

PROMOTING THE MENTAL HEALTH OF CHILDREN AND PARENTS
EVIDENCE OUTCOMES

**HOME AND COMMUNITY BASED
PARENTING SUPPORT PROGRAMMES
AND INTERVENTIONS**

Report of Workpackage 2
of the
DATAPREV PROJECT



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1. EXECUTIVE SUMMARY

1.1 BACKGROUND

The last decade has witnessed an increasing interest in the promotion of mental health and wellbeing because of its importance for health and social functioning at the individual level and for the social and economic wellbeing of societies. Recent research from a range of disciplines has highlighted the importance of the quality of the parent-child relationships and parenting on children's emotional and social development, and on adult mental health and wellbeing. Intervention studies involving children of all age groups have shown that if parenting can be influenced for the better outcomes can be changed.⁹

1.2 AIMS AND OBJECTIVES

The DataPrev project was funded by the 6th Framework of the European Community Research Programme under Policy-Orientated Research with the aim of establishing a database of evidence-based programmes in Europe that promote mental health and wellbeing and prevent mental illness throughout the life course.

This is the report of the Workpackage 2 describing the international evidence base on programmes to support parenting, including home and community based programmes.

Objectives

To undertake a systematic review of reviews of intervention studies evaluating the effectiveness of programmes to support parenting.

From this literature to

- a) identify successful programmes which have been implemented and evaluated in Europe and
- b) successful programmes which could be implemented in Europe in the future.

1.3. METHODOLOGY

The first stage of this study comprised a search of a range of electronic databases to identify systematic reviews of interventions that met the agreed inclusion criteria. A range of key electronic health, social science, and education databases were searched for the period 1990 to date using a broad set of search terms.

Abstracts and full papers were examined for eligibility by two reviewers. Disagreements were resolved by consultation with a third reviewer.

A range of data was extracted from each of the included reviews using a standard data extraction form.

All included systematic reviews were critically appraised using a standardised checklist.

Data from each of the included reviews was synthesised using a narrative summary aimed at the identification of common themes across all of the included reviews.

1.4 Inclusion criteria

To be included, systematic reviews needed to meet the following criteria either partially or fully:-

(i) *Interventions* – interventions to improve parenting in general population or high risk samples. Reviews of interventions to treat established child mental disorders were excluded.

(ii) *Population* – delivered to parents alone or parents and children. Interventions directed at the children alone (i.e. not focused on supporting parenting) were excluded.

(iii) *Settings* – Interventions delivered in all settings were included with the exception of programmes delivered through schools.

(iv) *Outcomes* – including outcomes measuring parenting or mental health of children or parents.

(v) *Study designs* – all systematic reviews were included, covering qualitative and quantitative outcomes and narrative and meta-analytic analyses. Both narrative and quantitative analyses were included.

(vi) *Years* – Studies were included from 1990 - 2008.

1.5 RESULTS

Over 5,000 studies were identified. Of these, 51 systematic reviews (52 papers) met the inclusion criteria. The aims and contents of included reviews overlapped to a considerable extent and could not be simply grouped. A range of different evidence programmes were identified together with some principles relating to successful provision.

Principles relating to successful provision

- Universal approaches are important because:
 - improvements in 'normal' parenting are necessary to promote mental wellbeing
 - they minimise stigma which influences uptake of targeted interventions
 - they enable identification of high risk families
- Targeted approaches are necessary to work on more intractable problems particularly:
 - Teenage parenting
 - Abusive parenting
 - Parenting in families with mental illness and drug and alcohol misuse
- A combination of both universal and targeted approaches to support for parenting is likely to be most effective:-
 - Particular attention needs to be paid to recruitment and retention of high risk groups.
 - Parenting interventions need to adopt key principles, these are:
 - Positive framework
 - Staff development is critical to develop:
 - Skills – non judgemental, strengths based, empathetic, respectful, genuine, group work skills, attention to process
 - Realistic expectations
 - This involves training/supervision
 - Ecological framework

Effective interventions which can be recommended for use in Europe:-

Low cost universal:

- Low cost skin to skin contact at birth
- Kangaroo care
- Abdominal massage in pregnancy
- Media based parenting programmes

Slightly higher cost universal:

- Developmental guidance
- Anticipatory guidance
- Infant massage

Targeted programmes for high risk groups:

- Psychosocial interventions offering emotional and practical support for the prevention of postnatal depression
- Treatment for postnatal depression using cognitive behavioural approaches, interpersonal therapy or non directive counselling
- Long term home visiting multicomponent programmes starting antenatally offering both support for parenting and support for parents particularly for teenage parents
- Short sensitivity focused interventions including parent-infant interaction guidance training for high risk infants
- Manualised group based and one to one parenting programmes addressing behaviour management and parent child relationships

Ineffective programmes which are not recommended:

- Psychological debriefing after birth
- Universal approaches to prevention of postnatal depression

Promising programmes which need more research:

- *In all families:-* antenatal education focusing on transition to parenthood and emotional and attachment issues and programmes to support parenting of fathers

- *In families experiencing attachment difficulties and where there is a risk of abuse:* parent infant psychotherapy and infant led psychotherapy (for example the Watch Wait and Wonder programme)
- *In families in which physical abuse has occurred:-*Intensive, multicomponent, multisystemic family support approaches and cognitive behavioural based parenting programmes
- *In families in which emotional abuse has occurred:-* parent-infant psychotherapy; and where anger management is also an issue.:- group based behavioural parent training with additional anger management components
- *In families where sexual abuse has occurred :-* cognitive behavioural therapy for the non-abusing parents; abused children can also benefit .
- *In families where parents abuse drugs:* multicomponent programmes targeting affect regulation, parental mood and views of self as a parent, drug use and parenting skills delivered on a one to one basis

Other areas warranting research:

- Testing in Europe of evidence-based programmes identified in this review, which do not as yet have a presence in Europe
- *In families where parents suffer mental health problems:* there is an urgent world - wide need for the development and evaluation of effective programmes for this very high risk group.

1.6 CONCLUSIONS

A robust international evidence base exists of programmes which have been demonstrated to improve parenting, both in the general population and in high risk groups. Policies and programmes to support parenting offer much scope for improving mental health in Europe. Effective provision requires a skilled workforce and detail with regard to approaches that have been found to work. More research is needed to develop and identify interventions for some of the highest risk groups.

2. BACKGROUND

2.1 THE IMPACT OF PARENTING

Parents are critical for child development; without their care or the care of substitute parents, babies and children do not survive. Parents provide for their children's basic needs for food and protection, care for them when sick, teach them language and help them master the basic skills of living in the community and society in which they were born. It is however in the more subtle aspects of parenting – in the quality of parent child relationships, parental sensitivity and attunement, in boundary setting and discipline practices that the roots of mental health lie.

Parenting of infants

Recent research from a range of disciplines (including neurodevelopment, developmental psychology and genetics) has pointed to the particular importance of the first few years of life for future mental, social and emotional development.¹ The quality of the parent-infant relationship is one of the factors in determining outcomes. Excessive levels of stress from sub-optimal parenting during this time can seriously disrupt the child's developing nervous system and stress hormone regulatory systems, damaging the child's developing brain architecture and chemistry.^{2 3} These effects influence the child's neuro-endocrine response to threat resulting amongst other things in insecure attachment patterns, problems with peer and intimate relationships,⁴ and abnormalities of cardiovascular and immune functioning.^{5 6 7 8}

Parenting of older children and adolescents

Whilst the very early years are particularly important, other studies have documented the influence of parenting in older children and adolescents. These studies have focused particularly on behaviour problems and the emergence of conduct disorder, delinquency and violence. Older children and adolescents have a wider circle of relationships than infants, and teachers, peers and the wider community also influence outcomes, but many studies have shown that parenting remains an important determinant of outcomes at these ages.

Intervention studies in all age groups have shown that if parenting can be influenced for the better outcomes for children can be changed.⁹ A large number of such studies have focused on parenting in school age children suggesting that the full benefit of programmes to promote parenting should encompass the whole of childhood and adolescence.

Nature and nurture

Nature plays a part, alongside parental nurture, in determining the sort of adults that children grow up to be, and there has been much debate over the relative importance of the two. Over the last half century a large body of research has emerged which has shifted the balance of belief in terms of nature and nurture, illustrating just how much parents influence their children's development. The influence of different approaches to parenting and the quality of parent-child relationships is now known to extend over the life course, and parenting is coming to be recognised as one of the most important remediable determinants of future health, particularly mental health.^{5,10,11} It is also strongly predictive of a wide range of detrimental health and social outcomes including antisocial behaviour, delinquency, violence, and criminality¹²; educational success and school dropout;¹³ a range of health related behaviours including sexual promiscuity¹⁴ drug and alcohol abuse,¹⁵ smoking¹⁶ and unhealthy eating;¹⁷ physical health in general and specific common diseases.^{7,18,19} These aspects of parental nurture also appear to influence nature. Epigenetic studies have demonstrated that the quality of parenting influences the phenotypic expression of individual genes which carry risk for mental disorders.^{20 21 22} Parenting is therefore hugely important to children parents and society.

2.2 PATTERNS OF PARENTING

The aspects of parenting which have been researched in this context include maternal sensitivity and attunement in infancy and patterns of 'attachment' of infants to their carer. They also include the quality of parent-child relationships (e.g. affection, rejection, hostility, respect, empathy, communication) throughout childhood and the adolescent years and aspects of behaviour management (boundary setting, positive discipline, and consistency). Suboptimal parenting is relatively common. Between 30% and 50% of infants are deemed not to be securely attached²³ and a large number of children are exposed to some degree of suboptimal parenting in mid-childhood.¹⁸ Father-child relationships have been less studied than mother-child relationships, but all the studies that have been undertaken point to a potential influence on child development as great as mothers.^{126 127} Abusive and neglectful parent-child relationships represent the most damaging end of the spectrum and have the most profound effects on future outcomes.^{4 137}

2.3 SOCIETAL ATTITUDES TO PARENTS AND CHILDREN

Attitudes to children and parenting vary from culture to culture. Differences are exemplified by attitudes to physical punishment. Eighteen European countries have now outlawed the smacking of children by any adult including parents. Others have banned physical punishment in schools,

and some allow this practice in all settings. Whilst many parents still hold strong views about the importance of physical punishment as the ultimate sanction, opinion polls in countries like the UK, where smacking is still legal, show that most parents who used physical punishment wish they did not. A wide range of studies has shown positive discipline to be a more effective discipline strategy.

Discipline is only one aspect of parenting and it is harder to create laws that support positive emotional interaction between parents and children and this may be more important in terms of outcome. Here societal attitudes are important and European countries vary greatly in the extent to which children and parents are 'welcomed' in public places. The media and television have an important role to play both in drama and in documentary – portraying and implicitly approving patterns of parenting, or illustrating and discussing problem parenting and its impact.

Another way in which societies support parenting is in respecting and making provision for the role. Establishing a relationship with a baby and learning the skills of parenting takes time. Parents who have to return to work very soon after the birth of their child are compromised. Paid leave with rights to return to work is now offered to mothers in many European countries and to fathers in some. In many countries mothers have the right to take maternity leave, paid or unpaid, and return to the same job after a defined period of maternity leave. Variation exists in the provision of day care for babies and young children and the extent to which social and fiscal policy supports such care. Several European countries now promote day care for very young babies as a way of getting women back into the workplace and off welfare. Long-term follow up studies of infants who have been in day care suggest that small improvements in cognitive functioning may be overshadowed by decreases in emotional and social functioning and increases in stress levels which are likely to increase the risk of mental health problems.^{24 25 26}

2.4 RISK AND PROTECTIVE FACTORS

Risk factors for sub-optimal parenting include poverty and social exclusion. Parenting is more difficult for families who are coping with poverty. However the story here is complex. Whilst there is good evidence that positive parenting is more common among the affluent, variation within social groups is greater than between them.²⁷ Some studies have suggested that parenting is the mediator through which income inequality influences outcomes for children and there is evidence that children whose parents are able to maintain good parenting in the face of social deprivation are protected from many of the deleterious effects of the latter.^{28 29} Social policies which reduce

childhood poverty are important for a wide range of child outcomes and create an important backdrop for policies to promote parenting; however the evidence suggests that antipoverty strategies alone will not of themselves improve parenting.³⁰

Poor parental mental health is another critically important risk factor for problem parenting.^{128 129} This has been researched in the context of the influence of post-natal depression on parenting and child outcomes and also in the context of the impact of parental mental health on older children. Cycles of disadvantage are important here because parent's mental health is determined in part by the parenting they received as children. Because of the way in which parenting influences future relationships and ways of interacting with others in and outside the family, many aspects of parenting are passed down from one generation to another. Parents with mental health problems care deeply about their children but are often ill-equipped with the skills to parent in a positive way. Drug and alcohol misuse are also potent interrupters of parenting and are strongly related to parental mental health problems. Interventions for parents with mental health problems include those that improve mental health and also those that aim to improve parenting.

The factors that can protect children from the deleterious effects of suboptimal parenting have also been researched. These include educational achievement and perhaps most significantly a positive relationship with at least one adult during childhood.³¹

2.5 PARENTING INTERVENTIONS

Parenting interventions have been developed in a number of contexts. Many programmes have been developed in the context of the prevention of antisocial behaviour, criminality and violence. These programmes aim to treat or prevent the emergence of conduct disorder and are applicable for children aged 2 -12 years. They cover behaviour management principles with or without a range of other topics. More recently programmes are emerging to improve the quality of parent-infant relationships in the first year of life. Programmes for parents of adolescents tend to focus on prevention of problem lifestyles – drug and alcohol misuse, promiscuous sex. These programmes can cover topics like parent-teenager communication and problem solving. Many programmes incorporate a range of topics and some also address issues unrelated to parenting.

This literature suggests that parenting programmes influence parenting for the better and that parents receiving such interventions value them and the impact they have on their families. This is

not to say that deeply ingrained patterns of parenting are easy to change and certain factors are known to make a difference to the effectiveness of these programmes. Parents who feel supported and valued find change easier than those who do not. Programmes that aim to support parents are important as a backdrop to interventions to influence parenting; they include volunteer programmes like home start where parents receive one to one support from a peer, and toddler groups which increase social networks and reduce isolation. They need however to be distinguished from the programmes which aim to change parenting which are the subject of this report.

2.6 POLICY CONTEXT

Over the course of the last decade, governments throughout Europe have been persuaded of the importance of parenting in the prevention of crime and antisocial behaviour and have started to implement preventive policies to improve parenting in high risk communities. They have also discovered research relating to importance of the early years in terms of educational and social outcomes including several studies pointing to the cost effectiveness of early intervention.^{1 130} Support for parenting is one key component of early intervention.

At the same time the WHO has started to take an interest in the promotion of mental wellbeing because of its importance for health and social functioning at the individual level and for the social and economic wellbeing of societies. The WHO has declared (WHO Mental Health Declaration for Europe, 2005a)¹³¹ that there is 'no health without mental health'. With the adoption of the WHO's Helsinki Action Plan in 2005¹³³, the EC Green Paper (2005)¹²⁵ and subsequently the development of the EC Pact for Mental Health and Well-Being (2008)¹³⁴, the European Community is leading the way, encouraging member states to adopt policies and practices which aim to promote mental health.

3. AIMS AND OBJECTIVES

In this context, the DataPrev project was funded by the 6th Framework of the European Community Research Programme under Policy-Orientated Research to establish a database of evidence-based European programmes to promote mental health.

This is the report of the Workpackage 2 describing the international evidence base on programmes to support parenting, including home and community based programmes. .

Objectives

To undertake a systematic review of reviews of intervention studies evaluating the effectiveness of programmes to support parenting.

From this literature to

- a) identify successful programmes which have been implemented and evaluated in Europe and
- b) successful programmes which could be implemented in Europe in the future.

4. METHODOLOGY

This study involved a review of a range of electronic databases to identify *systematic reviews* of interventions that met the agreed inclusion criteria. Reviews of reviews were excluded.

4.1 DATABASES SEARCHED

The following key electronic health, social science and education databases were searched: Embase, CINHALL, PsychInfo, Medline, ERIC, ASSIA, Social Services Abstracts, Sociological Abstracts, HealthPromis, Child Data and the Cochrane Database of Systematic Reviews, Campbell Collaboration databases, Google and Google Scholar, using a combination of medical subject headings (MeSH) and free text search. Search terms were adapted for use in the different databases. We also drew on an earlier review of reviews of health led interventions to promote mental and physical health of children aged 0-5.¹²⁷

4.2 INCLUSION CRITERIA

To be included reviews needed to meet the following criteria either partially or fully:-

(i) *Interventions* – interventions to improve parenting in general population or high risk samples. Reviews of interventions to treat established child mental disorders were excluded.

(ii) *Population* – delivered to parents alone or parents and children. Interventions directed at the children alone (i.e. not focused on supporting parenting) were excluded.

(iii) *Settings*: Interventions delivered in all settings were included with the exception of programmes delivered through schools. These are covered in the review of reviews undertaken for Workpackage 3.

(iv) *Outcomes* – including outcomes measuring parenting or mental health of children or parents e.g.:-

- Parenting:- sensitivity; parent-child interaction/relationship quality; behaviour management; abuse
- Infant attachment behaviours
- Positive and negative aspects of child mental health including behaviour problems
- Parental mental health

(v) *Study designs* – all systematic reviews were included. Systematic reviews are those in which the authors define an explicit replicable search strategy and predetermined inclusion and exclusion criteria. Both narrative and quantitative analyses were included. The quality of included reviews was assessed (see below).

(vi) *Years* – Studies were included from 1990 2008.

Studies were selected for inclusion by two reviewers based on abstracts and full papers.

4.3 SEARCH TERMS

A broad set of terms were used to increase the sensitivity of the search:

Terms to identify systematic reviews: review\$ or overview\$ or meta-analys\$ or metananalys\$)

Terms to identify population: parent\$ or father\$ or mother\$ or caregiver\$ or care-giver and child\$ or infan\$ or toddler\$ or neonatal\$ or neo-natal\$ or perinatal or peri-natal or post-natal or postnatal or pre-natal or prenatal or under fives or under 5 or pregnan\$

Terms to identify intervention: intervention or program\$ or service or prevention related to parenting or parent -child relations or attachment or abuse

Terms to identify outcome: Mental Health/ or exp Child Abuse/ or (mental wellbeing or mental well being or mental well-being or positive mental health or psychological well being or psychological well-being or psychological wellbeing or emotional competence or flourishing or attachment or attunement or neglect\$ or conduct disorder* or infant sleep* or infant crying).

