NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE Perseverative/highly preferred interest stimuli incorporated within the motivational techniques of PRT may increase joint attention and result in collateral increases in joint attention initiations toward less preferred interests as well as improvements in the quality of the interactions between some caregivers and their children. Furthermore, may increase the child's ability to socialise with typically developing children, inturn increasing probability to be placed in mainstream education.

Clinical Question [patient/problem, intervention, (comparison), outcome]: In Children with Autism, does joint attention (JA) intervention improve social communication skills?

Citation: Vismara L.A & Lyons G. (2007) Using Perseverative Interests to Elicit Joint Attention Behaviours in Young Children with Autism. Journal of Positive Behavior Interventions. Volume 9, no. 4.

Design: Single subject phase reversal design with alternating treatments.

Participants: 3 non-verbal (defined as less than 10 functional words) boys who had been diagnosed with autism (DSM-4) by outside agency and their caregivers. Child 1: 34 months (VABS social & communication domains=11&16months); Child 2: 26 months (VABS=16&15months); Child 3: 38 months (VABS=19&17months). Primary language; English. Varying amounts of intervention and preschool attendance prior to the study.

Experimental Group: (1) Baseline: taken for all children across 4 sessions. Caregiver was asked to play with the child for 10 minutes with the intention of eliciting as many expressive verbalisations as possible. No food related or rough-tumble play permitted. Instructed to use both PI & NP (non-persev interest) toys to play with. 50% of PI toys were similar to the NP toys.

(2) Intervention: conducted in clinic or home, attended by primary caregiver, child and therapist. Parent education sessions for 2.5 hours per week and occurred 2 x week. Intervention consisted of training in PRT. 12 weeks of intervention. Taught strategies aimed at motivating children with autism. Follow lead; interspersing maintenance tasks and acquisition tasks; varying tasks to maintain child interest; reinforce child's correct response; administer rewards following child target behaviour; providing direct and natural reinforcers related to child's response. Each session therapist modelled PRT technique for 1 hour and gradually included parent as therapist for rest of 2.5 hour session. No direct teaching of JA occurred. Therapist coached parent/gave feedback. In addition to weekly sessions, caregiver encouraged to implement PRT during day with child. Intervention probes (PI Stim; NP stim and alternating treatments) collected at end of each session (2 videos per week).

a) PI condition: determined through parent interviews and informal child observations. Used PRT with PI toys. 10 hours intervention (2.5 hoursx4 sessions). Caregivers instructed to use PI toys at home.

b) NP condition: consisted of a large variety of age appropriate stimuli that were chosen by the child but not classified as PI. Use PRT with NP toys. 10 hours (2.5x4) for child 1 and 2 and 20 hours for child 3 (2.5x8-NP first for 2 phases). Caregivers instructed to use only NP toys at home.

c) Alternating treatments: PI interspersed randomly with NP within each session to assess generalisation for JA to NP stim. 2.5 hour session divided in half, order of PI/NP alternated to account for order effects. 2 probes at end of each session. 16 sessions (40 hours) for child 1 and 2 and 12 sessions (30 hours) for child 3. Caregivers use both types intervention outside sessions. Fidelity PRT measured at baseline, week 4, week 12 to determine if caregiver implementing intervention appropriately. 10 1 min intervals scored on consistent use of 6 motivational components of intervention. All 3 caregivers scored>80% at end of intervention.

Dependent measures: Observer software used to count a) no. JA initiations b) contingencies to JA initiations c) qualitative measures of parent-child interaction.

Reliability of dependent measures: 2 observers/measure at least 1 naive to purpose of study. Inter-observer reliability collected and rated for 90% sessions and rated as 93, 96, 96% for children 1,2,3. For qualitative measures: 86, 89, 83% agreement.

PAGE 1 of 2...

Form based on Worrall & Bennett, Evidence based Practice: Barriers & Facilitators for Speech-Language Pathologists, *Journal of Medical Speech-Language Pathology* 2:9, xi – xvi

Results: ANOVA's used to assess the generalisation. Children 1 and 2: no significant differences in the number of joint attention initiations for PI stimuli in the first half (13-20 sessions) compared to second half (21-28) of the alternative treatments. Significant differences were observed in the number of JA for NP stimuli in the first half compared to the second half of the condition. Child 3: Minor differences in the number of JA initiation for PI and NP in second half of the condition. JA initiations for social sharing may increase as a collateral gain when incorporating child's PI and natural reinforcers within the motivational procedures of PRT. All children exhibited some degree of generalisation of JA initiations to other preferred objects unrelated to their PI. Children demonstrated improvements in qualitative measures of interaction with their caregivers.

Comments on Design: Strengths: Subjects selected varied in age. Fidelity and inter-rater reliability measures taken **Weaknesses:** Small sample size, did not describe families in detail. Some children may not have accessible PIs. No longitudinal data or generalisation to other settings/people data. No additional measures of social validity or educational gain.

Level of Evidence (NH&MRC): level IV

Appraised By:
Group: Autism EBP

Date: 10 June 2011