



**Libyan International Medical University
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Pre-school Autism Communication Trial for young children with autism

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Abstract: This data were collected from three different studies : (Parent-mediated communication-focused treatment in children with autism (PACT): a randomized controlled trial, Predictors of reliable symptom change: Secondary analysis of the Preschool Autism Communication Trial, Preschool-Based Social Communication Treatment for Children With Autism: 12-Month Follow-Up of a Randomized Trial.), all studies examining the Pre-school Autism Communication Trial for young children with autism, and the results are the first to show long-term symptom reduction after a randomized controlled trial of early intervention in autism spectrum disorder.

Introduction: Autism spectrum disorder is a common neuro developmental disorder that affects about 1% of children and young people. The natural history of the disorder is usually enduring and has serious effects on development lifetime costs (including health, education, social care, family out of pocket expenses and productivity losses), Autism's most-obvious signs tend to appear between 2 and 3 years of age. In some cases, it can be diagnosed as early as 18 months.¹

Effective early treatment that alters the long-term course of the disorder would therefore have great potential benefits for individuals, families, and society, but has been difficult to demonstrate. Evidence shows that a range of psychosocial intervention approaches can have short-term effects on various developmental indicators that are thought to be important for later autism outcomes, such as parent-child joint engagement, social communication, child symbolic play, and social imitation. evidence is scarce as to whether such intermediate effects are associated with reduced autism symptom severity or improved longer-term post-treatment symptom outcomes.²

The Pre-school Autism Communication Trial was a Medical Research Council randomized controlled trial. It tested a parent-mediated communication-based intervention for young children with autism. The trial was a major scientific success and constitutes one of the largest autism intervention studies completed internationally.³

Studies :

1-Parent-mediated communication-focused treatment in children with autism (PACT): a randomized controlled trial

Methods: Children with core autism (aged 2 years to 4 years and 11 months) were randomly assigned in a one-to-one ratio to a parent-mediated communication-focused (Preschool Autism Communication Trial [PACT]) intervention or treatment as usual at three specialist centers in the UK. Those assigned to PACT were also given treatment as usual. Randomization was by use of minimization of probability in the marginal distribution of treatment centre, age (≤ 42 months or >42 months), and autism severity, Complementary secondary outcomes were measures of parent-child interaction, child language, and adaptive functioning in school. Analysis was by intention to treat.

Results: 152 children were recruited, 77 were assigned to PACT and 75 to treatment as usual, At the 13-month endpoint, the severity of symptoms was reduced by 3.9 points in the group assigned to PACT, and 2.9 in the group assigned to treatment as usual, Treatment effect was positive for parental synchronous response to child , child initiations with parent , and for parent-child shared attention. Effects on directly assessed language and adaptive functioning in school were small.⁴

2-Predictors of reliable symptom change: Secondary analysis of the Preschool Autism Communication Trial

Methods: In this secondary analysis of variability in child gains on the primary trial outcome measure social communication symptom severity – we used a pragmatic and data-driven approach to identify a subgroup of children who showed reliable improvement and a subgroup showing clear lack thereof. We then tested which among several baseline child and family factors – including measures routinely collected in research trials and clinical practice varied as a function of child outcome status and treatment group.⁵

Results: Greater baseline child non-verbal ability was a significant prognostic indicator of symptom reduction over time . By contrast, parent synchrony presented as marginal predictor, and trial recruitment site as a significant predictor, of differential outcome by treatment group. Specifically, lower parent synchrony showed some association with poorer outcomes for children from families assigned to treatment as usual (but with no such effect for those assigned to PACT). Similarly, children at one recruitment site were more likely to have poorer outcomes if assigned to treatment as usual, compared to children at the same site assigned to PACT.⁶

3- Preschool-Based Social Communication Treatment for Children With Autism: 12-Month Follow-Up of a Randomized Trial

Methods: A total of 61 children with autism, 29 to 60 months of age, had earlier been randomized either to 8 weeks of preschool-based social communication treatment in addition to standard preschool program or to standard preschool program only. Significant short-term effects on targeted social communication skills have previously been published. Long-term gains in social communication, language and global social functioning and communication were assessed from video-taped preschool teacher–child and mother–child interactions, Early Social Communication Scales, Reynell Developmental Language Scale, and Social Communication Questionnaire.⁷

Results: Compared with those in the control group, the treated children achieved significantly larger improvements in joint attention and joint engagement from baseline to 12-month follow-up, no effects were detected on language and global ratings of social functioning and communication, The treatment effect on child initiation of joint attention increased with increasing level of sociability at baseline.⁸

Discussion: We sought to assess the long-term outcomes of the preschool PACT intervention on autism symptoms and other outcomes. The results of our investigation show a treatment effect to reduce autism symptom severity at treatment endpoint, giving a clear averaged treatment effect over the total period. The effect was apparent across both autism social-communication and repetitive symptom domains. A similar treatment effect is also seen in parent-reported symptom measures at follow-up which, although unblinded, have the potential complementary strengths of being service-user outcome measures and being based on knowledge of the child in naturalistic settings.⁹

PACT is designed to work with parents to reduce autism symptoms through optimizing naturalistic parent-child social communication in the home setting. The theoretical advantage of this approach over direct therapist-child therapy is that it has potential for change in the everyday life of the child, in which much social learning takes place, and might continue to have sustained effects after the end of the therapist-delivered intervention to the parent.¹⁰

Conclusion: the studies are first to show that, similar to specialist-delivered treatment, preschool-based treatment may produce small but possibly clinically important long-term changes in social communication in young children with autism. The treatment did not affect language but there is global ratings of social functioning and communication.

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