4.4 HAND SEARCHING

Two journals: Prevention Science and Parenting Science and Practice were hand searched from 2006-2008. No relevant systematic reviews were identified in either journal.

4.5 CRITICAL APPRAISAL

All included systematic reviews were critically appraised using a standardised checklist (CASP, 2002). This process enabled us to assess the reliability of the results produced by each of the included reviews and attach greater significance to the findings of the most rigorous reviews.

4.6 DATA EXTRACTION

A range of data was extracted from each of the included reviews using a standard data extraction form. It included the following categories:

Content: Focus of review, aims of the intervention, who delivered, intervention frequency and duration, population, setting and timing.

Results: Number of included studies, relevant outcomes, findings and authors conclusions.

4.7 ANALYSIS

Data extracted from each of the included reviews have been examined using a thematic approach. This has enabled us to identify common themes across all of the included reviews.

5. RESULTS

Over 5,000 studies were identified. Of these, 51 systematic reviews met the inclusion criteria. Of these, one⁸² was an update of a systematic review undertaken several years earlier.¹³¹ One additional review is reported in two papers which focus on different outcomes.^{84 79}

Table 1 Appendix 1 describes the contents of each review. Reviews are presented by alphabetical order of first author. The focus of the review and the aims frequency, duration, deliverer and timing of the interventions covered in the review are shown together with the population and settings in which studies were carried out.

The results of the critical appraisal of all included systematic reviews are provided in Appendix 1 - Table 2. Twenty one out of 51 reviews were restricted to RCTs; the remainder include non-randomised controlled and non-controlled time series analysis. Twenty five of the 51 reviews reported a meta-analysis of results. Six reviews did not undertake a critical appraisal of included studies but all undertook a systematic search and investigated a clearly focused question. Two reviews attempted a health economic appraisal but findings were limited due to lack of data. One review covered qualitative studies only.

Table 3 reports the results of reviews both narrative and quantitative. Where quantitative results are given and an overall magnitude of the effect reported, these are described in the text. The latter are variously reported depending on the nature of the data extracted: most commonly as effect sizes (ES) (also called weighted mean difference); mean differences (MD); relative risks (RRs) or odds ratios (OR). All effects reported in the text are statistically significant unless otherwise stated; where 95% confidence intervals are reported in the reviews, these are reported in the text.

The reviews we identified had a wide variety of aims some of which were very focused (the impact of media based parenting programmes) and some wide ranging (interventions with fathers); many had aims which overlapped those of other included reviews. Some reviews focused on interventions with a specific aim (eg promoting maternal sensitivity and attunement or preventing behaviour problems), other reviews covered interventions with a specific approach (eg home visiting) which aimed to promote a variety of aspects of child health. The latter reviews were included if some outcomes relevant to this review were studied, for example, maternal sensitivity

and attunement and/or child behaviour. Other reviews focused on specific populations (eg teen parents or children of specific ages). Some reviews focused on high risk approaches, others reviewed universal interventions and yet others covered both. Many reviews included interventions and outcomes unrelated to parenting and mental health. We report here only the results relating to parenting and mental health outcomes in either the child or the parent. Whilst all the reviews present results meeting our inclusions criteria, because of the overlap between them, they do not lend themselves to description in neat categories. We present the findings under the following broad headings selected for ease of understanding of this complex material:-

(i) Perinatal programmes

Including antenatal parenting programmes, and perinatal maternal mental health programmes.

(ii) Parenting support programmes in infancy and early years

Parenting programmes with a focus on maternal sensitivity and attunement,

Including:- video interaction guidance, parent-infant psychotherapy; holistic home visiting programmes and early intervention, to improving teenage parenting and to *prevent* abuse.

(iii) Formal parenting programmes with a focus on children's behaviour

Including group-based one to one and media based parenting programmes.

(iv) Parenting support in the highest risk groups

Covers programmes for families where parents have a mental illness, abuse drugs and alcohol or have abused their children.

Under each heading we draw on the results of all reviews with relevant contents.

5.1 PERINATAL PROGRAMMES

(i) Antenatal education aiming to improve parenting

One review was identified which focused entirely on approaches based on antenatal education and relevant studies were identified in two further reviews whose foci were broader than antenatal education.

Gagnon (2007)³² evaluated the effectiveness of individual and/or group-based 'traditional' antenatal education for childbirth on a variety of outcomes. Most of the antenatal education programmes included in this review focused on pregnancy, labour and physical care of the newborn, but some programmes included sessions to enhance parent-infant relations and attachment security. Of the nine included studies, two very small studies (Carter-Jessop 1981,³³ Davis 1987³⁴) aimed to enhance 'intrauterine' attachment by increasing mothers' awareness of foetal activity and promoting abdominal massage to develop sensitivity to the foetus. Two out of four attachment based outcomes in these studies showed positive results 2-4 days post delivery.

Gagnon (2007) also covered a trial of the effectiveness of a prenatal parenting group with low socioeconomic, young, first-time fathers (Pfannenstiel 1991³⁵, Pfannestiel 1995³⁶). Of the 67 men who were recruited by their partners, half were randomly assigned to participate in an intervention programme designed to acquaint fathers-to-be with information, insights, and clinically appropriate techniques in responsive care for infants. Intervention group fathers received two intensive 1¹/₂-hour sessions emphasising the nature and capabilities of the preborn/newborn and sensitive responsiveness to preborn/newborn cues and to partner cues. Postnatally, fathers were videotaped with their infants during two feeding interactions. Intervention fathers were rated as being significantly more sensitive during feeding interactions with their newborn infants on one out of two measures and marginally significant on a second. These differences were, however, not present at the one-month follow-up.

Controlled trials of antenatal preparation for parenthood were covered in the searches of a wide ranging review of parenting interventions reported below (Barnes & Freude-Lagevardi, 2003).³⁷ This review reported on a non-randomised controlled trial of the effectiveness of PIPPIN (Parents and Infants in Partnership) (Parr 1998).³⁸ PIPPIN is an attachment-based parenting programme involving both fathers and mothers in low risk families, beginning in the antenatal period and continuing beyond. The findings suggested that participation in the programme led to a significant increase in psychological well-being, parental confidence, and satisfaction with both couple and parent-infant relationship in the postnatal period.

Magill-Evans (2006)³⁹ covered 13 studies of parenting programmes which included and reported outcomes on fathers. Most of these interventions were delivered in the antenatal or perinatal period, but the review also included three studies of parenting programmes for fathers with children up to 5 years of age (Fagan 1999⁴¹, Gross 1995⁴², McBride 1991⁴³). This review reported

on the Pfannenstiel (1991³⁵ study) and as well as second study (Dachman, 1986)⁴⁴ of a prenatal intervention for fathers. The latter involved young men of low socio-economic background in individual role modelling of infant care and stimulation activities, using a newborn size doll. This study produced evidence of an increase of father's care and capacity to stimulate the infant, although it had little effect on verbal interaction. The study was conducted on a very small sample.

Magill-Evans (2006) also covered three studies of demonstration of infant capabilities in hospital (Beal 1989⁴⁵; Culp 1989⁴⁶; Belsky 1985⁴⁷), two of infant massage (Scholz 1992⁴⁰, Cullen 2000⁴⁸) and one of kangaroo care (Feldman 2002⁴⁹), all discussed below.

(ii) Kangaroo Care and Skin To Skin Contact

Kangaroo care involves close contact care of the baby either in arms, pouch or sling on an ongoing basis. Skin to skin contact describes the placing of the naked newborn on the mother's body immediately or within a short time after delivery. These interventions are important because they can be introduced into health services at very low or no cost.

Most studies of kangaroo care focus on preterm infants in which kangaroo care has been practiced in neonatal units. In low income countries this has been used together with early discharge from hospital as an alternative to hospital care. Most studies of skin to skin care are with healthy newborns.

Kangaroo care for preterm infants

Two reviews of controlled trials of kangaroo care with preterm infants (Dodd 2004¹²¹, Conde-Agudelo 2003)⁵¹ presented different findings relating to its impact on parental attachment. Dodd (2004), which covered both randomised control and non-randomised control studies, focused on infant outcomes and found increased attachment in two out of the three studies that measured this, and better regulated infant behaviour in eight out of the nine studies. Many studies assessed 'physiologic safety' (heart rate, respiratory rate, oxygen saturation levels, and body temperature) which is indicative of infant stress levels, with overall positive results.

The second review (Conde-Agudelo 2003)⁵¹ covered three RCTs (only one of which was included in the Dodd review) and examined the effectiveness of kangaroo care at home as an alternative to hospital care for low birth weight infants. This review focused on maternal outcomes and meta-analysis of the three studies was dominated by the results of one trial from the developing world.

Maternal attachment behaviours did not differ between control and intervention groups. Maternal confidence was increased in the kangaroo care group compared to control but there was no difference in mothers' feelings of worry and stress.

One additional RCT (Feldman 2002)⁴⁹ was included in the review of interventions for fathers (Magill-Evans 2006). This investigated outcomes for fathers in a programme in which both mothers and fathers participated in kangaroo care for their preterm infants. Both mothers and fathers who gave kangaroo care had better scores on emotional and verbal responsiveness and sensitivity at 3 months post partum.

Kangaroo care for normal infants

One relevant RCT (Anisfeld 1990)⁵⁰ was identified in a review evaluating the effectiveness of a wide range of attachment-promoting interventions (Bakermans-Kranenburg et al 2003).⁵² This trial, which evaluated kangaroo care for normal infants in a low socio-economic status sample, showed a moderate effect on maternal sensitivity to infant vocalisations (ES 0.53) and infants appeared more securely attached at 13 months (ES 0.62).

Skin to skin contact

One review (Moore 2009)⁵³ identified 30 studies of skin to skin contact in the immediate post partum period. 26 of these studies related to healthy newborn infants, four to preterm infants (of 34 to 37 weeks gestational age). A wide range of outcomes were measured, most in only one or two trials. Of the relevant outcomes, maternal attachment behaviours during feeding (MD 0.52; [0.31,0.72]), mothers' affectionate touch at 1 year (MD 0.85; [0.09,1.61]); maternal scores on the neonatal perception inventory (MD 1.90; [0.15, 3.65]) immediately post birth (but not at one month) and mothers behaviour during feeding, post birth (MD 28.40; [9.25,47.55]) and at one month favoured the intervention group. Mothers perception of connection to the infant was marginally positive (MD 0.08 [-0.01,0.17]).

(iii) Demonstration of infant capabilities

Information about the sensory and perceptual capabilities of infants is provided to parents with the aim of improving parental awareness and parent-infant interaction, and the Brazelton Neonatal Behavioural Assessment Scale (NBAS) is one of a number of structured methods with which health care professionals demonstrate these capabilities.

One systematic review was identified that assessed the effect of the NBAS either by training parents to administer the scale or having them observe an examiner administering it (Das Eiden, 1996).⁵⁴ This review included 13 studies with a total of 668 families. Eight studies involved mothers only, one study involved fathers only, and four included both fathers and mothers. The meta-analysis found a small to moderate impact on parenting as measured by observations of parent-child interactions and self report parenting measures (ES 0.42). Two of the trials included in this review (Beal, 1989⁴⁵; Belsky 1986⁴⁷) were also reported in the review of interventions that focused on fathers (Magill-Evans, 2006³⁹). One of these trials (Beal, 1989) was positive, the other, which had the strongest methodology, showed no difference between groups (Belsky 1985).

A third trial of NBAS (Culp 1989)⁴⁶ not reported in Das Eiden, was included in a review of interventions with fathers by Magill Evans (2006). This reported some positive change, favouring the intervention, on paternal anxiety and realistic expectations. No significant change was found for the anxiety of mothers. Mothers, but not fathers, in the intervention group were more aware of infant's attempt to shut out stimulation (eg noise and light).

Further research with NBAS-based interventions is needed to identify the role of moderator variables including the frequency with which the NBAS is administered, and who administers it. For example, several researchers have discussed the possibility that parental administration of NBAS may be more effective than passive observation and explanation, and similarly, there has been little comparison to date of the effect of repeated administrations of the NBAS, in contrast to the more usual one-off application.

(iv) Anticipatory guidance

Anticipatory guidance is offered to parents (in the perinatal period and early infancy) primarily by paediatricians, in clinic settings and on a one to one basis. Its objective is to pre-empt common infant problems like excessive crying and poor sleep patterns, to promote sensitive parent-infant interaction and greater understanding of individual infants' temperament and needs. It has been particularly targeted at parents of infants that have 'difficult temperaments'.

One review (Regalado 2000⁵⁵ evaluated the effect of anticipatory guidance for parents during the perinatal period and early infancy. 9 papers (10 trials) met our inclusion criteria. Two papers (one of which reported on two trials) involved anticipatory guidance to parents based on

assessment of the infant's temperament; three studies evaluated the effect of anticipatory guidance on promoting infant sleep; one study on promoting 'time out' as an alternative to physical disciplinary practices; three studies on the effect of anticipatory guidance on promoting more sensitive mother-infant interactions.

Temperament-based anticipatory guidance involves discussion by physicians, about the child's temperament in order to increase parents' understanding of the child's individuality and promote better parent-child interaction. Two studies examined the clinical use of temperament assessments in paediatric primary care.^{140 142} One paper reported (Cameron 1986) reported two trials of temperament-based anticipatory guidance materials designed to help parents understand and manage caregiving challenges from their infants.¹⁴⁰ The first trial was a large scale RCT. Expected temperament profiles were developed for six clinical issues occurring between the ages of five and twelve months. Parents completed temperament questionnaires for infants when these were 4 months old. A computer programme selected two clinical issues per month for the expected temperament profile that most closely resembled the study infant. Parents received written anticipatory guidance by post about the clinical issues tailored to their infants' temperament profile. Temperament measured at four months demonstrated significant predictability. More than 80% of parents perceived the guidance materials useful in helping them understand clinical issues and 70% of the sample found anticipatory guidance advice helpful. In a second RCT of the same procedure (contained in the same paper), parents followed the same procedures and were assessed over a two-year period following the birth of healthy newborns. The intervention was of particular value to parents of challenging ("high-energy") infants.

A second cross sectional survey of temperament anticipatory guidance, (Little, 1983)¹⁴² evaluated parents' perceptions of anticipatory guidance addressing infant temperament. This intervention took place when infants were approximately 6 months old and evaluated at 8 months. 90% of respondents felt they had gained a better understanding of their children and 57% that discussion of infant temperament had changed their approach to parenting.

Three studies found that anticipatory guidance effective in reducing night waking in infancy. One RCT (Wolfson, 1992) reported that the combination of anticipatory guidance and written material was effective in promoting better infant sleep patterns, reducing stress and increasing parents' confidence during the first two months of life. One further RCT (Pinilla, 1993) and one CCT (Adair, 1992) combined anticipatory guidance with provision of written material. In both cases,

experimental group infants experienced significantly less night waking than controls.^{56 57 141} Efficacy was demonstrated for different behavioural approaches to mild sleep problems. However, behavioural modification techniques were not always effective for children with severe sleep problems.

One study (Sege 1997) was not related to the perinatal period. It evaluated the short-term effectiveness of anticipatory guidance on parents' use of discipline⁵⁸ with children aged 15 – 24 months. The intervention group received discussion about the topic from providers, in conjunction with written materials that promoted the use of "time-out" in place of corporal punishment. There were no significant differences between intervention and control groups in the use of non-violent disciplinary techniques ("time-out") before or after the well-child visit. However, intervention parents who had not used "time-out" in the past were more likely to report using "time-out" for the first time than parents in the control group.

Three studies examined the effect of anticipatory guidance on parent infant interaction.^{143 144 145} One CCT involved prenatal coaching for enhancing parent-infant interaction. Individualised training was provided for new parents on days 1, 2 and 7 of life designed to inform them of newborn capabilities and how to achieve optimal mother-infant interaction. Mothers receiving the intervention showed more effective vocal interactions and were more social during feeding interactions.¹⁴³ A further RCT evaluated the effectiveness of providing adolescent mothers with a videotape modelling feeding interactions of mothers and infants. Experimental group mothers showed in alternating mealtime communication and attitudes among adolescent mothers. found that experimental group mothers reported more favourable interactions and communication with children.¹⁴⁴ In a third study, also an RCT, the intervention group mothers of infants aged 0 – 6 received guidance aimed at enhancing mother-infant interaction, cooperation and play during. Experimental group mothers rated significantly higher on sensitivity, cooperation, and appropriateness of interaction and appropriateness of play.¹⁴⁵

(v) Infant massage

Infant massage involves the carer gently stroking the infant using rotational movements and sometimes oils, and is used in some Special Care Baby Units and more recently in the community, particularly with mothers experiencing postnatal depression.

Two reviews (Underdown et al 2006.⁵⁹; Vickers et al 1999⁶⁰) evaluated the effectiveness of infant massage (delivered by the mother or another caretaker) in improving a range of outcomes for both mothers and infants. Underdown (2006) covered 23 studies (of which one was a follow-up). 13 studies from China were analysed separately because of concerns about their rigour; all of these focused on infant weight gain. Four of the nine remaining RCTs measured outcomes relevant to this review and provide some, but not conclusive evidence of improved mother-infant interaction, infant sleep and relaxation, reduced crying and a beneficial impact on a number of hormones controlling stress. None of the studies measuring this showed a beneficial effect on infant temperament or attachment. Vickers (1999) review of massage for preterm infants found some evidence of benefit for outcomes for low birth weight babies. Massage interventions had a beneficial or marginally beneficial effect on infant stress behaviours (ES 0.70; [0.08,1.32]), the Bayley Mental Scale at 6 months (ES 12.0; [0.78,23.22]) and infant state regulation (ES 0.47; [0.31,1.25,]). Some of the relevant studies were very small and methodological quality was a concern to the reviewers because of selective reporting of outcomes.

Two moderate quality RCTs (Scholz 1992⁴⁰, Cullen 2000⁴⁸) reported in Magill Evans (2006)³⁹ and not reported in either of the above reviews evaluated the impact of teaching infant massage to fathers. Both found effects on father-infant interaction and fathers' increased involvement in child care tasks.

(vi) Maternal Depression

Maternal depression during the perinatal period interrupts mother-infant communication and has a detrimental effect on infant and child mental health. Prevention and treatment of maternal depression during this period is therefore considered important for the promotion of infant mental health.

