Physical Activity for People who are Deafblind

Goal:

To review the literature that explores people with deafblindness meeting aged-matched Australian physical activity (PA) guidelines for people with disabilities[1].

Method:

A literature review was carried out using Pubmed, Cinahl, Google scholar and search terms including physical activity, physiotherapy, deafblind, deafblindness, deaf-blind, dual sensory impairment, dual sensory loss, deafblind disorders, CHARGE syndrome, Usher syndrome.

Outcomes:

PA confers unique benefits for people with deafblindness: it promotes language use[2,3], orientation and mobility skills[4], balance skills[6] and bone health[7]; PA moderates depressive symptoms[8]; and is a recognised life strategy of people with Usher Syndrome Type 2A[9]. Despite this, across the lifespan, the heterogenous literature points to people with deafblindness having low levels of PA[4,7,10-12] and, in children with CHARGE syndrome, delayed gross motor skill development[13,14].

Conclusion:

Every pre-school child who is deafblind should be provided access to a trained therapist to learn fundamental motor skills to prepare for a lifetime of physical activity. Adults who are deafblind should be encouraged to consider the many benefits of physical activity and be provided with access to the required supports to participate. Increasing the physical activity levels of people with deafblindness is complex, vital and achievable[29].

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Research indirectly highlights several facilitators of physical activity for people with deafblindness[12,15,16]:

- Early intervention settings/camps where children with deafblindness can learn basic motor skills[15], with emphasis particularly on running[17] and balance[13]. Running has been shown to be the only motor skill, of five tested, that was related to a child's overall level of physical activity[17].
- Access to adapted equipment[12,15,16], which may include: walkers[12], bicycles[12], talking pedometers (for deafblind children who use hearing devices)[18] and running tethers[19].
- Assistance from professionals who are trained to work with people who are deafblind[3,12,15,16,20,21].
- Recreational/social groups: Where the family of a deafblind child will feel welcome and understood[12,15].
- One-to-one care/respite: Young people (adolescents/adults) with CHARGE have greater motivation to be physically active when one-to-one care is available[7].
- Individualised programs: A suitably trained therapist/adapted physical education teacher, who has assessed and determined a child's motor and balance competency, can develop an individualised program[21].
- Addressing fears: It is important to discuss any fears or concerns the person with deafblindness has in participating in a new physical activity[22]. Doing activities that are meaningful, and follow a known structure, will help to maximise engagement and assist with emotional/behavioural regulation[23].
- Communication during PA: It is imperative to have a person familiar with the exercising individual who is deafblind present, to promote understanding and good communication throughout the physical activity[24]. Consider that one's hands, often involved in the PA itself, will be less available for signing[24]. All language required (e.g. equipment names/relevant verbs/instruction/warning/emergency vocabulary) should be well established (in Auslan/tactile sign/English as required) prior to activity commencement[22]. Both the person with deafblindness and their communication guide/interpreter should be safe and comfortable throughout the activity[22]. Time is required for exploration of the equipment/area prior to commencing[24]. Instruction may require significant time and may need to occur in a different place to other participants for accessibility[24]. Periods of feedback should be provided during natural breaks in 'discrete activities'[24] or at pre-agreed times during 'continuous activity' (e.g. swimming)[24]. It is recognised that there is a shortage of trained communication guides for people who are deafblind[25]. All people working with a person who is deafblind should receive training in communication.
- Specialised instruction methods: Task analysis[26], pre-teaching[19,26], tactile modelling[19,26], physical guidance[19,26], co-active movement[26], whole-part-whole learning[26] and tactile mapping[19,26] are methods used by therapists/teachers to teach gross motor skills/physical activities to children who have vision loss/deafblindness.
- Autonomy: A cherished value of the deafblind community is autonomy, the ability to make informed decisions, without another person usurping your right to choose for yourself[27]. Features of physical activity participation for the person who is deafblind should promote autonomy: providing time to demonstrate options[24], make choices understood[24,22] and to understand the selections accurately[3].
- Creating accessible spaces: One study found that a sample of health and fitness facilities across the United States had a low-moderate accessibility level to people with vision loss[28]. PA venues, and their surrounds, should be planned to be safe and accessible to those with deafblindness[16].

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