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**The Efficacy of Group Delivered Mentalization-Based
Parenting Interventions: A Systematic Review of the
Literature**

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Abstract

Mentalization refers to the capacity to understand and interpret one's own and others mental states. There is good evidence for individualised treatments aimed at increasing this capacity with children and adolescents. However, there has been no focused synthesis of the literature concerning specifically group delivered mentalization-based parenting interventions. The current study aimed to systematically review the literature in relation to group delivered mentalization-based parenting interventions. Three databases were searched to identify N=515 studies that were screened and reported according to PRISMA guidelines. Inclusion criteria were met by N=10 studies. Interventions varied in terms of content, but often included psychoeducation, experiential group exercises and homework tasks. The length and setting of interventions did not appear to influence outcomes. Significant improvements in parental reflective functioning were found in eight of the ten studies. There was mixed evidence for the efficacy in terms of other parental and child outcomes. This may be due to the lack of high quality studies and the absence of longer-term follow-ups. There is a need for future research to conduct high quality studies with greater diversity in participating parents and long-term follow-up.

Keywords: Mentalization, Parents, Systematic Review, Group interventions

Introduction

Mentalization (or reflective functioning) is a concept that has developed through an integration of psychoanalysis, developmental psychology and cognitive neuroscience. It refers to the capacity to understand and interpret one's own and others' mental states such as thoughts, feelings and needs (Fonagy, Steele, Steele,

Moran, & Higgitt, 1991). Mentalizing is an ability that is primarily developed by the infant being treated by their primary caregiver(s) like an individual, with his or her own needs and desires. Mentalization theory suggests that the capacity to mentalize allows important social and cognitive capabilities to develop. Disturbance of relationships with primary caregivers can therefore lead to disruptions in mentalizing abilities, which consequently leaves the child vulnerable to difficulties in social relationships (Fonagy & Target, 2006).

Despite mentalizing being an ability that develops within the infant and caregiver relationship, the most established evidence base for mentalization-based psychological interventions is in the area of adult personality disorder; specifically, Mentalization Based Treatment (MBT) for Borderline Personality Disorder (Fonagy & Bateman, 2008) and Antisocial Personality Disorder (Bateman, O'Connell, Lorenzini, Gardner, & Fonagy, 2016). The evidence for adapting MBT to focus on parents and children is in its infancy (Midgley & Vrouva, 2012; Byrne, Murphy, & Connon, 2020). There are a number of mentalization-based parenting interventions that have been developed (Mothering from the Inside out, Suchman et al., 2016; Suchman et al., 2017; Minding the Baby; Ordway et al., 2014; Slade et al., 2020; Sadler et al., 2013). Additionally, programmes for foster carers and adoptive parents have been developed (Midgley et al., 2019; Midgley, Alayza, Lawrence, & Bellew, 2018) and a number that are solely delivered in a group-based format rather than individually (Bammens, Adkins, & Badger, 2015; Adkins, Luyten, & Fonagy, 2018; Midgley et al., 2019; Adkins et al, 2021). Whilst the evidence base for the efficacy of mentalization based parenting programmes is emerging, it lacks synthesis and cohesion.

One core aim of mentalization-based interventions with parents is to increase parental “Reflective Functioning”. Reflective Functioning (RF), often considered as synonymous with mentalization, was operationalised by Fonagy et al. (1991) in the coding of the Adult Attachment Interview (AAI; George, Kaplan & Main, 1985). The “Reflective Function Scale” on the AAI is an observational measure of an adult’s capacity to reflect on the mental states and intentions of others (mainly their parents or key attachment figures) whilst recalling childhood experiences. There is evidence of significant correlations between the ability of the parents to reflect upon their own history in the AAI and attachment security with their own child (Camoirano, 2017; Fonagy et al., 1991). The Reflective Functioning Scale was applied to the Parent Development Interview (PDI, Aber et al., 1985) to create the PDI-RF (Slade et al., 2004). Parental Reflective Functioning (PRF) is a parent’s ability to be aware of their own mental states and how this influences their behaviour, while also being open and curious to understanding their child’s mental states and behaviours (Fonagy et al., 1991). More recently the Parental Reflective Functioning Questionnaire (PRFQ) has been developed as a brief, multidimensional assessment of PRF (Luyten, Mayes, Nijssens, & Fonagy, 2017). These measures have been developed and validated in western countries, and therefore it is important to consider their applicability in other countries and cultures. Lee, Meins and Larkin (2021) have developed a Korean translation of the PRFQ and discuss the differences in application of the measure in collectivistic cultures due to differences in parenting practices.

Research into associations between PRF and parenting quality or offspring outcomes provides theoretical support for parenting interventions that have a core aim of increasing PRF. For example, PRF has been linked to more sensitive caregiving, positive parenting skills and parental satisfaction (Borelli, West, Decoste, &

Suchman, 2012; Rostad & Whitaker, 2016). It also appears to be a key factor in the development of a secure attachment between child and caregiver, and therefore impacts a child's ability to develop a sense of self (Fonagy & Target, 1998; Ensink, Normandin, Plamondon, Berthelot, & Fonagy, 2016). High PRF is associated with better offspring social and cognitive developmental outcomes (Ensink, Begin, Normandin, & Fonagy, 2017; Laranjo, Bernier, Meins, & Carlson, 2010), whereas, low PRF is associated with offspring emotional and behavioural difficulties (Camoirano, 2017; Ensink, Begin, Normandin, Godbout, & Fonagy, 2017). In a narrative review of the literature, Camoirano (2017) reported evidence that PRF has a strong influence on quality of caregiving, attachment security, emotion regulation and child's RF ability.

PRF is a mental activity that can be effortful but allows parents to respond to difficult behaviour whilst also considering the emotional wellbeing of the child (Cooper & Redfern, 2015). A higher baseline PRF can lead to a greater likelihood of remaining emotionally regulated during times of difficulty (Fonagy, Gergely, & Jurist, 2018), and has been related to lower levels of perceived parenting stress (McMahon & Meins, 2012). Being a parent is an inherently stressful role, and therefore PRF is likely to fluctuate with PRF decreasing in conditions of stress (e.g. due to interpersonal conflict, financial strain and loss; Fonagy & Target, 1997). Parenting stress has been found to negatively affect the ability to mentalize (Nolte et al., 2013), as well as mediate the association between maternal history of maltreatment and parental sensitivity (Pereira et al., 2012). Therefore, interventions aimed at increasing PRF are theorised to have a multitude of beneficial effects for parent and child, especially those who are living in conditions of stress.

