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Impact of Hearing Loss in the Pediatric Population on Physical Activity and Daily Life: A Literature Review

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Abstract

Background: Hearing loss is a common sensory impairment in the pediatric population that can significantly affect speech, language development, academic performance, and social interaction. Beyond communication challenges, it may also influence physical activity.

Aim: The aim of this literature review is to critically evaluate the evidence on how hearing loss affects physical activity participation and daily functioning in children.

Methodology: A literature search was conducted to identify relevant studies published between 1992 and 2026 using electronic databases, including PubMed, Google Scholar, ResearchGate, Scopus and Web of Science.

Results: Children with hearing loss often engage less in physical activity and may face balance, coordination, and motor skill challenges. Hearing loss can also affect daily life and social participation, although early intervention and appropriate support can help improve functional outcomes and quality of life.

Conclusions: Young people with hearing loss are generally less physically active and participate less in sports than their hearing peers due to communication, environmental, and psychosocial barriers. Since physical activity supports both physical and mental well-being, adapting sports programs to their needs can improve participation and overall psychosocial functioning.

Key words: hearing loss, pediatric, physical activity, exercise, psychosocial

1. Introduction

Hearing loss is a significant public health issue of growing global importance. According to data from the World Health Organisation, over 5% of the world's population, approximately 430 million people, including 34 million children – require rehabilitation due to hearing loss [1]. Projections indicate that by 2050, this proportion may rise to around 10% of the population [2]. In Poland, hearing loss affects around one-third of the population, including approximately 20% of children and school-age adolescents, whilst its prevalence among newborns is 1–2 per 1,000 births [3].

Particularly significant consequences are observed in the paediatric population, where hearing loss can disrupt normal speech and language development, limit communication skills and hinder social functioning. Consequently, there is an increased risk of social isolation, depressive disorders, cognitive decline and reduced levels of physical activity [4–8]. The complexity of these consequences highlights the need for a multifaceted approach to the problem of hearing loss, encompassing not only medical interventions but also psychosocial support and the promotion of a healthy lifestyle.

2. Methodology

A comprehensive literature search was conducted to identify relevant studies published between 1992 and 2026, covering a long timeframe to ensure a thorough review. Electronic databases searched included PubMed, Scopus, Google Scholar, ResearchGate, and Web of Science. This narrative review aimed to assess the impact of hearing loss on physical activity in the pediatric population. The search used keywords such as “hearing loss,” “pediatric,” “physical activity,” “exercise” and “psychosocial.” Studies were screened through a multi-stage process, evaluating titles, abstracts, and full texts for eligibility. High-quality studies, including randomized controlled trials, cohort studies, systematic reviews, and meta-analyses, were included, and reference lists of selected articles were also examined to identify additional relevant sources.

3. Hearing loss

3.1 Pathogenesis

Hearing loss may be broadly classified as congenital or acquired, depending on the time of onset. Congenital hearing loss, present at birth, typically arises from structural or functional abnormalities within the auditory system that disrupt the normal transduction of acoustic stimuli. This process involves the conversion of mechanical sound wave energy into electrical impulses that are transmitted via the auditory nerve to the central nervous system for interpretation. Disruptions at any stage of this pathway can result in impaired hearing function. Hearing loss is further classified according to the anatomical location of the impairment into conductive and sensorineural types, with a mixed form diagnosed when both mechanisms coexist. Conductive hearing loss occurs when there is a dysfunction in the outer and/or middle ear structures, leading to reduced efficiency in the transmission of sound waves to the inner ear. This type of hearing loss may result from congenital abnormalities, such as malformations of the external auditory canal or ossicular chain, as well as from acquired conditions. Common acquired causes include middle ear effusion, frequently associated with otitis media, which can create a temporary barrier to sound conduction. Other contributing factors may include infections, trauma, or obstruction within the ear canal. In contrast, sensorineural hearing loss involves damage to the inner ear structures, particularly the cochlea, or to the auditory nerve pathways. This form of hearing loss is often permanent and may result from genetic factors, prenatal infections, exposure to ototoxic medications, or prolonged exposure to excessive noise. The complexity of these underlying mechanisms highlights the diverse nature of hearing loss and its potential to affect auditory processing at multiple levels [9].

