

There is no Evidence to Confirm the Benefits of Attendance at a Special Needs Playgroup.

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CLINICAL SCENARIO:

Attendance at special needs play group is often recommended to the parents of children with special needs aged around 18 months to 4 years. The aim of such groups is to provide experience socialising with peers and experience with a range of activities in a structured environment. Parents attend and are part of the group. Some services are now limiting therapy to either individual attendance or playgroup attendance. As therapists we therefore need to know whether attendance at a playgroup is beneficial.

FOCUSSED CLINICAL QUESTION:

What is the evidence to support the attendance at a special needs playgroup by children (aged 0-5) with special needs and their parents to improve the social interaction and/or other developmental skills of the children and provide social support for their parents?

SUMMARY of Search, 'Best' Evidence' appraised, and Key Findings:

There was no evidence available that directly answered the question asked.

An abstract of a platform presentation comparing Neuro-Developmental Treatment (NDT) versus parent-infant playgroup for infants with posture and movement dysfunction concluded that NDT was more effective for improving gross motor skills than a parent-infant playgroup for this group of children.

CLINICAL BOTTOM LINE:

No conclusion could be drawn due to lack of evidence.

Limitation of this CAT: This critically appraised paper has been externally peer-reviewed by one independent person.

SEARCH STRATEGY:

Terms used to guide Search Strategy:

- Patient/Client Special needs, developmental delay,
- Intervention Special needs playgroup ,playgroup, therapy playgroup, early intervention group, segregated playgroup, integrated playgroup
- Comparison None
- Outcome(s) Any

Databases and sites searched	Search Terms	Limits used
Cochrane OTseeker ERIC CINAHL PsychInfo Medline PEDro Embase Google (scholar)	Child, Disabled/special needs Child Development Disorders/developmental delay Developmental Disability Handicap Playgroup Therapy group Developmental early intervention group Occupational Therapy Playgroup Preschool group Integrated playgroup Integrated play group Early intervention Group Early intervention Peer Group/Support group Segregated playgroup	Infant or preschool child aged to 5 years

INCLUSION and EXCLUSION CRITERIA

- Inclusion: Articles relating to a group therapy / treatment / early intervention environment with a trained facilitator, where children are present with a caregiver and possibly siblings.
- Exclusion: Groups for children over 5 years of age and where the caregiver was not present.

RESULTS OF SEARCH

Two articles were located: a descriptive paper/expert opinion (Grahame & Bryant, 1993), and a repeated measure study (Arndt et al, 2005) published as a conference abstract only. The article containing expert opinion (Grahame & Bryant, 1993) discussed criteria to consider when referring children to early education and care programs. This study is not included in the following table as it is not considered to be research evidence.

Table 1: Summary of Study Designs of Articles retrieved

Level of Evidence	Study Design/ Methodology of Articles Retrieved	Number Located	Source(s)
II	A repeated measure, randomized block control study of 10 infants (4 - 12 months) (abstract only)	1	Google Scholar
IV	Expert opinion	1	CINAHL

BEST EVIDENCE

The abstract of the following study was identified as the 'best' evidence and selected for critical appraisal. The reason for selecting this abstract was that it involved a randomized controlled trial comparing two therapy techniques, one of which was a parent – infant playgroup. The authors were contacted, but they were unwilling to provide full details of this study as it is awaiting publication.

In addition the expert opinion paper by Graham, M.A. and Bryant, D.M. 1993 was summarized to provide further information.

SUMMARY OF BEST EVIDENCE

Arndt, S.W., Chandler, L. S., Sweeney J.K., Sharkey, M., McElroy, J.J., & Chapman. B.S. (2005). Neuro-developmental treatment versus parent- infant playgroup for infants with posture and movement dysfunction (Conference abstract of paper presented at the Combined Sections Meeting of the American Physical Therapy Association, New Orleans, 2005) *Pediatric Physical Therapy*, 17(1), 57.

This study was published as an abstract of a Platform Presentation

Table 2:

Aim of the Study

The aim of this study was to evaluate the efficacy on gross motor function of Neuro-Developmental Treatment (NDT) during age appropriate functional activities in infants (4 months-12 months). Comparison of NDT provided on a one-to-one basis or one-to –two therapist basis to children, versus play activities demonstrated by a child life specialist to parents who then supported parents to implement them with their own children or other children in the group.

Sample: Infants aged 4-12 months, n = 10. Infants with severe mental retardation, chromosomal or congenital anomalies were excluded.

Randomisation and sample selection: Not reported

Intervention Investigated

Experimental Group: (n=5). Neuro-Developmental Treatment focuses on developing energy efficient movement and posture in response to gravity and the body's contact with the support surface. It used facilitated, actively balanced and specifically sequenced trunk movements provided by the therapist and parents in a one-to-one or one-to-two session.

Control Group: (n=5). The parent-infant playgroup received enriched play activities delivered by the parents, with guidance from a Child Life Specialist.

