It ain’t what you do it’s the way that you do it: Examining the delivery components of treatment evaluation

Vicky Slonims
Consultant Speech and Language Therapist
Evelina Children’s Hospital
Visiting Reader in Complex Communication disorders (KCL)
Evidence-Based Practice (EBP) (Sackett D, 2002)

• “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research.” (Sackett D, 1996)
• Skill of professional
  • Training
  • Clinical experience
  • Continuing Professional Development
• Other influences?
  • Preferences
  • Other staff
  • Context in which you work
Who is the client?

- Families perceived that intervention had been successful when their needs had been met (Boyd & Corley 2001, Dunst 2000)

- Would this be true of school staff?

- What about the child?

- What if perspectives differ?
### Roles and missions of the Family in communication intervention

**Mats Granlund et al (2001)**

<table>
<thead>
<tr>
<th>Focus</th>
<th>Goal objective</th>
<th>Professional role in intervention</th>
<th>Role assigned to Family</th>
<th>Family task</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family as decision makers</strong></td>
<td>- Family actively involved and perceived control over intervention process</td>
<td>- Provide opportunities for involvement and control</td>
<td>- Decision maker</td>
<td>- Express needs</td>
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<tr>
<td></td>
<td></td>
<td>- Teach problem solving strategies</td>
<td>- Service coordinator</td>
<td>- Design goals and methods</td>
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<tr>
<td>Family as communicative environment</td>
<td>- Child interacts optimally with people in Family environment</td>
<td>- Supervision and interaction coaching</td>
<td>- Providers of rich environment</td>
<td>- Select from service options</td>
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<tr>
<td></td>
<td></td>
<td>- Parents advised</td>
<td>- Interaction partners</td>
<td>- evaluate</td>
</tr>
<tr>
<td>Family as consumers</td>
<td>- Decrease in perceived Family need</td>
<td>- Assess needs</td>
<td>- Recipient of services</td>
<td>- Stimulate child</td>
</tr>
<tr>
<td>Family in crisis</td>
<td>- Family accepts child</td>
<td>- Redefine behaviour of child</td>
<td>- Patient</td>
<td>- Adapt environment to meet child’s needs</td>
</tr>
<tr>
<td>Family as trainers</td>
<td>- Optimal child development in a specific area</td>
<td>- Teach training programme</td>
<td>- Student</td>
<td>- Solve/cope with problems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Supervise parents</td>
<td>- Trainer</td>
<td>- Adjust to child in a realistic fashion</td>
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<td></td>
<td>- Implement programme</td>
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<td>- Designed by professionals</td>
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Bercow 10 years on

Only 15% parents said speech and language therapy was available in their area as required

Support planned and funded based on the available resources, rather than what is needed

Services rationed based on arbitrary factors rather than evidence of what works

52% of parents said their family's experience of speech, language and communication support was poor
Introduction to research centre

Welcome to our online Research Centre. Here you’ll find information and resources to support your evidence-based practice, ways to enhance your continuing professional development (CPD), information on clinical academic careers, many resources to help you get involved in research and much more.

- Research centre A-Z
- About research
- Champions and networks
- Clinical academic careers
- Doing research
- Evidence-based practice
- Journals
- Search sites
Assessing the quality of research

Paul Glasziou, reader, Jan Vandenbroucke, professor of clinical epidemiology, and Iain Chalmers, editor, James Lind library

This article has been cited by other articles in PMC.

Short abstract

Inflexible use of evidence hierarchies confuses practitioners and irritates researchers. So how can we improve the way we assess research?
<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSESS</td>
<td>1. Start with the patient -- a clinical problem or question arises from the care of the patient</td>
</tr>
<tr>
<td>ASK</td>
<td>2. Construct a well built clinical question derived from the case</td>
</tr>
<tr>
<td>ACQUIRE</td>
<td>3. Select the appropriate resource(s) and conduct a search</td>
</tr>
<tr>
<td>APPRAISE</td>
<td>4. Appraise that evidence for its validity (closeness to the truth) and applicability (usefulness in clinical practice)</td>
</tr>
<tr>
<td>APPLY:</td>
<td>5. Return to the patient -- integrate that evidence with clinical expertise, patient preferences and apply it to practice</td>
</tr>
<tr>
<td>Self-evaluation</td>
<td>6. Evaluate your performance with this patient</td>
</tr>
</tbody>
</table>
Process of goal setting