In spite of the potential benefit of parenting interventions, that have a core aim of increasing PRF, there is not currently a systematic review that draws together the evidence of group delivered mentalization-based parenting interventions. In a systematic review of the literature, Barlow, Slead and Midgley (2021) found a non-significant improvement in PRF following mentalization-informed interventions (individual and group formats) with parents with children aged 0-36 months old. Byrne and colleagues (2020) conducted a systematic review of mentalization-based interventions aimed at parents, children and/or adolescents and concluded that there was tentative support for mentalization-based treatments with children and families, specifically in increasing reflective functioning. Although these reviews alone do not deliver clear conclusions about the efficacy of mentalization-based parenting groups, they offer some provisional support for mentalization-based interventions for parents, children and adolescents. Neither of the reviews focus on the parenting group literature specifically, and therefore do not summarise the content and method of delivery involved in current group delivered mentalization-based parenting interventions.

This systematic review goes beyond the scope of previous reviews by focusing solely on group delivered mentalization-based parenting interventions for parents with children aged 0 to 18 years old. The specific aims were to: (1) Consider the nature of the mentalization-based parenting groups currently described in the literature, in terms of similarities and differences in the group content and delivery, and target populations; (2) Describe and examine the quality of the quantitative research on mentalization-based parenting group interventions; (3) Synthesise the evidence for the efficacy of mentalization-based parenting groups in terms of improvement in PRF and other relevant outcomes for the parent, child and parent-child interactions.

Method

The review follows the guidance outlined in the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) group (Moher, Liberati, Tetzlaff, & Altman, 2010) and was registered on the International prospective register of systematic reviews (PROSPERO, 2021, CRD42021210062).

Search Strategy

Following initial searches, search terms were refined and were used on three electronic databases; PsycINFO, MEDLINE and Web of Science. The terms used were ‘MBT’ or ‘mentalization’ or ‘mentalization-informed’ combined with ‘parenting’ or ‘parent’ or ‘parents’ or ‘adoptive’ or ‘expectant’ or ‘foster’ or ‘surrogate’ or ‘fathers’ or ‘mothers’ or ‘carer’ or ‘caregivers’ or ‘care giver’. Searches were conducted for papers published for the entire time periods for which the databases are available and up until April 2021.

Inclusion and exclusion criteria

Due to the limited number of published studies in the field, no specific control group was specified, therefore a mixture of experimental and quasi-experimental studies were included. All studies included were: peer-reviewed published journal articles; studies that evaluated the outcomes of a parenting intervention (“parenting intervention” for the purpose of this review included those aimed at biological and/or non-biological parents/carers); delivered in a group format; had been developed based on mentalization theory therefore aiming to improve parents ability to mentalize; and aimed at parents with children aged less than 18 years. Only studies that used at least

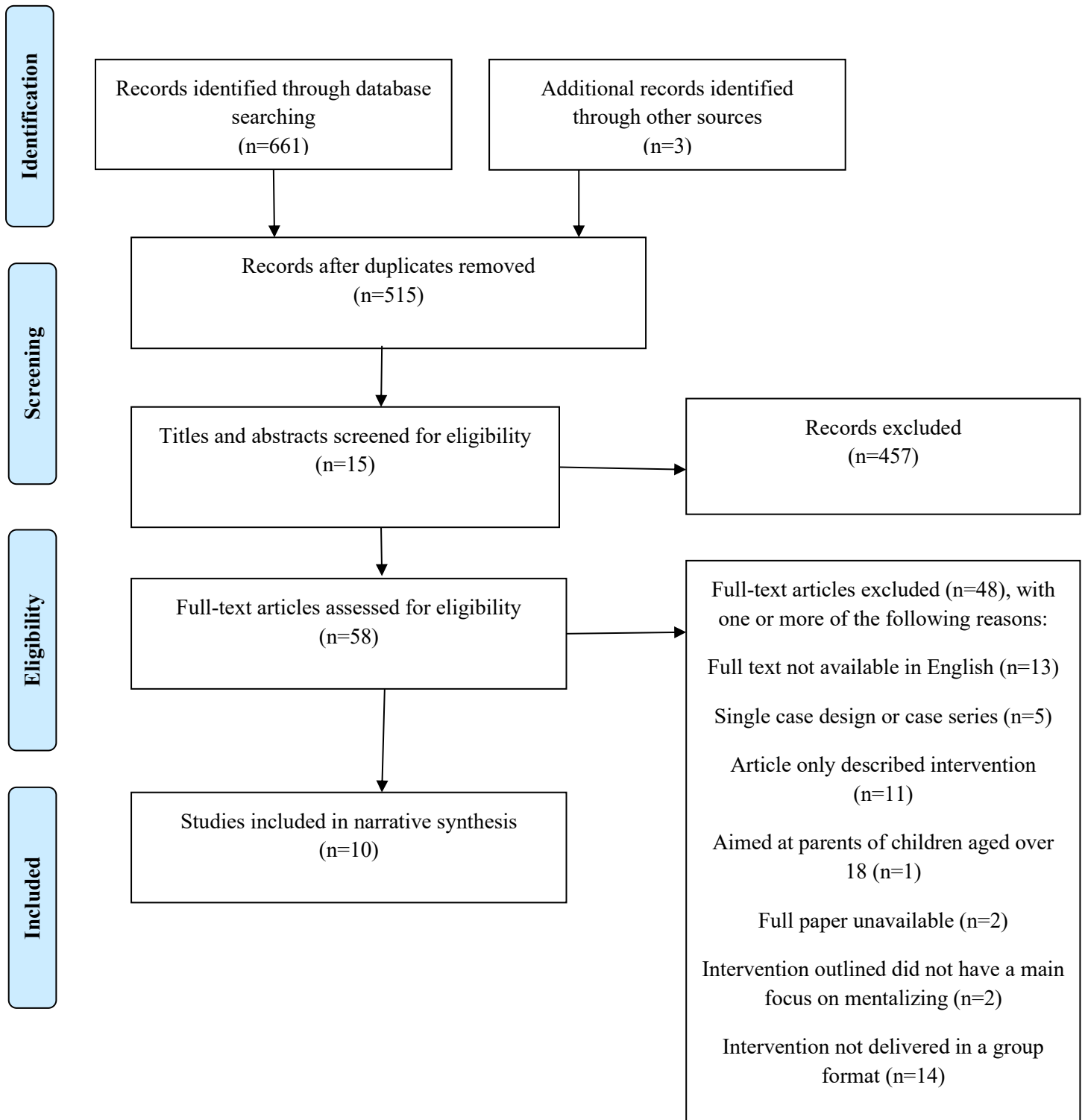
one validated standardised outcome measure related to the parent's ability to mentalize or parental reflective functioning were included. In addition, only studies available in English were included and book chapters and single case designs were excluded.