Sensorineural hearing loss is associated with dysfunction of the inner ear structures, the auditory nerve and the central segments of the auditory pathway, and exhibits further pathophysiological variation. Within this category, a sensory form is distinguished, resulting from damage to the hair cells of the cochlea, and a central form, caused by disorders at the level of the central structures of the auditory pathway. This group also includes disorders from the auditory neuropathy spectrum. It is a heterogeneous category of clinical entities characterised by preserved function of the outer hair cells (manifested by the presence of otoacoustic emissions and/or cochlear microphony) alongside the absence or significant impairment of synchronous neuronal activity, which is reflected in abnormal or absent brainstem auditory responses. Clinically, this translates into significant deficits in speech perception and discrimination. The pathogenic mechanisms underlying these disorders may involve damage at the level of the inner hair cells, the synapses between them and the auditory nerve fibres, the auditory nerve itself, as well as the neurons forming the central auditory pathway [10].

3.2 Diagnosis

Sensorineural hearing loss arises from dysfunction of the inner ear structures, the auditory nerve, or the central components of the auditory pathway, and encompasses a range of pathophysiological mechanisms. Within this category, a sensory form results from damage to the hair cells of the cochlea, while a central form is caused by abnormalities in the central auditory structures responsible for processing sound signals. Additionally, this category includes conditions within the auditory neuropathy spectrum, in which the transmission of auditory signals from the inner ear to the brain is disrupted despite preserved cochlear function, leading to variable hearing impairment and difficulties with sound perception. In developed countries, newborn hearing screening programs have become an essential component of early childhood healthcare, aiming to detect hearing loss as soon as possible after birth. These programs are designed to screen all newborns systematically, typically within the first month of life, to ensure that any auditory impairments are identified promptly. Early detection is critical because timely diagnosis allows for interventions, such as hearing aids, cochlear implants, or specialized therapy, that can significantly improve speech, language, cognitive, and social development in children with hearing loss. In Poland, routine newborn hearing screening is performed within the first 24–48 hours of life, ensuring that auditory impairments are recognized during the critical early stages of development. Such early screening programs play a pivotal role in reducing the long-term consequences of hearing loss and enabling affected children to reach their full developmental potential [11].

Given that hearing loss can be progressive and may worsen over time, early diagnosis and the prompt initiation of appropriate interventions are of critical importance. Identifying hearing impairments as early as possible allows healthcare providers to implement strategies such as amplification devices, cochlear implants, or specialized auditory and speech therapy, which can significantly improve language development, communication skills, and overall cognitive and social outcomes later in life [12]. The severity of hearing loss is typically classified using a five-point scale based on the degree of hearing threshold elevation measured in decibels (dB). This classification includes mild hearing loss (25–40 dB), which may result in difficulty hearing faint speech; moderate hearing loss (41–55 dB), where conversational speech is often partially missed; moderately severe hearing loss (56–70 dB), which can substantially interfere with understanding speech without amplification; severe hearing loss (71–90 dB), in which speech is generally inaudible without assistive devices; and profound hearing loss (≥ 91 dB), where hearing is minimal or absent, and communication relies almost entirely on visual or tactile methods [13]. Understanding the degree of hearing loss is essential not only for selecting appropriate interventions but also for predicting potential impacts on language development, educational attainment, and participation in daily life and social activities.