Prevention

Four reviews (National Institute for Health and Clinical Excellence (NICE) 2007⁶¹; Dennis & Creedy, 2004¹³⁸; Shaw 2006⁶³; Gamble 2001⁶⁴) evaluated the effectiveness of a variety of interventions to *prevent* the onset of depression during the perinatal period. Interventions included psycho-educational strategies, cognitive behavioural therapies, interpersonal psychotherapies, non-directive counselling, psychological debriefing and social support, delivered by telephone, in home visits or group sessions, by professional or lay person.

The four reviews focusing on the prevention of *post natal* depression reviewed a wide variety of non-pharmacological interventions. Three came to the same conclusions. One study (Armstrong 1999)⁶⁵ was included in all three of these /reviews; in addition there were four studies common to Dennis (2004) and NICE (2007) and five studies common to Dennis (2004) and Shaw (2006).

Dennis (2004) identified 15 studies covering both psychosocial (antenatal and postnatal classes, professional and lay home visiting continuity of care and early post partum follow up) and psychological (debriefing and psychotherapy) interventions and found no overall impact. However, the seven trials that involved at-risk populations reported reduced risk of postnatal depression (RR 0.67; [0.51,0.89]). It was not possible to detect a difference in effect between single contact and multiple contact interventions; but one to one interventions were more effective than group based. There was no advantage to starting intervention in the antenatal period.

NICE (2007) included 16 studies evaluating the effect of preventive interventions among women at *low risk* for *postnatal* depression and found no evidence of effect. It also included 16 RCTs in populations with specific risk factors (childhood abuse and relationship difficulties or factors related to delivery) and, like Dennis (2004), showed benefit (RR 0.63 [0.44-0.91]).

The results of Shaw (2006) were consistent with the findings of these reviews. On the basis of 22 trials covering home visitation, hospital based provision of information and guidance, hospital based screening for relationship difficulties, postpartum debriefing, telephone based peer support from a trained mother and peer support groups she found that nurse home visits (MD -2.23, [-3.72,-0.74] and peer support (OR 6.23, [1.40,27.84] both produced a significant reduction in depression scores of women at high risk. Nurse home visiting and case conferencing also produced a significant improvement on the HOME scores (home environment as affected by parenting) of women at high risk.

The fourth review focused solely on debriefing or non-directive counselling following childbirth (Gamble et al 2002). Debriefing is a one-off semi-structured conversation that is used by psychologists to support individuals who have had a traumatic experience, with the aim of reducing the effects of the trauma (for example depression). A total of three studies (n = 3404 women) were included, reported in four papers. The two largest RCTs show that a single debriefing session with the mother has no value in reducing psychological morbidity and may even

be harmful. In contrast, women reported that an opportunity to talk with someone about the birth was helpful in facilitating recovery.

Identification and treatment of perinatal depression

Since maternal perinatal depression is often not disclosed by parents, identification is important. Women who have a history of depression or other forms of mental illness, are at high risk of experiencing reoccurrence of mental health problems in the perinatal period (Lewis 2001).¹³⁷ Two main methods have been used in UK; one is the 10-item Edinburgh Postnatal Depression Scale (EPDS) and the other the use of 2 – 3 brief questions ((Whooley et al 1997¹³⁵; Arroll et al 2005¹³⁶).

One review (NICE 2006⁶⁶) included 7 included studies that measured the predictive value of antenatal screening and NICE 2007⁶¹ discussed above included 8. Both reviews found that the sensitivity of the EPDS was high, but the specificity was low in general populations. NICE 2007 included two studies that measured the effectiveness of screening for depression using brief questions. Whooley et al (1997)¹³⁵ and found that two questions ('During the past month, have you often been bothered by feeling down, depressed or hopeless? During the past month, have you often been bothered by having little interest or pleasure in doing things?') had a sensitivity of 96% and a specificity of 57%, with a positive likelihood ratio of 2.2. Arroll et al (2005) developed a third question as an extension to the first two: 'Is this something with which you would like help?' with three possible responses: 'No', 'Yes, but not today' and 'Yes'. The two Whooley questions plus the Arroll 'help question' were validated against a standardised psychiatric interview. and the addition of the help question resulted in a sensitivity of 96% (95% CI 86% to 99%) and an improved specificity of 89%, with a positive likelihood ratio for the help question of 9.1 (NICE 2007: 116). Current NICE guidelines for depression (NICE, 2007) recommend the '2-3 questions' although little specific evidence exists for their use in the perinatal period. In the UK the use of 3 questions is favoured over the EPDS on the basis of patient choice.

The lack of a definitive method for identifying perinatal depression reduces the population level effectiveness of approaches to treatment. However, it does not influence the level of effectiveness in patients whose depression has been identified. Four reviews addressed the treatment of perinatal depression, one in the antenatal period (Dennis 2007)⁶² and three in the postnatal period (NICE 2007⁶¹, Gjerdingen, 2003⁶⁷, Poobalan, 2007⁶⁸). The review which focused on the antenatal period (Dennis 2007) identified only one small study which compared interpersonal

psychotherapy with a parenting programme. Interpersonal psychotherapy was associated with a reduced risk of post partum depression.

Of the three reviews addressing the treatment of postnatal depression (NICE 2007⁶¹, Gjerdingen, 2003⁶⁷, Poobalan, 2007⁶⁸, two addressed maternal mental health outcomes and one⁶⁸ addressed mother-infant relationships and child outcomes.

NICE (2007) covered 15 studies, eight of which compared standard care or waiting-list control with psychodynamic psychotherapy, non-directive counselling and/or social support. Treatments with at least moderate quality evidence that showed an effect included cognitive behavioural therapy (CBT), interpersonal psychotherapy (IPT), psychodynamic psychotherapy and non-directive counselling. Very little evidence was found of differential effectiveness; the overall effect versus standard care was RR 0.57 [0.43-0.76]. Four studies included in this review compared psychosocial and psychological interventions with other treatments. Interpersonal therapy was found to be more effective than psychoeducation; six sessions of counselling more effective than one session; group exercise was more effective than social support alone; psychoeducation with women's partners more effective than psychoeducation with women alone; and individual counselling more effective than group counselling. Three studies compared non-psychological interventions (infant massage, exercise, acupuncture). The evidence is not of high quality, but one study (Armstrong 2003)¹³⁹ supports the view that group exercise may be of some benefit for depression. The evidence relating to infant massage and acupuncture was inconclusive.

Gjerdingen (2003), reviewing both pharmacological and non-pharmacological interventions and covering similar literature (5 out of 7 of the non-pharmacological interventions reviewed in this review were also covered in the NICE 2007 review) came to similar conclusions.

Poobalan (2007) assessed the impact of treatments for postnatal depression on outcomes relating to parenting and children's cognitive development. Five of the eight studies identified examined the effect of a range of interventions on mother infant-interaction, the remaining studies examining infant cognitive development only. Interventions included interpersonal psychotherapy, dyadic interaction coaching, infant massage, home visits and support group for mothers. The two massage intervention studies, which were also included in Underdown (2006),⁵⁹ showed some evidence of effect on maternal-infant communication. Two studies of psychotherapeutic approaches for mothers only, showed either short term effects or effects children other than the

baby; neither showed a lasting effect on mother-infant interaction. One small trial examined three groups: mother-infant psychotherapy, interpersonal therapy and waiting list control; both intervention approaches improved mother-infant interaction in the short term. The results of studies looking at the effects of treatment of postnatal depression on mother-infant communication are therefore not conclusive. In contrast, the NICE (2007) review suggests, on the basis of six RCTs, that interventions designed to improve mother-infant interactions can alleviate or prevent depressive symptoms in the mother even if the intervention was not designed specifically to target this.

5.2 PARENTING SUPPORT IN INFANCY AND THE EARLY YEARS

The first few years of life are of particular importance in terms of the development of infant mental health, and problems with parenting and parental mental health during this period have been shown to have lasting effect. Many programmes have been developed to support parenting during this period. Most programmes have focused on high risk groups, but programmes have also been developed for low risk or population samples. Prominent amongst the former are teenage parents. An important mode of delivery of these programmes is one to one home visiting, but centre based and group based programmes have also been studied.

Home visiting is a delivery method which has been used for multiple purposes. Although many of these programmes aim to improve the aspects of parenting with which this review is concerned, many focus on other aspects of infant health either with or without parenting. Home visiting programmes have also been offered as part of multimodal programmes which include centre-based and group-based initiatives. The contents and focus of reviews relevant to this section therefore overlap considerably and there is also some overlap with reviews covered above under the heading Perinatal Programmes. In this section, we have grouped reviews into those which focus on improving the key aspects of parenting in the first few years of life – enhancing sensitivity and attunement; reviews which focus on home visiting programmes more generally; reviews which focus on the early prevention of the most damaging parenting – child abuse, and reviews which focus on programmes to support teenage parenting. Overlap between reviews is identified where relevant.

Enhancing parental sensitivity and/or infant attachment

Maternal and paternal sensitivity and attunement to their infants have been much researched because of their influence on the development of the infant's social and emotional brain. A key way in which the latter has been measured in infants is attachment security – observation of the response of the infant or young child to separation from the parent. Long-term studies have also examined the impact of these aspects of parenting on other aspects of emotional and social development and behaviour, the quality of peer relationships, and mental health more generally. Parental sensitivity is influenced by a number of factors relating to parental wellbeing. Maternal representation of the infant – the way the mother interprets infant behaviours and states - is one of these. It is also influenced by parental mental illness. Mothers who are depressed show reduced levels of sensitivity and attunement. Social support, or lack of it, is a risk factor for maternal depression.

Several research groups have developed interventions to support the development of sensitivity, attunement and attachment and we identified three reviews which looked specifically at such interventions (Bakermans-Kranenburg, 2003⁵² 2005⁶⁹; Doughty, 2007⁷⁰) Some of the reviews described above (Dennis 2004; Das Eiden 1996, Underdown 2006), which focus on interventions like infant massage, the NBAS and treatment of postnatal depression have included studies with measures of parental sensitivity which are relevant to this section. One further large narrative review (Barnes 2003)³⁶ covered a very wide range of interventions to enhance the mental health of children (0-4 years) and families including many interventions relating to attachment security.

The earliest focused review contained 81 studies, involving 7,636 families and 88 outcomes (Bakermans-Kranenburg, 2003). A wide range of Interventions were included and coded according to their focus as follows:- interventions that aimed to enhance sensitivity; interventions that aimed to enhance sensitivity and maternal representations; and interventions to increase social support; or any combination of the three. For example, interaction guidance with or without video was used to enhance parental sensitivity; psychotherapy was used to transform maternal representations; and in social support interventions, experienced mothers befriended and offered practical help to highly anxious mothers. Several interventions combined different strategies.

Interventions to increase maternal sensitivity

Findings from a meta-analysis of the results of a core set of 51 randomised studies, showed a moderate but significant effect of attachment-based interventions on maternal sensitivity (ES 0.4).

Interventions with a clear behaviourally orientated focus on enhancing maternal sensitivity were found to be more effective in increasing sensitivity than those with other orientations (i.e. that focused on support and/or changing maternal representations).

Short-term interventions (with fewer than five sessions) were found to be as effective as those with 5 – 16 sessions and more effective than interventions of more than 16 sessions. This is likely to be because interventions to enhance sensitivity tended to be short relative to other interventions.

The effects were the same in groups with and without specific risk factors (eg teenage parents) and interventions conducted at home were as effective as those conducted elsewhere (e.g. community mental health centres).

The three studies involving fathers as well as mothers (one of which, focusing on infant massage was also included in Magill Evans 2006, above), suggested increased impact from father involvement.

Effect of interventions on infant attachment

29 of the studies in Bakermans-Kranenburg (2003)⁵² used infant attachment security as the primary outcome and, comparing all insecurely attached infants with securely attached, suggested a small positive impact on attachment security (ES 0.19). Among the 23 randomised studies, interventions focusing on maternal/parental sensitivity were effective whereas those including support and maternal representation focus were not. As found in the analyses using maternal sensitivity as an outcome, interventions were most effective if they started after the age of 6 months. Meta-analysis of 15 randomised studies of families with multiple problems showed that the effect size was comparable to that for families with fewer problems. The authors suggested that infant attachment may be less sensitive to intervention in the short term, and that there may be a 'sleeper' effect. It may also be that methods of measuring attachment security are less sensitive to change than those used to measure maternal sensitivity.

This research group undertook a second review (Bakermans-Kranenburg, 2005)⁶⁹ which aimed to assess the capacity of interventions to prevent disorganised attachment security (the most disturbed infant response to the Strange Situation test with the poorest prognosis for the future).

Overall they found no intervention impact and several interventions with a harmful effect. However, sensitivity focused interventions were effective (ES 0.24). As in the above analyses these were the interventions that started after 6 months of age. Interventions with high risk infants (irritable or preterm) were more likely to be successful than those focusing on high risk mothers. It is likely that low risk mothers are able to respond to these interventions more readily than high risk.

Positive trusting parent child relations in general

The third review (Doughty, 2007)⁷⁰ searched for studies of a wide range of interventions that aimed to promote the development of positive trusting parent child relationships, including attachment security, in children 0-4yrs. The authors searched for studies of one to one and group-based programmes, parent training and education programmes, relationship based programmes, home visiting and centre-based programmes.

The 18 primary studies they identified included 4 that were part of the meta-analysis in Bakermans-Kranenburg (2003) and 5 that were included in the meta-analysis in Bakermans-Kranenburg (2005).

Reporting of interventions is sparse in the Doughty (2007) review, but it covers several promising psychotherapeutic interventions which are not covered by other reviews. Of the four trials of dyadic psychotherapy, one showed that both psycho-education and parent-infant psychotherapy were effective in improving mother-infant interaction (Cicchetti et al 2006⁷¹) and that parent-infant psychotherapy resulted in the intervention infants attaining rates of secure attachment that were comparable with those of children in the non-depressed control group (Cicchetti et al 1999⁷²). A second less rigorous study (with no control group and a high rate of attrition from the intervention) involving women at high risk of child maltreatment and neglect, found that a combination of mother-infant psychotherapy, psychoeducation and developmental guidance was effective, at 3-year follow-up in improving maternal sensitivity, responsiveness and reciprocity (Osofsky et al 2007⁷³).

The third trial, of 67 clinically referred mothers and infants aged 10 – 30 months) compared infant-led psychotherapy (Watch, Wait, and Wonder) with mother-infant psychotherapy (Cohen et al 1999⁷⁴). (The design of this study is described as 'essentially random'. In two thirds of cases assignment was done using a table of random numbers. Otherwise, assignment was dependent

on therapist caseload and available time for treatment. This study was also included in the Bakermans-Kranenburg (2003, 2005) reviews but neither of attempted to isolate the impact of parent-infant psychotherapy. Both Watch Wait and Wonder and mother-infant psychotherapy were successful in decreasing parenting stress, and reducing maternal intrusiveness and mother-infant conflict. The Watch Weight and Wonder group showed a greater shift toward a more organised or secure attachment relationship and a greater improvement in cognitive development and emotion regulation than infants in the mother-infant psychotherapy group. Mothers in the Watch Weight and Wonder group reported a larger increase in parenting satisfaction and competence and decrease in depression compared to mothers receiving mother-infant psychotherapy. These differences had disappeared by the 6-month follow-up.

The fourth relevant RCT evaluated the effectiveness of parent-child psychotherapy with children aged 3 – 5 years who were exposed to marital violence (Toth et al 2006).⁷⁵ Seventy-five multiethnic preschool-age child-mother dyads from diverse socioeconomic backgrounds were randomly assigned to (1) dyadic psychotherapy or (2) case management plus community referral for individual treatment. Children were 3 to 5 years old. Results at 6 months indicated a significant symptom reduction; dyadic interactions became more harmonious (mothers became less intrusive and infants more cooperative). Maternal self-esteem grew significantly and negative affect decreased.

The fourth review (Barnes 2003)³⁷ covering trials relevant to enhancing maternal sensitivity and attunement presents a narrative synthesis of all interventions promoting parental wellbeing and/or behavioural or emotional wellbeing in children under school age. Its value lies in the broad range of interventions identified, the descriptions of the interventions, their theoretical models and the relationship between them. Using the reviewed studies and an additional survey, it addresses key issues relating to provision and engagement of participants, which meta-analytic reviews do not cover. It included 90 studies adopting a wide range of approaches many of which have been addressed by the more focused reviews described above. Theoretical models for interventions covered: i) enhancing bonding, ii) highlighting infant skills; iii) psychodynamic psychotherapies; iv) attachment based work; v) developmental guidance; vi) interactional guidance; vii) transactional interventions; viii) infant led psychotherapy; ix) community based supports; x) community development aimed at reducing ecological risk factors and xi) parent training. Programmes ranged from a single session to programmes lasting up to six years; many were based on home visiting, some were based in clinics, hospital or community centres; some were offered to groups;

some involved a combination,. Some targeted mothers alone, some infants alone; some families and some mother-infant dyads.

With regard to effectiveness, Barnes' conclusions are largely compatible with the three reviews described above. Perhaps most importantly, Barnes (2003) concluded that no single approach to mental health promotion is effective with all populations. The theoretical approach may be less important than the quality of the relationship established with the practitioner. However interventions focusing on the positive – enhancing positive mother-infant interaction and enjoyment and taking a strengths-based, empowering approach were more effective than psychodynamic programmes focusing on problems in the relationship and difficult past life histories.

Like Das Eiden (1996)⁵⁴, Barnes (2003) found that brief interventions such as NBAS are effective in enhancing parental sensitivity and knowledge in low risk families. With high risk families, Barnes (2003) concluded that the impact of brief interventions may be short lived unless families are offered additional, ongoing support. Interventions are frequently targeted at vulnerable, high risk populations, but these risk factors reduce families' capacity to engage with or respond to interventions. These families are likely to need flexible, multi-method programmes, grounded in ecological approaches, spanning at least two generations, and responding to the circumstances of individual families. It may be more effective to target high risk areas rather than high risk families. Within this context, offering a small number of high intensity services to a family is likely to be more effective than a large number of low intensity components. Prenatal contact enhances intervention effectiveness enabling practitioners to attend to primary engagement factors and establish a therapeutic alliance. Weekly contact continuing for the first year appears optimum. Longer term, more intensive psychodynamic therapies are less effective with young high-risk mothers.

Failure to engage and drop out are common especially amongst vulnerable families and both offering incentives (e.g. meals or free transport) and using outreach to understand local issues and circumstances can reduce attrition and participation.

With regard to level of training, many programmes demand highly skilled professionals. Such practitioners are likely to be necessary with work in high-risk families. However trained paraprofessionals have a role to play. They may provide valuable support, community knowledge.

These two groups can work together.