Study selection

Figure 1 outlines the process of study selection. Searches of the relevant databases obtained 661 records with a further 3 records identified through reference lists of identified papers. 515 records remained after duplicates were removed, and the author screened titles and abstracts. 457 records were excluded, leaving 58 records that were screened following review of the full text.

Figure 1

PRISMA flowchart of included studies.



Data Extraction

SL extracted data from the selected papers with 30% of data cross checked by an independent rater (GM). Data extracted included: title; authors; year; study location; sample size and effect size; attrition rate; study design; measures; intervention characteristics (duration, timing, frequency, group size, mode of delivery, description of intervention, control group); participant demographic information (e.g. age, gender, type of parent); outcome measures (primary and secondary outcomes), data analysis (type of analysis used) and intervention effects (results).

Quality Assessment

Study quality was assessed using The Evaluation of Public Health Practice Projects (EPHPP; Ciliska, Miccouci and Dobbins, 1998) quality assessment which is a standardised evaluation tool that been used widely to assess health interventions. The tool assesses six methodological dimensions: selection bias; study design; confounders; blinding; and withdrawals and dropouts. The tool gives guidance to assign each aspect a rating of strong, moderate or weak. The ratings from these aspects are combined to calculate a global rating of strong (no weak ratings), moderate (one weak rating) or weak (two or more weak ratings). The tool assesses two further methodological dimensions including intervention integrity and statistical analysis quality; these are not included in the global rating.

Results

The main findings and details of the 10 studies that met the inclusion criteria are presented in Table 1.

Table 1

Sample characteristics, intervention, outcome measures and findings from included studies.

Authors	Sample characteristics	Design	Sample size, % female (parents), Age range and/or mean age of parents/child (years/ months)	Intervention	Outcome Measures	Results
Adkins, Luyten and Fonagy (2018)	USA	NRCT	N = 102 (54 intervention, 48 control)	Family Minds - Mentalizing psycho-education program	FMSS	Significant increase on PRFQ ($d=.74$) in the intervention group compared to control group.
	Foster parents	Active control group	Female = 63%		PRFQ	Significant increases in all FMSS subscale scores ($d=1.31$) in the intervention group compared to control group.
	Ethnicity: 61% Caucasian, 18% Black, 15% Hispanic Education: 84% at least some form of college education		Age range of parents = 24-71 Age range of children = 2 months – 18 years		PSI-SF	Non-significant trend of improvement on PSI ($d=.5$) in the intervention group compared to control group.
Adkins, Reisz, Hasdemir and Fonagy (2021)	USA	RCT	N = 89 (49 intervention, 40 control)	Family Minds - Mentalizing psycho-education program	PRFQ	Significant increase in reflective functioning ($d=.85$) in the intervention group compared to control group.
	Foster parents	Active control group	Female = 60%		RF-FMSS	Post-test differences between groups were significant for the PSI-SF subscale Child Dysfunctional Interaction ($d=.58$).
	Ethnicity: 72% Caucasian, 11% Black, 11% Hispanic, 7% Multi-ethnic Education: 89% at least some college education		Age range of parents = 22-76 Age range of children = 1 month – 17 years and 6 months		PSI-SF SDQ	No significant change on SDQ.

Authors	Sample characteristics	Design	Sample size, % female (parents), Age range and/or mean age of parents/child (years/ months)	Intervention	Outcome Measures	Results
Bain (2014)	South Africa Mothers living in a homeless shelter Ethnicity: Not reported Education: 31% completed school, 18% some form of tertiary education	RCT Waitlist control group	N = 22 (16 intervention, 6 control) Female = 100% Age range of parents = 18-43 Age range of children = 0 – 2 years and 6 months	New Beginnings	PDI K10 GMDS EA Scales	No significant effects of the programme on infant's level of responsiveness and maternal RF. Significant improvement in speech development in intervention group compared to control group.
Bammens, Adkins and Badger (2015)	USA Foster/ adoptive parents Ethnicity: Not reported Education: Not reported	NRCT Active control group	N = 31 (18 intervention, 13 control) Female = 61% Mean age of parents = 44 (Intervention), 42 (Control) Mean age of children = 5 years 10 months (Intervention), 5 years 5 months (Control)	Family Minds programme	FMSS	Significant increase in RF on FMSS in intervention group compared to control group.
Baradon, Fonagy, Bland, Lenard and Sleed (2008)	UK Mothers in prison Ethnicity: 53% Black African, 27% White British, 20% Asian Education: Not reported	Observational No control group	N = 27 Female = 100% Age range of parents = 19-40 Age range of children = 0 – 10 months	New Beginnings	PDI	Significant increase in mean overall level of RF from pre- to post-intervention.
Enav et al. (2019)	USA Parents with a child with ASD	NRCT Waitlist control	N = 64 (36 intervention, 28 control) Female = 81%	Group for parents of children with ASD (Unnamed)	PDI ITE	Significant improvement on parental RF ($d=.79$) in intervention group compared to control group.

