

Additional Learning Needs Portfolio

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Part One:

Turner Syndrome is described by Sybert and McCauley (2004) as a condition found only in females where one of the female sex chromosomes is partly missing or missing altogether. This description is supported by the Turner Syndrome Support Society (No Date) and NHS (2018) who both state that it is a condition that affects only one in every two thousand females.

Sybert and McCauley (2004) explain how some girls with Turner Syndrome are not diagnosed until beyond the age that they are due to start puberty. Ranke and Saenger (2001) talk about how girls with Turner Syndrome do not have ovarian function so do not start puberty naturally. Other symptoms such as short stature are sometimes missed and then diagnosis only becomes apparent when they are looking into why puberty has not started.

However, early diagnosis and early intervention is the key to girls with Turner Syndrome achieving their highest potential. One form of early intervention that is beneficial is the administration of growth hormone. Sybert and McCauley (2004), Ranke and Saenger (2001) and Kalvaitis and Rivkees (2011) all state that short stature is a common attribute caused by Turner Syndrome; this is caused by the lack of growth hormone. NHS (2018) also confirmed that a high dose of growth hormone treatment is administered to Turner Syndrome patients. As well as aiding the patients to increase in height, having appropriate levels of growth hormone has other benefits to the human body. Roszko et al. (2018) explain how growth hormone is essential to bone development whereas Kanashiro-Takeuchi et al. (2010) talk about how growth hormone provides benefits to the heart. This shows how growth hormone helps the body develop healthily and how a lack of growth hormone could be detrimental to health. Furthermore, Augoulea et al. (2019) and Türkyılmaz et al. (2008) talk about the connection between Turner Syndrome and osteoporosis; this shows that girls with TS can have issues with their bone density. Lin and Silberbach (2007) talk about how Turner Syndrome patients are at risk of heart conditions, and must have routine checks on their heart. This shows that having early intervention allows for girls with Turner Syndrome to begin having growth hormone as early as possible, then the risk of osteoporosis or any heart conditions would be reduced through the affect growth

hormone has on developing and strengthening the body as a whole. UNICEF (no date) shows article twenty-four of the UNCRC, which shows a child's right to the best possible health. This is a right that is also supported by the Children Act 2004 as shown by Legislation (2004). Early intervention for a child with Turner Syndrome can assist in ensuring that this right to good health is met at the best level possible.

Furthermore, Lawrence et al. (2003) talk about the social aspect of Turner Syndrome; describing how females with Turner Syndrome usually have difficulty in interpreting forms of non-verbal communication. They state how young girls with Turner Syndrome rarely made eye-contact with an interviewer, evidently not understanding the importance of body language and facial expressions to clear communication. Additionally, Galway and Metsala (2011) and Burnett et al. (2010) talk about how children with a non-verbal learning disorder have difficulty in interpreting body language and forms of communication that are not spoken.

Even though Turner Syndrome can result in difficulties with communication skills, Cardillo et al. (2017) state how those with a verbal learning style generally excel in areas of language development and writing skills. However, Banker et al. (2018) look further into this by stating that a non-verbal learning disorder also has disadvantages, as it leads to delays in many areas; such as a delay in forming a sense of spatial awareness. They state that it can also lead to delays in developing fine motor skills and has a severe impact on the development of social skills. Mammarella et al. (2013) also look into the disadvantages of a non-verbal learning disorder and how it can lead to a delay in mathematical understanding.

Understanding the issues of a non-verbal learning style and the developmental delays that it can cause, is essential to assisting girls with Turner Syndrome to learn in a way that is appropriate for them. Mayer & Massa (2003) talk about different learning styles and how education should follow the style of the learner. This idea is a beneficial form of early intervention for girls with Turner Syndrome, because if their teacher is aware that they have difficulty in learning through non-verbal methods of teaching, then tasks can be altered to provide a learning style that is more suitable for them. Early intervention into the learning style of a child with Turner Syndrome would aid their teachers to understand Turner Syndrome and its effects on learning at a higher level.

