed with ADHD	Garmin and Facebook group	Leap intervention was shown to be adherence and acceptability were high to promote healthy lifestyle changes	Good*

* Quantitative studies measured with the QualSyst [10]; ** Mixed-methods studies measured with MMAT 2018 [11]

4. Discussion

This scoping review confirms the feasibility and acceptability of social media interventions for ADHD, highlighting the need for further research. The eight included interventions aimed to improve outcomes for children and adolescents with ADHD but varied in duration, participants, and social media platforms used. Some focused on daily life skills and physical activity [14,16-18], while others targeted specific behaviors. Delivery methods ranged from telehealth sessions [12,13] to mobile apps and social media for parental support [13-15]. Despite these differences, all interventions were found to be feasible, with varying degrees of acceptability and effectiveness.

Social media interventions show promise in promoting physical activity in children with ADHD, though results are mixed. One study found a significant increase in step counts [17], while others showed no significant changes, potentially due to factors like time of year or COVID-related restrictions. ADHD children tend to be less active than the general population [20]. Future studies with control groups may provide more insight. Studies in children with autism also found social media feasible for increasing physical activity [3,21]. However, privacy concerns arise [4], especially with fitness trackers and social media, as children's health data and locations can be tracked or misused. Social media also facilitates parental support, with platforms like Zoom and Facebook offering higher attendance than in-person sessions [15], and removing geographical barriers [2]. However, the cost/benefit should be considered, with risks including exposure to harmful content [7] and privacy concerns. Social media use for ADHD interventions is complicated by age restrictions, and future studies should focus on safer platforms and larger, randomized trials.

This review has limitations, including potential publication bias, as only selected sources were searched. Grey literature was considered, but time constraints limited its scope. A single reviewer conducted the search, though advisor consultation helped reduce bias. With only eight studies, some with small samples, quality concerns arise. However, QualSyst and MMAT assessments showed strong methodological quality in seven studies [12,13,15-19]. The single RCT was not directly comparable due to differing objectives, methods, and outcomes.

5. Conclusion

While studies are limited and results cannot be generalized, social media shows potential as an ADHD intervention. The review provides a current overview of possible social media-based interventions that could support students with ADHD, while also highlighting associated risks. Caregivers, educators, and healthcare professionals must help individuals make informed choices.

References

[1] World Health Organization. Attention Deficit Hyperactivity Disorder (ADHD) 2019. Available from: https://applications.emro.who.int/docs/EMRPUB_leaflet_2019_mnh_214_en.pdf

[2] Baweja R, Soutullo CA, Waxmonsky JG. Review of barriers and interventions to promote treatment engagement for pediatric attention deficit hyperactivity disorder care. World J Psychiatry. 2021;11(12):1206-1227.
[3] Gabarron E, Skafle I, Nordahl-Hansen A, et al. Social media interventions for autistic individuals: Systematic review. Front Psychiatry. 2023;14:1089452.
[4] Medietilsynet. Barn og Medier 2020: Om sosiale medier og skadelig innhold på nett 2020. Available from: https://www.medietilsynet.no/globalassets/publikasjoner/barn-og-medier-undersokelser/2020/200211-barn-og-medier-2020-delrapport-1_-februar.pdf
[5] Srivastava K, Chaudhury S, Dhamija S, et al. Digital technological interventions in mental health care. Ind Psychiatry J. 2020;29(2):181-184.
[6] Goodyear VA, Wood G, Skinner B, et al. The effect of social media interventions on physical activity and dietary behaviours in young people and adults: a systematic review. Int J Behav Nutr Phys Act. 2021;18(1):72.
[7] Thorell LB, Burén J, Ström Wiman J, et al. Longitudinal associations between digital media use and ADHD symptoms in children and adolescents: a systematic literature review. Eur Child Adolesc Psychiatry. 2024;33(8):2503-2526.
[8] Hussain Z, Griffiths MD. The Associations between Problematic Social Networking Site Use and Sleep Quality, Attention-Deficit Hyperactivity Disorder, Depression, Anxiety and Stress. Int J Ment Health addiction. 2021;19:686-700.
[9] Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169(7):467-473.
[10] Kmet LM, Lee RC, Cook LS, et al. Standard quality assessment criteria for evaluating primary research papers from a variety of fields Alberta Heritage Foundation for Medical Research2004. Available from: https://doi.org/10.7939/R37M04F16
[11] Hong QN, Fabregues S, Bartlett G, et al. The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. Education for Information. 2018;34(4):285-291.
[12] Breaux R, Shroff DM, Cash AR, et al. Telehealth Delivery of the RELAX Intervention for Families of Adolescents Diagnosed with ADHD: Preliminary Treatment Outcomes and Evidence of Acceptability and Feasibility. Evidence-Based Practice in Child and Adolescent Mental Health. 2023;8(1):24-38.
[13] Gonzalez ES, Tran N, Wholly D, et al. Parent Behavior Management Training for Child ADHD Enhanced to Address Health Behaviors: Comparison of Telemedicine "Telegroup" Versus In-Person Delivery. J Atten Disord. 2023;27(9):979-988.
[14] Ola C, Gonzalez E, Tran N, et al. Evaluating the Feasibility and Acceptability of the Lifestyle Enhancement for ADHD Program. J Pediatr Psychol. 2021;46(6):662-672.
[15] Yam-Ubon U, Thongseiratch T. Using a Design Thinking Approach to Develop a Social Media-Based Parenting Program for Parents of Children With Attention-Deficit/Hyperactivity Disorder: Mixed Methods Study. JMIR Pediatr Parent. 2023;6:e48201.
[16] Bul KC, Franken IH, Van der Oord S, et al. Development and User Satisfaction of "Plan-It Commander," a Serious Game for Children with ADHD. Games Health J. 2015;4(6):502-12.
[17] Schoenfelder E, Moreno M, Wilner M, et al. Piloting a mobile health intervention to increase physical activity for adolescents with ADHD. Prev Med Rep. 2017;6:210-213.
[18] Bul KC, Kato PM, Van der Oord S, et al. Behavioral Outcome Effects of Serious Gaming as an Adjunct to Treatment for Children With Attention-Deficit/Hyperactivity Disorder: A Randomized Controlled Trial. J Med Internet Res. 2016;18(2):e26.
[19] Sinnari D, Krause P, Abulkhair M. Effectiveness and Usability of a Developed Collaborative Online Tool for Children with ADHD Interactivity, Game Creation, Design, Learning, and Innovation. 7th EAI International Conference2019. p. 496-507.
[20] Mercurio LY, Amanullah S, Gill N, et al. Children With ADHD Engage in Less Physical Activity. J Atten Disord. 2021;25(8):1187-1195.
[21] Esentürk OK, Yarımkaya E. WhatsApp-Based Physical Activity Intervention for Children With Autism Spectrum Disorder During the Novel Coronavirus (COVID-19) Pandemic: A Feasibility Trial. Adapt Phys Activ Q. 2021;38(4):569-584.