Authors	Sample characteristics	Design	Sample size, % female (parents), Age range and/or mean age of parents/child (years/ months)	Intervention	Outcome Measures	Results
	<p>Ethnicity: 51% Caucasian, 31% Asian, 5% Hispanic, 11% Other, 2% Missing</p> <p>Education: Not reported</p>	group	<p>Age range of parents = 31-64</p> <p>Age range of children = 3 years – 18 years</p>		<p>ERQ</p> <p>CBCL</p> <p>PSOC</p>	<p>Significant increase in ITE ($d=.41$) in intervention group compared to control group.</p> <p>Significant reductions in CBCL ($d=.13-.33$) in intervention group compared to control group.</p> <p>Significant increase in PSOC ($d=.37$) in intervention group compared to control group.</p> <p>No significant change on ERQ in either group.</p>
Midgley et al. (2019)	<p>UK</p> <p>Foster parents</p> <p>Ethnicity: 96% White, 4% Other</p> <p>Education: 43% school level education, 14% ALevel or equivalent, 14% Vocational training, 18% University degree, 11% Postgraduate degree</p>	<p>Observational</p> <p>No control group</p>	<p>N = 28</p> <p>Female = 86%</p> <p>Mean age of parents = 52 years</p> <p>Mean age of children = 8.85 years</p>	Reflective Fostering Group	<p>PRFQ</p> <p>PSI-SF</p> <p>RFQ</p> <p>BP-SES</p> <p>SDQ</p> <p>BAC-C</p> <p>ERC</p>	<p>No significant reduction on PRFQ and RFQ</p> <p>Significant reduction on PSI-SF ($d=.56$) from pre- to post-intervention.</p> <p>Significant reduction on SDQ ($d=0.3$) from pre- to post-intervention.</p> <p>Significant reduction on BAC-C ($d=0.29$) from pre- to post-intervention.</p> <p>No significant reduction on Brief Parental Self-efficacy scale.</p> <p>No significant reduction on ERC.</p>
Salo et al. (2019)	<p>Finland</p> <p>Pregnant women with depressive symptoms</p> <p>Ethnicity: Not reported</p> <p>Education: 60% low education (primary and high or trade</p>	<p>RCT</p> <p>Treatment as usual control group</p>	<p>N = 45 (24 intervention, 21 control)</p> <p>Female = 100%</p> <p>Age range or mean age of parents = Not reported</p> <p>Age range or mean age of children = At recruitment between 22 and 31</p>	Mentalization-based perinatal group intervention, Nurture and Play (NaP)	<p>EPDS</p> <p>MIM</p> <p>EA Scales</p> <p>PI</p>	<p>Significant increase in RF ($\eta^2 = 0.4$) in intervention group compared to control group.</p> <p>Maternal availability ($\eta^2 = 0.24$) and maternal sensitivity ($\eta^2 = 0.18$) significantly improved in intervention group compared to control group</p> <p>Mother's depressive symptoms significantly reduced ($\eta^2 = 0.11$) in intervention group</p>

Authors	Sample characteristics	Design	Sample size, % female (parents), Age range and/or mean age of parents/child (years/ months)	Intervention	Outcome Measures	Results
	school), 40% high education (university and doctoral degrees)		gestational weeks		PDI Narratives coded for reflective functioning	compared to control group. No change on maternal hostility.
Sieverson et al. (2021)	Chile Mothers of preschool children Ethnicity: Not reported Education: 8% Primary complete/ incomplete, 14% Secondary incomplete, 42% Secondary complete, 22% University incomplete, 10% University complete	NRCT Treatment as usual control group	N = 50 (22 intervention, 28 control) Female = 100% Mean age of parents = 30 Mean age of children = 3 years and 9 months	Preventative mentalization-based intervention with video feedback	EMSCQ PICCOLO PSI-SF ASQ-SE	Higher number of references to mental states and more references to cognitions and emotions in intervention group compared to control group. Less parental stress in the intervention group compared to control group.
Sleed, Baradon and Fonagy (2013)	UK Mothers in prisons Ethnicity: 54% White, 32% Black, 6% Asian, 7% Mixed, 1% Other Education: 39% no qualifications, 26% Basic, 23% Further, 5% Higher, 7% Missing	RCT Treatment as usual control group	N = 163 (88 intervention, 75 control) Female = 100% Age range of parents = 18-42 years Age range of children = 0 – 1 year and 11 months	New Beginnings	PDI CES-D MORS CIB	Significant increase in PRF in intervention group compared to control group. No significant difference on maternal depression or self-reported representations of their babies over time.

Key: NRCT (Non-Randomised Control Trial); RCT (Randomised Control Trial); FMSS (Five-minute Speech Sample); PRFQ (Parental Reflective Functioning Questionnaire); PSI-SF (Parenting Stress Inventory – Short form); RF-FMSS (Reflective Functioning Five-Minute Speech Sample); SDQ (Strengths and Difficulties Questionnaire); PDI (The Parental Development Interview); K10 (Kessler Psychological Distress Scale); GMDS (Griffiths Scales of Mental Development); EA Scales (Emotional Availability Scales); ITE (Implicit Theories of Emotion scale); ASD (Autism Spectrum Disorder); ERQ (Emotional Regulation Questionnaire); CBCL (The Child Behaviour Checklist); PSOC (Parenting Sense of Competency Scale); RFQ (Reflective Functioning Questionnaire); BP-SES (Brief Parental Self-Efficacy Scale); BAC-C (Brief Assessment Checklist for Children); ERC (Emotion Regulation Checklist); EPDS (Edinburg Postnatal

Depression Scale); MIM (Marschak Interaction Method); PI (The Pregnancy Interview); EMSCQ (The Evaluation of the Mentalization of the Significant Caregivers Questionnaire); PICCOLO (Parenting Interactions With Children: Checklist of Observations Linked to Outcomes); ASQ-SE (The Ages and Stages Questionnaire–Social-Emotional); CES-D (The Center for Epidemiologic Studies Depression Scale); MORS (The Mother’s Object Relations Scales); CIB (Coding Interactive Behavior).

Intervention characteristics

In the ten studies that met inclusion criteria, six different group delivered mentalization-based parenting interventions were evaluated. The characteristics of these interventions are described below.

Size and length of group

Table 2 shows the different group interventions in relation to the number of sessions, length of sessions, length of intervention and the number of parents attending each group.

Table 2

Interventions in included papers

Intervention	Number of sessions	Length of sessions	Length of intervention	Number of parents per group	Child present
Family Minds	3	3 hours	4-6 weeks	Between 10 and 20	No
New Beginnings	8	2 hours	4 weeks	6- 16	Yes
	12	1.5 hours			
Mentalization-informed group for parents of children with ASD	4	1.5 hours	4 weeks	8-10	No
Reflective Fostering Programme	10	3 hours	10 weeks	6-10	No
Nurture & Play	11	1.5 hours	Information not provided	Information not provided	Yes
Mentalization-based group parenting intervention with video feedback	5	2 hours	5 weeks	Information provided	not No

Settings

The ten studies were conducted across a variety of settings. In the three studies that evaluated the Family Minds intervention, the group's participants were recruited

through Child Protection Services (the state authority for foster children in the USA). Similarly, the Reflective Fostering Programme (Midgley et al., 2019) was delivered to foster parents who were referred by their social workers from two local authorities in the UK. All three papers evaluating the New Beginnings programme took place in settings where there would be a high risk of child protection concerns; two in Mother and Baby Units (MBU) in UK prisons (Baradon et al., 2008; Slead et al., 2013) and one across two homeless shelters in South Africa (Bain, 2014). The other four studies were conducted in community based settings such as local clinics, schools and kindergartens (Enav et al., 2019; Salo et al., 2019; Sieverson et al., 2021).

