

Group-Based Parent Training Interventions for Parents of Children with Autism Spectrum Disorders: a Literature Review

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Group-based parent training interventions for parents of children with autistic spectrum disorders: a literature review

Abstract

Parents of children with autism spectrum disorders should access interventions to help them understand and support their child. The most effective interventions for parents are unknown. This literature review examines the existing evidence specifically for group-based parent training interventions and analyses intervention outcomes. Four main outcomes were identified: parenting and parent behaviour, parent health, child behaviour and peer and social support. Results show a positive trend for intervention effectiveness related to the four outcome categories, however findings are limited by low quality studies and heterogeneity of intervention content, outcomes and outcome measurement. Future research should focus on specifying intervention ingredients and modes of delivery, consistent and reliable outcome measurement, and improving methodological rigour to build a more robust evidence base.

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterised by pervasive difficulties in social communication and social interaction, usually accompanied by a combination of circumscribed interests, repetitive behaviour and sensory sensitivities (American Psychiatric Association, 2013). Parents of children with ASD should receive help and support from healthcare professionals to better understand their child's needs and to implement interventions that improve their child's health and development. In the UK, evidence-based clinical guidelines recommend that healthcare professionals provide parents and families with advice, support and training as part of the care and management of children with ASD (National Institute for Health and Care Excellence, 2013). However, there remains

a lack of evidence about *what* advice, support and training (*intervention ingredients*) is most valuable to parents and children to support self-management of autism as a long-term condition, *how* to effectively deliver advice, support and training (*intervention processes*) through healthcare interventions, and what the expected *outcomes* from such interventions may be. Consequently, this has been highlighted as a current research priority by the National Institute for Health and Care Excellence (2013).

Group-based parent training interventions such as the ‘Incredible Years’ programme have been shown to effectively prevent and treat children’s disruptive behaviour problems and conduct disorders when delivered within a public system of child and family support (Leijten, Raaijmakers, Orobio de Castro, van den Ban, & Matthys, 2017; Morpeth et al., 2017). Group-based training interventions have been identified to help with short-term parental psychosocial health, improvements in parent-child relationships, child psychological health, and emotional and behavioural adjustment of children (Barlow, Smailagic, Huband, Roloff, & Bennett, 2014). The effectiveness of group-based parent training interventions specifically for children with ASD remains largely unknown but individual parent training interventions specific to ASD have been shown to be effective in reducing disruptive behaviour in children with ASD (Postorino et al., 2017). Within the National Health Service (NHS) in the UK, there is a rapidly increasing demand for services and increasing pressure to provide cost-effective interventions which still provide high quality care for patients (National Institute for Health and Care Excellence, 2013; NHS England, 2017). Individual parent training sessions are time intensive and therefore alternative formats to deliver this type of intervention, such as group-based training, need to be considered. The National Institute for

Health and Care Excellence (2013) have also highlighted the need for research into group-based parent training interventions for ASD.

Our literature review explores the existing evidence for group-based parent training interventions specifically for children with ASD and identifies how this type of intervention may benefit families.

Methods

Search Strategy

An initial literature search protocol was developed by KO and further refined by the authorship team. The protocol was implemented by an information specialist to search published literature for evidence related to group-based training interventions for parents of children with autism. Databases searched included EMBASE (1974 – Feb 2016), Psychinfo (1806 – Feb 2016) and Medline (1946 – Feb 2016). No limits were applied to the search.

Study selection and data collection

Inclusion criteria were as follows:

Participants: Parents of children with a diagnosis of autism spectrum disorder aged 3-18 years

Intervention: Consists of a group of parents together

Psychoeducational element to the group identified

Specified element of knowledge and transference of knowledge (formal and/or informal)

Delivered by or facilitated by a professional (health, education, social care)

Comparison: Individual 1:1 intervention, usual care, combined group and 1:1 intervention and no comparison

Outcomes: Parent health (physical, psychological, emotional) and or well-being, knowledge (parent/professional), attitude, emotional state, health behaviours (e.g. adherence to therapy, attendance), parenting behaviours, participation in life situations, activities, relationships, child health, child development

Conference abstracts and studies not published in English were excluded. The full search protocol can be requested from the authors.

