Developing Exercise Prescription Models for Children with ADHD: A SWOT-based Conceptual Analysis

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Abstract

Physical activity has increasingly been discussed as a non-pharmacological and developmentally appropriate adjunctive approach for children with attention-deficit/hyperactivity disorder (ADHD). However, despite growing evidence that exercise may benefit attention, inhibitory control, executive function, emotional regulation, and motor competence, the field has not yet developed sufficiently standardised, clinically usable, and context-sensitive exercise prescription models for this population. This conceptual analysis examines how exercise prescription models for children with ADHD can be developed by integrating current evidence, pediatric developmental considerations, and a strengths, weaknesses, opportunities, threats (SWOT) framework. The paper argues that exercise prescription for ADHD should move beyond the simple recommendation of "more physical activity" and towards structured models that specify exercise type, frequency, intensity, time, progression, supervision, safety, adherence, and functional outcomes. The SWOT analysis identifies the internal strengths of exercise prescription, including its multimodal developmental benefits, ecological compatibility, and potential complementarity with existing ADHD management. It also identifies weaknesses, including heterogeneity of protocols, unclear dose-response relationships, limited long-term evidence, and insufficient guidance for children with comorbidities. External opportunities include school-based implementation, digital monitoring, family engagement, multidisciplinary care, and public health interest in non-pharmacological interventions. Threats include overstatement of evidence, unequal access, implementation burden, safety concerns, and premature commercialisation. Based on this analysis, the paper proposes a staged, individualised, and context-sensitive exercise prescription framework for children with ADHD. The article contributes to the literature by reframing exercise intervention as a prescription-development problem rather than merely an efficacy question.

Keywords

Attention-deficit/hyperactivity disorder, Exercise prescription, Physical activity intervention, Strengths, weaknesses, opportunities, threats analysis, Executive function

Introduction

Attention-deficit/hyperactivity disorder (ADHD) is a common neurodevelopmental condition characterised by developmentally inappropriate patterns of inattention, hyperactivity, and impulsivity that interfere with functioning across home, school, and social contexts. Current clinical guidance emphasises careful diagnosis, assessment of impairment, consideration of comorbidities, and multimodal management involving behaviour, educational, family, and pharmacological components when appropriate [1]. Within this broader treatment ecology, physical activity has attracted increasing attention as a potentially valuable adjunctive strategy. For children, exercise is not only a health behavior but also a developmental activity embedded in play, peer interaction, school participation, motor learning, and self-regulation.

The growing interest in exercise for ADHD reflects both empirical and practical motivations. Empirically, physical activity has been associated with improvements in cognitive, behaviour, emotional, and motor domains that are relevant to ADHD. Practically, exercise is relatively accessible, familiar to schools and families, and less stigmatising than some clinical interventions. It may also offer benefits that extend beyond symptom management, including physical fitness, sleep regulation, social participation, self-esteem, and quality of life.

These features make exercise a promising candidate for integration into comprehensive ADHD care.

However, the field faces an important conceptual and translational problem. Much of the existing discussion asks whether exercise "works" for children with ADHD. This question is necessary but insufficient. For exercise to become a usable intervention, researchers and practitioners need to know what kind of exercise should be recommended, for whom, at what intensity, how often, for how long, under what supervision, with what safety precautions, and with which outcome priorities. In other words, the field needs exercise prescription models rather than general statements about physical activity.

Exercise prescription differs from general physical activity promotion. It requires a structured plan that specifies intervention variables, adapts them to individual characteristics, and links the activity to targeted functional outcomes. For children with ADHD, such prescription models must account for attentional variability, impulsivity, motivation, motor competence, comorbid developmental difficulties, medication status, family resources, school constraints, and safety. A simple recommendation that children should exercise more may be clinically weak if it does not specify how exercise can be selected, adapted, monitored, and sustained.