Where the Barnes (2003) review differs in its recommendations from Bakermans-Kranenburg (2003, 2005) is in findings relating to timing and length of intervention. Barnes (2003) found that for high risk populations, interventions starting prenatally and continuing with weekly contact for a year were more likely to be effective than either shorter or longer term interventions. The most effective interventions in the Bakermans-Kranenburg reviews (2003, 2005) were behaviourally orientated and focused on maternal sensitivity. It seems highly likely that the latter approaches can be effective in six sessions. However, as Barnes (2003) noted, it also seems likely that not all families can respond to such approaches. The optimum approach to supporting the most vulnerable families is still not entirely clear, partly because this is a very difficult group to study particularly in the context of randomised controlled trials. It seems likely that such families require highly skilled professionals offering multimodal and long-term programmes in order to engage with practitioners and to feel safe enough to respond to specific interventions – such as for example the behaviourally orientated maternal sensitivity approaches described above.

Home visiting interventions

We identified eight systematic reviews which covered the effectiveness of home visiting interventions on outcomes relevant to this review. (Benasich, 1992⁷⁶; Bernazzini, 2001⁷⁷; Ciliska, 1996⁷⁸; Elkan, 2000⁷⁹; Guterman, 1997⁸⁰; MacLeod, 2000⁸¹; MacMillan 2000⁸²; Roberts, 1996.⁸³). One additional review (Kendrick, 2000⁸⁴) presents a focused meta-analysis of studies reviewed in Elkan (2000). Several of these reviews were not restricted to home visiting programmes including studies of, for example, centre based care, but as home visiting was the predominant approach they have been reviewed here.

Two of these reviews (Elkan 2000; Ciliska 1996) focused on home visiting in general, reporting the wide range of outcomes covered by these studies; one (Benasich 1992) focused on maternal benefits including parenting; four focused on the prevention of abuse (McMillan 2000; MacLeod and Nelson 2000; Guterman 1999 and Roberts 1996); and one (Bernazzini 2001) focused on prevention of behaviour problems.

Whilst the reviews covered a wide range of different studies, some studies featured in many of them. In particular, the Family Nurse Partnership home visiting programme developed by Olds (1986⁸⁵, 1998⁸⁶) was included in all reviews. This intervention, which provided wide ranging

support to teenage mothers by highly skilled nurses, starting antenatally and carried on over a period of two years, has consistently shown positive effects on parenting. Long-term effects on disruptive behaviour problems, convictions/arrests and probation violations have been shown when the children were aged 15 years. Field (1980⁸⁷,1982⁸⁸) and Hardy and Streett (1989)⁸⁹ were included in six of the eight reviews; and Barth (1988⁹⁰, 1991⁹¹) ,in five. Field (1980) compared six months of nursery-based with six months of home-based support for cognitive development by teachers and psychology graduates to low income black teenage mothers. Hardy and Streett (1989) provided parenting education and linkage to services by paraprofessionals to low income inner city black mothers over 18 years of age in the home. Barth (1991,1988) provided task centred work focused on parenting skill development and concrete support also delivered by paraprofessionals for six months with bi weekly visits. The latter found no differences between control and intervention groups; Hardy and Streett (1989) focused on outcomes relating to abuse and showed a reduction in hospitalisations and a reduction in abuse. Field (1980) showed better parent-child interaction in the home visited group in early evaluations which disappeared in later evaluations.

Elkan (2000)⁷⁹ (also reported in Kendrick 2000)⁸⁴ was the most comprehensive review covering 102 studies evaluating 86 home visiting studies for all age groups; the great majority focused on the first year of life in high risk populations. Programmes had a wide range of goals from nutritional and breast feeding support, through prevention of postnatal depression and management of infant sleeping and crying. Most programmes included some element of parenting support and for some this was the sole goal. However, some of the latter studies focused on parenting support for cognitive rather than emotional and social development. Meta-analysis of studies using the HOME outcome measure showed positive impact in all study designs, RCTs alone and studies with a high quality score. The majority of studies examining outcomes relevant to parenting and infant mental health, including parent-child interaction, parental attitudes, maternal mental health and child behaviour, reported positive findings. Findings were less positive for infant temperament and only one of ten studies showed a reduction in measures of child abuse (see below).

Ciliska (1996) included only a small number of studies relevant to Canadian public health nursing. Only one study – of the Family Nurse Partnership approach (described above) aimed to improve relational aspects of parenting and this showed a beneficial effect on parenting. Studies of

interventions providing social support without support for parenting did not show impact on parenting.

Bernazzini (2001) focused on studies in which parenting interventions had been delivered before 3 years of age. This review examined the impact of these interventions on the prevention of behaviour problems and was confined to behavioural outcomes. It identified 7 controlled trials, 6 of which included intensive home visitation, some with additional components. One study covered a clinic-based intervention. Positive results were found in 3 studies, but no effects on behaviour were identified in 4.

Benasich (1992) covered all studies of early interventions for disadvantaged families published in journals at that time and illustrates the wide ranging foci of many of these programmes. 16 of the 27 studies identified included a home visiting component; and 11 were entirely centre-based. The principle focus of most of these interventions was children's cognitive development and reduction in need for welfare support; these were the main outcomes measured. Support for parenting was provided in all home visiting programmes and some centre-based programmes. Not surprisingly, entirely centre-based programmes were less likely to impact on outcomes relevant to children or parents' mental health (3 out of 6 showing some positive findings) than interventions including home visiting (13 out of 14 studies), but four studies of centre-based-interventions reported improved mother-infant interaction. In one of these four the effect was lost at follow up in one study. Two of four centre based programmes reported significant differences in the quality of the home environment and two of four reported positive changes in maternal knowledge and attitudes about childrearing.

Abuse prevention

Five reviews have specifically examine the effects of home visiting programmes in the prevention of child abuse (MacLeod, 2000⁸¹; MacMillan 1993¹³¹; MacMillan 2000⁸²; Guterman 1997⁸⁰; and Roberts 1996⁸³). Only one review was restricted to home visiting (Roberts 1996) but all reviews included a majority of studies of this approach. The home visiting programmes reviewed were often holistic aiming to impact on a wide range of outcomes as well as child abuse and neglect. Some reviews were restricted to preventive interventions one included treatment related interventions (MacLeod 2000). Whilst two of the studies included in all of these reviews (Olds 1986; Hardy and Street 1989) reported positive outcomes on verified cases of abuse, Olds (1986) analyses was restricted to a subgroup and effects disappeared in longer term follow up studies.

Most of the studies were negative in this regard and in some cases intervention appeared to increase rates of abuse. As two of the reviewers (Roberts 1996; Guterman 1997) pointed out, these studies are at high risk of bias because the increased contact resulting from intervention increases the identification of abuse. For this reason many studies have focused on proxy measures of abuse such as self-reported child abuse potential or mother-infant interaction.

The largest review (MacLeod 1994) undertaking a meta-analysis of 56 studies relating to a wide range of interventions for prevention and treatment of abuse and using a wide range of outcomes concluded that preventive interventions were effective in improving proxy measures of abuse with an overall effect size of 0.41. Home visiting (ES 0.41) and multicomponent approaches (ES 0.58) were both effective; the effect of social support alone was not. In this meta-analysis effective preventive interventions were more likely to be intensive, carried out over six months or more, take a strengths based empowering approach and provide a component of social support. For preventive interventions effect sizes were greater at follow up than immediately post interventions. This review like the others reported less effect when reported child abuse was the principle outcome. Roberts (1996) covered 11 RCTs of home visiting programmes and found a reduction in odds of all injury but not of non-accidental injury.

MacMillan's original review (1993) included 11 studies, eight of which reported on child abuse as an outcome and two of these eight showed a significant difference between control and intervention. An update of this review (MacMillan, 2000) included a further 3 RCTs and 1 follow-up RCT. Two of these RCTs showed a reduction in the incidence of childhood maltreatment or outcomes related to physical abuse and neglect among first-time disadvantaged mothers and their infants. These mothers received a programme of home visiting by nurses in the peri-natal period extending through infancy.

Guterman (1997) included 18 controlled trials. Out of ten studies reporting on confirmed cases of abuse/neglect two reported positive and one marginally positive results and one found an increase in reports of abuse. On the basis of proxy indicators, half of the studies reported positive results and the remainder found no significant effects. Studies with a high frequency of visiting (weekly or more) lasting for 2 years or more were positive; long-term interventions with lower intensity of visiting were not. Some short term intervention studies reported positive findings but only when outcomes were measured soon after the end of intervention; studies of similar interventions with longer term follow up did not report positive results. Studies which employed screening for

psychosocial risk reported less good outcomes than those offering universal services to demographically high risk populations. Programmes offering interventions to enhance parent-infant interaction reported more positive outcomes than those offering more general parent education and interventions aiming to link parents with formal or informal support were more effective than those which did not.

A further review relevant to child abuse prevention (Lundhal 2006a)⁹³ is covered below. This review examined the impact of structured parent training programmes on child abuse prevention. Whilst these programmes were delivered in the home in some of the included interventions, participants were offered parent training programmes rather than the more holistic, individually tailored interventions described in this section.

Supporting teenage parenting

Many of the home visiting studies covered in the reviews described above, particularly the Family Nurse Partnership approach, were restricted to teenage mothers, but the reviews covered interventions with other risk groups as well and did not aim to isolate the effectiveness of intervention with teen parents. We identified one additional review (Letourneau, 2004)⁹⁴ which focused specifically on improving the parenting of teen mothers, but did not include many key studies with this group covered by the other reviews (eg Olds et al 1986; Field et al 1980). This evaluated the effectiveness of a variety of interventions the commonest of which was home visiting. Interventions also included multimodal approaches, peer education, parenting groups, and practical guidance. Outcomes included parenting, parental confidence and psychological wellbeing and return to education. Multimodal parenting support programmes for adolescent mothers included group work, home visiting and treatment in primary health care settings, combined with a variety of practical adjunctive supports. Many studies reported positive effects on parenting, parental confidence and wellbeing. However, weaknesses in the included studies limit the reliability of findings. Attrition was a particular problem particularly in the control groups affecting over 50% of the study population in some studies.

One review covered below in the section on parenting programmes (Coren & Barlow 2001)⁹⁵ focused on the effect of manualised group based parenting programmes on parenting and child outcomes in teen parent families and on the basis of a small number of studies found that these programmes can be modestly effective with this group. Whilst a very high risk group, teenage parents continue to present challenges for practitioner and researchers. Engagement and

continuing participation are two key problems in this group. Long-term home visiting programmes with highly skilled professionals, taking a strengths-based approach with or without additional components seem to represent the most promising approach with this group.

5.3 PARENTING PROGRAMMES WITH A FOCUS ON PREVENTION OF BEHAVIOURAL PROBLEMS

Whilst the great majority of reviews covered in this review of reviews aim to improve parenting, parenting programmes are reviewed together in this section because they form a distinct group of interventions. Typical parenting programmes comprise brief, manualised interventions aimed at improving the capacity of parents to support their children's emotional and behavioural development. They are therefore different from, for example, home visiting programmes which can be flexible, tailored to individual parents needs and often continue over long periods. Parenting programmes are usually offered to parents of children aged over 2 years. They have been offered to parents of 0 – 2s to prevent the emergence of behaviour problems. However, the oppositional behaviour on which these interventions focus rarely emerges in the first two years of life and the 'behaviour management' skills they teach are therefore not a key parenting skill in this age group.

Parenting programmes are underpinned by a range of theoretical approaches, much the most common of which is cognitive behavioural therapy. These programmes aim to break the cycle of parents failing to pay attention to children when they are behaving well and giving attention albeit negative when problems emerge. Because children need the attention of their parents, this approach inadvertently encourages problem behaviour. Programmes based on relational approaches, focusing more on the emotional quality of parent child interaction than on behaviour management are common but have not been subject to controlled trials as much as the behaviour management programmes. Parenting programmes may be offered using a range of media (e.g. leaflets, videos etc), on a one-to-one basis or in groups. They may also be combined with other interventions for parents, families or children.

12 relevant reviews examining the effectiveness of these parenting programmes were identified. All but two reviews focused on the impact of programmes on children's behaviour; one focused on maternal mental health (Barlow 2003)⁹⁶ and one on abusive parenting (Lundhal 2006a).⁹³ Two reviews covered all population groups (Lundhal 2006b⁹⁷; Serketich & Dumas 1996⁹⁸); five focused

on specific risk groups:- parents of children aged 0-3s (Barlow & Parsons 2003)⁹⁹ parents of 3-10 year olds, (Barlow & Stewart Brown 2000)¹⁰⁰; teenage parents (Coren & Barlow 2001)⁹⁵; parents with intellectual disabilities (Feldman⁴⁹) and parents from minority ethnic groups (Barlow 2004¹⁰¹) two focused on specific programmes:- Nowack (2008¹⁰²) on Triple P; Cedar (1990) on Parent Effectiveness Training¹⁰³; and one on media-based programme (Montgomery 2001).¹⁰⁴ In addition Magill Evans (2006)³⁸ reported the results of trials of parenting programmes in a review covering a wide range of programmes for fathers.

Participants in the programmes reviewed in these reviews typically included a mixture of parents from families where children were at risk of problem behaviour and parents of children with sub-clinical and clinical level behaviour problems. We excluded reviews of interventions designed to treat clinical level behaviour disorders. We also excluded reviews which covered parenting programmes delivered as part of school based initiatives to improve wellbeing or prevent antisocial behaviour.

In addition we identified two reviews (Reyno 2006¹⁰⁵, Wyatt Kaminski 2008¹⁰⁶) which examined the factors associated with success in parenting programmes, and one (Kane 2007¹⁰⁷) based entirely on qualitative studies which examined parents perceptions of the impact of programmes.

Impact of parenting programmes on children's behaviour in different population groups

General population: children aged 0 - 12

Lundhal (2006b) included 63 studies of parenting programmes designed to modify disruptive behaviour and improve parental behaviour and perceptions of parenting role. Overall effect sizes were moderate in size: - child behaviour (ES 0.42 [0.35,0.49]; parent behaviour (ES 0.47 [0.40,0.54] and parental perceptions (ES 0.53 [0.44,0.63]). However, in follow up studies, effects on all outcomes particularly child behaviour were smaller in controlled (ES 0.21) than uncontrolled trials (ES 0.87). Relational and behavioural programmes were equally effective, but the authors report that behavioural programmes have been more rigorously tested with clinical samples. Individually delivered programmes were more effective than group; this may be because the latter were more likely to include a higher proportion of children with clinical level problems, and programmes showed greater change with the latter (ES 0.52 cf ES 0.31). The effectiveness of programmes on children's behaviour declined with child age, showing most effect for children 5

years and under (ES 0.44) and least for children over 12 years (ES 0.27). Effects on parent behaviour and confidence did not show such trends.

Serketich & Dumas (1996) covered 26 controlled studies that assessed the effectiveness of behavioural parent training combined with additional therapeutic support on modifying children's antisocial behaviour at home and school and improving parents' personal adjustment. Children of parents who participated in behavioural parent training were reported as having better adjustment on all measures (parent, teacher and observer report) than those who did not, with an overall child outcome of ES=0.86 (SD 0.36). Parental adjustment was also improved (ES= 0.44 (0.30)). In this review programmes were reported as more effective with relatively older children. However the mean age of the study populations was 6 years (SD 1.80) so the relatively 'older' group were primary school children.

Children aged 0-3

Barlow & Parsons (2003) evaluated the effectiveness of parenting programmes in the primary and secondary prevention of behaviour problems in children under the age of 3 year. The review included five RCTs. Data were combined using a meta-analysis for both parent-reports and independent assessments of children's behaviour. There was a non-significant result favouring the intervention group on parent report (ES -0.29, CI -0.55 to 0.02) and a significant result favouring the intervention group (ES - 0.54, [0.84, 0.23]) for independent observations of children's behaviour. A meta-analysis of the limited follow-up data available showed a small non-significant result favouring the intervention group (ES -0.24, CI -0.56 to 0.09).

Children aged 3-10

Barlow & Stewart Brown (2000) included 16 group-based parent training programmes that used at least one standardised instrument to measure emotional and behavioural adjustment. For parent's reports of children's behaviour effect sizes ranged from 0.6 to 2.9 in favour of the intervention group. Based on independent observation of children's behaviour, effect sizes ranged from 0.2 to 0.4 in favour of the intervention group. There is some evidence to suggest that these changes are maintained over time, but the small number of studies in which longer term effect sizes could be calculated means that findings are preliminary

Teenage mothers

Coren & Barlow (2001) focused on parenting programmes that were designed for teenage mothers. Interventions included home based individual training with videofeedback, and group based parent education with, and without, written materials mailed to participating mothers. Both individual and group-based parenting programmes produced results favouring the intervention group on mother-child interaction (ES -0.79 [-1.53, -0.36]), parental attitudes (ES -0.4 [-1.07, 0.07]). Positive but non-significant effects favouring the intervention were reported on child outcome measures. However, these results are based on only 4 studies.

Fathers

Magill-Evans (2006) included three studies reporting the effects of parenting programmes on fathers. One RCT (Gross 1995)⁴² reported no significant effects. McBride (1991)⁴³ reported on a CCT of a parent education group for fathers and children which showed increased father involvement with child care and higher self reported competence in the intervention arm. Fagan (1999)⁴¹ reported on the adaptation of a traditional Head Start programme for fathers. This controlled study reported positive dose effects: with fathers who participated more fully showing more positive outcomes.

Parents with learning difficulties/developmental delay

Feldman (1994) assessed the effectiveness of parenting education programmes for parents with low IQs covering 20 studies including 190 parents (188 mothers, 2 fathers) with IQs ranging from 50 to 79. The most common instructional approach was behavioural (e.g. task analysis, modelling, feedback, reinforcement). Programmes focused on basic child-care, safety, nutrition, problem solving, positive parent-child interactions, and child behaviour management. This narrative review concluded that the most successful interventions, those which report change in parenting behaviours and improved child outcomes, involved specific skill assessment using direct observational techniques, modelling, practice, feedback and praise, and were located in the home or a home-like environment rather than clinic settings.

Parents from minority ethnic groups

Barlow (2004) reviewed controlled trials and qualitative studies on parenting programmes with and for parents from minority ethnic groups (predominantly Black, Hispanic; Chinese; Native American) Interventions included:- traditional parenting programmes including Rational-Emotive Therapy, Filial Therapy and a range of behavioural programmes including the Webster-Stratton

Incredible Years Programmes; culturally specific programmes such as Effective Black Parenting Programmes; and culturally adapted versions of parenting programmes (eg STEP, PET and Confident Parenting). Traditional parenting programmes provided the most robust evidence of effectiveness across a range of variables and with different minority ethnic groups.