• Establishing current skills
• Evaluating possible strategies
  • Predictors of success
• Deciding on achievable targets with the recipient of the treatment – who is this?
Establishing current skills

- Detailed diagnostic history
- Information from other sources e.g. psychology, occupational therapy etc
- Formal assessments of language competence
- Informal observations and language samples
- Social communication assessment
- Scholastic assessments

All these are general information gathering not problem specific

Will not necessarily lead to goal setting
Possible strategies -
Is the research relevance to your context?

• Participants in the study
  • Do they have the same diagnosis, age etc?

• Location of intervention
  • Research university,
  • School or home based
  • Clinic based

• Personnel involved in intervention
  • SALT or Teacher
  • SALT assistant/LSA
  • Research assistant
  • Family

• Dosage and type
  • Individual, group,
  • Length and duration
Predictors of success

• Child factors
  • Diagnosis, implications for prognosis, known trajectory of disorder
  • Age and environment (risk and protective factors)

• Skills of professionals/ Quality of input
  • Motivation

• Parental contribution
  • Health beliefs, family circumstances etc

• Environment (i.e. school setting, peers)
  • Consistency of staff
Directly delivered evidenced interventions for families

Dosage

- Hanen More than Words: 8 sessions plus 3 individual home visits

- PACT Autism Communication Therapy: 12x 2hr sessions initially over a year
  - (now trying 6 months)

- PECS no dosage recommendations –
  - 2 day training for teachers + 6 ½ day sessions with experts (Howlin et al)

- Parent training programmes – VIPP iBASIS: 6-7 home based sessions of 2hrs

Oono IP, Honey EJ, McConachie H.

STUDY DESIGN: Controlled trial for 51 children aged 24 to 60 months who met criteria for autism spectrum disorders (ASD) and their parents participated in the study. The HMTW intervention was provided over 3.5 months. There were three measurement periods: prior to randomization (Time 1) and at 5 and 8 months post enrollment (Times 2 and 3). Children's communication and parental responsivity were measured at each time point. Children's object interest, a putative moderator, was measured at Time 1.

RESULTS: There were no main effects of the HMTW intervention on either parental responsivity or children's communication. However, the effects on residualized gains in parental responsivity from Time 1 to both Times 2 and 3 yielded noteworthy effect sizes (Glass's Δ = .71, .50 respectively). In contrast, there were treatment effects on child communication gains to Time 3 that were moderated by children's Time 1 object interest. Children with lower levels of Time 1 object interest exhibited facilitated growth in communication; children with higher levels of object interest exhibited growth attenuation.

CONCLUSIONS: The HMTW intervention showed differential effects on child communication depending on a baseline child factor. HMTW facilitated communication in children with lower levels of Time 1 object interest. Parents of children who evidence higher object interest may require greater support to implement the HMTW strategies, or may require different strategies than those provided by the HMTW curriculum.

Parent-mediated communication-focused treatment in children with autism: a randomised controlled trial.
© Collaborators (14) © Author information

Abstract

BACKGROUND: Results of small trials suggest that early interventions for social communication in children with autism are effective. We therefore investigated the efficacy of such an intervention in a large randomised controlled trial.

METHODS: Parents of children with autism (aged 2 years to 4 years and 11 months) who attended a communication-focused preschool autism communication trial (PACT) were randomised to treatment as usual (TAU) or to a parent-mediated communication-focused (PACT) intervention. The primary outcome measures were the Autism Communication Profile (ACP), which assesses the parents' perceptions of the child's communication, and the Social Communication Scale (SCS), which assesses the child's communication skills. The secondary outcomes were the Social Communication Questionnaire (SCQ), which assesses the child's social communication skills, and the Autism Spectrum Quotient (AQ), which assesses the child's autistic traits.

RESULTS: A total of 152 children were randomised, with 77 in the TAU group and 75 in the PACT group. The PACT group showed significant improvements in the ACP, SCS, SCQ, and AQ compared to the TAU group. The effect sizes were moderate to large (Cohen's d = 0.6-1.2).