3.3 Risk factors

The risk of permanent congenital, delayed, or progressive hearing loss in the pediatric population is influenced by a complex interplay of clinical, genetic, and environmental factors. Early warning signs include delays in hearing, speech, or overall developmental milestones, which may indicate underlying auditory impairment. A positive family history of hearing loss is also a strong predictive factor, highlighting the role of hereditary contributions [14]. Neonatal complications are among the most significant clinical risk factors. Prolonged admission to a neonatal intensive care unit (NICU) exceeding five days, as well as exposure to potentially ototoxic interventions, can increase the likelihood of hearing impairment. Such interventions include extracorporeal membrane oxygenation (ECMO), mechanical ventilation, and the use of ototoxic medications such as aminoglycosides (e.g., gentamicin, tobramycin), loop diuretics, or exchange transfusions for severe hyperbilirubinemia [15, 16]. Intrauterine infections - including toxoplasmosis, rubella, cytomegalovirus, herpes simplex virus, and syphilis - also constitute a major group of prenatal risk factors that can disrupt cochlear development and auditory nerve function [16–18]. Genetic and structural factors play an equally important role. Craniofacial anomalies, such as malformed auricles, preauricular pits, or malformations of the external auditory canal and temporal bone, are strongly associated with congenital hearing loss [19]. Somatic signs suggesting genetic syndromes, such as characteristic pigmentation abnormalities, including a white forelock, can provide important diagnostic clues, as can recognized syndromes known to present with congenital, progressive, or late-onset hearing loss [16]. Neurodegenerative disorders and sensory-motor neuropathies may also predispose children to auditory impairment, as can a history of bacterial or viral meningitis, particularly infections caused by mumps or herpes viruses [16–19]. Trauma-related factors are another notable consideration. Head injuries, especially those involving the skull base or temporal bone fractures requiring hospitalization, may result in permanent sensorineural or conductive hearing loss. Exposure to ototoxic chemotherapy agents is also recognized as a risk factor [19, 20]. Additionally, environmental factors such as excessive noise exposure are emerging as an increasingly important public health concern. Unlike many other risk factors, noise-induced hearing loss is potentially preventable through early education, regulation, and protective strategies, highlighting the importance of modifiable risk factors in pediatric populations [21].

Overall, the identification of these risk factors is essential for early detection, timely intervention, and prevention strategies, particularly in high-risk populations. Understanding both modifiable and non-modifiable contributors allows clinicians and caregivers to implement targeted monitoring and protective measures, improving long-term auditory and developmental outcomes for affected children.

4. Physical Activity

Physical activity plays a crucial role in the physical, cognitive, and psychosocial development of children and adolescents, and its health benefits are well established. Regular participation in physical activity is associated with improved cardiovascular and respiratory fitness, enhanced musculoskeletal strength and flexibility, better metabolic function, and maintenance of a healthy body weight. Beyond these physiological benefits, an active lifestyle during childhood and adolescence also supports the development of social skills, self-esteem, and overall mental well-being. Current research indicates that many of the positive effects of regular physical activity, including cardiovascular and metabolic health, can persist into adulthood, contributing to long-term wellness [22]. Despite these benefits, the presence of hearing loss can significantly limit a child's or adolescent's engagement in physical activity. Difficulties in auditory perception may impair balance, spatial orientation, and coordination, making participation in certain sports or group activities more challenging. In addition, communication barriers and concerns about safety in dynamic environments can reduce confidence and willingness to engage in both structured and recreational activities. Consequently, children with hearing impairment often demonstrate lower levels of physical activity compared to their hearing peers, which may have downstream effects on their physical health, psychosocial development, and social inclusion [23]. Understanding these limitations is essential for designing targeted interventions that promote safe and inclusive opportunities for physical activity in this population.