The titles and abstracts of studies identified from the literature search were initially screened against the criteria (above) for inclusion by SA and NP. References of included studies were hand searched. Studies included from the initial screening were listed in alphabetical order of author. The authors of this review were paired (e.g. SA and SL) and included studies were sequentially divided between the pairs for full text review. Each pair reviewed a proportion of included studies, following which the authorship team met together to agree final study inclusion. Studies were only included through unanimous decision amongst the authorship team.

Data was extracted from included studies by each pair of reviewing authors. A purpose made data extraction form was used to extract the data. Extracted data included: research question; aims; study design; methods; sample and participants; intervention descriptions; comparison interventions; outcomes; outcome measures; and summary of results.

Data analysis

Due to small sample sizes and heterogeneity of included studies it was not possible to perform a statistical analysis. A qualitative analysis was undertaken by the authorship team who met as a group to discuss, develop and refine themes, concepts and categories from the data set through an iterative process (Ritchie, Lewis, Nicholls, & Ormston, 2013).

Intervention descriptions (i.e. ingredients and modes of delivery) were heterogeneous, often lacked specificity and/or were poorly reported, therefore narrative analysis of interventions is presented. Intervention outcomes were analysed through thematic analysis. Themes from across the data set were identified and mapped onto paper. Similar themes were grouped into categories. Category content and broad category descriptions were developed to represent the data.

Results

Forty-one records were identified for inclusion from the initial literature search, of which 28 were divided between pairs of authors and included for full text review (see fig. 1)

[insert fig. 1]

Following discussion between authors, 13 studies (see table 1) unanimously met the inclusion criteria and were included for data extraction and analysis.

[insert table 1]

Quality assessment

Quality assessment was completed by the authorship team through group discussion and review. The overall quality of the included studies was assessed as low, both in terms of study design and methodology. Factors contributing to this assessment included: lack of a control group for comparison in eight (Clubb, 2012; Cutress & Muncer, 2014; Farmer & Reupert, 2013; McAleese, Lavery, & Dyer, 2014; Probst & Glen, 2011; Reed et al., 2009; Roberts & Pickering, 2010; Todd et al., 2010) of the thirteen (61%) studies; small sample sizes (range 8-129 participants) across all studies; lack of baseline measurement data in two of the studies (Clubb, 2012; Cutress & Muncer, 2014); and non-randomised samples in all but two of the studies (Tonge et al., 2006; Tonge, Brereton, Kiomall, Mackinnon, & Rinehart, 2014), with a reliance on convenience sampling. The primary weakness across studies was assessed, by the authorship team, to relate to measurement bias. Six of the thirteen studies (Clubb, 2012; Cutress & Muncer, 2014; Farmer & Reupert, 2013; Probst & Glen, 2011; Sofronoff & Farbotko, 2002; Todd et al., 2010) (46%) relied on idiosyncratic measurement tools to investigate and evaluate interventions. Comparisons across study results was limited due to the heterogeneity of interventions, outcomes and outcome measures used, and varied time points for follow up measurements. Reporting bias was also assessed as likely due to an overall reliance on parent self-report and participant self-selection.

Findings

The types of interventions offered to parents ranged from a simple parent support group (Shu & Lung, 2005) to well-established interventions such as ‘EarlyBird’ (Clubb, 2012; Cutress & Muncer, 2014) and manualised interventions such as ‘TEACCH’ (Probst & Glen, 2011) and ‘Incredible Years’ (Roberts & Pickering, 2010). Interventions were implemented by a range of health and social care professionals including sleep specialists, paediatricians, nurse educators (Reed et al., 2009), psychiatric nurse specialists (Shu & Lung, 2005) and clinical

psychologists (Stuttard et al., 2014). Duration of training varied from a one day workshop (Sofronoff and Farbotko 2002) through to a 20 week course (Tonge et al., 2006). While the content of the interventions varied across studies, autism education and behaviour theory and management were a common intervention feature.

Four main categories were identified to represent intervention outcomes: 1) parenting and parent behaviour; 2) parent health; 3) child behaviour; and 4) peer and social support.