Therefore, this paper aims to develop a conceptual basis for exercise prescription models for children with ADHD. It does not present original empirical data, nor does it claim to establish a definitive clinical guideline. Instead, it uses a narrative and SWOT-based conceptual analysis to identify the internal strengths and weaknesses of exercise prescription, as well as the external opportunities and threats that shape its development. The central research question is: How can exercise prescription models for children with ADHD be conceptualised in a way that is evidence-informed, developmentally appropriate, clinically cautious, and feasible for real-world implementation?

Analytical perspective and scope

This article is positioned as a conceptual analysis and narrative review rather than a systematic review or meta-analysis. Its purpose is not to estimate pooled effects, compare effect sizes, or rank interventions statistically. Instead, it synthesises major evidence trends and implementation concerns in order to construct a strategic framework for future exercise prescription models. This approach is appropriate because the exercise-ADHD literature is growing but remains heterogeneous in intervention design, participant characteristics, intervention duration, outcome measurement, and implementation context. SWOT analysis has been used in health care strategic analysis to organise internal and external factors and to connect diagnosis with strategic planning [2].

The analytical perspective is grounded in three assumptions. First, ADHD should be understood not only as a cluster of symptoms but also as a condition affecting functional participation. Children with ADHD may experience difficulties in classroom engagement, peer relations, emotional regulation, motor coordination, family routines, and organised activities. Exercise prescription should therefore be evaluated not only by symptom reduction but also by its capacity to support real-life functioning.

Second, exercise should be conceptualised as a structured and adaptable intervention rather than a single uniform exposure. Exercise differs by type, intensity, frequency, duration, cognitive demand, social context, supervision, progression, and motivational design. These variables are not interchangeable. For example, aerobic running, martial arts, aquatic exercise, ball games, cognitively engaging physical activity, and motor-skill training may place different demands on attention, inhibition, coordination, emotional control, and social interaction.

Third, prescription models must be feasible in real-world systems. Children with ADHD receive support across families, schools, pediatric services, mental health services, and community organisations. An exercise prescription model that is theoretically strong but too complex for schools, too expensive for families, or too poorly integrated with clinical care is unlikely to be sustained. Therefore, this paper treats exercise prescription as both a clinical-development issue and an implementation issue.

The scope of this article is limited to children and adolescents with ADHD, with emphasis on school-age children. The paper focuses on structured physical activity and exercise interventions rather than unstructured recreational activity alone. It considers exercise as an

adjunctive or complementary approach, not as a replacement for evidence-based medical, psychological, educational, or family-based interventions. It also avoids making prescriptive clinical claims beyond the strength of the available literature.

Conceptualising the core topic

The core topic of this article is not simply "exercise for ADHD" but the development of exercise prescription models for children with ADHD. This distinction is important. An exercise intervention describes an activity delivered in a study or programme. An exercise prescription model provides a decision-making framework for selecting, adapting, sequencing, and monitoring exercise according to individual and contextual needs.

A useful exercise prescription model for children with ADHD should include at least six components. The first is exercise type, including aerobic exercise, resistance training, coordination training, martial arts, aquatic activity, ball games, exergaming, cognitively engaging physical activity, or combined programmes. The second is dose, including frequency, intensity, time, and overall intervention duration. The third is progression, referring to how the task becomes more complex or demanding over time. The fourth is targeted outcome, such as attention, inhibitory control, working memory, emotional regulation, motor competence, peer interaction, or school participation. The fifth is delivery context, such as clinical settings, schools, homes, after-school programmes, or community sports organisations. The sixth is monitoring and adaptation, including adherence, adverse events, enjoyment, fatigue, medication interaction, and family or teacher feedback.

Existing reviews show that exercise interventions in children and adolescents with ADHD have been studied across acute and chronic designs, with outcomes including cognition, social-emotional functioning, and motor development [3]. This evidence base supports the plausibility of exercise as a useful intervention domain, but it also illustrates the problem of heterogeneity. The available literature includes different activity forms, intervention lengths, intensities, and outcome measures. As a result, the field has accumulated promising evidence without yet producing a widely accepted prescription framework.

