Purpose

This study sought to expand the existing knowledge of patterns of play and social participation of children with CHD by providing a control group in order to make further analysis and comparison with the original data from Walmertree, Bauder, Cavanaugh, & Rasmussen. (2012).

Learning Objectives

• Identify possible effects of CHD on children’s development, play and social participation.
• Compare patterns in play and social activity of typically developing children to those in children with CHD.
• Describe any emerging patterns in play & social activities for typically developing children.

Literature Review

CHD is one of the most common birth defects, with a prevalence rate of approximately 1%, and can have lasting effects (Centers for Disease Control, 2011). Evidence suggests that individuals with CHD experience various added challenges throughout their lives, including academic and social difficulties, neurodevelopmental abnormalities, and anxiety and depression (Smith, Newey, Jones, & Martin, 2011; Verheugt, Utekwad, Grobbee, & Mulder, 2008). Additionally, in a recent press release, the American Heart Association identified that there may be a relationship between CHD and developmental disorders including difficulties in school, poor social skills, behavioral issues, and physical limitations (2012).

General research on children with CHD shows that such children may be at an increased risk for developmental impairments when compared to their healthy peers, which subsequently leads to difficulty with daily activities, including social and play tasks (Granberg, Rybjaeg, & Fisher, 2008; Moola, Fusco, & Kirsh, 2011). Additionally, Chen & Wang (2004) stated the majority of play activities in which children engage are physically active pursuits that require a certain level of physical capability in order to participate fully. Some children may find physical activity or play to be a distressed due to severity of CHD symptoms (Moola, Fusco, & Kirsh, 2011). Children may select play activities based on their energy levels, and they may adapt activities in order to participate (Jippebosman & Engelsraar, 2005). Therefore, it is plausible that if children experience difficulty engaging physical activities, this restricts and complicates engagement in play and social activities.

Methodology

Design: Exploratory, noncross-sectional
Participants: Healthy controls were recruited through convenience sampling. Inclusion criteria 6-17 years old and fluent in English. Additionally, participants were selected if they were the same sex and within 6-12 months of age from participants in the previous study. Exclusion criteria: current or chronic health conditions and/or hospitalization for any reason 3 months prior to study.

Instruments:
• Q-sort questionnaire – completed by parents
• Children’s Assessment of Participation and Enjoyment (CAPE)
• Preferences for Activities of Children (PAC)
• Brief semi-structured interview

Data Analysis: Researchers reviewed demographic questionnaires for background data and contextual variables. The CAPE/PAC were scored and examined for trends. Interviews were transcribed and reviewed for themes. Finally, researchers compared CAPE/PAC scores with the results found in Walmertree, et al. (2012).

Results

Comparison of CAPE Scores

(CHD = children with congenital heart defects; TD = typically developing peers)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Diversity</th>
<th>Intensity</th>
<th>With Whom</th>
<th>Where</th>
<th>Enjoyment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHD: male/female</td>
<td>33</td>
<td>20</td>
<td>2.2</td>
<td>2.2</td>
<td>4.1</td>
</tr>
<tr>
<td>CHD: 12-19/30 months</td>
<td>27</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>4.1</td>
</tr>
<tr>
<td>CHD: 20-29/30 months</td>
<td>21</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>4.1</td>
</tr>
<tr>
<td>CHD: 30+ months</td>
<td>33</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>4.1</td>
</tr>
<tr>
<td>TD: male/female</td>
<td>35</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>4.1</td>
</tr>
<tr>
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Comparison of PAC Scores

<table>
<thead>
<tr>
<th>Key to CAPE Scores</th>
<th>Key to PAC Scores</th>
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</thead>
<tbody>
<tr>
<td>Diversity</td>
<td>Intensity</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Discussion/Conclusion

Most participants' scores fell within the middle range in each category on the CAPE Case comparisons illustrate minimal differences between typically developing children and participants with CHD. Their scores demonstrate engagement in a variety of activities with a tendency to choose solitary activities at home, especially among younger participants. Scores on the PAC suggest that all typically developing participants had interests in a range of activities. While children with CHD had an interest in a range of activities, they appeared less likely to prefer physical activities than the typically developing participants. This difference in preference for engagement in physical activities was the only noticeable difference. Although it is logical to assume that the difference in preference for physical activities is related to CHD and associated physical ability limitations and restrictions, it is also possible that other differences may be in reflection of personality or other factors that were not accounted for in this study.

Limitations

To a small sample size, statistical analysis was not performed; therefore, it is difficult to definitively report the degree to which the scores differ. Additionally, findings cannot be generalized to a larger population. This study also did not account for environmental and social factors, including access and family structure (e.g. parenting styles, marital status of parents, size of family, siblings, economic status) which may have contributed to any differences.

Conclusion

Although the results of the PAC suggest that children with CHD may prefer to participate in activities that are not physical in nature, CAPE scores indicate that they are still satisfied with their overall level of engagement in play and social activities. This may be a reflection of the ability of children with CHD to adapt to physical restrictions or simplify their preference to choose activities in which they feel competent as previous literature suggests. While overall scores on the CAPE and PAC were similar, differences found in case comparisons may be attributed to personality and other social factors of the participants. These findings suggest that it may be beneficial for professionals working with children with CHD to assist those children in adapting play activities to facilitate maximum participation. The results raise the question of whether children with CHD are getting the recommended amounts of daily physical activity and the possible secondary complications.

Acknowledgements

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References


Walmertree, Bauder, Cavanaugh, & Rasmussen, (2012) for their hard work that contributed to this study.

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Play and Social Participation: Children with Congenital Heart Defects Compared to Typically Developing Peers

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