Autism Intervention Meta-analysis update

Autism intervention meta-analysis of early childhood studies (Project AIM): updated systematic review and secondary analysis

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ABSTRACT

OBJECTIVE

To summarize the breadth and quality of evidence supporting commonly recommended early childhood autism interventions and their estimated effects on developmental outcomes.

DESIGN

Updated systematic review and meta-analysis (autism intervention meta-analysis; Project AIM).

DATA SOURCES

A search was conducted in November 2021 (updating a search done in November 2017) of the following databases and registers: Academic Search Complete, CINAHL Plus with full text, Education Source, Educational Administration Abstracts, ERIC, Medline, with sufficient contributing data, stratified by risk of bias, using robust variance estimation to account for intercorrelation of effects within studies and subgroups.

RESULTS

The search yielded 289 reports of 252 studies, representing 13 304 participants and effects for 3291 outcomes. When contributing effects were restricted to those from randomized controlled trials, significant summary effects were estimated for behavioral interventions on social emotional or challenging behavior outcomes (Hedges' g=0.58, 95% confidence interval 0.11 to 1.06; P=0.02), developmental interventions on social communication (0.28, 0.12 to 0.44; P=0.003); naturalistic developmental

Project AIM

Aggiorna la revisione sistematica pubblicata nel 2021 (articoli fino al 2017)

Gli studi con gruppo di controllo disponibili sono quasi raddoppiati in soli 4 anni, tanto da rendere necessario un aggiornamento in tempi brevissimi

- 252 studi, di cui 173 RCT
- Un totale di 13304 partecipanti

Necessità di una nuova meta-analisi interventi non farmacologici

- Estrema variabilità nelle indicazioni derivate dalla letteratura
- Significativa variabilità nelle linee guida nazionali in diverse nazioni

Doctors, clinicians, and families have to navigate confusing and often conflicting guidance on which supports are the most likely to be efficacious for autistic children

Coding procedures

Interventi categorizzati come:

- Comportamentali
- Cognitive Beh. Interv.
- Dello sviluppo
- NDBI
- TEACCH
- Sensory based
- Sensory integration
- Music therapy

Risultati analizzati in termini di:

- Domain (caratt. Diagnostiche/comport)
- Proximity (proximal/distal all'insegnamento)
- Boundedness (contesto di misurazione dei risultati)
- Risk of Bias (es.placebo by proxy)

Risultati

- Organizzati per livelli di evidenza nelle diverse tipologie di intervento:
  - Almeno uno studio di gruppo controllato
  - Soli studi randomizzati controllati
  - Soli RCT i cui risultati NON sono report
  - Soli RCT con basso Risk of Bias

When effects were then restricted to exclude those at high risk of detection bias, only one significant summary effect was estimated: ***NDBI on measures of diagnostic characteristics of autism***

Conclusioni

Conclusion

Studies investigating interventions for young autistic children have proliferated at an astonishing rate, but corresponding improvements in study quality have not kept pace. Some high quality evidence exists, which suggests that NDBIs can improve core features associated with autism. However, it is not clear if such outcomes are desirable for autistic people given that measures of core features of autism are not restricted to impairments that need to be addressed to positively influence autistic development. Interventions tend to have larger effects on small and specific changes in specific contexts, and smaller effects on distal and generalized developmental improvement. We are unable to weigh the potential benefits of any intervention against the potential for unintended negative consequences because most researchers are not adequately monitoring and reporting adverse events.

- NDBI possono migliorare le caratteristiche diagnostiche
- Effetti maggiori su aree più specifiche in contesti specifici rispetto a effetti distali e generalizzati
- Monitoraggio insufficiente degli effetti avversi