

# CAHE JC Critically Appraised Article Summary

## Journal Club criteria

<b>Date of submission</b>	Pilot 2007
<b>Journal Club location</b>	Port Pirie Regional Health Service
<b>JC Facilitator</b>	Alison Vine

## Clinical Scenario

For children with autism aged 2-6 years, what is the impact of home visits versus centre based therapy on functional outcomes?

## Review Question/PICO/PACO

P Autistic children aged 2-6

I Home based therapy

C Centre based therapy

O Functional Outcomes

## Article/Paper

Svein Eikeseth, Tristram Smith, Erik Jahr, Sigmund Eldevik. Intensive Behavioural Treatment at School for 4- to 7-Year-Old Children With Autism. A 1-Year Comparison Controlled Study. Behavior Modification, Vol. 26 No. 1, January 2002 49-68

**Article Methodology:** Randomised Controlled Trial

**Returned JC on:** Pilot 2007

**By CAHE staff member:** Matt Sutton

Ques No.	Yes	Can't Tell	No	Comments
1	✓			<b>Population-well defined</b> All referrals in the time span of November 1995 to November 1998 who met the following three criteria were included in this study: diagnosis of childhood autism (ICD-10) (World Health Organization, 1993) from both the Autism Diagnostic Interview–Revised (ADI-R) (Lord, Rutter,&LeCouteur, 1994) and an independent child clinical psychologist, (b) chronological age (CA) between 4 and 7 years at the time of intake, (c) deviation IQ of 50 or above on the Wechsler Preschool and Primary Scale of Intelligence–Revised (WPPSI-R) (Wechsler, 1989) or ratio IQ of 50 or above on the Bayley Scales of Infant Development–Revised (Bayley, 1993), and (d) absence of major medical conditions other than autism. Both behavioural and eclectic treatment took place in public kindergartens and elementary schools for typically developing children.



Ques No.	Yes	Can't Tell	No	Comments
				<p><b>Intervention – well defined</b></p> <p>Each child was assigned a minimum of two therapists: a special education teacher, who provided a minimum of 4 to 6 hours per week of treatment, and one or more aides, who provided the remaining treatment hours. During individual treatment sessions (behavioural or eclectic), the child worked alone with his or her therapist in a separate room. When not in these sessions, the child was mainstreamed with his or her classmates while being shadowed by the therapist.</p> <p>Behavioural treatment. Behavioural treatment was based on a manual (Lovaas et al., 1981) and associated videotapes (Lovaas &amp; Leaf, 1981). Treatment began with relatively simple tasks, such as responding to basic requests made by an adult. It then progressed to more complex tasks, such as imitating verbal and nonverbal behaviours, labelling objects, identifying actions, and understanding abstract concepts such as colours, size, and prepositions. The treatment subsequently focused on advanced skills such as answering questions, conversing, and making friends with peers.</p> <p>Prior to the study, none of the therapists (teachers and aides) had had any supervised experience in the implementation of behavioural treatment for children with autism. During the study, the therapists received 10 hours per week of supervision in an apprenticeship format.</p> <p>After the first 3 months, parents' focus shifted to the home and community, where they implemented primarily generalization and maintenance programs.</p> <p>Eclectic treatment. The treatment incorporated elements from a variety of different interventions, such as Project TEACCH (Schopler, Lansing, &amp; Waters, 1983), sensory-motor therapies (Ayres, 1972), and applied behavior analysis (Lovaas et al., 1981), as well as methods derived from personal experience.</p> <p>The therapists received weekly, 2-hour consultations from the supervisors and directors who oversaw behavioural treatment in this study.</p> <p><b>Outcomes – well defined</b></p> <ul style="list-style-type: none"> <li>♦ Intellectual functioning (WPPSI-R (Wechsler, 1989) or the Wechsler Intelligence Scale for Children–Revised (WISC-R) (Wechsler, 1974))</li> <li>♦ Visual-spatial skills (Merrill-Palmer Scale of Mental Tests)</li> <li>♦ Language functioning. (Reynell Developmental Language Scales)</li> <li>♦ Adaptive behaviours. (Vineland Adaptive Behavior Scales)</li> </ul>
2	✓			The study compared two interventions with the same population characteristics, making an RCT the most appropriate form of design. Is it worth continuing? <b>YES</b>

Ques No.	Yes	Can't Tell	No	Comments
3			✓	The study states the subjects were quasi randomised way. The exact method is not stated, however, this means the groups were not allocated according to chance alone, thus making it a potential source of bias. It is worth noting however, that there were no statistical differences between the groups at baseline for intake data (are these the main variables of concern? What other variables may influence the results?) Also, the eclectic group attained higher average scores than the behavioural group on 10 of these 11 variables implying they functioned at a more advanced level than the behavioural group at intake.
4	✓			While participants were not blinded, the assessors were. This minimises the possibility of observer bias.
5			✓	There were 2 subjects not included in the final analysis. One of those was assigned to the eclectic group. It was not stated the reason for the dropout, however, if it was due to dissatisfaction with the intervention, this will not be shown in the results, possibly showing a false positive effect towards the eclectic group.
6	✓			All children were assessed at intake and 1 year after treatment began. In all cases, intake assessment was conducted within 1 month of the onset of treatment. A licensed clinical psychologist carried out all intake assessments. Follow-up assessments were conducted either by this psychologist or by an examiner who had a master's degree in special education and a license to administer psychological tests
7		✓		A power calculation was not carried out, however, it is unlikely a sample size of 25 is sufficient
8				Mean change in scores pre and post intervention, standard deviations and p values are reported. The behavioural group showed more gains than the eclectic group on all measures. These differences were statistically significant for IQ, language and adaptive behaviour.  Children in the behavioural group were more likely to have IQs in the average range. Seven of 13 in the behavioural group achieved WPPSI-R IQ scores above 85 (with 1 other scoring 84), compared to 2 in the eclectic treatment group, $p < .05$ . The behavioural group was also more likely than the eclectic group to score in the average range on other measures, although this difference was not statistically significant.
9				Only p values are reported, and results reported as statistically significant or not (ie $<0.05$ , etc), rather than the actual p value. P values should be treated with caution for such a small sample size. It would have been preferable to have results presented as confidence intervals.
10		✓		There is some uncertainty as to whether these results can be applied to different populations. Sampling was only quasi-randomised rather than truly randomised, and achieved recruitment of only a small sample; thus the population studied may be excessively narrow, limiting the wider application of the results. This is particularly relevant, especially considering that the study was limited to 4-7 year old autistic children. Whether this population of interest is similar to those seen by health professionals in other settings, and to what extent, is a question for each individual practice.