INTERPRETATION: The results of this trial suggest that parent-mediated communication-focused treatment is effective in improving social communication in children with autism.

FUNDING: UK Medical Research Council, and UK Department for Children, Schools and Families.
Supporting insensitive mother
randomized control trial of video
intervention to promote maternal
infant attachment security

L. Kalinauskiene, D. Cekuoliene, M. H. Van IJzendoorn
F. Juffer† and I. Kusakovskaja*

*Vilnius University, Vilnius, Lithuania, and
†Leiden University, Leiden, The Netherlands
Accepted for publication 15 January

Video-feedback Intervention to promote Positive Parenting adapted to Autism (VIPP-AUTI): A randomized controlled trial
Irina E Poslawsky, Fabiënne BA Naber, Marian J Bakermans-Kraenenburg, Emma van Daalen, Herman van Engeland and
Marinus H van IJzendoorn

Autism published online 11 June 2014
DOI: 10.1177/1362361314537124

The online version of this article can be found at:
http://aut.sagepub.com/content/early/2014/06/10/1362361314537124

Randomised trial of a parent-mediated intervention for infants at high risk for autism: longitudinal outcomes to age 3 years

Jonathan Green, Andrew Pickles, Greg Pasco, Rachael Bedford, Ming Wai Wan, Mayada Elsabbagh, Vicky Slonims, Teea Gliga, Emily Jones, Celeste Cheung, Tony Charman, Mark Johnson, and The British Autism Study of Infant Siblings (BASIS) Team*
Cochrane review: behavioural and cognitive-behavioural group-based parenting programmes for early-onset conduct problems in children aged 3 to 12 years (Review).

Furlong M¹, McGilloway S, Bywater T, Hutchings J, Smith SM, Donnelly M.

**DISCUSSION:** Examining the effectiveness of VIPP-FC contributes to the knowledge of evidence-based prevention and intervention programs needed in foster care practice.

**TRIAL REGISTRATION:** NTR3899.

**KEYWORDS:** Attachment; Coercion theory; Early childhood; Foster care; Intervention; RCT; Sensitivity; Video feedback
Randomized, Controlled Trial of an Intervention for Toddlers With Autism: The Early Start Denver Model

Geraldine Dawson, PhD, a,b,c Sally Rogers, PhD, d Jeffrey Munson, PhD, e,f Milani Smith, PhD, g Jamie Winter, PhD, g Jessica Greenson, PhD, a Amy Donaldson, PhD, g and Jennifer Varley, MS*

• **20 hours/week** of the ESDM intervention from clinicians,
• **AND parent training/ delivery** for 5 or more hours/week, over 2 year period or TAU
Communication Interventions for Minimally Verbal Children With Autism: Sequential Multiple Assignment Randomized Trial

Dr. Connie Kasari, PhD, Dr. Ann Kaiser, PhD, Dr. Kelly Goods, PhD, Ms. Jennifer Nietfeld, MA, Dr. Pamela Mathy, PhD, Dr. Rebecca Landa, PhD, Dr. Susan Murphy, PhD, and Dr. Daniel Almirall, PhD.

- JASPER (Joint Attention Symbolic Play Engagement and Regulation) and Enhanced Milieu Training (EMT) with or without the addition of a SGD
- SMART design
- Assessments: 6 months with a 3-month follow-up
  - Stage 1 all children received two sessions per week for 3 months.
  - Stage 2 intervention increased sessions or adding the SGD based on the child’s early response
The added impact of parenting education in early childhood education programs: A meta-analysis, Children and Youth Services Review

• Adding parenting education to ECE programs not beneficial unless:

  • Parents given opportunities to practice parenting skills.

  • Support comprised one or more home visits a month
Is it possible to deliver EBP in schools?

Looking at delivery and dosage effects
Effectiveness of a SCERTS Model-based Intervention in Children with Autism Spectrum Disorder (ASD) in Hong Kong: A Pilot Study

Yu L1, Zhu X2.

Abstract

A SCERTS model-based intervention with different age (age = 53.43 ± 9.05 months) in children with autism spectrum disorder (ASD) was compared with a traditional psychoeducational intervention (PEI) in Hong Kong. The intervention was designed to improve social, communication, emotional regulation, and other related skills. The results showed that the intervention had significant effects on improving these skills. Keywords: Chinese children with ASD; Evaluation; PEI.