Parenting and parent behaviour

Five studies (Clubb, 2012; Cutress & Muncer, 2014; Farmer & Reupert, 2013; McAleese et al., 2014; Todd et al., 2010) reported outcomes related to parenting and parent behaviour. Parents in the Farmer and Reupert (2013), McAleese et al. (2014) and Clubb (2012) studies reported improved ‘understanding’ of their child and the diagnosis of autism as an intervention outcome. Parent understanding emerged from access to information, shared experiences with other parents and the acquisition of knowledge including knowledge of the neurological, behavioural and practical aspects of autism (Farmer & Reupert, 2013). Greater knowledge and understanding was described as leading to a sense of relief and acceptance for the parents. Parents in the McAleese et al. (2014) study reported improvements in practical knowledge related to the management techniques and strategies used to support children with ASD, for example the use of visual aids.

Parental self-efficacy was commonly reported across the studies (Farmer & Reupert, 2013; McAleese et al., 2014; Sofronoff & Farbotko, 2002; Stuttard et al., 2014; Todd et al., 2010). Stuttard et al. (2014) specifically measured parental self-efficacy pre- and post- intervention

and reported clinically reliable improvements in parental self-efficacy for 47% (n=16) parents in the group-based parent training intervention. The change in scores on the parental self-efficacy measure did not, however, reach statistical significance (Stuttard et al., 2014). It is important to note that the results presented by Stuttard et al. (2014) do not exclusively represent parents of children with ASD but a much broader population including parents of children with other complex needs such as learning disability or co-morbid learning disability. Sofronoff and Farbotko (2002) also reported improved parental self-efficacy resulting from parent training, regardless of whether training was provided as a group-based intervention or individual sessions.

Clubb (2012) and Probst and Glen (2011) report improvements in parental skills following interventions. Clubb (2012) specifically reported improvements in parent observational and problem-solving skills. Parents reported applying frameworks shared in the training, for example STAR (Settings, Triggers, Actions, Results of behaviours), to challenging situations in daily life, to try and problem-solve solutions to help their child. From the Probst and Glen (2011) study, 86% (n=20) of parents reported improvement in skills as an outcome of the intervention and parents perceived themselves to be more effective in managing their child's needs which, in turn, enhanced the child's abilities and controlled problem behaviours.

Parent health

Seven studies (Clubb, 2012; Farmer & Reupert, 2013; Probst & Glen, 2011; Roberts & Pickering, 2010; Shu & Lung, 2005; Todd et al., 2010; Tonge et al., 2006) reported parent health as an intervention outcome. In the Clubb (2012) and Probst and Glen (2011) studies,

parent health was not clearly defined and, as such, information regarding specific changes in parental health beyond general ‘improvements’ was limited. For example, Probst and Glen (2011) reported that 76% (n=18) of parents reported improved parent health as an outcome when defined only as physical and/or psychological health. Across the remaining studies, parent anxiety was a common measure of parent health. Both Tonge et al. (2006) and Roberts and Pickering (2010) measured parent anxiety and depression using the General Health Questionnaire and reported lower parental anxiety post-intervention. Tonge et al. (2006), however, noted that intervention effect was contingent on pre-test scores. Changes in anxiety and depression were chiefly seen in parents who were identified as having ‘pre-existing mental health problems’ and parents who did not report any mental health problems prior to intervention did not show change. Conversely, Shu and Lung (2005) measured parental anxiety and depression using the Chinese version of the General Health Questionnaire (Chinese Health Questionnaire) and found no significant improvement in parents’ anxiety resulting from a parent support group intervention. Finally, Todd et al. (2010) measured parental anxiety using the Hospital Anxiety and Depression Scale and reported a reduction in scores (improvements) from means above the clinical cut-off to on or below the clinical cut-off.

Child Behaviour

Five studies (Roberts & Pickering, 2010; Sofronoff & Farbotko, 2002; Stuttard et al., 2014; Todd et al., 2010; Tonge et al., 2014) reported child behaviour as an intervention outcome. Four studies (Roberts & Pickering, 2010; Sofronoff & Farbotko, 2002; Stuttard et al., 2014; Todd et al., 2010) focussed on problematic behaviours as a measure of child behaviour whilst one study measured children’s skills including communication, daily functioning and socialisation (Tonge et al., 2014).