Executive function is a particularly important target because many children with ADHD experience difficulties in inhibition, working memory, cognitive flexibility, planning, and sustained attention. A systematic review and meta-analysis focusing on physical activity interventions and executive functions in children with ADHD indicates that chronic physical activity may have positive effects on executive function domains, although the evidence varies by outcome and intervention characteristics [4]. This suggests that exercise prescription should not be generic; rather, it should be aligned with specific cognitive and behaviour targets.

Network meta-analytic evidence further indicates that different types of physical activity may be associated with different outcome profiles. For example, comparative work on physical activity interventions has suggested that aquatic exercise, perceptual-motor training, cognitive-motor training, and other activity forms may vary in their relative advantages across attention, working memory, motor ability, and social outcomes [5]. Although such rankings should be interpreted cautiously, they reinforce the central point of this article: Exercise prescription for ADHD should involve matching activity characteristics to developmental and functional needs.

More recent work has begun to focus directly on exercise prescription variables, including type, duration, frequency, intervention period, and intensity. A network meta-analysis of exercise prescription for inhibitory control in children and adolescents with ADHD highlights the importance of considering the frequency, intensity, time, type (FITT) dimensions and suggests that prescription variables may meaningfully influence intervention effects [6]. This line of research marks a shift from broad efficacy claims to more precise intervention design. Nevertheless, the translation from statistical comparison to practical prescription remains incomplete. Prescription models must be flexible enough to accommodate individual differences and implementation constraints while remaining sufficiently structured to guide practice.

Table 1. SWOT matrix for developing exercise prescription models for children with ADHD.

Dimension	Key issues	Implications for prescription development
Strengths	Multimodal developmental benefits; ecological fit; complementarity with ADHD care; positive framing	Build flexible but structured prescriptions that integrate cognitive, behaviour, motor, and social goals
Weaknesses	Heterogeneous protocols; unclear dose-response patterns; limited long-term evidence; insufficient adaptation for comorbidities	Develop standardised reporting, staged progression, screening procedures, and outcome-specific prescription parameters
Opportunities	School-based delivery; digital monitoring; multidisciplinary collaboration; public health alignment	Translate prescription principles into feasible school, home, clinical, and community routines
Threats	Overstatement of evidence; unequal access; safety and liability; commercialisation without validation	Use cautious claims, equity-oriented design, risk management, and evidence-based governance

SWOT analysis

Strengths

The first strength of exercise prescription for children with ADHD is its multidimensional developmental value. Exercise can simultaneously engage physiological arousal, motor coordination, cognitive control, motivation, and social interaction. Unlike interventions that target only one domain, physical activity can be embedded in play, skill learning, peer cooperation, and self-regulatory practice. This makes it especially suitable for children, whose learning and development are embodied, relational, and context-dependent. Earlier randomised-trial synthesis also supports the relevance of physical exercise as an intervention domain for this population [7].

The second strength is the potential compatibility between exercise and ADHD-related functional difficulties. Many children with ADHD struggle with sitting still, sustaining attention, inhibiting impulses, and regulating emotional responses. Structured exercise may provide a channel through which movement is not treated merely as a behaviour problem but redirected into purposeful activity. In this sense, exercise prescription may reframe motor restlessness as a therapeutic resource when it is structured, supervised, and linked to self-regulation goals.

The third strength is complementarity. Exercise does not need to compete with pharmacological or behaviour treatment. Instead, it can support broader management goals, particularly when medication does not fully address executive function, sleep, social participation, or physical health. Exercise may also be attractive to families who seek additional non-pharmacological support but do not wish to abandon established clinical care.

The fourth strength is ecological fit. Schools, families, and communities already contain physical activity opportunities, including physical education, recess, sports clubs, playgrounds, after-school programmes, and home-based routines. Compared with interventions requiring specialised clinical equipment, many exercise programmes can be delivered using familiar resources. This ecological compatibility may support scalability if prescription models are simple, safe, and adaptable.