Several studies highlight the significant psychosocial challenges faced by children and adolescents with hearing loss, which can further influence their participation in physical activity. Dammeyer (2010), analyzing data from 2006–2007, reported that young people with hearing impairment are approximately 3.7 times more likely to experience psychosocial difficulties than their hearing peers, with communication deficits acting as a key exacerbating factor [24]. Similarly, a cross-sectional study by Cejas et al. (2020) involving 104 adolescents aged 12–18 found that 17% and 16% of participants exhibited clinically significant symptoms of depression and anxiety, respectively [25]. Qualitative research by Terleksi et al. further emphasized the social challenges faced by adolescents with moderate hearing loss, reporting that many experience difficulties in forming and maintaining peer relationships, with girls more frequently reporting conflicts in friendships compared to boys [26]. Participation in regular physical activity and sport has been consistently associated with improved psychosocial functioning, including reduced symptoms of depression and anxiety and higher self-rated mental health [27, 28]. Despite these benefits, adolescents with disabilities, including hearing loss, are less likely than their hearing peers to engage in moderate or vigorous physical activity, participate in team sports, or pursue self-directed recreational activities [29–31]. Multiple barriers contribute to this disparity, including systemic constraints such as limited access to facilities, structured programs, trained staff, and transportation, as well as psychosocial factors, including negative social attitudes and fear of participation [32, 33]. For adolescents with hearing loss, additional challenges are introduced by the need to use hearing aids, differences in communication styles, and the acoustic properties of sporting environments, which may impede auditory perception and interaction [34]. Recognizing and addressing these complex physical, social, and environmental barriers is essential for developing interventions that effectively support the inclusion and active participation of adolescents with hearing loss in sport and physical activity. Participation in sport offers adolescents with disabilities, including those with hearing loss, valuable opportunities for social engagement, family involvement, a sense of belonging, and broader integration into their communities. Qualitative studies suggest that the primary motivators for involvement in sports are psychosocial, including the development of friendships, enhanced self-confidence, and increased social support [35]. These findings underscore the importance of examining the interplay between sports participation, psychosocial well-being, and overall physical activity engagement in this population, as fostering these opportunities can contribute significantly to both mental health and social inclusion.

The study by DeLuca et al. aimed to investigate the relationship between hearing status and both engagement in physical activity and participation in sport among a nationally representative sample of adolescents. Additionally, the study sought to examine how varying levels of physical activity and sport participation influence psychosocial outcomes, including symptoms of depression and anxiety, behavioural difficulties, and challenges in social relationships, within the population of adolescents with hearing loss. The research was guided by the hypothesis that adolescents with hearing impairment would be less physically active and engage in sport less frequently compared to their hearing peers.

The analyses were conducted using anonymized data from the 2018–2019 National Survey of Children's Health (NSCH), a nationwide cross-sectional survey designed to assess multiple indicators of children's health and well-being in the United States. Data were collected through a combination of online and paper-based questionnaires

administered to randomly selected households across all 50 states and the District of Columbia. Within each household, one child was selected for the survey, with responses provided by the parent or caregiver most familiar with the child’s health. The overall response rates were 43.1% in 2018 and 42.4% in 2019. The study protocol was approved by the relevant institutional ethics committees, and written informed consent was obtained from all parents or caregivers prior to participation. Detailed information regarding the study’s methodology, sampling procedures, and survey instruments is available in the literature. To align with the World Health Organization’s definition of adolescence (ages 10–19) while remaining consistent with the NSCH dataset, the sample was restricted to adolescents aged 10–17 years. After combining the 2018 and 2019 datasets, the final sample included 29,034 adolescents, of whom 1.2% (n = 359) were reported to have hearing loss [36]. This dataset provided a representative basis for examining the relationships between hearing status, engagement in physical activity and sport, and psychosocial outcomes in a large, population-based sample.

Respondents answered questions on the following topics:

1) Hearing loss:

Parents or carers were asked: “Does your child have deafness or hearing problems?”, with the option to answer “yes” or “no”. Children whose parents answered “yes” were classified as having hearing loss [36].

2) Physical activity:

Respondents were asked: “Over the past week, on how many days did this child exercise, play sport or take part in physical activity for at least 60 minutes?” The response options were: “0 days”, “1–3 days”, “4–6 days” and “every day”. In the primary and secondary analyses, 0 days was classified as no physical activity, whilst each day of activity was treated as meeting the physical activity guidelines [36–38].