Results for culturally specific programmes were mixed. Some studies of the Effective Black Parenting programme showed improvements in parent stress, parent perceptions of children's emotional and behavioural adjustment and parenting attitudes including confidence, but another did not. Similarly, mixed results were found for some child outcomes (eg teacher reported externalising behaviours). Results were also mixed for culturally adapted versions of traditional parenting programmes (eg STEP, PET and Confident Parenting). The variation in results may be due to the fact it is easier to evaluate the effectiveness of standard parenting programmes than the more diverse culturally specific programmes. Studies of traditional parenting programmes tended to report on a wider range of outcomes than culturally specific or culturally adapted programmes. There was no evidence of differential effects among different ethnic groups (including white parents).

Qualitative studies, like those reviewed in (Kane 2007) below illustrated parents perceptions of the benefits of the programmes and provided positive endorsement of the quantitative data from trials in terms of improved relationship with their child/ren and greater enjoyment of being a parent.

Impact of specific parenting programmes and approaches to delivery

Triple P Behavioural Parent Training

Nowak (2008) reviewed 55 studies of effect of the Triple P behavioural training programme on parenting, child behaviour problems and parental wellbeing. The overall effect sizes for parenting and child behaviour ranged between 0.35 and 0.48 for between-groups and 0.45 and 0.57 for within groups post-intervention comparisons. Small to moderate positive effects were reported for parenting (overall ES=0.38), child outcomes (overall ES=0.35), and parental wellbeing (overall ES=0.17). A tendency for parents' relationships to improve was also reported. Larger effects were found on parent report as compared to observational measures and more improvement was associated with more intensive and initially more distressed families.

Parent Effectiveness Training (PET)

One review (Cedar & Levant 1990) evaluated the effect of Parent Effectiveness Training (PET) on parental attitudes, behaviour and self esteem and child attitudes and self esteem. The overall mean effect size for PET was found to be small (0.33). Strong effect sizes were found for parents' course knowledge and small to moderate effects on attitudes towards parenting, behaviour toward children, and children's self-esteem. Higher effect sizes were associated with older compared to younger children and with children with learning difficulties compared with children at risk of delinquency. The importance of well-trained group leaders was highlighted by the lower effect sizes associated with lack of leader certification. Positive effects endured up to 26 weeks after the programmes were completed.

Media-based parenting programmes

Montgomery (2006) reviewed 11 studies involving 943 participants who received media-based advice (leaflets; videos with or without telephone support or parent groups) and measured children's behavioural problems. Most interventions were behavioural (e.g. those designed by Webster-Stratton, or the Triple P programme), for which there is already a strong evidence base.

Although four studies involved children from the age of two, most were of trials with children aged three and over. In general, media-based therapies for behavioural problems had a moderate, but sometimes variable, effect when compared with no-treatment controls. Effects sizes ranged from -0.12 [-1.65, 1.41] to -32.60 [-49.93, -15.27]. Further improvements were made with the addition of up to two hours of therapist time. It is important to note that while significantly more participants reliably improved after using self-directed interventions than no-treatment controls, approximately two-thirds of participants showed no reliable improvement at all. No difference was found between the type of media-based approaches (booklet, video, audiotape) used in these studies.

Impact of parenting programmes on outcomes other than child behaviour

Improvement of maternal psychosocial health

Barlow (2003) focused on studies of parent training that included outcomes relating to maternal mental health. This review covered 26 trials of which 20 provided enough data to calculate effect sizes. The results of the meta analyses show statistically significant differences favouring the

intervention group for depression ES -0.26 [-0.40, -0.11]; anxiety/stress ES -0.4 [-0.6, -0.2]; self-esteem -0.3 [-0.5, -0.1] and relationship with spouse/marital adjustment group ES -0.4 [-0.7, -0.2]. Meta-analysis of the social support found no evidence of effectiveness. Of the remaining data that could not be combined in a meta-analysis, significant differences between the intervention and the control group were found on approximately 22% of the outcomes measured.

A meta-analysis of follow-up data on three outcomes - depression, self-esteem and relationship with spouse/marital adjustment – was conducted. Results suggest a continued improvement in self-esteem ES -0.4 [-0.7, -0.2], depression, and marital adjustment at follow-up, although findings for depression and marital adjustment were not statistically significant.

Impact on outcomes relating to abuse

Lundahl (2006a) reported on parent training programme trials where the focus of the intervention was prevention of emotional or physical abuse or neglect, but not sexual abuse. These trials reported on changes and differences in proxy measures such as parent's emotional adjustment, child rearing attitudes and behaviours rather than documented abuse. 23 studies were identified, six of which used a control group. Most of the controlled studies included provision in the home, some also included clinic based sessions; half adopted a behavioural approach and half involved some element of group delivery. Two studies covered parents who were confirmed abusers and the rest parents at high risk. Four studies were common to this review and other reviews of abuse prevention described above.

Effect sizes immediately after intervention were 0.60 on attitudes to abuse, 0.51 for parent behaviour and 0.53 on emotional adjustment. Behaviourally and non-behaviourally based interventions delivered different outcomes. For attitudes linked to abuse non-behavioural interventions were more effective (ES 0.69) than behavioural (ES 0.24), but on child rearing behaviour the reverse was true (non behavioural ES 0.32; behavioural ES 0.61). Studies that measured documented abuse also reported a significant effect (ES 0.45), but these results were based on studies of least strong quality. Greater effects were observed for interventions that included mixed home and clinic based provision, a range of theoretical approaches, combined group and one to one delivery and high numbers of sessions. No studies examined long-term outcomes. Long-term follow up showed that changes in attitudes were sustained and changes in child behaviour declined in magnitude but persisted. These results are broadly compatible with those reported in other reviews of abuse prevention programmes. Coding of quality of studies,

which was a predictor of some outcomes, did not include attrition rates. This was noted to be a problem by other reviewers of these programmes

Engaging and retaining parents

Irrespective of the type of programme being provided, engagement and retention of parents is an important factor in success, and attrition has been noted by several reviews as of particular importance in interpreting the results of trials in especially in trials in high risk groups – teenage parents, those at risk of abuse, those who abuse drugs and alcohol and those who have been convicted of abuse.

Reyno (2006)¹⁰⁵ reviewed 11 studies which reported on dropout from programmes in order to identify key predictors. In a meta-analysis she identified low family income, low maternal education, young maternal age and minority group status as predictors. Parental psychopathology was also an important predictor of dropout. This reviewer also examined impact on outcomes and found a similar pattern of influence with greater effect sizes. Wyatt Kaminski (2008)¹⁰⁶ synthesised the results of 77 studies in families with children 0-7 years examining the impact of outcomes on characteristics of the programmes' content and delivery method. Approaches associated with more positive outcomes included coverage of positive parent child interaction and emotional communication skills; teaching parents to use time out and be consistent, having a curriculum or manual and requiring parents to practice new skills with their children during sessions. Teaching of problem solving, promotion of children's academic and cognitive and social skills and provision of additional services were associated with reduced impact.

Kane (2007)¹⁰⁷ provides a different perspective on factors influencing success in a meta-ethnographic review of qualitative studies, which analysed parents' own views. On the basis of four studies, the authors found that parents begin parenting programmes with feelings of failure, feeling out of control and guilt. During the programme, attitudes change to wanting to find ways of understanding and managing their perceived problems and their children's behaviour. Acquisition of knowledge, skills and understanding, together with feelings of acceptance and support from other parents in the parenting group, enable them to regain control and feel more able to cope. This leads to a reduction in feelings of guilt and social isolation, increased empathy with their children and confidence in dealing with their behaviour. The need for parents' own needs to be recognised and respected together with non-judgemental, strengths-based support from

programme facilitators were identified as key. Support and acceptance by other parents which can require skilled facilitation is critical to retention of participants and the success of the intervention.

5.4 PARENTING SUPPORT FOR FAMILIES IN HIGH RISK GROUPS

We identified eight reviews of interventions for parents with severe mental health problems, addiction and/or who had maltreated children. The groups are addressed together because of the high level of overlap. Parents who abuse alcohol or drugs and those with severe mental illness are also those most at risk of abuse or neglect. Whilst there is some overlap between these programmes and those aiming to prevent abuse (discussed above) the latter are most often delivered to demographically high risk groups like teenage mothers whose abuse potential can vary greatly. This distinction between the two approaches –prevention and treatment - was born out by the reviews themselves which tended to focus on either prevention or treatment not both. Only one review (MacLeod 2000)⁸¹ aimed to deal with both.

Reviews covering interventions for abuse and neglect were: MacLeod (2000)⁸⁰, Schrader McMillan (2008)¹⁰⁸; Skowron (2005)¹⁰⁹ and Corcoran (2000)¹¹⁰ & Corcoran (2008).¹¹¹ MacLeod (2000) covered physical and emotional abuse and neglect, Corcoran (2000) covered physical abuse and neglect; Schrader McMillan (2008) emotional maltreatment, Corcoran (2008) sexual abuse and Skowron (2005) physical, emotional and sexual abuse and neglect.

All types of abuse

Skowron (2005) undertook a meta-analysis of the effectiveness of psychological treatments for physical abuse, sexual abuse, physical neglect or co-occurring abuse. This review included an intervention targeted at parents alone with a view to preventing the sequelae of abuse as well as studies of interventions that involved aimed at parents and children. Studies were included if they included a control group drawn from the same population and reported results in enough detail to permit calculation or estimation of effect sizes. A total of 21 studies examining 25 interventions were included. .

Psychological treatments were more effective than waiting list, community case management or placebo groups (ES=.54; [.39-.69]) and positive for child and parent self-report of further episodes, behavioural observation of child, and behavioural observation of family. Treatments for child

sexual abuse yielded slightly larger effects (ES 0.69) than those for general abuse (ES 0.40), but results were influenced by length of intervention, severity of abuse, and/or abuse comorbidity. The small number of non-behavioural interventions reviewed (ES 0.87) yielded larger treatment effects than did behavioural treatments (ES 0.40), which may have been a result of length of treatment (non-behavioural interventions were of significantly longer duration than behavioural treatments). No significant differences in magnitude of effects were observed between mandated (ES = .70) and voluntary (ES= .49) treatments.

Physical abuse and neglect

MacLeod (2000)'s review covered both prevention and treatment of abuse in children up to 12 years of age. 40% of the 56 studies were of indicated programmes delivered to families in which abuse has been documented. This review identified Intensive Family Support (ES 0.38), multicomponent (ES 0.37) and parent training (ES 0.34) as effective in a meta-analysis involving a range of outcomes. The programmes with the highest effect sizes were social support/mutual aid interventions (ES 0.61) but as these results were based on only two small studies the results are not significant. The effectiveness of the three approaches declined somewhat over time in studies reporting longer term follow up but remained significant. High levels of participant involvement and strengths based approaches increased effectiveness.

Corcoran (2000) reviewed interventions studies in five categories:- behavioural interventions, cognitive behavioural interventions, family therapy, social support and atheoretical programmes. Behavioural interventions aim to break the negative cycle in which parents inadvertently reinforce negative behaviour and fail to enforce positive behaviour by paying attention only to the former; this is the basis of behavioural parenting programmes. Cognitive interventions aim to deal with parental misattributions about their children (eg she doesn't like me / is doing this just to annoy me) and developmentally inappropriate expectations. Family therapy is based on the understanding that symptoms in one family member are a function of interactions within the family and aims to change maladaptive interactions and patterns of behaviour within the family as a whole. In summary Corcoran concluded that behavioural, cognitive behavioural and multisystemic family therapy approaches showed promise but that the quality of studies was not strong enough to draw clear cut conclusions.

Emotional abuse and neglect

Schrader McMillan (2008) included 21 studies of 18 interventions for emotionally abusive parenting; 8 were evaluated in randomised controlled or controlled trials, one reported a follow up study; the remainder were one group pre and post designs or case studies. The review covered studies of interventions with families where parents were abusing drugs or alcohol (5 studies) covered below and also families where infants were failing to thrive and emotional factors may be an issue (which are not reported here). Emotional abuse was defined as: (i) emotional unavailability, unresponsiveness and neglect; (ii) parents' negative attributions or misattributions (iii) developmentally inappropriate or inconsistent interactions with the child (iv) failure to recognise the child's individuality and psychological boundaries (v) failure to promote the child's social adaptation. Interventions for emotional abuse included behavioural parenting programmes, (eg Triple P with anger management enhancement), parent-infant psychotherapy and group based parent psychotherapy based on attachment theory.

This review concluded that the evidence base is weak, but that there is some evidence that emotionally abusive parents who have difficulties in controlling anger, or who have unrealistic expectations of small children's behaviour, may benefit from group based behavioural parent training with enhanced anger management/attributional retraining components. They may also benefit from a combination of individual and group-based parent training. There is some evidence that the social reinforcement and support provided by the group may help to reinforce change.

Interaction guidance and parent-infant psychotherapy (in particular mentalisation based approaches) showed promise in increasing caregiver sensitivity and need more research. There is evidence that interaction guidance and psychotherapeutic approaches can generate change in parents with more severe psychopathology.

Sexual abuse

Corcoran (2008) focused on interventions to improve the supportiveness and adjustment of non-offending parents of children who have been sexually abused (CSA). The objective of these interventions is to prevent the onset/escalation of mental health problems in non-offending parents and in their sexually abused children.

She concluded that cognitive behavioural therapy offers benefits to both preschool survivors of CSA and their parents over those provided by non-directive treatments. CBT is also effective with

school age children; treatment models that included parental involvement appeared to benefit recovery of children. Parental interventions at the time of a CSA disclosure (e.g. instructional videotapes based on social learning theory) were beneficial to children's psychosocial functioning. No studies were found that directly assessed the impact of parental involvement on the onset/escalation of mental health problems in their sexually abused *adolescents*.

Parental drug and alcohol abuse

Three reviews examined psychosocial interventions with a parenting component for drug and alcohol misusing parents: Doggett (2005),¹¹² Suchman (2006),¹¹³ Schrader McMillan (2008).¹⁰⁸

Doggett (2005) examined home visiting programmes for drug and alcohol abusing pregnant women before and after birth. Approaches to home visiting varied. Most included relationship building and emotional support; some included specific parenting support – interaction guidance or more general parenting skills; others aimed to link parents to services including parenting support in the community. Some studies aimed only to engage or retain mothers in drug and alcohol misuse programmes. Whilst some positive results with regard to treatment were identified in the meta-analyses (eg retention in treatment programmes at 4 weeks) overall results were negative. With regard to infant outcomes marginal effects were reported on behavioural outcomes favouring intervention group and also on use of child protection services and child abuse potential, but many relevant outcomes were negative. Overall the results are not strong enough to recommend such approaches at present but indicate a promising area for research and development.

Suchman (2006) reviewed six studies of clinic and or home based interventions aiming to enhance parenting skills of drug and alcohol-dependent mothers. Only two of these (Schuler 2000¹¹⁴/ 2002¹¹⁵ and Black 1994¹¹⁶) had been included in the Doggett review. Four offered cognitive behavioural psychoeducation, using a curriculum driven approach including the STEP programmes (Systematic Training for Effective Parenting). Two interventions adopted relational approaches and involved multiple components eg drug abuse treatment, interaction guidance and parenting skill development, social rehabilitation, job counselling and relaxation therapy and motivational interviewing. Only one study – offering intensive multicomponent relational approaches improved infant outcomes including cortisol levels, social and mental development. The intervention was centre based offering daily sessions for 4 months. Improvements in parent-infant interaction, maternal mental health and drug misuse outcomes were also reported in this

study (Field 1998).¹¹⁷ The study involving relational approaches and motivational interviewing (on a home visiting basis) reported the greatest benefit in treatment retention (Ernst 1999).¹³⁵ The remaining interventions reported some positive gains in maternal mental health but outcomes were mainly negative. Attendance at the centre based programmes was 50% or less in studies reporting this outcome.

Schrader McMillan (2008)'s review of emotional abuse treatment programmes included programmes for parenting who abused drugs on the grounds that emotional abuse or neglect is very common in this group. This review included 5 trials of three parenting programmes for parents who engage in drug abuse or who are in remission.

Two Australian studies evaluated Parenting Under Pressure (PUP), an intensive, multi-component, family-focused intervention designed to improve child behaviour, decrease parental stress and improve family functioning by targeting affect regulation, mood, views of self as a parent, drug use and parenting skills offered to parents with multiple problems who are on methadone treatment (Dawe 2003,¹¹⁸ 2007¹¹⁹). These studies reported positive results on parental mental health, child abuse potential and methadone (but not alcohol) use, as well as positive effects on child behaviour problems and prosocial behaviour.

Two studies (Luthar 2000,¹²⁰ 2007¹²¹) evaluated an attachment-based parent education programmes delivered on a group basis (Relationship Psychotherapy Mothers Group). Drug-abusing mothers usually report high levels of childhood abuse, traumatic events and high levels of depression and anxiety, undermining their parenting and relationships with children and Relationship Psychotherapy Mothers Group combines group therapy with parent education and methadone treatment. One study reported positive findings on child maltreatment risk, quality of affective relationships; limit setting and promotion of child autonomy and marginally significant effects on mother's reports of child psychosocial adjustment. But a second trial found deterioration in some outcomes at 6 month follow up and no effects overall.

One study examined the effect of Arkansas CARES, a multicomponent residential programme for women and children (Conners 2006).¹²² Length of stay was associated with significant improvements on maternal attitudes associated with child abuse and neglect and maternal behaviours including arrest and IV drug use, but no differences on measures of empathy, belief in corporal punishment, oppressive power over the child.

Several reviewers noted that multiple problems faced by mothers with addiction to drugs warranted more comprehensive and practical treatment. The occurrence of co-morbid psychiatric disorders, in particular, highlights the need for psychiatric diagnostic services. Issues related to engagement and retention in programmes were raised in many studies. Parents with low motivation are unlikely to benefit from programmes., As parents begin to realise that they, rather than their child, are the 'problem', programme retention requires very skilled and sensitive support often with team work between different provider agencies.

Parenting programmes for parents with severe mental illness (SMI)

One systematic review of parenting interventions for parents with conditions such as schizophrenia, mood disorders or puerperal psychosis has been undertaken (Craig 2004)¹²³ but identified no experimental studies. Included studies described integrated interventions that combine parent education (sometimes tailored for specific subgroups, such as mothers who have schizophrenia) with additional social and practical supports for vulnerable families. This review concluded that parenting programmes for mothers with mental health problems need to address the common problems faced by all parents as well as the challenges presented by specific forms of mental illness. The author cautions against the application of generic programmes that are successful with mainstream populations.