The fifth strength is the possibility of tailoring. Exercise prescription can be individualised according to symptom profile, motor ability, interests, comorbidities, age, fitness level, medication timing, and environmental constraints. A child who enjoys team sports may benefit from cooperative ball games; another child with poor coordination or social anxiety may initially require individual motor-skill training or aquatic activity. This flexibility gives exercise prescription a practical advantage over rigid programme models.

Finally, exercise prescription has a positive framing. It emphasises capability, participation, and health rather than deficit alone. For children with ADHD, who may often receive negative feedback in classrooms and family settings, structured physical activity can create opportunities for mastery, recognition, and self-efficacy. This psychosocial dimension is not a secondary benefit; it may be central to adherence and long-term developmental impact.

Weaknesses

Despite these strengths, exercise prescription for children with ADHD remains limited by substantial

weaknesses in the evidence base and practice environment. The first weakness is the lack of standardised prescription parameters. Studies differ in activity type, session length, weekly frequency, total intervention duration, intensity monitoring, supervision, and comparison conditions. This makes it difficult to determine whether observed benefits arise from exercise itself, social interaction, novelty, adult attention, programme structure, or expectation effects.

The second weakness is uncertainty around dose-response relationships. Although the FITT framework provides a useful language for exercise prescription, ADHD-specific evidence remains insufficient to define optimal frequency, intensity, time, and type across different outcomes. A programme designed to improve inhibitory control may not be identical to one designed to improve emotional regulation, motor coordination, sleep, or peer interaction. Moreover, children's responses may vary according to baseline fitness, medication use, age, ADHD presentation, motivation, and comorbid conditions.

The third weakness concerns outcome selection. Many studies focus on symptoms or laboratory-based executive function tasks, while fewer examine classroom participation, peer functioning, family routines, sustained adherence, or quality of life. If exercise prescription models are built only around narrow cognitive outcomes, they may fail to capture the real-world value of physical activity. Conversely, if outcome targets are too broad, the intervention becomes conceptually diffuse and difficult to evaluate.

The fourth weakness is limited long-term evidence. Short-term and acute exercise effects may not translate into durable functional improvement. Children may show temporary improvements in attention or inhibition after exercise, but a prescription model must address whether such effects can accumulate, generalise, and persist. Long-term adherence is particularly challenging for children with ADHD, who may experience fluctuating motivation, boredom, frustration, or difficulty following routines.

The fifth weakness is insufficient attention to comorbidity and heterogeneity. ADHD often co-occurs with developmental coordination disorder, anxiety, oppositional behavior, learning difficulties, sleep problems, autism traits, and obesity. These conditions may affect both exercise tolerance and programme suitability. A highly stimulating team sport may benefit one child but overwhelm another. A prescription model that does not include screening and adaptation may unintentionally exclude children with more complex needs.

The final weakness is the gap between research protocols and real-world delivery. Research interventions often involve trained staff, controlled schedules, structured monitoring, and motivated participants. Schools and families may lack time, expertise, space, or consistency. Without practical implementation guidance, exercise prescription risks remaining an attractive concept rather than a usable model.

Opportunities

The first opportunity is the growing demand for non-pharmacological and multimodal ADHD support. Families, schools, and clinicians increasingly recognize that ADHD management should address not only symptom control but also functioning, participation, well-being, and physical health. Exercise prescription can respond to this need by offering a structured adjunctive pathway that supports developmental outcomes without presenting itself as a replacement for established care.

The second opportunity lies in school-based delivery. Schools are uniquely positioned to provide repeated, equitable, and developmentally appropriate activity opportunities. Physical education, classroom activity breaks, recess, and after-school programmes can be adapted to support children with ADHD. School-based prescription does not mean that teachers become clinicians; rather, it means that exercise plans can be translated into feasible educational routines with appropriate professional guidance.