Content

The quality and depth of descriptions of the interventions was variable across the papers. Family Minds is designed as a mentalizing psychoeducation program for foster carers whom are likely to be caring for children who have experienced varying degrees of developmental trauma. The programme includes information on trauma, attachment, behaviour, emotions, sensitive and reflective parenting and the importance of mentalizing. Although described as a psychoeducational programme, the intervention involves experiential group exercises that progress from general mentalizing activities to more specific tasks involving mentalizing the child. Parents are also encouraged to examine their own responses and reactions to their children. The intervention involves at-home parent and child activities designed to build mentalizing skills. It appears all elements of the programme are aimed at increasing PRF.

The New Beginnings program is a psychotherapy group for mother-infant dyads. It is described as a learning and experience-based program originally

developed to address early attachments between mothers and babies in prison. It is designed to work directly with the infant's attachment needs through mirroring emotional states, verbalising experiences and creating opportunities for connectedness between parent and infant. Handouts and worksheets are used, and homework tasks set following each session.

Enav et al. (2019) evaluated a mentalization-based group for parents of children with Autism Spectrum Disorder (ASD). The sessions involved information about emotions, emotion regulation, mentalization strategies and content relevant to the challenges of parenting a child with ASD. The intervention involved information, discussion and practice of strategies. Handouts and homework tasks were also given. Homework tasks involved parents sharing and discussing with the group an emotionally intense experience with their child in a structured format.

The Reflective Fostering Programme (Midgley et al., 2019) builds on the Reflective Parenting model (Cooper & Redfern, 2016) and promotes reflective functioning in relation to the self and child while considering ways of managing emotions and stress. It also aims to provide foster parents with practical strategies to help them to build supportive relationships with their foster children. There was no further information available on the content of this intervention.

The Nurture and Play intervention (Salo et al., 2019) involves mentalizing techniques to enhance understanding of mother and infant interactions are used such as the pausing technique, active and explicit acknowledging of feelings, and how to stop non-mentalizing. The intervention uses theraplay activities to promote physical touch and joint attention such as singing, playing instruments, rhythmic movements

and baby massage. Cognitive and affective regulation techniques are also incorporated to improve mothers' depressive mood and homework diaries are given.

The mentalization-based group parenting intervention with video feedback (Sieverson et al., 2021) is a five session, mothers only group. It is the only paper evaluating an intervention that was developed in a non-western country. The first two sessions involve psychoeducation about mentalization and communication, the third and fourth are described as video feedback sessions called 'Recognising us' and 'Difficult moments' and the fourth session a psychoeducation session called 'Keep the mind in mind'. The aim of the intervention is to understand and promote mentalization and therefore PRF, identify different levels of perception (internal and external), reflect and improve communication of ones own mental states, improve perception of other's thoughts and feelings, and practice responses to promote mentalization.

Participants

Across the ten studies there was a total of 629 participants. Of the parents who participated, approximately 17% were male and 83% female, and parents ranged in age from 18 to 76 years old. In five studies, only females participated. The age of the child or children that parents were caring for ranged from in utero to 18 years old, with the mean age of the child below 10 years in all 10 studies. The predominant ethnicity in studies was White, with the exception of Baradon and colleagues (2008) paper evaluating the New Beginnings intervention in UK prisons, where the highest reported ethnicity was Black. Other reported ethnicities included Asian, Hispanic and mixed ethnicity (See Table 1 for further details).

There was variation in terms of level of education across the studies. From the two studies that reported it appears that most foster parents who received the Family Minds intervention in the USA had at least some form of university education. In contrast participants who took part in the New Beginnings intervention tended to have a lower level of education, with only 18% having some level of tertiary education in one study, and 5% having a university education in the other. In the other studies, the proportion of university-level educated participants ranged from 22% to 40%.

Quality Assessment

Table 3 provides an overview of the quality ratings given to the included studies using the Effective Public Health Practice Project (EPHPP; Ciliska, Miccouci and Dobbins, 1998) quality assessment tool. An independent assessor reviewed 30% of included papers and was blinded to quality assessment ratings given by the first author. Global ratings of study quality made by the second reviewer matched those made by the first author in all instances (100% agreement). Discrepancies on individual dimensions of the tool were discussed and resolved.

Table 3

Quality ratings for the included studies using the Effective Public Health Practice Project (EPHPP) quality assessment tool.

Study	Global Rating	Selection Bias	Study Design	Confounders	Blinding	Data Collection	Withdrawals & Dropouts
Adkins et al. (2018)	Weak	Weak	Moderate	Strong	Weak	Strong	Strong
Adkins et al. (2021)	Weak	Weak	Strong	Strong	Strong	Strong	Weak
Bain (2014)	Moderate	Moderate	Strong	Weak	Moderate	Strong	Strong
Bammens et al. (2015)	Weak	Weak	Moderate	Weak	Weak	Strong	Strong
Baradon et al.	Moderate	Moderate	Moderate	Weak	Moderate	Strong	Moderate

(2008)								
Enav et al. (2019)	Moderate	Weak	Moderate	Strong	Moderate	Strong	Strong	
Midgley et al. (2019)	Moderate	Moderate	Moderate	Strong	Weak	Strong	Strong	
Salo et al. (2019)	Strong	Moderate	Strong	Strong	Moderate	Strong	Strong	
Sieversen et al. (2021)	Moderate	Moderate	Moderate	Strong	Moderate	Strong	Weak	
Sleed et al. (2013)	Moderate	Strong	Strong	Strong	Moderate	Strong	Weak	

Study design

Four of the reviewed studies used Randomised Control Trial designs (Adkins et al., 2021; Bain, 2014; Salo et al., 2019; Sleed et al., 2013). Only one used an active control group (Adkins et al., 2021) whereas the other three used ‘treatment as usual’ or ‘waiting list controls’. Four studies (Adkins et al., 2018; Bammens et al., 2015; Enav et al., 2019; Sieversen et al., 2021) were designed as Non-Randomised Control Trials with two using an active control group (Adkins et al., 2018; Bammens et al., 2015). The remaining two papers used an observational design taking measures pre and post intervention (Baradon et al., 2008; Midgley et al., 2019).