6. DISCUSSION

6.1 METHODS

Strengths and weaknesses of systematic reviews

Systematic reviews are powerful tools in the evaluation of evidence of effectiveness. By drawing on the results of all studies of a particular intervention they can provide a robust quantitative estimate of the likely impact on the average individual. By giving most weight to the most robust research designs – randomised controlled trials – and by searching exhaustively to identify all trials, they reduce the influence of bias on these estimates. Reviews of reviews such as this build on the strength of individual reviews. When conclusions of a number of high quality systematic reviews concur, conclusions which can be drawn are necessarily robust.

These are the strengths of systematic reviews and reviews of reviews, but there are also weaknesses and the weaknesses are particularly pertinent in the assessment of the sort of interventions covered by this report. The randomised controlled trial design is difficult to apply to complex interventions. These approaches require the active engagement of those delivering the intervention and often some tailoring to local circumstances. Delivery is wholly dependent on practitioners or facilitators whose skills and abilities will vary. The impact of the intervention depends on the quality of relationship that the facilitators are able to form with clients and, in group settings, on the quality of relationships that the facilitator can enable amongst group participants. All these factors mean that even the most standardised, manualised intervention will have a different flavour every time it is administered and may require considerable adaptation to implement in some settings. Thus unlike the pills for which RCTs were designed, and with which they are very effective, complex interventions are likely to be slightly different every time they are delivered in the context of a single trial, and the same intervention may differ considerably in different trials. Systematic reviewers who undertake quantitative analyses ignore these differences and combined the results of widely different approaches in a single meta-analysis producing an effect size statistic which is potentially spuriously precise and lacks information on what exactly it is that works and with whom exactly it worked.

The randomised controlled trial approach also requires both practitioners and participants in the trial to be in a state of equipoise – a state in which they are genuinely indifferent as to which arm participants are randomised. However, complex interventions aiming to change participants' behaviour work best if participants are in a state of 'readiness to change'. Almost by definition this

means that they are not in a state of equipoise. So those who are most likely to benefit from a parenting programme, for example, are also those who are most likely to refuse to take part in a process that requires randomisation and might lead them to being in a control arm of a study.

Because it looks only at published research, systematic review evidence always lags behind evidence from single trials and can become out of date. Some of the reviews in this report were published in the early 1990s and could only take into account evidence that was available at that time. Their conclusions need to be considered in the context of the time when they took place and need to be updated with the results of future research.

Identifying research relevant to promoting mental health in families is more complex than identifying research relating to a pill for an illness. The latter studies are all published in well indexed medical journals and all results are available electronically. The literature we were interested in for this project was published in a wide range of journals and reports. The journals of non-medical disciplines are less well indexed and may not be available electronically. The literature that is identified in a systematic search is therefore less likely to be complete than in reviews of pills. Many reviews in this report covering apparently similar territory have included different studies. In some cases these differences can be traced back to differences in focus and inclusion and exclusion criteria, or the search dates for the study, in others there was no obvious reason. This means that readily available widely quoted studies tend to appear in a larger number of reviews where they have a bearing on conclusions. Less well known studies may not. The well known studies – which tend to be the ones with positive results – therefore have a disproportionate influence on the results of overviews. In undertaking this review we have given some indication of this ‘double counting’ where it has occurred.

These are important issues and ones that need to be considered carefully in evaluating the evidence from systematic reviews when the caveats need balancing against the advantages. Reviews of reviews such as this draw on the results of the studies of a wide range of academics both those who undertook the primary research and those who undertook the systematic reviews. If large numbers of researchers evaluating literature over a long period of time come to similar conclusions it is likely that these conclusions are robust.

Inclusion criteria for this review

This project aimed to identify interventions that could prevent mental health problems in children and adolescents, and because most of the risk factors for mental illness are pertinent across the life course, prevent these individuals experiencing mental illness as adults. Differentiating 'prevention' from 'treatment' in this area of intervention is however more complex than it might seem. So for example we excluded reviews of parenting programmes designed to *treat* conduct disorder (Dretzke, 2009)¹³² even though on closer scrutiny it was clear that some of the trials in this review also appeared in the reviews of parenting programmes to *prevent* behaviour problems which we did include. That is because many trials include families where children have clinical level problems as well as those with subclinical behaviour problems. In both cases it could be argued the programmes were offering prevention of escalation of the behavioural problem and the adult mental health sequelae of behaviour problems.

We have included reviews of the *treatment* as well as prevention of 'child abuse' on the grounds that treatment of abusive parenting can prevent the development of mental illness concomitant on abuse and could have beneficial effects on children other than the victim of abuse. In this regard 'child abuse' was regarded as an extreme form of suboptimal parenting, rather than a medical condition.

We have also included trials of the *treatment* as well as *prevention* of parental mental illness and drug and alcohol misuse on the grounds that these are risk factors for mental health problems in children. Improving parental health increases children's wellbeing and reduces the risk of mental health problems.

Gaps in the literature

Our searches uncovered many more reviews of some areas of concern – eg postnatal mental illness in mothers, than in others eg severe mental illness in parents of older children. The latter usually indicates a lack of primary research and a neglected area, but could mean that no reviewers have chosen to review this literature. We identified only one review with a number of studies that involved older children (to age 12 years)⁹⁷ and none which met our inclusion criteria that involved parent focused interventions for parents of adolescents. Most of the programmes included in the latter were offered through schools and it is likely that a more extensive literature would be identified through searches of school base mental health promotion programmes. Alternatively it may be that reviews of parenting programmes for teenagers focus on outcomes

which were excluded from this review. For example reviews do exist of the impact of parenting programmes on smoking, alcohol and drug misuse in teenagers.¹²⁴

We excluded one review of interventions to prevent child sexual abuse⁹² since this covered school based programmes which aimed to train children to recognise stranger danger whereas programmes to prevent physical and emotional abuse were included as these have been targeted at parents.

Perhaps the most important gap in the literature relates to programmes to support fathering. Only one review covered this topic and several of the studies were reported as weak. These studies show that it is possible to provide programmes which improve fathering, but by no means all interventions were successful. More research in this area is urgently needed.

We included reviews of parenting interventions combined with treatment programmes for parents who abuse drugs or alcohol, but excluded reviews of motivational interviewing to reduce alcohol consumption in pregnancy as the latter did not have relevant mental health outcomes and there is no evidence that occasional drinking in pregnancy influences children's mental health.

We have excluded reviews that did not report mental health or parenting outcomes and thus the report does not cover trials of nutrition or physical activity promotion in a family setting. These are both distal risk factors for mental health problems in children and could have a place in an expanded review.

6.2 FINDINGS

We have reported the results of this review in four separate sections for pragmatic reasons. There were no neat divisions in this literature; both the aims of the reviews and the included studies overlapped; for example, some reviews to investigate the effectiveness of parenting programmes turned out to include mostly studies of holistic home visiting programmes. The sections in which we reported findings aimed primarily to group together studies covering a broadly similar literature.

Most of the studies in the first section covered interventions applicable to the general population at around the time of birth. We have also included studies of the prevention and treatment of

postnatal depression in this section because these programmes are usually grounded in universal approaches to identification.

The second section covered programmes which are offered in the first few years of life, mostly to demographically high risk groups and usually on a one to one basis. Many of the programmes included in the reviews were quite eclectic, covering a wide range of health promoting topics, but all included reviews covered interventions with a parenting component. Many of these interventions aimed to prevent child abuse, but most studies relied on proxy outcomes such as parenting attitudes or confidence to measure effectiveness.

Third section covered reviews of manualised parenting programmes, usually delivered in a group setting. The interventions covered in these reviews were most commonly targeted at high risk groups or families where children were showing early signs of problem behaviour, but some population programmes were included.

The fourth section covered programmes for the highest risk families – those where child abuse had been documented and those where parents were abusing drugs or alcohol.

Programmes which can be recommended

The first three sections all yielded a significant evidence base of programmes which have been shown to be effective in improving parenting and children's mental health. Many also improved parental mental health. Several of these programmes have been tested in multiple robust trials and been recommended in multiple systematic reviews. These programmes are all listed below under the heading Recommended Programmes.

Most of the studies covered in the reviews have been undertaken in the USA or Australia, but over the course of the last decade some of these recommended programmes have been tested in Europe. The DataPrev database will identify these programmes together with details relating to their provision and evidence base. It is very likely that the other evidence based programmes identified in this report would benefit families in Europe by improving parenting and children's mental health and wellbeing. Research on these programmes should be commissioned in Europe.

Perinatal programmes

In the first section – perinatal programmes – we identified evidence to support several very low cost interventions which if applied universally should result in a small improvement in parental sensitivity and attunement to infants needs. These programmes could make the job of parenting easier and support children’s mental wellbeing across the population. They include skin to skin care at delivery, kangaroo care and teaching mothers to massage their abdomens in pregnancy. The level of evidence available to support these interventions was relatively sparse and less robust than that supporting the conclusions in some other sections of the review. However, on the basis of their low, or no, cost and the low level of possibility of harm they can be recommended.

We also identified a group of slightly higher cost interventions, with more robust evidence, which can be offered on a universal basis to enhance parental sensitivity and attunement in the perinatal period. These include infant massage which may be carried out by parents or professionals. They also include developmental guidance:- a clinician led approach to helping parents recognise infant abilities and developmental milestones. The best researched example of this approach is the Neonatal Brazelton Assessment Scale (NBAS) - a brief professional intervention shortly after birth in which the clinician shows the parents, or helps the parents show themselves, the infant’s sensory and physical abilities. The third evidence based approach in this group was anticipatory guidance an approach which builds on developmental guidance to reduce sleeping problems and crying and support parenting for temperamentally difficult infants. Trials of some of these interventions have shown beneficial effects on father’s parenting, but the evidence base for father interventions is less strong.

Studies were identified in the reviews suggesting that antenatal education focusing on transition to parenthood and emotional aspects of the parent-infant and parent- parent relationship post delivery could be a promising universal approach, but more research is needed on these programmes before they could be recommended for widespread adoption. Some of the latter programmes focused particularly on fathers. Fathers are important and fathering has been relatively neglected in the development of parenting support. There is a great need for programmes for fathers but the evidence base on these programmes also needs strengthening.

Several reviews examined programmes for the prevention and treatment of postnatal depression. These are more costly programmes which now have a robust evidence base and target a group where the detrimental impact on infant and child mental wellbeing is well documented,

Psychosocial Interventions to prevent postnatal depression including emotional and practical support are effective when targeted on high risk groups, but not when provided universally. Although there is some question over the effectiveness of programmes to detect postnatal depression, three different approaches to treatment are equally effective:- cognitive behavioural approaches, interpersonal psychotherapy and non directive counselling. Whilst instruments currently available to screen for perinatal depression do not meet the criteria for effective screening programmes, there is widespread clinical consensus that proactive approaches to identification are important and that screening instruments may help in this process. There is still controversy about whether psychotherapeutic interventions to treat maternal depression improve mother-infant communication, but there is some evidence of the converse- that improving mother-infant communication improves maternal depression.

Parenting support in infancy and the early years

The second section covered programmes that were typically targeted at demographically and socially high risk groups. Very long-term, multicomponent, eclectic programmes which can be tailored to families needs are effective particularly teenage parents. The Family Nurse Partnership programme is a good example, Paraprofessionals are not as effective as professionals in providing these programmes, but can be useful in promoting other aspects of health care. Some of these programmes showed evidence that they can be effective in preventing child abuse and some have reported long-term sleeper effects which may have been missed in the results of short term studies.

Short term sensitivity focused programmes many involving parent infant interaction guidance also showed clear evidence of effectiveness. These were most effective if targeted at high risk infants (those with difficult temperaments) rather than high risk families. Very high risk groups may be difficult to engage in this approach, which could be offered in the context of a multicomponent programme (see above). Both these approaches were more effective than psychodynamic programmes focusing on problems in the parent-infant relationship and difficult past life histories.

Other interventions which showed promise in this section, but for which the systematic review evidence base is not robust include:- parent-infant psychotherapy in which specialist infant mental health therapists work with mothers and babies where there are problems relating to attachment or abusive parenting. They focus on the relationship between parent and infant , how the mother

views the baby and interprets infant communication and parenting practices. Infant led psychotherapy (e.g. the Watch Wait and Wonder programme) is another promising approach.

Parenting programmes with a focus on the prevention of behaviour problems

The third section included the largest and most focused group of reviews covering manualised parenting programmes to improve parenting and prevent child behaviour problems, which can be delivered to groups, individually delivered or delivered by various sorts of media. Most of these studies targeted families at high risk but some covered population or universal provision. Programmes with a curriculum, those covering positive parent child interaction, emotional and communication skills, use of time out, parental consistency and requiring parents to practice new skills were more effective. Other factors which are important for success include:- programmes in which parents' needs are respected and they are offered strengths based non-judgemental support. The facilitation of support and acceptance by other parents in the group is also of key importance. Both relational and behavioural programmes are effective but the latter have been trialled more frequently. Some studies have shown persistent effects in long-term follow up. Programmes are likely to be most effective in the 3-11 age group, although there is evidence of effect in older and younger children. They are effective with parents from a range of minority ethnic groups.

Programmes which need urgent research

The fourth section covering programmes for the highest risk families identified several promising interventions. These are the most important but also the most challenging families in which to effectively prevent mental illness or improve children's wellbeing. They are also the most challenging families to research because of the high level of attrition and drop out from studies. The research base for these programmes is as yet insufficient to recommend widespread distribution, but given the high level of risk, it is urgent that research be commissioned in Europe to develop and test programmes which can benefit this group

Promising approaches we identified for this very high risk group include: -

- In families in which physical abuse has occurred:-.Intensive, multicomponent, multisystemic family support approaches and cognitive behavioural based parenting programmes

- In families in which emotional abuse has occurred:- parent-infant psychotherapy; and where anger management is also an issue:- group based behavioural parent training with additional anger management components.
- In families where sexual abuse has occurred:- cognitive behavioural therapy for the non-abusing parents; abused children can also benefit.
- In families where parents abuse drugs: multicomponent programmes targeting affect regulation, parental mood and views of self as a parent, drug use and parenting skills delivered on a one to one basis.

We identified no promising approaches to improving parenting in the highest risk group: - parents with serious mental illness. This is a very important area for further research and development.

Programmes which should not be recommended

We identified two approaches to improving parenting which are not effective. Both of these are pertinent to the perinatal period. The evidence base is sufficient to suggest that if such approaches are being used in Europe they should be discontinued. These two programmes are:-

- Psychological debriefing after birth. There was some evidence that this could even do harm.
- Universal approaches to the prevention and treatment of postnatal depression.

Issues which need consideration in provision of all parenting programmes

The reviews we included raised some important generic issues about the provision of parenting support that need to be considered in the context of developing these services.

Universal or targeted approaches

There is a wide-ranging debate about whether preventative services should be offered universally or targeted (i.e. both secondary and tertiary prevention) to groups at greatest need. Some programmes show the greatest effect when they are directed at the population with the highest level of need and with the greatest capacity to benefit (secondary and tertiary prevention). This is partly because most studies use measures of clinical level mental health problems. In population samples mean scores on these inventories may approach the measure's ceiling before the intervention, leaving little room for improvement. It is only very recently that trials are beginning to measure aspects of children's mental wellbeing. These measures offer more room for improvement in population samples.

There is, however, no clear consensus across the reviews included in this report of which approach is best and also evidence that both are effective. It is probable that universal parenting interventions are effective (and cost-effective) for parents in the general population, and that targeted interventions are required for families with high levels of need. Certainly, the evidence on intensive home visiting programmes suggests the need to target families in order to realise long-term cost savings.

There are several arguments in favour of universally provided programmes. First, they may be less stigmatising. Second, universal programmes may be better able to address problems before they reach clinical levels, and are therefore more genuinely preventive than programmes that become available only after problems have developed. Third, the 'population paradox' refers to a situation in which a relatively large number of lower risk individuals carry the main burden of disease of the population as a whole, such that while people living in a specific area may be at high risk, the majority of high-risk people are actually spread out across a range of areas.

Policies to optimise children's mental wellbeing through parenting and family interventions are likely to be most effective if they offer elements of both approaches and this review has identified many promising candidates.

Engagement and retention in parenting programmes

The reviews we covered identified several factors relating to recruitment and retention and many of these were common to the different approaches. This suggests that programme providers need to give careful consideration to how participants are to be recruited (where will the programme be advertised? how can the programme be advertised to people most likely to benefit from the programme?) and to the potential barriers to participation. These could be real (people may not be able to afford to get to the programme venue, the venue may be difficult to get to by public transport or the programme may not be held at a suitable time) or perceived (taking part in a programme may be stigmatising or may be felt to be racist or culturally inappropriate). All these factors need to be considered locally prior to the implementation of a programme.

The success of most interventions with parents, or with parents and children, are inevitably influenced by contextual factors - poverty, poor housing, the absence of safe space for children's play and recreation, unemployment and a range of other sources of community and environmental

stress. These are rarely discussed in controlled trials.

Skills of facilitators

One component of effectiveness which is discussed by many reviewers is the skills of the facilitators and all agree that these are critical. Non-judgemental, strengths based approaches are essential, but these are not skills in which health professionals are routinely trained or skilled. The development of a skilled workforce is likely to be a prerequisite for successful mental health promotion through parenting approaches. It is one of the disadvantages of the sort of research evidence on which this report is based that few of the studies have measured facilitators' skills.

6.3 Recommended Programmes

We identified several programmes in each of the first three sections for which there is good evidence base which can be recommended for use in Europe. These are summarised here under the three section headings: -

Perinatal programmes

– Low cost universal interventions

- *abdominal self massage during pregnancy*
- *skin to skin care* putting the naked infant on the mothers naked breast immediately following delivery
- *kangaroo care* – both mothers and fathers carrying their infants with them in purpose made carriers for much of the day

– Slightly higher cost, universal interventions

- *Developmental guidance* for example the Brazelton Neonatal Assessment Scale
- *Anticipatory guidance*
- *Infant massage*

– Interventions to prevent postnatal depression

- *Programmes that include a range of psychosocial approaches and usually offer a combination of practical and emotional support;* to be effective they need to focus on demographically and clinically high risk groups, and be delivered on a one to one basis by trained paraprofessionals or professionals;.