Cluster randomized trial of the classroom SCERTS intervention for elementary students with autism spectrum disorder.

Morgan L1, Hooker J2, Sparrapan N3, Reinhardt VP1, Schatschneider C4, Wetherby AM1.

Abstract

OBJECTIVE: This cluster randomized trial (CRT) evaluated the efficacy of the Classroom Social, Communication, Emotional Regulation, and Transactional Support (SCERTS) Intervention (CSI) compared with usual school-based education with autism training modules (ATM). METHODOLOGY: Sixty schools with 197 students with autism spectrum disorder (ASD) in 129 classrooms were randomly assigned to CSI or ATM. RESULTS: The CSI group showed significantly better outcomes than the ATM group on observed measures of classroom active engagement with respect to social interaction. The CSI group also had significantly better outcomes on measures of adaptive communication, social skills, and executive functioning with Cohen’s d effect sizes ranging from 0.31 to 0.45. CONCLUSION: These findings support the preliminary efficacy of CSI, a classroom-based, teacher-implemented intervention for improving active engagement, adaptive communication, social skills, executive function, and problem behavior within a heterogeneous sample of students with ASD. This makes a significant contribution to the literature by demonstrating efficacy of a classroom-based teacher-implemented intervention with a heterogeneous group of students with ASD using both observed and reported measures.
School based interventions

• A multi-centre RCT with children aged 6–11 years tested (Boyle et al 2011)
  – **Mode of delivery** i.e. SLT or SLT assistant and individual or group did not make a difference
  – Children with expressive but **not receptive language problems** improved.

• **Results were not replicated** in a cohort study (McCartney et al 2011)
  – **Delivery was via school based staff**
  – Less language-learning activity was recorded and delivered
  – Implications for ‘consultancy’ speech and language therapist service delivery models in mainstream schools
School based interventions

• Talk of the Town evaluation
  • Ongoing support from SLT 1 day per week
  • 10 twilight whole school training sessions at the start of each half term
  • Initial context analysis to understand pupils and current practice
  • Selection of EB targeted and universal interventions
  • Observation using Communication Supportive Classroom Observation Took (Dockrell) and support for staff in identifying and providing intervention for children with SLCN) (Thurston et al., 2016)

<table>
<thead>
<tr>
<th>Key Conclusions</th>
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<tbody>
<tr>
<td>6. There is no evidence that <em>Talk of the Town</em> had an impact on pupil’s reading comprehension.</td>
</tr>
<tr>
<td>7. There is no evidence that <em>Talk of the Town</em> had an impact on oral language skills for children identified as having weaker reading comprehension skills.</td>
</tr>
<tr>
<td>8. Teachers valued the input and resources provided by The Communication Trust.</td>
</tr>
<tr>
<td>9. Teachers reported that the targeted interventions did not always provide the right level of challenge to the selected students.</td>
</tr>
<tr>
<td>10. There is scope for further research on the fact that those with low literacy were more likely to move schools.</td>
</tr>
</tbody>
</table>
Oral language supports early literacy: a pilot cluster randomised trial in disadvantaged schools

• RCT in schools in Australia
  • treatment (8 schools 602 pupils) control arm (6 schools 652 pupils).

• The intervention
  • 6 days of teacher and principal professional development (delivered by language and literacy experts),
  • School-based continuing contact with the research team
  • Completion by one staff member of each research school of a postgraduate unit on early language and literacy.

• Gains in treatment schools on formal tests of Language and Reading
• Non significant improvement on narrative assessment.
The effects of language- and literacy-focused professional development on early educators and children: A best-evidence meta-analysis.

• Which features of the Professional Development (PD) are associated with improved educator outcomes?

• Better outcomes for PD of longer duration and greater intensity (the average amount of PD was around 50-60 hours).