3) Participation in sport:

Parents were asked: “In the last 12 months, has this child taken part in sports activities or attended sports lessons after school or at weekends?” with the option to answer “yes” or “no”. Children whose parents answered “yes” were classified as participating in sport [36].

Tab. 1. (DeLuca et al.)

Characteristic (N=29034)	Hearing (n=28675)	Hearing loss (n=359)	p-value
Percentage of sample	98,8	1,2	
Age, years: M ± SD	13,8 ± 2,3	13,7 ± 2,3	
Sex, female (%)	47,8	51,5	
Physical activity level (%)			<0,001
Inactive	10,3	17	
1-3days/week	40,7	37,9	
4-6days/week	31,4	26,5	
Meets physical activity guidelines	17,5	18,7	
Participation in sports in the past 12 months (%)			<0,001
Participated	63,1	51,5	
Did not participate	36,9	48,5	

After adjusting for confounding factors, it was found that adolescents with hearing loss were significantly less physically active than their peers with normal hearing: by 40% for activity 1–3 days a week (AOR = 0.60; 95% CI: 0.44–0.81), by 43% for 4–6 days (AOR = 0.57; 95% CI: 0.41–0.80) and by 33% in terms of meeting the guidelines for daily physical activity (AOR = 0.67; 95% CI: 0.47–0.95). Furthermore, it was shown that they were 31% less likely to have participated in sport in the past 12 months (AOR = 0.69; 95% CI: 0.55–0.85). Basic analyses showed that adolescents with hearing loss were significantly less likely to have engaged in physical activity and participated in sport over the past 12 months [36]. The study confirms a lower likelihood of engaging in physical activity and participating in sport among adolescents with hearing loss, which may be due to specific

barriers such as communication difficulties, environmental factors and limited social integration [39]. It is therefore crucial to address the specific barriers limiting physical activity and participation in sport among adolescents with hearing loss in order to increase their engagement.

Five comparative studies indicate that children and adolescents with hearing impairment (HI) engage in higher levels of physical activity than their peers with other types of disabilities. However, evidence also shows that their activity levels remain lower than those of peers without disabilities. Research by Sit et al. further demonstrates that children with HI accumulate more moderate-to-vigorous physical activity (MVPA) during school breaks compared to physical education lessons or lunch periods [39]. Across the 12 studies included in this review, a total of 12 factors associated with physical activity among children and adolescents with HI were identified. These factors were categorized into personal, parental, educational, psychological, and environmental domains. Among them, gender was the only factor consistently associated with physical activity, with boys demonstrating higher levels of engagement than girls.

Interventions developed to promote physical activity in hearing children appear to be similarly applicable to children with hearing impairment, offering practical implications for parents, educators, and practitioners. Parental hearing status also emerges as a relevant factor; children with hearing impairment raised by deaf parents may benefit from more effective communication in sign language, which can facilitate participation in physical activity and support physical fitness development. Additionally, shared experiences of deafness may enhance parent–child cohesion and mutual understanding, thereby positively influencing children’s engagement in sport [40].

5. Psychosocial Development

Despite substantial advances in early diagnosis and intervention, psychosocial functioning remains a persistent challenge for a subset of children with hearing loss. Early identification now enables the timely provision of appropriate hearing support technologies, and ongoing technological developments have significantly improved outcomes in auditory perception, speech acquisition, and literacy, narrowing the gap with typically hearing peers [41]. However, these gains have not translated into uniformly improved psychosocial outcomes, and related difficulties continue to represent a significant clinical and social concern. The psychosocial functioning of children and adolescents with hearing loss is a highly complex area in which both risk factors and protective factors coexist. An analysis of the available research indicates that, despite significant progress in early diagnosis and the development of hearing-assistive technologies, children with hearing loss may still experience specific difficulties in terms of social and emotional skills and quality of life [42]. Findings based on the Child Development Inventory (CDI) suggest that social skills in children with hearing loss frequently fall within the borderline range. The reported mean developmental quotient of approximately 78 indicates functioning below age expectations. However, the substantial variability observed ($SD \approx 29$) underscores the marked heterogeneity of this population and cautions against overgeneralization. Notably, 44% of children scored at least two standard deviations below normative values in social skills, suggesting an elevated risk of clinically significant impairments in areas such as social initiation, cooperation, and understanding of social norms [42].