– **Interventions to treat post natal depression**

- *Cognitive behavioural approaches;*
- *Interpersonal psychotherapy*
- *Non-directive counselling.*

All three of these psychosocial approaches are equally effective. -

Parenting support in infancy and early years

– **Short sensitivity focused interventions** (around six sessions) starting at around six months of age in high risk infants. These programmes offer interactional guidance; they focus on enhancing parental observation skills and increasing positive interchanges and enjoyment. They often include video interaction feedback.

– **Multicomponent long-term home visiting programmes which include a focus on parenting.** Nurses offer at least weekly visits starting in the antenatal period. Programmes need to focus on the positive, taking a strengths-based empowering approach, and enhancing positive mother-infant interaction and enjoyment. The quality of the relationship that the practitioner forms with the mother is key to success. Programmes which include an ecological model, taking distal risk factors and environments into account are more successful.

Parenting programmes with a focus on the prevention of behaviour problems.

- **Manualised parenting programmes** for at risk and population groups including:
 - *Group based behaviour management programmes for example Incredible Years and Triple P*
 - *Group based relational programmes*
- **Media based programmes** with or without a session with a therapist

7. CONCLUSIONS

A robust international evidence base exists of programmes which have been demonstrated to improve parenting, both in the general population and in high risk groups. Policies and programmes to support parenting offer much scope for improving mental health in Europe. Effective provision requires a skilled workforce and detail with regard to approaches that have been found to work. More research is needed to develop and identify interventions for some of the highest risk groups.

REFERENCES

1. Shonkoff J, Phillips D. *From neurons to neighborhoods: The science of early childhood development*. Washington DC: National Academy Press, 2000.
2. Shore A. *Affect regulation and the origin of the self: The neurobiology of emotional development*. Hillsdale NJ: Lawrence Erlbaum Associates, 2004.
3. Center on the Developing Child at Harvard University. A Science-Based Framework for Early Childhood Policy: Using Evidence to Improve Outcomes in *Learning Behavior and Health for Vulnerable children*. 2007. <http://www.developingchild.harvard.edu> (Accessed 15/11/2009).
4. Sroufe LA, Carlson E, Collins AW. *The Development of the Person: The Minnesota Study of risk and adaptation from birth to adulthood*. New York: The Guilford Press, 2005.
5. Repetti R, Taylor S, Seeman T. Risky families: Family social environments and the mental and physical health of offspring. *Psychological Bulletin*. 2002;128(2):330-366.
6. Surtees P, Wainwright N, Day N, Brayne C, Luben R, Khaw K-T. Adverse Experience in Childhood as a Developmental Risk Factor for Altered Immune Status in Adulthood: *International Journal of Behavioral Medicine*. 2003;10(3):251-268.
7. Bell B, Belsky J. Parenting and Children's Cardiovascular Functioning. *Child Care Health and Development*. 2007;34:194-203.
8. Luecken LJ, Lemery KS. Early care giving and physiological stress responses. *Clinical Psychology Review*. 2004;24(2):171-191.
9. Tennant R, Goens C, Barlow J, Day C, Stewart-Brown S. A systematic review of interventions to promote mental health and prevent mental illness in children and young people. *Journal of Public Mental Health*. 2007;6:25-32.
10. Morgan Z, Fryers T, Brugha T, Stewart-Brown S. The effects of parent-child relationships on later life mental health status in two national birth cohorts. *International J Epidemiology*. 2009; Submitted in press.
11. Weich S, Patterson J, Shaw R, Stewart-Brown S. Family relationships in childhood and common psychiatric disorders in later life: systematic review of prospective studies. *Br J Psychiatry*. 2009;194:392-398.
12. Farrington D. Early predictors of adolescent aggression and adult violence. *Violence and Victims*. 1989;4:79-100.
13. Desforges C. *The Impact of Parental Involvement Parental Support and Family Education on Pupil Achievement and Adjustment*. London: DfES, 2003.
14. Scaramella L, Conger R, *et al*. Predicting a risk for pregnancy by late adolescence: a social contextual perspective. *Developmental Psychology*. 1998;34:1233-45.
15. Garnier H, Stein J. An 18-Year Model of Family and Peer Effects on Adolescent Drug Use and Delinquency. *Journal of Youth and Adolescence*. 2002;31(1):45-56.
16. Cohen D, Richardson J, Labree L. Parenting behaviors and the onset of smoking and alcohol use: a longitudinal study. *Pediatrics*. 1994;94:368-75.

17. Kremers S, Brug J, de Vries H, Engels R. Parenting style and adolescent fruit consumption. *Appetite*. 2003;41:43-50.
18. Waylen A, Stallard N, Stewart-Brown S. Parenting and health in mid-childhood: a longitudinal study. *Eur J Public Health*. 2008;18(3):300-305.
19. Stewart-Brown S, Shaw R. The roots of social capital: relationships in the home during childhood and health in later life. In: Morgan A, Swann C, editors. *Social Capital for Health: issues of definition, measurement and links to health*. London: Health Development Agency, 2004.
20. Caspi A, McClay J, Moffitt TE, Mill J, Martin J, Craig IW, *et al*. Role of Genotype in the Cycle of Violence in Maltreated Children. *Science*. 2002;297(5582):851-854.
21. Caspi A, Sugden K, Moffitt TE, Taylor A, Craig IW, Harrington H, *et al*. Influence of Life Stress on Depression: Moderation by a Polymorphism in the 5-HTT Gene. *Science*. 2003; 201(5631):386-389.
22. Perry BD. Childhood Experience and the Expression of Genetic Potential: What Childhood Neglect Tells Us About Nature and Nurture. *Brain and Mind* .2002;3(1):79-100.
23. Sroufe A. *Emotional development: The organization of emotional life in the early years*. New York: Cambridge University Press, 1996.
24. Vandell D, Belsky J, Burchinal M, Steinberg L, Vandergrift N. *Early Child Care Research Network. Do effects of early child care extend to 15 years of age*. 2009 (In press).
25. Ahnert L, Gunnar M, Lamb M, Barthel M. Transition to child care: Associations with infant-mother attachment, infant negative emotion, and cortisol elevations. *Child Development* 2004;75:639–650.
26. NICHD Early Child Care Research Network. Does amount of time in child care predict socio-emotional adjustment during the transition to kindergarten. *Child Development*. 2003;74:976-1005.
27. Hart B, Ridley T. *Meaningful difference in the everyday experience of young American children*. Baltimore, MD: PH Brookes Publishing Co. 1995.
28. Conger R, Conger K. A family process model of economic hardship and adjustment of early adolescent boys. *Child Development*. 1992;63:526-541.
29. Conger R, Patterson G. It takes two to replicate: A mediational model for the impact of parents' stress on adolescent adjustment. *Child Development*. 1995;66:80-97.
30. Waylen A, Stewart-Brown S. Factors influencing parenting in early childhood: a prospective longitudinal study focusing on change. *Child Care Health and Development*. 2009 (In press).
31. Werner E. Risk, resilience and recovery: perspectives from the Kauai longitudinal study. *Development and Psychopathology*.1993;5:503-515.
32. Gagnon A, Sandall J. Individual or group antenatal education for childbirth/parenthood. *Cochrane Database of Systematic Reviews*. 2007;Issue 3.
33. Carter-Jessop L. Promoting maternal attachment through prenatal intervention. *The American Journal of Maternal Child Nursing*. 1981;6(2): 107-112.
34. Davis M, Akridge K. The effect of promoting intrauterine attachment in primiparas on post-delivery attachment. *Journal of Obstetric, Gynecologic and Neonatal Nursing*. 1987;16(6):430–7.

35. Pfannenstiel A, Honig A. Prenatal intervention and support for low-income fathers. *Infant Mental Health Journal*.1991;12(2):103-115.
36. Pfannenstiel A, Honig A. Effects of a prenatal 'Information and Insights about Infants' program on the knowledge base of first-time low-education fathers one month postnatally. *Early Child Development and Care*.1995;111:87–105.
37. Barnes J, Freude-Lagevardi A. *From pregnancy to early childhood: Early interventions to enhance the mental health of children and families*. London: Mental Health Foundation, 2003.
38. Parr M. A new approach to parent education. *British Journal of Midwifery*.1998;6(3):160-165.
39. Magill-Evans J, Harrison M, Rempel G, Slater L. Interventions with fathers of young children: systematic literature review. *Journal of Advanced Nursing*. 2006;55(2):248-264.
40. Scholz K, Samuels C. Neonatal bathing and massage intervention with fathers, behavioural effects 12 weeks after birth of first baby: the Sunraysia Australia Intervention Project. *International Journal of Behavioral Development*.1992;15:67-81.
41. Fagan J, Iglesias A. Father involvement program effects on fathers, father figures and their head start children: a quasi-experimental study. *Early Childhood Research Quarterly*. 1999;14:243–269.
42. Gross D, Fogg L, Tucker S. The Efficacy of Parent Training for Promoting Positive Parent - Toddler Relationships. *Research in Nursing & Health*.1995;18(6):489-499.
43. McBride B. Parent education and support programs for fathers: outcomes effects on paternal involvement. *Early Child Development and Care*.1991;67:73–85.
44. Dachman R, Alessi G, Vrazo G, Fuqua R, Kerr R. Development and evaluation of an infant-care training program with first-time fathers. *Journal of Applied Behaviour Analysis*.1986;19:221–230.
45. Beal J.The Effect on Father-Infant Interaction of Demonstrating the Neonatal Behavioral Assessment Scale. *Birth*. 1989;16(1):18-22.
46. Culp R, Culp A, Harmon R. A Tool for Educating Parents About Their Premature Infants. *Birth*. 1989;16(1):23-26.
47. Belsky J. Experimenting with the family in the newborn period. *Child Development*.1985;56:407–414.
48. Cullen C, Field T, Escalona A, Hartshorn K. Father–infant interactions are enhanced by massage therapy. *Early Child Development and Care*. 2000;164:41-47.
49. Feldman R, Eidelman A, Sirota L, Weller A. Comparison of skin-to-skin (Kangaroo) and traditional care: parenting outcomes and preterm infant development. *Pediatrics*. 2002;110:16–26.
50. Anisfeld E, Casper V, Nozyce M, Cunningham N. Does infant carrying promote attachment: An experimental study of the effects of increased physical contact on the development of attachment. *Child Development*.1990;61:1617-1627.
51. Conde-Agudelo A, Diaz-Rossello J, Belizan J. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. *Cochrane Database of Systematic Reviews*. 2003; Issue 2.

52. Bakermans-Kranenburg M, van Ijzendoorn M, Juffer F. Less is more: meta-analyses of sensitivity and attachment interventions in early childhood. *Psychol Bull.* 2003;129:195-215.
53. Moore E, Anderson G, Bergman N. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database of Systematic Reviews.* 2007; Issue 3.
54. Das Eiden R, Reifman A. Effects of Brazelton Demonstrations on Later Parenting: A Meta-Analysis. *J Pediatr Psychol.* 1996;21(6):857-868.
55. Regalado M, Halfon N. Primary care services promoting optimal child development from birth to age 3 years: review of the literature. *Arch. Pediatr. Adolesc Med.* 2001;155(12):1294-1295.
56. Adair R, Zuckerman B, Bauchner H, Philipp B, Levenson S. Reducing night waking in infancy: A primary care intervention. *Pediatrics.* 1992;89:585-588.
57. Pinilla T, Birch L. Help me make it through the night: Behavioral entrainment of breast-fed infants' sleep patterns. *Pediatrics.* 1993;91:436-444.
58. Sege RD, Perry C, Stigol L, Cohen L, Griffith J, Cohn M, Spivak H. Short-term effectiveness of anticipatory guidance to reduce early childhood risks for subsequent violence. *Arch Pediatr Adolesc Med.* 1997;151:392-97.
59. Underdown A, Barlow J, Chung V, Stewart-Brown S. Massage intervention for promoting mental and physical health in infants aged under six months. *Cochrane Database of Systematic Reviews.* 2006; Issue 4.
60. Vickers A, Ohlsen A, *et al.* Massage for promoting development in preterm and/or low birth-weight infants. *Cochrane Database of Systematic Reviews.* 2004; Issue 2.
61. NICE. *Antenatal and Postnatal Mental Health.* London: National Institute for Health and Clinical Excellence, 2007.
62. Dennis CL, Ross L, Grigoriadis S Psychosocial and psychological interventions for treating antenatal depression. *Cochrane Database of Systematic Reviews.* 2007; Issue 3.
63. Shaw E, Levitt C, Wong S, Kaczorowski J. Systematic Review of the Literature on Postpartum Care: Effectiveness of Postpartum Support to Improve Maternal Parenting, Mental Health, Quality of Life, and Physical Health. *Birth.* 2006;33(3):210-220.
64. Gamble JA, Creedy DK, Webster J, Moyle W. A review of the literature on debriefing or non-directive counselling to prevent postpartum emotional distress. *Midwifery.* 2002;18(1):72-79.
65. Armstrong K, Fraser J, Dadds M, Morris J. A randomized controlled trial of nurse home visiting to vulnerable families with newborns. *Journal of Paediatrics & Child Health.* 1999;35(3):237-244.
66. NICE. *Antenatal care: Routine care for the healthy pregnant woman.* London: National Institute for Health and Clinical Excellence. 2006.
67. Gjerdingen D. The effectiveness of various postpartum depression treatments and the impact of antidepressant drugs on nursing infants. *The Journal of the American Board of Family Practice* 2003;16(5):372-382.

68. Poobalan A, Aucott L, Ross L, Smith W, Cairns C, Helms P, *et al.* Effects of treating postnatal depression on mother-infant interaction and child development: Systematic review. *Br. J. Psychiatry.* 2007;191:378-386.
69. Bakermans-Kranenburg M, Van Ijzendoorn M, Juffer F. Disorganized infant attachment and preventive interventions: A review and meta-analysis. *Infant Mental Health Journal.* 2005;26(3):191-216.
70. Doughty C. *Effective strategies for promoting attachment between young children and infants.* Christchurch, New Zealand: New Zealand Health Technology Assessment (NZHTA), 2007.
71. Cicchetti D, Rogosch FA, Toth SL. Fostering secure attachment in infants in maltreating families through preventive interventions. *Development & Psychopathology.* 2006;18(03):623-649.
72. Cicchetti D, Toth SL, Rogosch FA. The efficacy of toddler-parent psychotherapy to increase attachment security in offspring of depressed mothers. *Attachment & Human Development.* 1999;1(1):34 - 66.
73. Osofsky J, Kronenberg M, Hammer J, Lederman J, Katz L, Adams S, *et al.* The development and evaluation of the intervention model for the Florida Infant Mental Health Pilot Program. *Infant Mental Health Journal.* 2007;28(3):259-280.
74. Cohen N, Muir E, Lojkasek M, Muir R, Parker C, Barwick M, *et al.* Watch, wait, and wonder: Testing the effectiveness of a new approach to mother-infant psychotherapy. *Infant Mental Health Journal.* 1999;20(4):429-451.
75. Toth S, Rogosch F, Manly J, Cicchetti D. The efficacy of toddler-parent psychotherapy to reorganize attachment in the young offspring of mothers with major depressive disorder: a randomized preventive trial. *J of Consulting & Clinical Psychology.* 2006;74:1006-1016.
76. Benasich A, Brooks-Gunn J, Clewell B. How do mothers benefit from early intervention programs? *Journal of Applied Developmental Psychology.* 1992;13:311-361.
77. Bernazzini O. Early parent training to prevent disruptive behavior problems and delinquency in children. *The Annals of the American Academy of Political and Social Science.* 2001;578:90-103.
78. Ciliska D, Hayward S, Thomas H, Mitchell A, Dobbins M, Underwood J, *et al.* A systematic overview of the effectiveness of home visiting as a delivery strategy for public health nursing interventions. *Canadian Journal of Public Health.* 1996;87:193-198.
79. Elkan R, Kendrick D, Hewitt M, Robinson J, Tolley K, Blair M, *et al.* *The effectiveness of domiciliary health visiting: a systematic review of international studies and a selective review of the British literature:* Health Technology Assessment; 2000.
80. Guterman N. Early prevention of physical abuse and neglect: existing evidence and future directions. *Child Maltreatment* 1997;2(1):12-34.
81. MacLeod J, Nelson G. Programs for the prevention of family wellness and the prevention of child maltreatment: a meta-analytic review. *Child Abuse and Neglect.* 2000;24:1127-1149.
82. MacMillan HL. Preventive health care, 2000 update: prevention of child maltreatment. *CMAJ.* 2000;163(11):1451-1458.
83. Roberts I, Kramer M, Suissa S. Does home visiting prevent childhood injury? A systematic review of randomised controlled trials. *British Medical Journal.* 1996;312:29-33.

84. Kendrick D, Elkan R, Hewitt M, Dewey M, Blair M, Robinson J, *et al.* Does home visiting improve parenting and the quality of the home environment? A systematic review and meta-analysis. *Archives of Disease in Childhood.* 2000;82:443-451.
85. Olds D, Henderson C, Chamberlain R, Tatelbaum R. Preventing child abuse and neglect: a randomised trial of nurse home visitation. *Pediatrics.*1986;78:65–78.
86. Olds D, Henderson C, Cole R, Eckenrode J, Kitzman H, Luckey D, *et al.* Long-term effects of nurse home visitation on children's criminal and antisocial behavior: 15-year follow-up of a randomized trial. *The Journal of the American Medical Association.* 1998; 280(14):1238-1244.
87. Field T, Widmayer S, Stringer S, Ignatoff E. Teenage, lower-class, black mothers and their preterm infants: an intervention and developmental follow-up. *Child Development.*1980; 51:426–436.
88. Field S, Draper J, Kerr M, MA H. Consumer view of the health visiting service. *Health Visitation.* 1982;55(6):299–301.
89. Hardy J, Streett R. Family support and parenting education in the home: an effective extension of clinic-based preventive health care services for poor children. *J Pediatric.*1989;115:927–931.
90. Barth R, Hacking S, Ash J. Preventing child abuse: an experimental evaluation of the Child Parent Enrichment Project. *J Primary Prevention.* 1988;8:201-217.
91. Barth R. An experimental evaluation of in-home child abuse prevention services. *Child Abuse and Neglect.*1991;15:363–375.
92. MacMillan HL, MacMillan J, Offord D, Griffith L, MacMillan A. Primary Prevention of Child Sexual Abuse: A Critical Review. Part II, *J Child Psychol Psychiatry.* 1994:857-876.
93. Lundahl BW, Nimer J, Parsons B. Preventing Child Abuse: A Meta-Analysis of Parent Training Programs. *Research on Social Work Practice.* 2006a;16(3):251-262.
94. Letourneau NL, Stewart MJ, Barnfather AK. Adolescent mothers: Support needs, resources, and support-education interventions. *Journal of Adolescent Health.* 2004;35(6):509-525.
95. Coren E, Barlow J. Individual and group-based parenting programmes for improving psychosocial outcomes for teenage parents and their children. *Cochrane Database of Systematic Reviews.* 2001; Issue 3.
96. Barlow J, Coren E, Stewart-Brown S. Parent-training programmes for improving maternal psychosocial health. *Cochrane Database of Systematic Reviews.* 2003, Issue 4.
97. Lundahl B, Risser HJ, Lovejoy MC. A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review.* 2006b;26(1):86-104.
98. Serketich W, Dumas J. The effectiveness of behavioral parent training to modify antisocial behavior in children: A meta-analysis. *Behavior Therapy.*1996;27:171–186.
99. Barlow J, Parsons J. Group-based parent-training programmes for improving emotional and behavioural adjustment in 0-3 year old children. *Cochrane Database of Systematic Reviews.* 2003;Issue 4.
100. Barlow J. *Systematic Review of the Effectiveness of Parent-Training Programmes in Improving Behaviour Problems in Children aged 3-10 years.* Oxford: Health Services Research Unit, 1999.

