Does PECS have a greater impact on functional communication in children with ASD compared to alternative interventions?

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Introduction
The Picture Exchange Communication System (PECS) (Frost & Bondy, 1994), is a pictorial system, used to teach communication skills to people with developmental disorders, including Autistic Spectrum Disorder (ASD). It involves teaching the user to exchange a picture for a desired object or food with a communication partner, and encourages the user to initiate communication which is frequent and flexible to allow functional communication on a day-to-day basis.

There is an increasing body of research surrounding PECS. Various interventions are used to teach children with ASD to promote communication (including manual sign, Education Milieu Teaching and high tech augmentative communication methods) and it would be desirable to establish which type of intervention is most effective in this population to help clinicians inform best practice. There is currently a limited research base which directly compares PECS to other interventions.

Evidence Base
There is an increasing amount of research surrounding PECS, with a number of different intervention types (including group designs and RCTs). However, a large amount of the research carried out with PECS uses limited participants, with many studies being single cases, making generalisation to the wider population difficult. Researchers have begun to review the current literature (e.g. Preston & Carter, 2009, Filippa, Reska & Watson, 2010) however, as much of the research reviewed is single cases, the evidence of maintenance and generalisation of communication is limited and therefore the conclusions should be viewed with caution. Some of the research does not report treatment fidelity (e.g. Howlin et al, 2007) and generalisation is not always shown to be a strong enough test of evidence (e.g. Charlop-Christy et al, 2002). Allocation concealment was not carried out in any of the studies, although random assignment to a group did sometimes occur (RCTs: Yoder & Stone, 2006, Howlin et al, 2007)

Research shows that PECS has a positive impact on the communication skills of children with ASD. Most children taught PECS gain independent use of the system (Filippa, Reska & Watson, 2010) and many go on to acquire functional speech (e.g. Yoder & Stone, 2006, Charlop-Christy et al, 2002) although this is not always the case (Preston & Carter, 2009). PECS was found to be superior to EMT for children who had an interest in objects pre-therapy (Yoder & Stone, 2006) suggesting children with certain characteristics may benefit from PECS more than others. This research compared two different types of therapy but there was no control arm, therefore the effects of no treatment are not comparable.

PECS has been shown to improve social communicative interactions and reduce challenging behaviours, although all gains made, vary between individuals (Yoder & Stone, 2006, Howlin et al, 2007, Preston & Carter, 2009).

Conclusions
Different interventions work better for different individuals, as shown here, therefore it is difficult to generalise and say that PECS is better than other interventions. Most studies use a small number of participants making any benefits difficult to generalise to the wider population. It is unlikely that any single system best meets the needs of all children with autism, however PECS might be more appropriate, for example, sign language for learners without hand-motor initiation skills. PECS has been well established as a means of functional communication in children with ASD but the research is inconclusive as to whether PECS is more effective than alternative options.

Future Research
More research is needed which directly compares PECS intervention with alternatives, using a greater number of children, to allow conclusions to be drawn of which works best to improve functional communication in children with ASD. Having access to more research of direct comparisons between PECS and other interventions will allow clinicians to make valid conclusions and decisions about which intervention they should use within this population. Also, more RCT’s should be carried out, where possible, which will enable conclusions to be drawn and generalised to the wider population, due to the nature of the study type and greater number of participants used.

References

* Denotes articles accepted in this search and presented above.