

Good morning, my name is Lois Duffy, and today I will be presenting my poster on Down syndrome within the context of early childhood education. During this presentation, I will examine how Down syndrome is identified and diagnosed in young children, highlighting both prenatal and postnatal approaches and their associated benefits and limitations. I will also discuss the key barriers that children with Down syndrome may face in early learning environments, including cognitive, physical, social, and systemic challenges that can impact development and inclusion.

what is down syndrome?

(NHS, 2023 and Potier and Reeves, 2017) states that Down syndrome is a genetic condition that happens when a child is born with an extra copy of chromosome 21. This affects development from conception and can influence a child's physical growth, learning, and communication skills. Children with Down syndrome may have low muscle tone, delayed speech and movement, and some recognisable physical features. They often reach developmental milestones such as walking, talking, and self-care skills later than other children.

Children with Down syndrome may also have additional health needs, including heart conditions, hearing or vision difficulties, and thyroid problems. With regular health checks and early support, many of these needs can be well managed.

Down syndrome is not an illness and is not contagious. With early intervention and inclusive early years practice, children with Down syndrome can learn, play, and develop alongside their peers. Supportive environments, positive relationships, and high expectations help them build confidence, independence, and a strong foundation for future learning.

How is down syndrome identified and diagnosed?

(Mayoclinic.org, 2018 and NHS, 2021) argues that Down syndrome is identified and diagnosed through a combination of prenatal and postnatal methods. During pregnancy, screening tests such as first-trimester combined screening and non-invasive prenatal testing (NIPT) can estimate the likelihood that a baby has Down syndrome. These tests are safe and non-invasive but only provide risk assessments rather than a definite diagnosis. If screening indicates a higher likelihood, diagnostic tests such as chorionic villus sampling (CVS) or amniocentesis may be offered. These tests analyse the baby's chromosomes and give a definitive result, but they carry a small risk of miscarriage.

(Antenatal, Neonatal and Postnatal Care A Guide for Healthcare Professionals, 2019) states that After birth, Down syndrome may be suspected based on physical features such as low muscle tone or distinctive facial characteristics. A blood test called karyotype analysis is then used to confirm the diagnosis by identifying an extra copy of chromosome 21. This method is highly accurate and poses no risk to the child. Overall, early identification allows families to access support services and early intervention, which are crucial for positive developmental outcomes.

What barriers can children with down syndrome face?

(bk, 2024) argues that children with Down syndrome can experience a range of barriers that affect their learning and development, particularly within mainstream nurseries and schools. Cognitively, they may find it harder to remember information, concentrate for long periods, or process instructions quickly, which can make it challenging to keep up with the pace of learning in busy classroom environments. Delayed speech and language development may also affect their ability to express needs, take part in group activities, and build friendships with peers.

Physically, low muscle tone and delayed motor development can impact coordination, handwriting, and participation in physical play. Some children also have additional health needs, such as hearing or vision difficulties, which can create further challenges in noisy or fast-paced settings. In mainstream nurseries and schools, a lack of specialist training, limited one-to-one support, and insufficient resources can increase these barriers, sometimes leading children to feel frustrated or misunderstood.

(nhs.uk, 2019) also adds that another significant barrier is the difficulty families often face in finding specialist nurseries or early years settings specifically designed to support children with Down syndrome. These specialist provisions are limited and not always available locally, meaning many families have no option but to place their child in a mainstream setting, even if it is not fully equipped to meet their needs. This can place additional pressure on both the child and staff, particularly if appropriate support strategies are not in place.

Socially and emotionally, children may experience low confidence, social exclusion, or stigma due to a lack of awareness and understanding from peers. When learning environments are not fully inclusive, children may struggle to feel a sense of belonging. However, with the right support, adapted teaching approaches, and positive attitudes from staff and peers, mainstream settings can become inclusive spaces where children with Down syndrome are supported to thrive and reach their full potential.

What does an appropriate support strategy look like for children with down syndrome?