This would lead into assisting teachers to create an individualised learning approach; aimed to enhance the development of spatial awareness, social skills and other areas where greater assistance is needed.

Welsh Government (2020) explains the new curriculum, which supports the idea of how important an individualised approach to learning is. They understand that children develop in different ways and at different paces; so therefore teaching needs to be catered to each child's style and pace of learning. Without this individualised form of early intervention in their education, girls with Turner Syndrome would be struggling to learn in a style that is inappropriate for them. This could result in the learner getting frustrated while trying to learn as they do not understand what is expected of them. Legislation (1998) looks at the Human Rights Act 1998, which states that people should be treated as individuals and be free from discrimination. Article two of the UNCRC, shown by UNICEF (no date), also shows this right. This individualised approach to learning in a style that suits the learner follows these rights as it means their learning style is not being unintentionally discriminated against. It is beneficial for girls with Turner Syndrome to have their learning style discovered as early as possible, so that they can be taught in a way that helps them understand and allows them to go on and achieve their greatest potential.

Part Two:

One of the main barriers girls with Turner Syndrome face is the fact that they are often a lot shorter than their peers. This can sometimes mean that items, such as toys, colouring pencils or other learning equipment that they require, is out of their reach. Especially when they are around three and a half years of age; before the recommended age where they start growth hormone therapy. This, as the Turner Syndrome Society of the United States (2018) states, is the age where over seventy-five percent of girls with Turner Syndrome do not reach the fifth percentile in height on the female growth chart, and why growth hormone treatment begins at this age. This often makes it necessary for them to rely on others to fetch what it is that they require, leading to a lack of independence. Whereas their peers often do not have this barrier as they are taller in height. Hillman (1993) explains that children need independence in order to mature. Radford (2005) agrees with this and expands on the idea by stating that if too much assistance is given to those with additional learning needs then it can cause delays in their learning as the work is done for them. Radford (2005) explains that children lose lack of interest in doing things for themselves if things are continuously done for them, and this has an impact on learning. Furthermore, the Turner Syndrome Society of the United States (2018) states that Turner Syndrome affects the body's ability to mature naturally. With that in mind, if there are barriers in the way of independence and developing maturity for a child with Turner Syndrome, such as them continuously relying on others to fetch things for them; then their ability to mature and develop independence will be even further delayed.

Stevenson (2017) talks about the idea of children being independent and how that leads to self-regulated learning. Winne (2018) explains that self-regulated learning is when learning is done independently, where the learner can learn about what interests them with the resources that are available to them. Throndsen (2011) explains how independent learning is a method that follows each child's individual learning style as well as their interests. This allows the child to create a learning method that works for them. Throndsen (2011) explains how each individual, and the way in which they learn, is unique. Therefore, letting anyone follow their own learning style is a beneficial way of learning. However, the idea of self-regulated learning is not always available to girls

with Turner Syndrome, due to their need of asking for resources beyond their reach and then beginning to rely on the assistance that they are given.

If girls with Turner Syndrome were able to follow a self-regulated learning style; then they would be able to find a way of learning that follows their unique learning style. This learning style is a result of the connection between Turner Syndrome and having a non-verbal learning disorder. The connection between Turner Syndrome and having difficulty in learning through a non-verbal manner is explained by the Turner Syndrome Society of the United States (2018). Therefore, the ability to learn independently would be a benefit to the learning style of those with Turner Syndrome; however it is not always possible while resources and learning equipment that they would require are not easily available to them and are often out of reach.

The Montessori Group (no date) talk about the environment within a Montessori education based establishment. They discuss how the whole environment is child-led and based around the child. They also state that a great amount of attention is placed upon the layout of a Montessori classroom, in order for it to be an environment where children do not need to rely on adults for assistance. Isaacs (2012) expands on this; she talks about how a Montessori learning environment requires having all resources within a child's reach and that they are ready for use and available to them at all times. Isaacs (2012) talks about how this type of learning environment allows children to learn at their own pace and in a learning style that is appropriate for them. This type of environment would be highly beneficial to girls with Turner Syndrome and their learning as they can learn in a way that suits them. It is also the kind of environment that ensures that all equipment is within reach and promotes independence, something that is vital for the development of girls with Turner Syndrome.

