Topic Paper: Down Syndrome
Carrie Phillips
RCPT 340
Dr. Newman
October 19, 2014
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Definition</td>
<td>3</td>
</tr>
<tr>
<td>Etiology</td>
<td>3</td>
</tr>
<tr>
<td>Incidence</td>
<td>4</td>
</tr>
<tr>
<td>Common Treatment</td>
<td>5</td>
</tr>
<tr>
<td>Contraindications</td>
<td>5</td>
</tr>
<tr>
<td>Strengths</td>
<td>5</td>
</tr>
<tr>
<td>Limitations</td>
<td>6</td>
</tr>
<tr>
<td>Application of Recreation Therapy</td>
<td>7</td>
</tr>
<tr>
<td>Conclusion</td>
<td>8</td>
</tr>
<tr>
<td>References</td>
<td>9</td>
</tr>
</tbody>
</table>
Introduction

There are many intellectual disabilities in the world today. Many of these disabilities have been studied for years in hopes to find cures or better ways of coping for the affected individuals and their families. Thanks to modern science, many of these studied disabilities are pretty well known and can usually be detected early to help begin the treatment process. However, this does not make everything easy for those diagnosed with a disability or their families. Down syndrome, named after a British physician in the 1800’s, is one of the common, most distinctive intellectual disabilities. This paper will include information about the etiology, incidence, treatment options, and contraindications of Down syndrome that have been studied throughout the years in order to better understand the disability. The strengths, limitations, and applications of recreation therapy for Down syndrome will also be discussed in the latter portion of this paper.

Definition

Down Syndrome, or sometimes known as Trisomy 21, is generally a result of an extra copy of the 21st chromosome in the genetic makeup of a human being and it is the most common genetic cause of intellectual disability that also causes physical disabilities (Martin, 2013; Ploeg, 2011; Tonge, 2011; Zigman, 2013; Finestack & Abbeduto, 2010). Just a few of the common characteristics of Down syndrome are social anxieties, impaired language, attention deficits, small nose and ears, large, protruding tongue, and hypotonia (Wright, Kaiser, Reikowsky, & Roberts, 2013; Martin, Losh, Estigaribia, Sideris, & Roberts, 2013; Ploeg, 2011; Zigman, 2013).

Etiology

There are several known causes of Down syndrome. One cause, as previously mentioned, is an extra copy of chromosome 21 or an abnormality found within it. This type of Down
Down syndrome is the most common type, called trisomy 21. It is responsible for making up for 95% of the population with Down syndrome (Tonge, 2011; Centers for Disease Control and Prevention, 2014; Martin, 2013; Zigman, 2013). Another genetic cause of Down syndrome resulting from abnormality within the chromosomes is called translocation. Translocation is generally hereditary in that the 21st chromosome clings to another (Tonge, 2011; Centers for Disease Control and Prevention, 2014; Martin 2013; Zigman, 2013). Mosaicism is the third genetic abnormality to result in Down syndrome. Mosaicism is very similar to trisomy, yet effects less cells and, depending on the amount of abnormal chromosomes, usually yields more mild symptoms (Tonge, 2011; Centers for Disease Control and Prevention, 2014; Martin, 2013; Zigman, 2013). Also, women who give birth when they reach about 35 years of age or older increase the chances of their babies having Down syndrome. However, women younger than 35 year of age still give birth to 80% of the children with Down syndrome (Tonge, 2011; Centers for Disease Control and Prevention, 2014; National Association for Down Syndrome, 2012).

**Incidence**

Down syndrome, as previously stated, is one of the most common intellectual disabilities. Down syndrome does not appear more frequently in any given ethnicity or economic level. It occurs in about 1 in 700-800 live births (Centers for Disease Control and Prevention, 2014; Finestack & Abbeduto, 2010). Approximately 6,000 babies are born with Down syndrome each year in the United States, appearing more males than females (Centers for Disease Control and Prevention, 2014; Shin et al., 2009; Tonge, 2011; Zigman, 2013; Goluch-Koniuzy & Kunowski, 2013).
Common Treatment

Although Down syndrome is not curable, there are several treatment recommendations to help cope with Down syndrome. Early corrective cardiac surgery is one of the recommendations, as well as prescribed medicines such as prostacyclin and Namenda, for cognitive impairments. Other common treatments would include occupational therapy, physical therapy, speech therapy, developmental therapy, and recreation therapy (Zigman, 2013; Vis, 2009; National Association for Down Syndrome, 2012). Participation in community activities and sports are also encouraged to help children with Down syndrome improve their social and communication skills, motor development, as well as to improve their self-esteem (Becker & Dusing, 2010; Amato, 2010; Nikolova & Treneva, 2013; Moraru, Hodorca, & Vasilescu, 2014; McDermott, Martinez, Kuhn, & Schreck, 2014).

