

RESEARCH AUTISM

Research Report



Early intensive behavioural intervention compared to specialist nursery provision for children with autistic spectrum disorders

Introduction

This research by a team from the Institute of Psychiatry, Kings College London and the UCL Institute of Child Health compared the effect of early intensive behavioural intervention (EIBI) against the effect of specialist nursery provision for autism over a two year period in the UK. EIBI is a comprehensive form of intervention, in which pre-school children are taught a wide range of skills by a specially trained group of therapists, normally including the parents of the children. Specialist nursery provision for children with autism varies considerably from one school to another but usually includes teaching practices which emphasise structure, visual cues, individualized teaching and close liaison with parents. This study was one of the first to directly compare home-based EIBI programmes with autism-specific school-based provision, as well as one of the first to study autism-specific nursery provision in the UK.

Key Findings

- Both groups of children showed improvements in their abilities over time, although the rate at which they were acquiring skills continued to be slower than typically developing children
- There were no significant differences between the groups in cognitive ability, language, play or severity of autism.
- The only significant difference between the groups was a small improvement in daily living skills in the EIBI group.
- There were large differences in progress between individual children in both groups.
- The children who did best had higher IQs and better language skills at the beginning of the study.

Conclusion

- Community-based EIBI is beneficial for some children with autism. However, specialist, relatively intensive nursery provision produced similar outcomes.
- The findings reinforce the importance of increasing and improving autism-specific school-based provision for children with ASD in order to increase choice and minimise inequalities in access to early intervention.
- The research also supports the growing consensus that no one intervention for children with ASD is universally superior to all others.
- Successful interventions may share several common elements that can help improve the skills and lives of young children with ASD. Identification of these key elements is the next challenge for research in this area.

Background

The term autism describes a neuro-developmental condition, usually present from early childhood and persisting through life, which is associated with difficulties in social functioning, communication and behaviour. Many children with autism also have a significant intellectual disability.

EIBI is an intensive form of treatment, in which pre-school children are taught a range of skills, normally in their own homes, by a specially trained group of therapists, often including the parents of the children. Teaching methods are based on Applied Behaviour Analysis (ABA), a scientifically validated approach derived from psychological learning theory.

Autism-specific nursery provision in the UK varies from school to school but most use a range of teaching practices which emphasis structure, visual cues, individualized teaching and close liaison with parents. The most common named practices include TEACCH-based approaches, PECS, Makaton and SPELL.

Current study

The study was designed to provide independent outcome data on pre-school children with ASD after 2 years of either home-based EIBI in a community setting or autism-specific nursery provision. It was a naturalistic opportunity to study a relatively large number of children with ASD whose families had already chosen the intervention they wished to pursue.

The following questions were addressed:

1. At follow-up, were EIBI children functioning at a significantly higher level than nursery children with respect to IQ/mental age, language, play, adaptive behaviour and severity of autism?
2. What specific child, family or treatment characteristics were related to outcome?

Methods

Forty-four children with autistic spectrum disorders in the UK participated in the research. 28 received EIBI home-based programmes while 16 attended autism-specific nurseries. Cognitive, language, play, adaptive behaviour skills and severity of autism were assessed at intake and 2 years later.

Participants

At the beginning of the study all children were diagnosed with autism/ASD, aged between 22–54 months, free of any other chronic or serious medical conditions, living in English speaking homes within 3 hours' travel of central London, enrolled in either EIBI home-based programmes or specialist autism-specific nurseries for a minimum of 15 hours per week (mean = 32 hours per week), and receiving no other intensive intervention.

Measures

As far as possible, the same standardized tests were used at the beginning of the research and two years later at the end of the research to minimise difficulties resulting from comparing scores from different tests.

Procedures

EIBI group

- All children received one-to-one home teaching for an average of 32.5 hours per week.
- All therapists used discrete trial teaching techniques, although 2 later introduced 'Verbal Behaviour'.
- Most families attended an initial training workshop of 1–3 days
- Most families received support from consultants or supervisors, although the amount of support varied widely between families.
- The average number of therapists working with each EIBI family was 9
- In 23 families, at least one parent trained as a therapist.

Nursery group

- The children were enrolled in 10 different nurseries
- The pupil to adult ratios ranged from 1:1 to 3.3:1
- The average amount of one to one teaching was 6 hours per week, although they received an average of 26.5 hrs per week of all forms of teaching.
- The nurseries described their teaching practices as 'eclectic', emphasising structure, visual cues, individualized teaching and close liaison with parents.
- The most common named practices were: TEACCH-based approaches, PECS, Makaton and SPELL

Research Design

There were a number of methodological issues which could have affected the interpretation of the findings. These included problems recruiting adequate numbers of children, the lack of random assignment to groups and the fact that many families from both groups followed additional interventions at some point during the study.

Results

- Both groups of children showed improvements in their abilities over time, although the rate at which they were acquiring skills continued to be slower than typically developing children
- There were no significant differences between the groups in cognitive ability, language, play or severity of autism.
- The only significant difference between the groups was a small improvement in daily living skills in the EIBI group.
- The extent of progress in the EIBI group was less than that typically reported in university- or clinic-based EIBI studies, but accords with other community-based programmes.
- There were large differences in progress between individual children in both groups.
- Some children showed marked improvements on developmental measures and in severity of autism symptomatology - others made little progress. The majority of children continued to show significant delays in most areas.
- The children who did best had higher IQs and better language skills at the beginning of the study.
- There was no relationship between the children who did best and variables such as age at intake, treatment intensity or the socio-economic status of the families.

Further Information

Full study

The full study on which this research report is based is

Magiati, I., Charman T. and Howlin P. (2007). A two-year prospective follow-up study of community-based early intensive behavioural intervention and specialist nursery provision for children with autism spectrum disorders. *Journal of Child Psychology and Psychiatry*, 48(8), pp. 803-812.

Other studies

An evaluation of a number of other studies into the effectiveness of EIBI - and other interventions - can be found on the Research Autism website at www.researchautism.net

Organisations

Staff from the following organisations undertook the research

- Institute of Psychiatry, King's College London
- UCL Institute of Child Health, London

The following organisations contributed funding to the research and its dissemination

- Action Research
- Greek NATO scholarship foundation
- British Federation of Women Graduates
- Central Research Fund (University of London)
- Greek State Scholarship Fund IKY

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