The third opportunity is the expansion of digital monitoring and feedback. Wearable devices, activity trackers, mobile applications, and digital platforms may help monitor intensity, duration, adherence, and progression. For children with ADHD, feedback systems may also support motivation through visual goals, immediate reinforcement, and routine building. However, digital tools should support - not replace - professional judgment and child-centred adaptation.

The fourth opportunity is multidisciplinary collaboration. Pediatricians, child psychiatrists, psychologists, physical

educators, occupational therapists, physiotherapists, exercise scientists, parents, and teachers each hold partial knowledge relevant to exercise prescription. A robust model can integrate clinical assessment, motor evaluation, behaviour support, school feasibility, and family preference. Such collaboration may improve both safety and adherence.

The fifth opportunity concerns public health alignment. Global physical activity recommendations for children and adolescents emphasise regular moderate-to-vigorous physical activity, reduced sedentary behavior, and developmentally appropriate movement opportunities [8]. Although general guidelines are not ADHD-specific prescriptions, they provide a supportive public health context. Exercise prescription for ADHD can be framed as an adaptation of broader child health recommendations for a population with specific self-regulatory and functional needs.

Finally, there is an opportunity to shift the discourse from symptom reduction to functional participation. Exercise can be used to help children engage in peer play, organised sports, school routines, and self-management practices. This broader framing aligns exercise prescription with inclusive education, family functioning, and long-term developmental health.

Threats

The first threat is overstatement of the evidence. Because exercise is generally viewed positively, there is a risk of presenting it as universally effective or as an alternative to established ADHD treatment. This would be scientifically and clinically inappropriate. Exercise may be helpful, but current evidence does not justify a one-size-fits-all prescription or claims that it can replace medical, behaviour, or educational interventions.

The second threat is inequitable access. Families differ in financial resources, transportation, neighbourhood safety, parental time, access to sports facilities, and availability of trained professionals. Children in low-resource communities may have fewer safe and structured activity opportunities. If exercise prescription models assume access to private coaching, specialised facilities, or digital devices, they may widen rather than reduce health disparities.

The third threat is implementation burden. Schools are already under pressure to meet academic, behaviour, administrative, and safety demands. Adding exercise prescription responsibilities without training, resources, or institutional support may lead to superficial implementation. Teachers may support physical activity in principle but struggle to manage impulsivity, peer conflict, injury risk, or individualised adaptation during group activities.

The fourth threat is safety and liability. Children with ADHD may be more prone to impulsive behavior, risk-taking, poor rule adherence, or coordination difficulties. Exercise programmes that are insufficiently supervised or poorly matched to ability may increase the risk of injury, frustration, or exclusion. Safety concerns can also discourage schools and families from adopting structured exercise programmes.

The fifth threat is commercialisation without evidence. As interest in non-pharmacological interventions grows, commercial programmes may market exercise packages, digital platforms, or specialised training systems with stronger claims than the evidence supports. This may create confusion among families and clinicians, particularly when programmes use scientific language without adequate validation.

The sixth threat is conceptual dilution. If exercise prescription is defined too broadly, almost any movement activity may be labelled therapeutic. Such dilution would weaken research quality, clinical credibility, and implementation guidance. The field must therefore distinguish between general physical activity promotion, structured exercise intervention, and individualised exercise prescription.

Development strategies

The first strategy is to establish a staged prescription model. Children with ADHD should not be placed immediately into complex or high-demand exercise programmes without assessment. A staged model may begin with screening and goal-setting, followed by familiarisation, structured participation, progression, maintenance, and transition to independent or community-based activity. This approach allows practitioners to monitor tolerance, motivation, safety, and functional response.

The second strategy is to operationalise the FITT principle for ADHD-specific outcomes. Frequency, intensity, time, and type should be defined in relation to the target outcome. For example, a prescription aimed at acute attentional readiness before homework may differ

from one aimed at long-term inhibitory control, motor competence, or peer participation. Exercise intensity should be monitored using feasible methods, such as heart-rate indicators, perceived exertion, or structured observation, depending on setting and available resources.