Problematic behaviours were measured in three studies (Roberts & Pickering, 2010; Sofronoff & Farbotko, 2002; Stuttard et al., 2014) by the Eyberg Child Behaviour Inventory (ECBI) and by Todd et al. (2010) using an alternative service-specific measure. All four studies found a reduction in the frequency of children's problematic behaviours post-intervention. When tested, the reduction in behaviours reached statistical significance immediately after intervention (Stuttard et al., 2014; Todd et al., 2010) and at 4 weeks and 3 months from the start of intervention (Sofronoff & Farbotko, 2002). Sofronoff and Farbotko (2002) suggest that improvements in children's behaviours found in their study were achieved through improving parents' ability to cope, rather than by eliminating the behaviours directly, echoing a common theme across studies that parental factors may be the mechanisms by which children's outcomes can change.

Stuttard et al. (2014) also used individualised goal setting as a measure of children's behaviour pre- and post- intervention, with goal setting and progress towards achieving goals incorporated into the design and delivery of the parent training intervention. Mean ratings on progress towards a specific child behaviour goal significantly improved immediately after intervention and at 3- and 6- month follow up.

Significant improvement in children's socialisation skills were reported by Tonge et al. (2014) as an effect of both the experimental and comparison intervention compared to the control group. Communication skills improved for some children, but intervention effect was dependent on pre-test level of communication and daily functioning improved for children but statistical significance was reached only for the comparison intervention group. Tonge et al. (2014) associated, anecdotally, children's skills with parents' skills, suggesting parents

were more skilled in managing their child's behaviour after intervention, thereby facilitating their child's capacity to learn.

Peer and social support

Five studies (Clubb, 2012; Cutress & Muncer, 2014; Farmer & Reupert, 2013; Roberts & Pickering, 2010; Todd et al., 2010) reported on peer and social support. Farmer and Reupert (2013) designed and delivered their parent training intervention to deliberately facilitate group processes and specifically target peer support and peer learning experiences. Parents were reported to feel less isolated as a result of the intervention. Parent feedback in the Cutress and Muncer (2014) and Clubb (2012) studies reported benefits from being with other parents in similar situations which was interpreted, by the authors, as improvements in the emotional well-being of parents. Parent emotional well-being was not, however, specifically measured or explored and so reliable data is not available to clarify improvements in parent health. Finally, parents in the study by Todd et al. (2010) reported benefits to being with other parents whose children had similar difficulties to their own but this finding was not explored or defined further.

Regardless of the significant limitations of the studies, it is reasonable to accept that a group-based parent training intervention results in some parents feeling less isolated and supported by being with other parents in a similar situation. However, adverse outcomes of peer and social support within group-based parent training interventions have not been considered or explored within the studies identified for review. Additionally, underlying theory or knowledge about the role of peer and social support in parenting practices for children with

ASD or specific parental or child health outcomes would be beneficial to place this finding in the context of parent training as a healthcare intervention.

Discussion

Our literature review focussed on group-based parent training interventions specifically for parents of children with autism spectrum disorder. Although most of the studies described, to varying degrees, the interventions delivered to parents, vast heterogeneity in the content and delivery of the interventions limits the implementation of the evidence in practice. Health outcomes and outcome measurement was also highly variable. For example, 22 different outcome measures were used across the 13 studies included in this review, to measure approximately 23 different outcomes. Overall quality of the included studies was assessed as low which appears to be a common problem in this field of research where practice-based research dominates. The scope for researchers and clinicians to synthesise and combine data through more robust methods such as meta-analytic reviews to support evidence-based practice in this field is therefore limited by both quality and heterogeneity (Postorino et al., 2017).

The Medical Research Council (MRC) guidance for developing and evaluating complex interventions (Craig et al., 2008) can be drawn upon to build on the findings of this review and plan future research. Despite the limitations of this review, some theoretical concepts about the mechanisms by which group-based parent training interventions might work e.g. parental self-efficacy, are suggested and potential intervention outcomes have been grouped into four categories: parenting and parent behaviour; parent health; child behaviour and peer and social support. The wider evidence base for interventions to support children with

neurodisability more broadly supports the potential for factors such as parental self-efficacy to be a plausible mechanism for change (Armitage, Swallow, & Kolehmainen, 2016) within group-based parent training interventions. By drawing on this wider research field, some of the exploratory findings from our review such as intervention ingredients (e.g. providing information and social support), processes (e.g. knowledge and parental self-efficacy) and outcomes (e.g. parental anxiety) can be built upon in research and practice to develop a more substantive theory of group-based parent training interventions. Building firstly, an explicit theory of how group-based training interventions for parents of children with autism spectrum disorder may work and, secondly, an evidence-based intervention are necessary precursors to further investigations into the effectiveness of interventions through randomised controlled clinical trials. Exploratory qualitative research studies are recognised as essential in the early phases of intervention development (Craig et al., 2008) and our review suggests this may be a valuable next-step. In-depth qualitative study is recommended from our review to further explore with parents the processes and outcomes of parent training interventions that are suggested from our review findings. There is also a need to capture the lived experiences of all parents invited to group-based training interventions, including parents who commence but do not complete intervention. Data related to attrition within the studies in our review was often missing but this may be important data to identify potential adverse consequences of the interventions and to develop interventions that are feasible and acceptable to parents.