In terms of attrition and drop out, four studies (Adkins et al., 2018; Bammens et al., 2015; Enav et al., 2019; and Salo et al., 2019) had attrition rates between 0 and 20%. Three had an attrition rate between 21% and 40%; Bain (2014), Baradon et al. (2008) and Midgley et al. (2019). Three studies had attrition rates of over 40% (Adkins et al., 2019; Sieversen et al., 2021; Sleed et al., 2013). Studies with an attrition rate of over 20% are generally considered unacceptable meaning only four of the included studies had an acceptable attrition rate (Fewtrell et al, 2008). Studies

varied in their explanations for drop out, but it appeared for many that it was difficult to reach all participants to conduct assessment following the initial intervention phase.

Outcomes

Across the studies a total of 25 different outcome measures were used. There tended to be some similarities across measures used to assess Parental Reflective Functioning (PRF) but less so in measures of other parental and child outcomes. See table 1 for outcomes and effect sizes where reported.

Reflective Functioning outcomes

All studies included a measure of PRF or mentalizing capacity. The most commonly used measure was the Parental Development Interview (PDI; Aber et al., 1985) coded for RF (Slade et al., 2004). This was used in five of the 10 studies reviewed. In four of these studies, significant increases in Reflective Functioning were found following the intervention and/ or compared to control groups. The only non-significant result was Bain's (2014) study. In contrast, other studies of the New Beginnings intervention reported significant improvements in PRF following the interventions (Baradon et al., 2008; Slead et al., 2013). Enav et al. (2019) found significant improvement in PRF following their mentalization-based parenting group for parents with a child with ASD. All of these papers were rated as moderate in quality. Salo et al. (2019), in the only paper given a strong quality rating, also found significant improvements in PRF following the Nurture and Play intervention compared to controls, with a large effect size.

The Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al.; 2017) was used in three studies. In two of the studies evaluating the Family Minds

programme for foster carers significant differences in PRF were found between the intervention and control groups with large effect sizes (Adkins et al., 2018; Adkins et al., 2021). Midgley et al. (2019) found no significant change in PRF on the PRFQ pre and post the Reflective Fostering Programme intervention. It is noteworthy that the two studies that did find a significant improvement were rated as low in quality whereas the study with non-significant findings was rated moderately.

All of the studies assessing the Family Minds intervention used the Five Minute Speech Sample (FMSS; Gottschalk and Gleser 1969) coded for Reflective Functioning to measure PRF. In the papers by Adkins et al. (2018) and Adkins et al. (2021) this was in addition to the PRFQ. In both papers, significant increases in PRF scores were found for the intervention groups. Bammens et al. (2015) used only the FMSS and reported significant increases in PRF post-treatment. These three papers were rated weak in terms of quality therefore findings should be interpreted with caution.

The final measure used by Sieverson et al. (2021) to assess PRF or mentalizing capacity, was the evaluation of the Mentalization of the Significant Caregivers Questionnaire (Farkas et al., 2017). In this moderately rated study, they found higher number of references to mental states in the intervention group compared to the control group, therefore suggesting higher PRF. This measure has been validated but less widely used to assess mentalizing.

In summary, out of the 10 studies included in the review, eight found that the interventions led to a significant increase in PRF, of which one was rated strong in quality, four moderate and three weak. Two studies rated moderate in quality found a non-significant improvement.

Parental outcomes

Of the 10 studies that met the inclusion criteria, eight included measures related to parental outcomes (not including PRF). The most commonly used measure was the Parenting Stress Inventory-Short Form (PSI-SF; Abidin, 1995) that was used in four studies. In two studies rated as moderate in quality, significant reductions in parenting stress were observed. One of these studies was uncontrolled (Midgley et al., 2019) and the other included a control group (Sievers et al., 2021). In contrast, Adkins and colleagues (2018) did not observe significant reductions in parenting stress in their study and Adkins and colleagues (2021) only found a significant improvement on one of the PSI-SF subscales (Child Dysfunctional Interaction). These two papers were rated as weak in quality. Therefore, there is mixed evidence for reduced parenting stress following group delivered mentalization-based parenting interventions.

In three studies, parental anxiety and/or depression was assessed. In one study that used the Edinburgh Postnatal Depression Scale (EPDS; Murray & Cox, 1990) significant reductions in depressive symptoms were observed in intervention group compared to the control group (Salo et al. 2019). In contrast, Bain (2014) used the Kessler-10 (Kessler et al., 2002) and did not find significant improvements in maternal depression and anxiety at post-treatment. Similarly, Sled, Baradon and Fonagy (2013) did not find a significant improvement in parental depressive symptoms using The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). In summary, these findings, from strong and moderate quality papers, found minimal evidence for consistent improvements in parental anxiety and depression following group delivered mentalization-based parenting interventions.

Three studies measured parental emotion understanding and regulation. The Implicit Theories of Emotion (ITE; Tamir et al., 2007) scale was used by Enav and colleagues (2019) who reported a significant increase scores in the intervention group compared to the control group, however no significant improvements in emotion regulation (Emotional Regulation Questionnaire, ERQ; Gross & John, 2003). Midgley and colleagues (2019) used the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) and found no significant reduction between pre and post intervention scores. Therefore, findings from these two moderate quality rated papers provide no evidence for improvements in parental emotional regulation, and limited evidence for improvements in parental emotional understanding following participation in group delivered mentalization-based parenting interventions.

Finally, two studies assessed parental sense of competency and self-efficacy. Enav and colleagues (2019) used the Parenting Sense of Competency Scale (Gibaud-Wallston & Wandersmann, 1978). In this study, parents in the intervention group reported an increased sense of competency compared to the waitlist control group at the post-treatment assessment (Enav et al., 2019). In contrast, Midgley and colleagues (2019) used the Brief Parental Self-Efficacy Scale (Woolgar, Unpublished) and found no significant change in participants' scores pre and post intervention. Therefore, in these studies of moderate quality, there is mixed evidence regarding the impact of interventions on these parental outcomes.

Parent-Child Interaction outcomes

Three of the included papers included measures of parent-child interactions. The Emotional Availability Scales (EA; Biringen et al., 1998), which measure parents' perceptions of the quality of interactions between parent and child, was used

in two studies. Both studies reported significant improvements in parent rated emotional availability following participating in the intervention (Bain, 2014; Salo et al., 2019). The Mother's Object Relations Scale (MORS; Milford & Oates, 2009) is a screening tool used to identify potential problems in early mother-infant relationships. Sled and colleagues (2013) used this measure and found no significant differences between control and intervention groups at post-treatment. In addition, Sled and colleagues (2013) used the Coding Interactive Behaviour scales (CIB; Feldman, 1998) to analyse observed parent-child interactions. This study found mentalization-based treatment produced significant increases in dyadic attunement and parent positive engagement compared to the control group. In summary, for the studies that measured parent-child interaction outcomes, most reported improvements in the quality of the parent-child relationship following engagement in group delivered mentalization-based parenting interventions.