The third strategy is to match exercise type to child profile. Children with high impulsivity may benefit from activities that require rule-following, turn-taking, and response inhibition, such as martial arts or structured ball games. Children with motor coordination difficulties may require perceptual-motor or balance-oriented training before participation in complex team sports. Children with anxiety or low confidence may benefit from individual or small-group activities before larger social settings. This matching process should be flexible rather than diagnostic in a rigid sense.

The fourth strategy is to prioritise adherence and enjoyment. Exercise prescription for children cannot be sustained through clinical logic alone. Children are more likely to continue activities that are enjoyable, socially meaningful, and appropriately challenging. Programmes should include choice, achievable goals, positive feedback, and gradual progression. Family support is essential, but prescriptions should avoid placing unrealistic burdens on parents.

The fifth strategy is to integrate exercise prescription into existing care and education systems. Pediatricians and mental health professionals can recommend physical activity goals, but schools and communities are often better positioned to deliver repeated sessions. Physical educators and therapists can help adapt activities, while parents can support routines and reinforce participation. Implementation should be coordinated rather than fragmented.

The sixth strategy is to develop core outcome sets. Future prescription models need common outcomes that capture both symptom-related and functional domains. These may include ADHD symptom ratings, executive function tasks, motor competence, classroom behavior, peer participation, emotional regulation, sleep, physical fitness, adverse events, and adherence. A core outcome set would improve comparability across studies and help translate research into practice.

The seventh strategy is to embed equity into prescription design. Low-cost, low-equipment, school-compatible, and community-adaptable programmes should be prioritised. Digital tools may be useful, but they should not become prerequisites. Prescription models should include alternatives for families without access to devices, private facilities, or specialised coaching.

The eighth strategy is to apply implementation-science thinking. Exercise prescription should be evaluated not only by efficacy but also by acceptability, adoption, appropriateness, feasibility, fidelity, cost, sustainability, and reach. Implementation frameworks can help researchers identify barriers and facilitators across intervention characteristics, inner settings, outer settings, individuals, and implementation processes [9]. This perspective is essential if exercise prescription is to move from controlled studies to routine practice.

Discussion

This conceptual analysis reframes exercise intervention for children with ADHD as a prescription-development challenge. The question is no longer only whether exercise can improve symptoms or executive function, but how exercise can be designed, individualised, delivered, and sustained in ways that are scientifically credible and practically feasible. This shift has several theoretical implications.

First, exercise prescription should be understood as an interface between clinical science and developmental ecology. ADHD affects children across contexts, and exercise occurs in embodied, social, and institutional environments. A prescription model must therefore integrate biological plausibility, behaviour regulation, developmental needs, family routines, school structures, and community resources. This makes exercise prescription more complex than a simple clinical recommendation but also more powerful as a developmental intervention.

Second, the SWOT framework shows that the strengths of exercise are closely connected to its weaknesses. The flexibility of exercise is a strength because it allows tailoring, but it is also a weakness because it produces heterogeneity. The accessibility of exercise is a strength, but it can become a threat when low-quality or poorly supervised programmes are promoted. The positive public image of exercise may support adoption, but it also increases the risk of exaggerated claims. Therefore, the field must develop models that preserve flexibility while improving standardization.

Third, the concept of prescription should not be interpreted narrowly as a medicalised command. For children with ADHD, prescription should mean structured guidance, not rigid control. A child-centred prescription model should combine professional assessment with child preference, family feasibility, and contextual adaptation. It should specify enough detail to guide practice while allowing modification as the child develops.

Fourth, exercise prescription should be linked to functional outcomes. If the field focuses only on symptom scores or cognitive tests, it may miss the broader developmental potential of physical activity. Exercise may help children participate in peer activities, experience competence, regulate arousal, tolerate frustration, follow rules, and build routines. These outcomes matter to families and schools even when they are harder to measure than laboratory tasks.