Contraindications

Although there are various common treatments to help those with Down syndrome, these treatments also come with risks. The cardiac surgery, for example, like any other surgery, can be dangerous as it comes with a set of risks and depending on the situation. Also, there are dangers that come with physical exercise for those with Down syndrome. When engaging in physical activities, individuals with Down syndrome are at an increased risk for injury due to physical malformations, especially since many of them have heart defects (Ordonez et al., 2013; Centers for Disease Control and Prevention, 2014; Ordonez, 2012).

Strengths

Children with Down syndrome have strengths of their own. For example, in the area of physical functioning, they do not have as many physical limitations as individuals with other
disorders. Most of the time they are able to walk and are able to use their gross motor skills without much difficulty.

Furthermore, individuals with Down syndrome have strengths in the area of social functioning. They tend to be more sociable than those with other intellectual disabilities. This sociability is not only beneficial for the children, but this also helps to reduce stress for the parents and allows for the parents to socialize as well (Griffith, Hastings, Nash, & Hill, 2010; Foley et al., 2014).

Also, in the area of emotional (affective) functioning, those with Down syndrome tend to be very loving and loyal to their loved ones. They do not have as many behavioral problems as those with other intellectual disabilities and are generally happy and joyful individuals who love to have fun (Griffith, Hastings, Nash, & Hill, 2010; Foley et al., 2014). Those with Down syndrome tend to enjoy making friends and will do so when given the opportunity.

In addition to the physical, social, and emotional functioning strengths, individuals with Down syndrome also have strengths in the area of cognitive functioning. There are many who are able to obtain jobs of their own later on and some who can live independently. They are also able to be a part of the special education departments of schools and they can usually learn well with visuals.

**Limitations**

There are common limitations that come with the diagnosis of Down syndrome. For example, in the area of physical functioning, many individuals with Down syndrome tend to be delayed in their physical development and motor developments, have hearing difficulties, speech impediments, at greater risk for thyroid dysfunction, and 50% have congenital heart disease (Wright, 2013; Martin, 2013; Zigman, 2013).
Furthermore, in the areas of social functioning and emotional (affective) functioning, some limitations for those with Down syndrome could include stereotyping by those around them. These stereotypes can sometimes result in negative self-image and low self-esteem. Those with Down syndrome may take on others’ perceptions about themselves. When this shift in thinking occurs, the individuals with Down syndrome may be apt to withdraw and not participate in social situations and activities in the community.

Lastly, in the area of cognitive functioning, children with Down syndrome develop at a slower rate than their peers, as they do physically. Some of the cognitive limitations individuals with Down syndrome experience are difficulties with phonological memory and auditory comprehension. Just a few other common characteristics of Down syndrome are social anxieties, impaired language, and attention deficits (Wright, 2013; Martin, 2013; Ploeg, 2011; Zigman, 2013).

**Application of Recreation Therapy**

Recreation therapy can apply various therapies and implement many different programs to help those with Down syndrome cope with the disability as well as to overcome some of the limitations and barriers. Many individuals with Down syndrome may not get the ideal amount of exercise they need. Therefore, swimming or other sports, such as modified tennis, for example, could be used by a therapeutic recreational specialist to help build muscle, work on motor skills, as well as balance and their overall physical health.

Also, cognitive and social functions can be improved by recreation therapy by getting the individual with Down syndrome to participate in activities that require both teamwork and strategy. In order for an individual to work effectively with a team, he or she will have to develop his or her communication skills, both verbal and nonverbal. This would motivate the
individual to speak clearer and use appropriate gestures while trying to communicate to others around him or her. Strategic planning and application would be great practice to help improve the cognitive functioning of an individual with Down syndrome. He or she would have to try different strategies and then determine which worked best.

Lastly, to help improve emotional functioning, a therapeutic recreational therapist may use art therapy for those individuals with Down syndrome. This kind of therapy would allow the individuals to express their feelings, whatever they may be. Also, creating a piece of art could give the individuals a sense of accomplishment and pride to help boost self-esteem.

**Conclusion**

In conclusion, Down syndrome poses challenges physically, cognitively, emotionally, and socially to the individuals with the condition, and also affects their families. However, with the advancements and research in modern science, this disability has been well studied and defined. Throughout the years, many treatments, coping methods, and services have been discovered, invented, and utilized to help those with Down syndrome and their families to live the best lives possible.
References


levels, in obese women with Down syndrome. *International Journal of Sport Nutrition & Exercise Metabolism, 23*(3), 239-244.