Child outcomes

Four out of the ten studies directly measured outcomes for the child. In two studies, the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) was used. Adkins and colleagues (2021) found no significant difference on the SDQ total and subscale scores at post-treatment. In contrast, Midgley and colleagues (2019) found a significant reduction on the "Emotional Problems" SDQ subscale. Similarly, the Child Behaviour Checklist (CBCL; Achenbach & Edelbrock, 1983) was used by Enav and colleagues (2019) and they found significant improvements in parent-rated child difficult behaviour at post-treatment on internalizing problems subscale and a trend towards improvement on problems behaviour scale. It is of note that significant findings were found in two papers of moderate quality and no significant findings in the study with a lower quality rating.

When evaluating the New Beginnings Programme, Bain (2014) used the Griffiths Scale of Mental Development (Luiz et al., 2006) to examine the impact of the intervention on the child. In this study, significant improvements in speech development were observed in children whose mothers had been in the intervention group compared to controls. In keeping, the Brief Assessment Checklist for Children (BAC-C; Tarren-Sweeney, 2013) was used in an evaluation of the Reflective Fostering Programme (Midgley et al., 2019). In this study, foster parents reported significant improvements on the “Emotion Regulation” subscale of this measure. In summary, the majority of studies reporting on child outcomes found some level of improvement in child functioning following the intervention and importantly in studies rated as moderate in quality. However, the outcome measurements used across the included studies were variable and inconsistent, limiting the conclusions that can be drawn.

Discussion

This review considered the available evidence for group delivered mentalization-based parenting interventions. The aims were to provide a summary of the components of the different interventions, assess the quality of the evidence, and examine the efficacy of interventions in terms of improving Parental Reflective Functioning (PRF) and outcomes for the parent, child and parent-child relationship. The systematic literature search identified 10 relevant studies that examined six different interventions across a variety of populations.

The core components of the group delivered mentalization-based parenting interventions

In terms of the components of the mentalization-based parenting interventions, there were both similarities and differences in the way in which the interventions had been designed. The majority of interventions had been developed in western countries with the exception of the intervention described by Sieverson et al. that was conducted in Chile. Therefore, it is unclear if these core components of mentalization-based parenting interventions would apply across different countries and cultures.

In a number of studies specific techniques derived from more established mentalization-based treatments in adults included ‘Projective Picture Exercise’ and ‘stopping non-mentalizing’ (Allen, Fonagy & Bateman, 2008). In addition, techniques such as ‘pausing technique’ and ‘focusing on the here and now’ derived from individually delivered mentalization based treatments for families were also used (e.g., MBT-F; Midgley & Vrouva, 2012). However, these techniques were not consistently reported across interventions. In at least one study, techniques derived from other therapeutic modalities were also included, such as cognitive and affective regulation techniques (Salo et al., 2019). Overall, there were similarities between the groups in terms of content such as information about emotions, mentalization and encouraging parents to consider how they were parented. There were understandable adaptations depending on the target population such as more play based activities for infants and understanding the impact of developmental trauma in groups aimed at foster carers. However, there was not a clear core battery of techniques used by all. As such, the literature might benefit from guidelines being developed for what should constitute the key components of group delivered mentalization-based parenting interventions.

It appeared that all interventions involved psychoeducation, although it was not always clear in what format this was provided. Many of the interventions also

gave information and allowed space for group discussion on topics relevant to the client group (e.g. developmental trauma; infant development; Autism Spectrum Disorder). In addition, most of the interventions also appeared to include an experiential element whereby parents practiced techniques or engaged in exercises to encourage mentalizing/ reflective functioning during intervention sessions. In eight of the ten papers, tasks to be completed at home were included as part of the intervention. These tasks tended to be reflective in nature or involved encouraging parents to engage in an activity with their child. It will be important to understand in further research the impact of the group itself as a mechanism for change as well as the content itself. Further research with active control groups will allow this.

There was variation in terms of the length of the interventions ranging from 9 to 30 hours. The variation in length did not appear to have an impact on effectiveness. For example, the intervention longest in duration, the Reflective Fostering Programme (Midgley et al., 2019), did not lead to a significant change in PRF, whereas the shortest programme, Family Minds (Adkins et al., 2018; Adkins et al., 2021; Bammens et al., 2015), found significant improvements in PRF in three studies. The length of the programme could have impacted upon attrition rates with longer groups possibly having a greater number of parents dropping out. However, this does not appear across papers as the attrition rate across the studies evaluating the Family Minds intervention varied in their attrition rates. It is also possible that longer interventions were less focused on the core components of a mentalization-based intervention therefore the impact on PRF was less. This requires further research to understand

Variability in sample characteristics and target populations

In nine of the ten studies, interventions were targeted at what could arguably be described as specific clinical populations (e.g. foster/ adoptive parents, mothers experiencing perinatal mental health difficulties, mothers in prison, mothers experiencing homelessness or parents with a child with a diagnosis of ASD). Sieverson and colleagues (2021) described the only intervention delivered to a non-clinical population and found increased PRF and decreased parental stress at post-treatment. The use of group delivered mentalization-based parenting interventions for clinical populations is understandable given the association between poorer PRF and adverse outcomes in clinical populations (Camoirano, 2017). However, this review demonstrates that there is a lack of evidence for the efficacy of these interventions in both nonclinical populations, and other more generic populations where mentalization based treatments are of theoretical relevance (e.g. parents of children with emotional or behavioural difficulties).

There was variation across studies in terms of participant characteristics. The number of mothers participating in all intervention studies was much greater than fathers (83% compared to 17%). Therefore, this limits the generalisability of findings to fathers. Of the studies that reported parents' ethnicity, 60% were white and only one study took place in a non-westernised country, which again limits how findings can be applied across race and cultures. In addition, it is important to understand the generalisability given the white western influences that are likely to have shaped the development of these interventions. Education level of parents was also reported in six of the included studies, and on average 41% had a college or university education. This therefore limits the generalisability of findings to parents with lower educational experience.