Fifth, caution is necessary. The evidence base supports promise, not certainty. An umbrella review of exercise interventions for children and adolescents with ADHD suggests encouraging findings for inattention, inhibitory control, and cognitive flexibility, while also noting weaker evidence for other domains and the need for more rigors trials [10]. This mixed pattern should inform the tone of future prescription models. Exercise should be recommended as a potentially beneficial adjunct, not as a universal or standalone solution.

Finally, exercise prescription models should move towards stratification. Children with ADHD are not a homogeneous group. Age, sex, ADHD presentation, medication status, physical fitness, motor competence, motivation, comorbidity, family support, and school environment may all influence response. Future models may need tiers of prescription: universal physical activity promotion for all children, targeted structured programmes for children with ADHD-related functional difficulties, and individualised therapeutic exercise plans for children with complex needs.

Limitations and future research

This article has several limitations. First, it is a conceptual and narrative analysis rather than a systematic review. Although it draws on high-quality literature, it does not use systematic search procedures, formal risk-of-bias assessment, or quantitative synthesis. Therefore, it should be read as a framework-building article rather than a definitive evidence summary.

Second, the SWOT framework has inherent limitations. It can organise internal and external factors clearly, but it may oversimplify complex causal relationships. Strengths, weaknesses, opportunities, and threats are not always independent. For example, digital monitoring may be an opportunity for adherence but also a threat to privacy and equity. Future work should combine SWOT with implementation frameworks, logic models, Delphi consensus methods, or realist evaluation.

Third, this article does not propose a fixed clinical prescription with exact exercise parameters. This restraint is intentional because the current evidence does not support a universal prescription for all children with ADHD. Instead, the paper proposes principles for model development. Future empirical research should test specific prescription algorithms across subgroups and contexts.

Fourth, the article does not address all possible comorbidities in detail. Children with ADHD may present with anxiety, autism spectrum traits, developmental coordination disorder, learning difficulties, obesity, sleep disturbance, or oppositional behavior. Each of these may require prescription adaptation. Future studies should examine how comorbidity modifies feasibility, adherence, safety, and outcomes.

Future research should proceed in several directions. First, randomised controlled trials should compare different exercise prescription variables, including activity type, intensity, frequency, duration, and progression. Second, studies should include long-term follow-up to examine maintenance and functional transfer. Third, researchers should measure both symptom-related and participation-related outcomes. Fourth, pragmatic trials in schools and communities are needed to test real-world feasibility. Fifth, qualitative studies should explore child, parent, teacher, and clinician perspectives on acceptability and adherence. Sixth, implementation studies should examine cost, training requirements, fidelity, equity, and sustainability. Finally, consensus work is needed to develop reporting standards and core outcome sets for ADHD exercise prescription research.

Conclusion

Exercise prescription for children with ADHD is a

promising but underdeveloped area. Existing evidence suggests that structured physical activity may support attention, inhibitory control, executive function, motor competence, and broader functioning, but the field has not yet established sufficiently precise, individualised, and feasible prescription models. A SWOT-based conceptual analysis shows that exercise prescription has important strengths, including developmental fit, complementarity, adaptability, and ecological feasibility. At the same time, it faces weaknesses related to heterogeneous protocols, uncertain dose-response relationships, limited long-term evidence, and insufficient adaptation for complex cases. External opportunities include school-based delivery, digital monitoring, multidisciplinary collaboration, and public health alignment, whereas threats include overstatement, inequitable access, implementation burden, safety concerns, and premature commercialisation.

The central contribution of this paper is to argue that exercise for ADHD should be reframed from a broad non-pharmacological recommendation into a structured prescription-development agenda. Future models should be staged, individualised, outcome-oriented, context-sensitive, and implementation-informed. Such models should not position exercise as a replacement for established ADHD care, but as a potentially valuable component of comprehensive support for children's cognitive, behaviour, physical, and social development.

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Conflicts of Interest

The authors declare no conflict of interest.

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