Effects of Talk Tools® Assessment and Treatment of the Jaw on Feeding in Children with Feeding and/or Swallowing Disorders

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Background

Oral motor disorders in children with oral preparatory dysphagia are frequently associated with functional feeding difficulties. Jaw instability, which affects either jaw grading or jaw dissociation, is a common oral motor disorder and is considered the necessary therapeutic intervention needs to be implemented to help guide the child through the specific jaw movements in the appropriate developmental order to improve chewing efficiency for functional feeding (Eckman, Williams, Riegel, & Paul, 2008). The Talk Tools Assessment and Treatment of the Jaw is an oral motor therapy programme that targets jaw instability in children (Andrews, Clark, & Clydesdale, 2005).

While oral motor exercises (OMEs) are routinely used in clinical practice to attempt to improve oral motor disorders, evidence of their efficacy is lacking (Andrews et al., 2005). Clark (2003) argues that strong training OMEs should be critically evaluated using the principles of training specificity.

Research Aims:

To determine if the Talk Tools® Assessment and Treatment of the Jaw on the oral-motor skills important for functional feeding in children with oral preparatory dysphagia is an effective treatment of the jaw impact on swallowing.

To determine whether parents/caregivers of children with oral preparatory dysphagia observe a reduction in the perception of the impact of feeding.

Methods and Materials

Participants

- Participants included children with oral preparatory dysphagia who were recruited to the study.
- Inclusion criteria were:
  - Children between the age of 2 years and 6 years of age
  - With a diagnosis of oral preparatory dysphagia (OPD)
  - The children's parents/caregivers were willing and able to complete the home programme and the parent questionnaire posttreatment.
- Seven participants (4 boys and 3 girls) participated in the study.
- Age range: 2 years 5 months to 6 years of age
- Mean Age: 3 years 6 months
- I.Q: 124
- Four had cerebral palsy and three had developmental delay. All had OPD.

Materials

The Talk Tools Assessment and Treatment of the Jaw (Andrews et al., 2005) was the intervention selected to improve the jaw function. The intervention was completed according to the manual.

Outcome Measures

The instruments that were used as outcome measures to measure the effect of the Talk Tools Assessment and Treatment of the Jaw (Andrews et al., 2005) on functional feeding and drooling were:
- Schedule of Oral Motor Assessment (SOMA) (Reilly, Skuse, & Willox, 1995)
- The Functional Feeding Assessment section (FFA) from the Multidisciplinary Feeding Profile (Kenny et al., 1998)
- The Jaw assessment and treatment programme's assessment form and
- The Drooling Impact Scale (DIS) (Reid, Johnson, & Reddihough, 2010)

Procedure:

- Pretherapy measurement
  - Talk Tools Assessment and Treatment of the Jaw
  - Schedule of Oral Motor Assessment (SOMA)
  - Functional Feeding Assessment section (FFA)
  - Jaw assessment and treatment programme's assessment form
  - Drooling Impact Scale (DIS)

- Treatment
  - Talk Tools Assessment and Treatment of the Jaw

- Posttherapy measurement
  - Schedule of Oral Motor Assessment (SOMA)

- Posttherapy measurement 2
  - Functional Feeding Assessment section (FFA)

- Posttherapy measurement 3
  - Jaw assessment and treatment programme's assessment form

- Parental responses on a feeding questionnaire revealed positive perceptions with regards to improvements in feeding and chewing abilities. See diagram 1.7

Results

- For each case average score was calculated and a comparison of the averages were calculated. The mean total of the FFA and the SOMA was determined in order to calculate the comparisons. In the DIS the sum of the scores was calculated to retrieve a global measurement. The global score was used to calculate comparisons.

- A significant improvement for oral-motor skills in response to the Talk Tools® Jaw Program was found in the SOMA and FFA (Diagram 1.1, 1.2, 1.3, and 1.4). The SOMA showed excellent interrater reliability with a intraclass correlation coefficient value of 0.936.

- A significant improvement was maintained after a 4-week maintenance period.

- There were no significant reductions in the impact of drooling (Diagram 1.5 and 1.6).

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- There was no significant improvement in the impact of drooling (Diagram 1.7 and 1.8).

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Discussion

The study showed that the Talk Tools chewing programme improved the oral motor skills necessary for functional feeding in the 7 study participants. Does a 'stronger' oral phase improve the overall ingestion of food? Further research at a high level of validity and reliability needs to be done to explore the effects of the Jaw Programme in greater detail.

Limitations and Future Directions

Further research on the effects of the Jaw Programme should include a larger sample size and the inclusion of a control group or comparison group. The sample should be randomly assigned and the use of credible outcome measures is encouraged. A second follow-up after completion of the programme can provide interesting data about the maintenance of changes made.

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References