Both the NDT group and the parent-infant playgroup were delivered as a block of intervention consisting of 10 hours over a 14 day period.

Outcome Measures

The Gross Motor Function Measure (GMFM) was the sole outcome measure reported in the abstract and was used to assess infants before, immediately after, and three weeks following intervention. The differences in GMFM total percentage scores were analysed. Personal correspondence with the authors revealed that other measures were used (Ages and Stages screening tool and parent observation of change) but the data have not been analysed.

Results

The change in Gross Motor Function Scores (GMFM) pre to post intervention, was analysed using a non-parametric one-tailed, repeated-measure analysis of variance.

The NDT group made significantly more progress (mean increase = 13.30) than the parent-infant playgroup (mean increase = 5.07) as measured by the GMFM at the end of intervention ($p=0.045$). No other between group comparisons were presented in the abstract.

The authors provided further information regarding within-group changes in the gross motor skills of the groups between pre-test at follow-up. The NDT group demonstrated significant change in GMFM scores over time, (mean increase = 12.05, $p=0.011$) compared to very little difference pre test to follow-up in the control group (mean increase = 2.94, $p=0.0825$). No further data or results are available.

Original Authors' Conclusions

That an NDT protocol of 10 consecutive sessions was efficacious in improving motor function. These gains were maintained at follow-up and outcomes were better than those gained from attendance at the parent – infant playgroup.

Critical Appraisal:

Validity (Methodology, rigour, selection, bias)

The criterion for selection of children to be included in the study is clear. Children who scored at or below the 5th percentile on the Alberts Infant Motor Scale and

demonstrated delayed acquisition of age-appropriate head and trunk orientating behaviours, measured by the Movement Assessment of Children.

Randomisation: Children were randomized into groups after controlling for severity of disability (mild/moderate/severe). Further information regarding the randomisation process is not given. Equivalency of base line data between the groups is not given in the abstract nor provided in personal correspondence by the authors.

Sample size and power calculation: There were only 10 children who participated in the overall study. There is no power calculation described. The authors indicated in personal correspondence that 19 children had been recruited to the study but 9 had dropped out. At least 5 of these were because they were unhappy with being allocated to the playgroup.

Strengths and weaknesses of the study: Small sample size makes it difficult to generalise the results to a broader population.

Results

The p values for between group differences are given for post-intervention; these indicate that the differences between groups are statistically significant and unlikely to occur by chance. No variances were provided so it is not possible to calculate confidence intervals or treatment effects to determine the clinical importance to the results.

IMPLICATIONS FOR PRACTICE/ APPLICABILITY

- In this small pilot RCT, the authors indicate that 10 hours of NDT provided individually to children over 10 sessions, resulted in a statistically significant difference in gross motor function, compared to children that attended playgroup for the same time.
- Caution should be applied when interpreting the results as the study was very small and there was not enough information to know how rigorous the design was.
- The study did not appear to have measured other aspects of development including problem solving skills, language, social interaction, fine motor abilities, self care or cognition.

EXPERT OPINION

Graham, M.A., & Bryant, D.M. (1993) "Developmentally appropriate environments for children with special needs". *Infants and Children*, 5(3), 31-42.

This article presents quality indicators for policy making. The authors conducted over 100 interviews and visits to early education and care programs to develop these indicators. This was not qualitative research and no data were presented.

From information gained during the interviews, the authors suggested that the following issues be considered when referring children on to other services:

- for those children likely to end up in special school/preschool, a segregated playgroup is usually most appropriate
- a quality indicator relating to the learning environment is the child : teacher ratio along with group size. The American body, National Association for the Education of Young Children (NAEYC), recommended ratios of 1:3 or 1:4 with a group size no greater than 10 for normally developed infants in childcare situations (no parent present).
- For children less than 20 months of age 1:1 therapy is recommended. The use of an integrated therapy model (where the therapist interacts with the target child in the classroom and provides consultation to teachers or others involved) may be more beneficial for children aged over 20 months than individual therapy. The authors reference other articles which discuss service delivery methods.
- the teacher is a critical factor to the social environment as it is the teacher who will facilitate social interaction which may not otherwise occur

Due to the lack of evidence to specifically answer the clinical question, this information may be useful to guide our decision making process when we are considering what environments may be most suited to certain children.

REFERENCES

Article critically appraised:

Arndt, S.W., Chandler, L. S., Sweeney J.K., Sharkey, M., McElroy, J.J., & Chapman. B.S. (2005). Neuro-developmental treatment versus parent- infant playgroup for infants with posture and movement dysfunction (Conference abstract of paper presented at the Combined Sections Meeting of the American Physical Therapy Association, New Orleans, 2005) *Pediatric Physical Therapy*, 17(1), 57.

Related Articles (not individually appraised)

Graham, M.A., & Bryant, D.M., Developmentally appropriate environments for children with special needs. *Infants and Young Children*, 5(3), 31-42.