Studies to systematically build an evidence-based, group-based parent training intervention for parents of children with autism spectrum disorder would also be beneficial. Within clinical practice, integrating techniques known to specifically target some of the intervention processes suggested from our review, into current group-based parent training interventions

would be a practical starting point to build an evidence-based intervention and improve the quality of practice-based research. For example, specific techniques known to target parental self-efficacy e.g. goal setting, coping skills and grading tasks (Michie, Johnston, Francis, Hardeman, & Eccles, 2008) could be integrated into current interventions. The Stuttard et al. (2014) study in our review provides one example of the use of goal setting as both an intervention technique and outcome measure whilst Tonge et al's (2006, 2014) intervention provides an example of explicitly targeting parents' coping skills. Evidence from population level group-based parent training interventions with known effectiveness for improving child outcomes, such as the 'Incredible Years' intervention can also be drawn upon to develop interventions specifically for parents of children with ASD but research will be required to transfer knowledge appropriately to the context of children with ASD.

Finally, future studies in this field require strong clinical and academic collaborations to improve the rigor of investigation and to capture more representative populations. To embed interventions within the clinical and financial context of healthcare systems such as the NHS, value-for-money and cost- as well as clinical-effectiveness of group-based parent training interventions will also need to be explored.

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Figure 1: PRISMA flow diagram