In contrast, the results obtained using the Strengths and Difficulties Questionnaire (SDQ) suggest a more varied picture of emotional and behavioural functioning. The mean scores on most subscales fell within the population norm, and the overall psychosocial score was only slightly reduced (mean $Z \approx -0.67$) [43]. Nevertheless, analysis of the distribution of scores indicates an increased proportion of children with significant difficulties: approximately 14% of children scored clinically abnormal on hyperactivity, and approximately 11% on peer problems and total difficulties. In addition, 36% of children scored at least 1 standard deviation below the norm in terms of global psychosocial functioning. These results suggest that, despite normal mean values, a significant proportion of the population experiences difficulties of clinical significance. The discrepancy between the CDI and SDQ results deserves particular attention. Whilst the SDQ indicates relatively normal emotional and behavioural functioning, the CDI reveals significant deficits in practical social and communication skills. This may stem from the fact that the CDI places greater emphasis on linguistic-pragmatic aspects and actual social behaviour, whilst the SDQ focuses on general psychopathological symptoms. This highlights the need for a multidimensional assessment of the psychosocial functioning of this group. Language and communication abilities emerged as significant correlates of psychosocial outcomes. Regression analyses indicated that measures of language (PLS-4) and functional communication (PEACH) accounted for an additional proportion of variance in psychosocial functioning (approximately 9.5%). Notably, after inclusion of these variables, most demographic and environmental factors were no longer statistically significant. However, the proportion of explained variance remains modest, and the cross-sectional nature of the data limits causal inference. Therefore, while communication development appears to be an important predictor of psychosocial functioning in children with hearing loss, the strength and direction of this relationship should be interpreted with caution [42].

An important extension of the above findings is provided by studies examining hearing-related quality of life using the HEAR-QL instrument. These studies reveal clear and systematic differences across groups, including children with typical hearing, those with unilateral hearing loss, and cochlear implant users. Children with normal hearing consistently report the highest levels of quality of life (approximately 93%), whereas children using cochlear implants achieve moderately lower scores (around 80%). In contrast, the lowest outcomes are observed among children with untreated hearing loss, whose scores average approximately 61%. This gradient suggests that access to and use of medical interventions, particularly cochlear implantation, is associated with substantial improvements in perceived quality of life. However, the persistence of a measurable gap between cochlear implant users and their typically hearing peers indicates that such interventions do not fully normalize everyday functioning or subjective well-being. These findings point to the likelihood that factors beyond auditory restoration, such as communication challenges, social integration, and environmental barriers, continue to shape quality of life outcomes. Accordingly, while medical treatment plays a critical role, it should be viewed as one component within a broader, multifaceted approach to supporting children with hearing loss [43].

A detailed analysis of the HEAR-QL subscales reveals that children with cochlear implants achieve scores comparable to those of their hearing peers in the areas of school functioning and listening situations, whilst they continue to experience difficulties in social interaction and emotional well-being [43]. Importantly, in these domains their scores are similar to those of children with untreated hearing loss, suggesting that improved auditory perception does not always translate directly into full psychosocial adaptation [43]. Qualitative and quantitative studies on children using cochlear implants also point to significant psychosocial benefits resulting from their use. These children often report improvements in speech perception, communication skills and the ability to form social relationships. Modern technologies and earlier implantation age promote better social integration, higher self-esteem and greater self-confidence. Furthermore, children with cochlear implants often do not report significant problems with peer acceptance, which may reduce the risk of social isolation and stigmatisation [44].