(Oxford health, 2021) An appropriate support strategy for children with Down syndrome should be holistic, child-centred, and involve a team of professionals working together. Early intervention is vital, as support introduced in infancy and early childhood can greatly improve long-term development. This may include physiotherapy to strengthen muscle tone and movement, speech and language therapy to support communication, and occupational therapy to develop fine motor skills and independence. Support is most effective when it is tailored to each child's individual strengths and developmental needs rather than their age alone.

(Kendall, L. 2019 and Knowles, G. 2011) states that in educational settings, inclusive practice is essential. Individual Education Plans (IEPs) allow learning goals, teaching strategies, and assessments to be adapted to meet the child's needs while maintaining high expectations. Visual timetables, clear routines, repetition, and hands-on learning are particularly effective, as many children with Down syndrome learn best through visual and practical methods. Collaboration between teachers, SEN coordinators, therapists, and support staff ensures consistent and effective support.

Health and wellbeing are also important, as some children have additional medical needs. Regular health checks and coordinated care help manage conditions such as hearing, vision, or heart difficulties, reducing barriers to learning. Supporting families through information, training, and peer networks strengthens home-school partnerships and promotes positive outcomes.

Finally, promoting inclusion, independence, and self-confidence is key. Opportunities for social interaction, community involvement, and supported transitions into later life help children develop a sense of belonging. Challenging negative attitudes and maintaining high expectations ensures children with Down syndrome are valued, supported, and empowered to reach their full potential.

Questions

How is down syndrome affecting the family and their experience in education?

(Downs Syndrome Association, n.d.) states that having a child with Down syndrome can have a significant impact on a family, particularly in relation to their experiences within the education system. Families may initially experience a range of emotions following diagnosis, including worry, uncertainty, and the need to adapt expectations for their child's development. Over time, many families become strong advocates for their child, working closely with professionals to ensure appropriate support is in place.

In education, parents and carers often face challenges in securing suitable placements and support for their child. Navigating assessments, Individual Education Plans (IEPs), and funding processes can be time-consuming and stressful. Some families may struggle to find mainstream nurseries or schools that feel confident and prepared to meet their child's needs, while specialist provisions may be limited or not available locally. This can lead to feelings of frustration and concern about whether their child is fully included and supported.

(Oubibi, 2024) states that families may also experience emotional strain if they feel their child is misunderstood or if progress is slower than expected. However, positive partnerships with schools, supportive staff, and inclusive environments can greatly improve the family's experience. When schools communicate openly, value parental input, and celebrate the child's achievements, families often feel more confident and reassured.

Overall, while raising a child with Down syndrome can present challenges, many families report positive experiences when education settings are inclusive, supportive, and responsive. With the right support, families can feel empowered, and children can thrive both academically and socially.

how do you see meaningful inclusion?

(Pace, 2025) supports that meaningful inclusion means more than simply placing a child in a mainstream setting; it involves ensuring they are actively valued, supported, and fully involved in all aspects of learning and school life. For children with Down syndrome and other additional needs, meaningful inclusion is about creating environments where differences are respected and individual strengths are recognised.

In practice, this looks like children participating in everyday classroom activities alongside their peers, with appropriate support in place. Lessons and play experiences are adapted so every child can access them, using strategies such as visual aids, hands-on learning, and clear routines. Support staff work alongside teachers to promote independence rather than doing tasks for the child.

Meaningful inclusion also involves positive relationships. Children feel a sense of belonging when peers understand and accept differences. This can be encouraged through inclusive activities, social skills support, and open discussions about diversity. Staff play a key role in modelling respectful behaviour and challenging stereotypes.

Finally, meaningful inclusion means listening to children and families. Parents are treated as partners, and children are encouraged to express their views in ways that suit them. When schools work collaboratively with families and outside professionals, children are more likely to feel confident, valued, and successful.

In simple terms, meaningful inclusion is about participation, belonging, and opportunity – ensuring every child feels they truly belong and can reach their full potential.

Kate's questions

Kate, could you explain a little more about the diagnostic tools please?

Kate what else is available to practitioners if we have no Lego?

Reference list

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