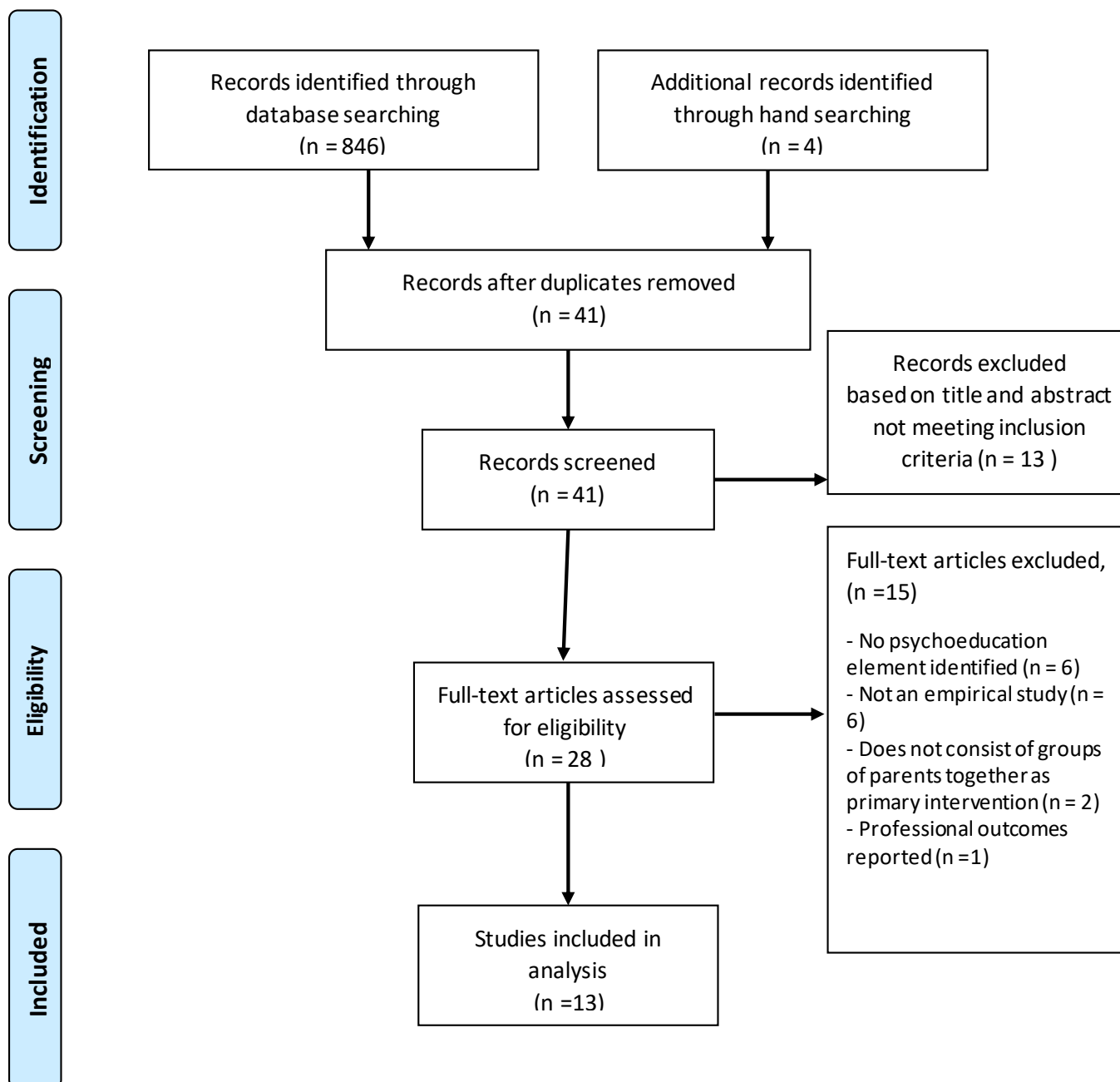


Table 1: List of included studies

Study	Design	Sample size	Intervention	Comparison	Outcome(s)	Outcome measure(s)
Cutress, A.L., and Muncer, S.J. (2014). Parents' views of the National Autistic Society's Early Bird Plus programme. <i>Autism</i> 18(6)	One group post-test questionnaire	120	The National Autistic Society (NAS) Early Bird Plus Programme (EBPP)	None	Parent experiences of the EBPP	Post Programme Questionnaire (PPQ), developed by the National Autistic Society.
Farmer, J., and Reupert, A. (2013). Understanding autism and understanding my child with autism: An evaluation of a group parent education program in rural Australia. <i>Australian Journal of Rural Health</i> 21: 20-27	One group pre-test, post-test questionnaire	92	'Understanding autism and understanding my child with autism' (UA)	None	Parent 'understanding' Parent confidence Feelings of isolation Parental anxiety	Self-constructed questionnaire based on the aims of the UA intervention
Probst, P., and Glen, I. (2011). TEACCH-based interventions for families with children with autism spectrum disorders: outcomes of a parent group training study and a home based child-parent training single case study. <i>Life Span and Disability</i> 2: 111-138	One group pre-test, post-test questionnaire	24	TEACCH-based	None	Parenting behaviours Parent health Family climate	Parental Evaluation of Training Effects on Daily Family Life Questionnaire (adapted from (Mattejat & Remschmidt, 1998)) Home diary experience questionnaire
Clubb, M. (2012). An evaluation of Earlybird Plus over seven years: the benefits of parents and school staff being trained together. <i>Good Autism Practice journal</i> .	One group post-test questionnaire	129 'families' (number of individuals not reported) 48 school staff	EarlyBird and Early Bird Plus Programme; National Autistic Society (NAS)	None	Unspecified	Parental post-intervention questionnaires (not specified)
Roberts, D and Pickering, N. (2010). Parent training programme for autism spectrum disorder: An evaluation. <i>Community Practitioner</i> . 83 (10) 27-30	Service evaluation	8	Incredible Years	None	Parental mental health Child behaviour problems Child's social anxiety Child social communication profile	General Health Questionnaire GHQ-30 Eyberg Child Behaviour Inventory The Social Worries Questionnaire The Australian Scale