However, despite these positive changes, children with hearing loss continue to experience specific psychosocial difficulties. The most commonly reported include frustration arising from communication limitations, difficulties in complex social situations, and the additional burdens associated with using hearing aids. High levels of frustration can lead to increased stress and constitute a risk factor for the development of anxiety and depressive disorders. Furthermore, the need to manage the device (e.g. during physical activity or in high-stimulus environments) can affect the child's daily functioning. The psychosocial functioning of children and adolescents with hearing loss is characterised by considerable variability. Although average scores in many areas fall within the normal range, a significant proportion of children experience difficulties, particularly in terms of social skills and peer relationships. Language and communication skills play a key role, constituting the main factor determining psychosocial adaptation. Research findings also indicate that, whilst technological interventions significantly improve functioning, they should be supplemented by psychosocial support aimed at developing social skills, regulating emotions and building interpersonal relationships [42–44].

6. Discussion

An analysis of available research and data from the National Child Health Survey (NSCH, 2018–2019) confirms that teenagers with hearing loss are significantly less physically active and participate in sport less frequently than their hearing peers. These limitations stem from both environmental and systemic barriers, as well as specific communication difficulties and the acoustic properties of the sporting environment. Despite lower levels of activity compared to the hearing population, young people with hearing loss demonstrate higher levels of activity than those with other types of disability, and personal, parental and educational factors can significantly support their participation.

The psychosocial functioning of adolescents with hearing loss remains problematic, despite notable progress in diagnostics and hearing-assistive technologies. While language and communication skills consistently emerge as strong predictors of psychosocial outcomes, the benefits of technological interventions, such as cochlear implants, appear limited. Although these devices improve speech perception and may facilitate aspects of social integration, they do not adequately address persistent difficulties in peer relationships or emotional regulation. Moreover, the role of physical activity is insufficiently emphasized in much of the literature, despite clear evidence linking participation in sport with improved self-esteem, stronger social belonging, and reduced symptoms of anxiety and depression. This suggests a gap between technological/clinical interventions and broader lifestyle or psychosocial support. Overall, the argument would benefit from greater specificity and critical depth. While the need for a “comprehensive approach” is asserted, it remains vaguely defined. Future work should more clearly operationalize

how access to physical activity, psychosocial interventions, and communication development can be effectively integrated in practice. Without such clarification, the recommendation risks remaining aspirational rather than actionable. These findings highlight the need for a comprehensive approach when working with teenagers with hearing loss, one that takes into account access to physical activity, psychosocial support and the development of communication skills. Integrating these elements can increase participation in sport, support psychosocial adaptation and improve the overall well-being of this population.

7. Conclusions

A review of the literature and an analysis of empirical studies indicate that physical activity plays a key role in the psychosocial development of children and young people with hearing loss. Regular exercise not only supports physical fitness but also mental health, reducing symptoms of depression and anxiety and boosting self-esteem. Despite advances in hearing technology and early diagnosis, young people with hearing loss remain less physically active and participate less frequently in sport than their hearing peers, due to communication, environmental and psychosocial barriers. At the same time, comparative studies show that children with hearing loss achieve higher levels of activity than peers with other types of disability, and moderate and vigorous physical activity is particularly observed during school breaks and informal activities. Individual, family, educational, psychosocial and environmental factors influence activity levels, and gender remains a significant determinant, boys demonstrate higher levels of activity than girls. In light of the data gathered, it is crucial to implement comprehensive strategies promoting physical activity and participation in sport, tailored to the specific needs of children with hearing loss. Addressing communication and environmental barriers, as well as social and family support, can significantly increase their engagement, which in turn will positively impact their psychosocial development and quality of life. The results of the review point to the need for further interdisciplinary research to better understand the mechanisms limiting physical activity and to develop effective interventions to support this population.

Disclosure:

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