Additionally, the Reggio Emilia approach looks at how the environment affects learning. Strong-Wilson and Ellis (2007) talk about how the Reggio Emilia approach is all about seeing the environment as the third teacher. They talk about how the environment needs to be catered to the child's needs in order to enhance their learning. This is also supported by Robson and Mastrangelo (2017) who talk about how the Reggio Emilia classroom provides an environment that encourages

independent learning. They explain that the idea of the classroom being the third teacher is that the room itself provides vast opportunities for learning and discovery.

Furthermore, UNICEF (no date) shows article two of the UNCRC which shows a child's right to be free from discrimination, and article thirteen which shows a child's right to access all kinds of information. A suitable and accessible environment would naturally ensure that these rights are enforced for any child with Turner Syndrome. This shows that having an ineffective learning environment can be a significant barrier for girls with Turner Syndrome. An environment closer to a Montessori or Reggio Emilia classroom, would provide ample opportunity for self-learning. However, most importantly for girls with Turner Syndrome, it provides independence. Frederickson and Cline (2015) talk about how important it is to be inclusive to all needs in order to provide the best possible learning environment. To not create an environment that is suitable for the individualised needs of a girl with Turner Syndrome could potentially lead to frustration as they cannot easily do as they please, as well as being detrimental to their education. However, there are suitable environments where everything is in reach and they are creators of their own education, so this shows that it is a barrier that is easily overcome.

Part Three:

Turner Syndrome and the way it affects learning doesn't generally fit into the busy social environment that is a public school. The Turner Syndrome Support Society (no date) has produced a guide for parents and teachers to assist girls with Turner Syndrome through school. This guide explains how the social aspect of school can be overwhelming. They state that lack of confidence and low self-esteem can be an issue for girls with Turner Syndrome and that they have a tendency to take peoples assessment of their abilities to heart. Therefore teachers of girls with Turner Syndrome are encouraged to focus on positives, in order to assist in creating a positive self-esteem which will then ends up reflected in their effort toward their academic work.

The Turner Syndrome Society (no date) also explains that the low self-esteem and social issues that are associated with Turner Syndrome can easily lead to being a victim of bullying. Therefore teachers need to be aware of this and support the child in that area. The social difficulties that arise as a result of Turner Syndrome is where the child would benefit from the most support. Kirk and Jay (2018) talk about the importance of play and how allowing children with opportunities to play and interact with others will help develop social skills. Broadhead (2004) also discusses the link between children playing and interacting with others and the positive development of social skills. This shows how important it is for practitioners to allow girls with Turner Syndrome ample time to interact with others so that their social skills will be developed as a result of these interactions.

Furthermore, Merritt et al. (2012) talk about how the teachers interaction with their students becomes a major factor in their social development. Ho and Funk (2018) also talk about the importance of the student and teacher relationship when it comes to developing social skills. They state that positive relationships with their teachers benefit the students both in the development of their social skills and their ability to understand emotions. This is why is it important that practitioners make an effort to create a positive bond with any child with Turner Syndrome in their care in order to help enhance the child's social skills.

Georgetown University Centre for Child and Human Development (No Date) looks at the idea of reading to children and how that improves their social abilities. They state that being read to can help children understand their own emotions, and therefore begin to understand the emotions of others which is key aspect of improving social abilities. Agosto (2013) also talks about how reading assists social development by creating the development of empathy for the characters in stories, which then goes on to translating into empathy for others in every day life. Medford and Mcgeown (2016) also support the idea of a link between high-performing literacy skills and positive social development; stating that those with reading problems also had a tendency to have social problems. Therefore it is important that practitioners assist children with Turner Syndrome to develop their literacy skills and spend time reading with them, as this further aids their social development.

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