Schu, B. C., and Lung, F.W. (2005). The effect of support group on the mental health and quality of life for mothers with autistic children. <i>Journal of Intellectual disability research</i> . 49 (1) pp 47-53	Quasi-experimental pre-post control group design	8 (intervention group) 19 (control group)	Support group	unspecified	Parent psychological well-being Quality of life	Chinese Health Questionnaire-30 World Health Organization (WHO)-quality of life short form
Sofronoff, K. and Farbotko, M. (2002). The effectiveness of parent management training to increase self-efficacy in parents of children with ASpergers Syndrome. <i>Autism</i> . 6 (3) 271-286	Quasi-experimental pre-post control group design	89 (total) 33 (group-based training) 36 (individual training) 20 (control group)	Parent management training (PMT)	Wait-list control	Parent self-efficacy Child behaviour problems	Parental self-efficacy in the management of Asperger syndrome The Eyberg Child Behaviour Inventory (ECBI)
Hannah E. Reed, BA, Susan G. McGrew, MD, Kay Artibee, RN, MEd, Kyla Surdkya, MA, Suzanne E. Goldman, PhD, Kim Frank, MEd, Lily Wang, PhD, and Beth A. Malow, MD, MS Parent-Based Sleep Education Workshops in Autism <i>J Child Neurol</i> . 2009 August ; 24(8): 936–945. doi:10.1177/0883073808331348	One group pre-test, post-test	25	Sleep education workshops	None	Children's sleep behaviour Sleep hygiene Parent developmental and behavioural concerns Children's behaviours Parent stress Children's sleep-wake patterns	Children's sleep habits Questionnaire Family inventory of sleep habits Parental concerns questionnaire Repetitive Behavior Scale Revised Parenting Stress Index-Short Form Actigraphy
Todd, S et al (2010). Using group-based parent training interventions with parents of children with disabilities: a description of process, content and outcomes in clinical practice. <i>Child and adolescent mental health</i> . 15 (3) pp 171-175	One group pre-test, post-test questionnaire	25	'Riding the Rapids: Living with Autism or Disability'	None	Parental anxiety and depression Child's behaviour and parental confidence to manage behaviours	Hospital Anxiety and Depression Scale (HADS) Behaviour Management Questionnaire (BMQ)
McAleese, A et al. (2013). Evaluation of a psychoeducational, therapeutic group for parents of children with autism spectrum disorder. <i>Child Care in Practice</i> . 20	Mixed methods	83	Psychoeducation groups	None	Parental understanding of ASD (presentation, associated difficulties, and behavioural management	Pre-course and post-course evaluation questionnaire (Wright & Williams, 2007)

(2) 162-181					Parent self-efficacy	
Stuttard, L., Beresford, B., Clarke, S., Beecham, J., Todd, S., and Bromley, J. (2014). Riding the Rapids: living with autism or disability-an evaluation of a parenting support intervention for parents of disabled children. <i>Research in Developmental Disabilities</i> . 35 pp 2371-2383	Pragmatic, non-randomised control trial	76 (total) 48 (intervention group) 28 (control group)	'Riding the Rapids: Living with Autism or Disability'	No intervention	Children's problem behaviours Parent satisfaction with their role as a parent Parent self-efficacy	Eyberg Child Behaviour Inventory (ECBI) Parenting Sense of Competence Scale Parent-identified child behaviour goal
Tonge, B et al (2006). Effects on parental mental health of an education and skills training program for parents of young children with autism: A randomised controlled trial. <i>J.AM.ACAD.CHILD.ADOLESC.PSYCHIATRY</i> . 45 (5)	Parallel-group control trial	105 (total) 35 (intervention) 33 (comparison) 35 (control)	Parent Education and Behaviour Management (PEBM)	Parent Education and Counselling group (PEC) No intervention group	Parental mental health Parental stress Family function Child psychopathology Child development	General Health Questionnaire (GHQ-28) Parenting Stress Thermometer McMaster Family Assessment Device (FAD) Developmental Behaviour Checklist (DBC) The Psychoeducational Profile-Revised
Tonge B et al (2014). A randomised group comparison controlled trial of pre-schoolers with autism: a parent education and skills training intervention for young children with autistic disorder. <i>Autism</i> 18 (2) pp 166-177	Parallel group randomised controlled trial	105 (total) 35 (Intervention) 35 (comparison) 35 (control)	Parent Education and Behaviour Management (PEBM) skill training	Parent Education and Counselling (PEAC) No intervention group	Child's daily functioning and skills Child behaviour and autism symptoms Childs cognitive development Childs language development	Vineland Adaptive Behavioural Scales (VABS) Developmental Behaviour Checklist (DBC) The Childhood Autism Rating Scale (CARS) Psychoeducational Profile-Revised (PEP-R) Reynell Developmental Language Scales III (RDLS III)