Quality of evidence for group delivered mentalization-based parenting groups

The majority of studies included in the review received a moderate quality rating and were conducted using a mixture of randomised and non-randomised controlled designs and quasi-experimental pre and post designs. A number of the studies that used a randomised controlled design did not use an active control group, instead using a treatment as usual or waiting list control group. In two studies where an active control group was used, participants self-selected their treatment. Thus, for the majority of studies, it is not clear whether it was the mentalization-based content of the intervention, or other variables (e.g. non-specific therapeutic factors such as peer support and validation) that gave rise to improved outcomes. Further, two studies conducted a longer-term follow-up (6-12 months) and found gains in PRF appeared to be maintained. However, further studies with long-term follow-up are needed to understand long term impacts on PRF. In addition, it may be that effects on parent, child and parent-child relationship outcomes manifest after improvements in PRF are embedded.

The effectiveness of group delivered mentalization based parenting interventions

All studies used PRF as a primary outcome measure, with eight of the 10 studies reporting significant improvements following intervention. These findings are consistent with empirical studies that found increased PRF to have a multitude of benefits for the parents, children and parent-child relationship (Borelli et al., 2012; Rostad & Whitaker, 2016; Ensink et al., 2017; Laranjo et al., 2010). In terms of other outcomes, there was a general trend towards reduced parenting stress following interventions. This is in line with previous research highlighting the relationship between PRF and parenting stress (McMahon & Meins, 2012), Mixed findings were observed for parental depression and anxiety and parental emotional understanding. These findings are somewhat consistent with research that has found higher baseline

PRF to be associated with a greater likelihood of remaining emotionally regulated during times of difficulty (Fonagy et al., 2018).

Three of the included studies measured parent-child interaction outcomes and found significant improvements in the parent-child relationship following interventions. Only five of the 10 studies assessed child focused outcomes, with 4 studies assessing behavioural and emotional outcomes and one study assessing cognitive development. In general results were promising, with the majority demonstrating improvements in children's functioning. However, further research assessing parent-child interaction outcomes and child specific outcomes is needed to strengthen the evidence for group delivered mentalization-based interventions.

The findings of the current study are consistent with those of related reviews that included a range of mentalization-based treatments for children and adolescents (Byrne et al., 2020), particularly in the area of improved PRF. The current review builds on the findings of previous studies by providing a synthesis of the content and design of group delivered mentalization-based parenting interventions. We extend past research by providing insights into the efficacy of these interventions. Methodologically, the findings of the review demonstrate that the evidence base for group delivered mentalization-based parenting interventions is still in its infancy. Particular weaknesses of the current literature include a lack of a clear framework of core content that should be included in a mentalization-based parenting group, lack of randomized controlled trials with an active treatment comparison group, limited long-term follow-up, and a lack of consistency in aims of the interventions (and hence a lack of consistency in outcome measures beyond PRF). The mentalization literature in terms of the concept, measurement and interventions have been focused on western cultures. This therefore limits the findings from these

measures for non-white participants in these interventions. Aival-Naveh, Rothschild-Yakar and Kurman (2019) suggest that mentalization is a universal skill of importance across cultures, however, they highlight that different dimensions of mentalizing may be more prominent in different cultures. In addition, they identified factors such as linguistics, values and parenting mediated the relationship between culture and mentalizing. Culture is therefore likely to also influence PRF. Therefore there is a need for future research on mentalizing and PRF across cultures with validation of measures and cultural adaptations made were necessary. This will also be important in future development of mentalization-based parenting interventions.

Limitations

There are some limitations that constrain the conclusions that can be drawn from the current paper. Only published studies were included in the review so the risk of publication bias is high, as research that did not obtain significant results may not have been published. In addition, only papers available in English were included, which meant several potentially relevant papers published in other parts of Europe were not included. In relation to the inclusion criteria for this review, papers were only included if they referred to being “mentalization-based” in the title, abstract or article. The concept of what “mentalization-based” means, as noted, varies across the studies and is not clearly defined in the literature. There are other group parenting interventions that could arguably be defined as mentalization-based, but would not have been included if this was not explicitly stated in the research articles. In addition, even those included in the paper described interventions with varying elements, some of which may be seen to fit under different therapeutic modalities.

Clinical implications

Emerging evidence indicates that group delivered mentalization-based parenting interventions may be a beneficial intervention, however further research is needed. The current review provides further evidence for these types of interventions for parents with children (aged under 10) as opposed to parents of adolescents, as only 3 papers included parents with children aged over 10. From a developmental perspective, an infant's survival relies on their caregivers' ability to interpret their thoughts, feelings and behaviours in order to tend to their needs. As children grow, they become more verbal and may tell their caregivers what they want but still lack emotion regulation which may be confusing to caregivers. Parents may lack the ability to see their children as separate entities from themselves, with their own separate thoughts and feelings and therefore demonstrate low PRF. This may result in inconsistent responses or feelings of helplessness. If this pattern persists this results in significant relationship difficulties which is likely to impact upon the child in later life. Therefore, these types of interventions are likely to have a greater impact if delivered earlier in the child's life.

Participants in these interventions are predominantly from western cultures, which limits the applicability of these findings across cultures. The evidence is also currently for specific clinical populations where parents or children are known to have difficulties with emotional understanding and social interaction, and/or where children are known to have experienced early adversity. Therefore, for parents of younger children, group delivered mentalization-based parenting interventions are potentially a valuable treatment option for many health and social care services.

Future research

There is a need for further research to understand the efficacy of group delivered mentalization-based parenting interventions. This should include analysis of the different elements unique to these interventions including tests of the different mentalization based mechanisms hypothesised to improve parent-child outcomes. There is a clear need for studies to include longer-term follow-ups (e.g. 1 year and over) as we do not know if initial improvements in PRF are maintained, or whether increased PRF leads to longer-term improvements. There is a need for future research to include parents of different races and cultures, studies of fathers, and studies of parents of adolescents to better understand whether there are benefits of group delivered mentalization-based parenting interventions for these populations. In addition, future research should examine if outcomes vary depending on age of the child to understand the most effective period for these interventions to be delivered. Further studies using randomized controlled designs with an active control group would further strengthen the case that specific mentalization-based techniques are efficacious in improving PRF and other parent-child outcomes.

Conclusions

The current review examined a range of group delivered mentalization-based parenting interventions that varied in content, length and setting. Interventions varied in terms of content but often included psychoeducation, experiential group exercises and homework tasks. The length and setting of interventions did not appear to influence outcomes. Group delivered mentalization based parenting interventions consistently improve parental reflective functioning and emerging evidence indicates positive benefits for parents and children. Mentalization-based parenting interventions delivered in a group could have wide ranging effects for parents, children and wider society. However, more research using more rigorous designs (e.g. randomised

controlled trials with an active treatment control group and long-term follow-up) are needed to test the efficacy and underlying mechanisms of group delivered mentalization based parenting interventions.

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