• Courses alone had no significant effects

• Best predictor of good outcome = PD course + another component
  • (e.g., course plus coaching and feedback, addition of a language curriculum or use of assessment data to guide lesson planning digitally).
• Dockrell presentation at SIG 2013
  – Personal communication: Recommendations from SLTs to teachers and LSA’s are not carried out in classroom

• Danish study (Bleses et al., in press)
  • Significant effect on pre-literacy skills
  • No effect on language skills
  • BUT, only 25/40 planned sessions actually provided
  • Gains correlated with number of sessions provided....!
Effects of treatment may not be sustained after intervention ends.

The effectiveness of Picture Exchange Communication System (PECS) training for teachers of children with autism: a pragmatic, group randomised controlled trial

Patricia Howlin,1 R. Kate Gordon,2 Greg Pasco,2 Angie Wade,3 and Tony Charman*

1Institute of Psychiatry, Kings College, London, UK; 2St. George’s Hospital Medical School, University of London, UK; 3UCL Institute of Child Health, London, UK

Objective: To assess the effectiveness of expert training and consultancy for teachers of children with autism spectrum disorder in the use of the Picture Exchange Communication System (PECS). Method: Design: Group randomised, controlled trial (3 groups: immediate treatment, delayed treatment, no treatment). Participants: 84 elementary school children, mean age 6.8 years. Treatment: A 2-day PECS workshop for teachers plus 6 half-day, school-based training sessions with expert consultants over 5 months. Outcome measures: Rates of: communicative initiations, use of PECS, and speech in the classroom; Autism Diagnostic Observation Schedule—Generic (ADOS-G) domain scores for Communication and Reciprocal Social Interaction; scores on formal language tests. Results: Controlling for baseline age, developmental quotient (DQ) and language; rates of initiations and PECS usage increased significantly immediately post-treatment (Odds Ratio (OR) of being in a higher ordinal rate category 2.72, 95% confidence interval 1.22-6.09, p < .05 and OR 3.90 (95%CI 1.75-8.68), p < .001, respectively). There were no increases in frequency of speech, or improvements in ADOS-G ratings or language test scores. Conclusions: The results indicate modest effectiveness of PECS teacher training/consultancy. Rates of pupils’ initiations and use of symbols in the classroom increased, although there was no evidence of improvement in other areas of communication. Treatment effects were not maintained once active intervention ceased. Keywords: Randomised controlled trial, PECS, autism, intervention, communication.
• In the majority of cases SLT is educational provision and therefore ultimate responsibility for ensuring that the SLT specified in an EHC... continues to rest with the LA

• However the CCG still has a duty under the NHS mandate to arrange appropriate levels of healthcare provision for its population
What about families and communication skills for life?

• Over 5’s most intervention is delivered via education
  • Families do not receive SLT advice specific to their needs
  • Delegation of treatment is often unsuccessful
  • Insufficient contingencies for children who do not benefit from this level of intervention

• Some schools do not commission SLT
  • What happens to children with SLCN in these circumstances?
• Invited all stakeholders in school district
  • What was wanted
  • Review of evidence base
  • Selection of preferred interventions

• Train individuals across all related stakeholders + at least 3 education staff

• Training = 3 months
  • Included coaching, practice and direct feedback

• Pilot trial including 30 children
  • Not randomised (preference of stakeholders)
  • Assignment of pre-schools based on resources and interest
  • Intervention utilised fidelity measures on several domains
    • Checking sustainability – are trainers continuing to train staff?
    • Check if parents think the intervention is being delivered
Model of school based intervention

• EBPs that fit within the school context and align with the priorities and diverse philosophies of schools and districts may have the greatest likelihood of success

• (Atkins, Rusch, Mehta, & Lakind, 2015)
Final thoughts...

• There are many EB interventions to choose from
  • My selection was not limited to literature on speech and language therapy
  • What problem are you helping to resolve?
  • Who is the recipient of your intervention?
  • What is the context and anticipated form of delivery?
    • Are there other studies using that context and form of delivery?
  • What is the recommended dosage?

• Can I use the format of delivery for my purposes?
If you deliver an EB intervention

• You don’t have to prove efficacy (GP example)
  • You do have to evaluate outcome

• If you alter the content and/or delivery from the published format
  • You do have to demonstrate efficacy for your population/style of delivery

• If you decide on a treatment plan and delegate delivery
  • You need to ensure that the individuals delivering the treatment are fully trained and continuously supported
  • You’ll need to measure outcomes for the children and family