101. Barlow J, Shaw R, Stewart-Brown S. *Parenting programmes and minority ethnic families: Experiences and outcomes*. London: National Children's Bureau, 2004a.
102. Nowak C, Heinrichs N. A Comprehensive Meta-Analysis of Triple P-Positive Parenting Program Using Hierarchical Linear Modelling: Effectiveness and Moderating Variables. *Clinical Child and Family Psychology Review*. 2008;11(3):114-144.
103. Cedar B, Levant R. A meta-analysis of the effects of Parent Effectiveness Training. *The American Journal of Family Therapy*.1990;18:373-384.
104. Montgomery P. Media-based behavioural treatments for behavioural disorders in children. *Cochrane Database of Systematic Reviews*. 2006; Issue 1.
105. Reyno S, McGrath P. Predictors of parent training efficacy for child externalizing behavior problem-a meta-analytic review. *Journal of Child Psychology and Psychiatry*. 2006;47:99-111.
106. Wyatt Kaminski J, Valle L, Filene J, Boyle C. A Meta-analytic Review of Components Associated with Parent Training Program Effectiveness. *Journal of Abnormal Child Psychology*. 2008;36(4):567-589.
107. Kane G, Wood V, Barlow J. Parenting programmes: A systematic review and synthesis of qualitative research. *Child: Care, Health and Development*. 2007;33(6):784-793.
108. Schrader McMillan A, Barlow J, Paul M, Sidebotham P, Carter Y & Stewart-Brown S (2007) *Jane Safeguarding Children from Emotional Maltreatment: What Works? WRAP*.
109. Skowron E, Reineman D. Effectiveness of psychological interventions for child maltreatment: a meta-analysis. *Psychotherapy: Theory, Research, Practice, Training*. 2005;4(1):52 – 57.
110. Corcoran J. Family interventions with child physical abuse and neglect: A critical review. *Children and Youth Services Review*. 2000;22(7):563-591.
111. Corcoran J, Pillai V. A Meta-Analysis of Parent-Involved Treatment for Child Sexual Abuse. *Research on Social Work Practice*. 2008;18(5):453-464.
112. Doggett C. Home visits during pregnancy and after birth for women with an alcohol or drug problem. *Cochrane Database of Systematic Reviews* 2005;(4).
113. Suchman N, Pajulo M, DeCoste C, Mayes L. Parenting Interventions for Drug-Dependent Mothers and Their Young Children: the Case of an Attachment-Based Approach. *Family Relations* 2006;55(2):211-226.
114. Schuler ME, Nair P, Black MM, Kettinger L. Mother-Infant Interaction: Effects of a Home Intervention and Ongoing Maternal Drug Use. *J Clinical Child Psychology*. 2000;29(3):424-31.
115. Schuler ME, Nair P, Black MM. Ongoing Maternal Drug Use, Parenting Attitudes, and a Home Intervention: Effects on Mother-Child Interaction at 18 Months. *Journal of Developmental & Behavioral Pediatrics*. 2002;23(2):87-94.
116. Black MM, Nair P, Kight C, Wachtel R, Roby P, Schuler M. Parenting and Early Development Among Children of Drug-Abusing Women: Effects of Home Intervention, *Pediatrics*. 1994;4:440-448.
117. Field T, Kuhn C, Malphurs J, Pelaez-Nogueras M, Pickens J, Prodromidis M, et al. Polydrug-using adolescent mothers and their infants receiving early intervention. *Adolescence*. 1998;33(129):117-43.

118. Dawe S, Harnett PH, Rendalls V, Staiger P. Improving family functioning and child outcome in methadone maintained families: the Parents Under Pressure programme. *Drug and Alcohol Review*. 2003; 22(3) 299 – 307.
119. Dawe S, Harnett P. Reducing potential for child abuse among methadone-maintained parents: Results from a randomized controlled trial. *Journal of Substance Abuse Treatment*. 2007;32(4):381-390.
120. Luthar S, Suchman N. Relational Psychotherapy Mothers' Group: a developmentally informed intervention for at-risk mothers. *Dev Psychopathol*. 2000;12:235-253.
121. Dodd V. Implications of kangaroo care for growth and development in preterm infants. *Journal of Obstetrics, Gynecologic, and Neonatal Nursing*, 2004; 34(2): 218-232.
122. Conners NA, Grant A, Crone CC, Whiteside-Mansell L. Substance abuse treatment for mothers: Treatment outcomes and the impact of length of stay. *Journal of Substance Abuse Treatment*. 2006;31(4):447-456.
123. Craig EA. Parenting programs for women with mental illness who have young children: a review. *Aust N Z J Psychiatry*. 2004 38(11-12):923-8.
124. Petrie J, Bunn F, Byrne G. Parenting programmes for preventing tobacco, alcohol or drugs misuse in children <18: a systematic review. *Health Education Research*. 2007; 22(2):177-191.
125. European Commission Health and Consumer Protectorate (2005) Green Paper: Improving the mental health of the population: Towards a strategy on mental health for the European Union. http://ec.europa.eu/health/ph_determinants/life_style/mental/green_paper/mental_gp_en.pdf (Accessed 15.11.09).
126. Oates J, Lewis C, Lamb ME Parenting and Attachment in Ding S and Littleton K (eds) *Children's Personal and Social Development*. Oxford, Blackwell 2005.
127. NICHD Early Child Research Network (2004) Father's and Mother's parenting behaviour and beliefs as predictors of child social adjustment in the transition to school. *J Family and psychology* 2004;18:628-638.
128. Kendler KS, Davis CG, Kessler RC. The familial aggregation of common psychiatric and substance use disorders in the National Comorbidity Survey: a family history study. *British Journal of Psychiatry*. 1997;170:541-8.
129. Ramchandani P, Stein A. The impact of parental psychiatric disorder on children. *British Medical Journal*. 2003;327:242-3.
130. Schweinhart LJ Barnes HV, Weikart DP. Significant benefits; the High/Scope Perry Preschools study through age 27 years. Monographs of the High/Scope Educational Research Foundations No 10 Ypsilanti MI. High/Scope Press 1993.
131. MacMillan HL, MacMillan JH, Offord DR. Periodic health examination, 1993 update: 1. primary prevention of child maltreatment. The Canadian Task Force on the Periodic Health Examination. *CMAJ* 1993;148:151-63.
132. Dretzke J, Frew E, Davenport C Barlow J, Stewart-Brown S, Sandercock J, Bayliss S, Raftery J, Hyde C, Taylor R. The effectiveness and cost-effectiveness of parent training/education programmes for the treatment of conduct disorder, including oppositional defiant disorder, in children. *Health Technology Assessment*. 2005;9:No 50.
133. WHO (2005) World Health Action Plan for Europe http://www.euro.who.int/mentalhealth/publications/20061124_1 (Accessed 15.11.09)

134. European Pact for Mental Health and Wellbeing (2008)
http://ec.europa.eu/health/ph_determinants/life_style/mental/docs/pact_en.pdf (Accessed 15.11.09)
135. Barlow J, Schrader McMillan A, Kirkpatrick S, Gbate D, Barnes J and Smith M. Health Led Parenting Project – Review of Health Led Interventions in Pregnancy and the Early Years. 2007. London: Department of Health.
136. Ernst C, Grant, T & Streissguth A. Intervention with high-risk alcohol and drug-abusing mothers: II. 3-year findings from the Seattle Model of Paraprofessional Advocacy. *Journal of Community Psychology*, 1999; 27(1): 19-38.
137. Weich S, Patterson J, Shaw R, Stewart-Brown S Family Relationships in Childhood and Common Psychiatric Disorders in Later Life: Systematic Review of Prospective Studies, *British Journal of Psychiatry*. 2009;194, 392-398.
138. Dennis C-L, Creedy D. Psychosocial and psychological interventions for preventing postpartum depression. *Cochrane Database of Systematic Reviews*. 2004; Issue 4.
139. Armstrong, K. & Edwards, H. (2003) The effects of exercise and social support on mothers reporting depressive symptoms: a pilot randomized controlled trial. *International Journal of Mental Health Nursing* 2003; 12, 130–138.
140. Cameron JR, Rice DC. Developing anticipatory guidance programs based on early assessment of infant temperament: Two tests of a prevention model. *J Pediatr Psychol* 1986;11:221–34.

APPENDIX: CONTENT, CRITICAL APPRAISAL AND RESULTS OF INCLUDED REVIEWS

Table 1: Contents of reviews

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Bakermans-Kranenburg (2003)	Assess the effectiveness of interventions aimed at improving sensitivity and preventing insecure attachment.	Interventions included: home visiting with clearly identified parent training component; dyadic therapies including video-feedback; use of soft baby carriers; psychoanalytically oriented psychotherapies aimed at changing maternal representations; nondirective counselling; CBT; sensitivity-focused feedback; STEEP; home visiting	Health professionals/ therapists or paraprofessionals.	Duration range between <5 sessions to >16 sessions. Frequency not reported.	Mothers and infants at risk or clinically referred.	Antenatal and/or postnatal.
Bakermans-Kranenburg (2005)	Effectiveness of interventions in preventing disorganised attachment	A range of interventions aimed at improving sensitivity and attachment. These included nondirective counselling; dynamic psychotherapies; CBT; dyadic mother-infant psychotherapy; videofeedback; sensitivity-focused feedback; STEEP; home visiting	Health professionals/ therapists or paraprofessionals.	Interventions ranged from 2 – 47 sessions; longer interventions (eg STEEP) over several months.	Mothers and infants at risk or clinically referred.	Varied; results analysed for interventions >6 months and <6 months age.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Barlow, Coren & Stewart-Brown (2003)	To establish the impact of group-based parenting programmes on the psychosocial health of mothers	To improve parenting, family functioning and emotional and behavioural wellbeing of children.	Primarily therapists / trained educators; nurse or lay home visitors.	Structured interventions typically lasting 8 – 10 sessions	One or both parents of child/ren 0-adolescent with or without clinical level problems – eg ADHD, conduct disorder,, learning difficulties, problems at school. Group settings, community and clinic based.	At any point in childhood.
Barlow & Stewart-Brown (1999)	Group-based parenting programmes for parents of 3-10s.	Improvement of emotional and behavioural adjustment of children aged 3 – 10.	Psychologists, trained parent educators and others.	Structured, manualised interventions typically lasting 8 – 10 weeks	One or both parents of child/ren age 3 - 10.	Child age 3-10.
Barlow and Parsons (2003)	Group-based parenting programmes for parents of 0-3s.	Improvement of emotional and behavioural adjustment of children aged 0 – 3.	Primarily therapists / trained educators.	Structured interventions typically lasting 8 – 10 sessions over several weeks	One or both parents of child/ren age 0 -3. Some interventions continued to child age 5. Group settings, community and clinic based.	Child aged 1- 3.
Barlow, Shaw & Stewart-Brown (2004)	To synthesise evidence from quantitative and qualitative studies of the effectiveness and acceptability of group based parenting programmes delivered to minority ethnic parents	Improvement of parenting skills, parental health and child emotional and behavioural adjustment.	Primarily therapists / trained educators; nurse or lay home visitors.	Structured interventions typically lasting 8 – 10 sessions over several weeks covering: Traditional parenting programmes including behavioural programmes (eg Webster-Stratton Incredible Years Programmes) .Rational-Emotive therapy, Filial Therapy Culturally specific programmes included the Effective Black Parenting Programmes Culturally adapted versions of parenting programmes (eg STEP, PET and Confident Parenting)	Black, Hispanic or Native American parents of children aged 0 – 13. Settings varied.	Child aged 0-13.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Barnes (2002)	Review interventions to improve parenting, family functioning and children's mental health in families with preschool children. To promote thinking about future directions rather than provide a definitive summary of existing knowledge	Includes studies of any form of therapy or support to improve children's behavioural or emotional wellbeing or parent well-being psychodynamic psychotherapies attachment based work developmental guidance interactional guidance; transactional interventions; infant-led psychotherapy; community based supports; community development aimed at reducing ecological risk factors; parent training;	Health workers, paraprofessionals, social and educational services.	Duration range between <5 sessions (eg brief hospital based interventions) to several years (eg community based supports).	Primarily parents/children at some demographic and/or psychosocial risk. Some universal interventions in home, community, centre and/or clinic settings, group based and individual.	Antenatal and/or postnatal; early years.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Benasich (1992)	Early interventions in disadvantaged families .	Improvement of child cognitive and social development; reduction in need for welfare support. Parenting included in some interventions	Not defined for majority of programmes.	From 8-9 hrs a day for 50 weeks of year for centre based care to weekly home visits for 9 months for primarily home visiting	Disadvantaged children Centred based and home visiting programmes alone or in combination.	Begun during antenatal or at any point during the first 3 years of child's life.
Bernazzani (2001)	To assess the impact of early parenting and home visiting programmes on delinquency in children .	Reduction of behaviour problems through improvement of parenting skills in parents of young children	Not identified for the majority of included studies. Nurse and GP were identified in two studies.	Interventions where parenting support or training was a major component commencing before 3 years of age (including antenatal). Duration: range from than 2 - 6 years. Follow-up ranged from end of intervention, to 13 years post-intervention.	General population (2 studies) or high risk (5 studies).	Antenatal to child age 6.
Cedar (1990)	Parent Effectiveness Training (PET) programmes	To increase parenting skills and prevent negative behavioural outcomes in children.	Primarily therapists / trained educators. Some self-help programmes.	8-week structured intervention.	Parents with varying degrees of need for support.	Not stated.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Ciliska (1996)	Home visiting programmes within the scope of public health nursing in Canada	To improve a range of outcomes relating to parent mental health, maternal life course, parent-child interaction, child mental and physical health	Nurses, home visitors, community workers, para-professionals, lay visitors of parents own ethnic group, consultants.	Antenatal: social support, education on health and nutrition. Post-natal:- education of mothers on child health and development, counselling, parent groups, problem solving.	Antenatal: women at risk for low birth (LBW) weight infants. Postnatal: mothers of pre-term and LBW infants; black teen mothers; mothers with depression; mothers at risk of child abuse. Predominantly home based, but some programmes with additional telephone contact, support in community, clinic, hospital, school and other settings.	Antenatal and postnatal.
Conde-Aguedo (2003)	Kangaroo care at home– defined as: skin-to-skin contact between mother and newborn, for LBW infants compared with standard hospital care for LBW infants.	To increase mother-infant bonding and improve health and developmental outcomes of LBW infants.	Mothers guided by health professionals.	Provided after the initial period of stabilisation for low birthweight infants. Duration and frequency not identified.	Mothers and infants with low birthweight (less than 2500g) regardless of gestational age, discharged from hospital. Intervention in hospital and home.	After initial conventional stabilisation period in hospital.
Corcoran (2000)	Interventions with parents who have physically abused and/or neglected children.	To prevent the reoccurrence of child physical abuse or neglect.	Mental health services ranging from clinicians to bachelor level social workers.	Varied from brief behavioural training (8 – 12 sessions) to several months (family therapy)	Parents of children who have been physically abused and/or neglected. Most interventions with single mothers include mothers only.	After referral for physical abuse or neglect.
Corcoran (2008)	Interventions to improve the supportiveness and adjustment of non-offending parents of children who have been sexually abused (CSA).	To prevent onset/escalation of mental health problems in non-offending parents as well as treating sexually abused children	Professional mental health services	Varied; timing for CBT usually 11 – 12 sessions.	Children who have been sexually abused and their non-offending parent(s).	After referral for CSA

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Coren & Barlow (2001)	Individual and group based parenting programmes to improve psychosocial outcomes for teenage parents and their children	To improve psychosocial well-being of teenage mothers and their children.	Primarily therapists / trained educators; nurse or lay home visitors.	Structured interventions typically lasting 8 – 10 sessions over several weeks.	Teenage mothers. Clinic, community settings.	Infancy and early childhood.
Das Eiden (1996)	Interventions based on the Neonatal Behaviour Assessment Scale (NBAS)	To increase parents' awareness of their infant's developmental and interactive capabilities and improve parental sensitivity/responsiveness.	A trained examiner demonstrated NBAS or enabled parents to administer the procedure.	Primarily single-session NBAS applications; 4 studies included in the review used repeated sessions.	General population parents; one trial in teenage mothers; two in preterm birth; one in substances using mothers; studies included fathers as well as mothers.	Immediate postnatal period.
Dennis (2004)	Psychosocial (eg parent education) and psychological interventions for treatment of antenatal depression	Treatment of antenatal depression.	Trained therapist.	16 x 45 minute weekly individual sessions.	Depressed pregnant women, setting not identified.	Antenatal period only.
Dennis (2007)	Psychological and psychosocial interventions to prevent postpartum depression	Prevention of postpartum depression.	Health professionals/ therapists or paraprofessionals.	Interventions ranged from one debriefing session to treatment over several months.	Pregnant women and new (less than six weeks postpartum) mothers, including those at no known risk, and those identified as at risk to develop postpartum depression. Setting; delivered via telephone, home or clinic visits, individual or group sessions.	Antenatal and/or postnatal during first month after month.
Dodd (2004)	Kangaroo care for pre-term infants	Promote bonding and attachment, initiation of successful breastfeeding.	Mothers guided by health professionals.	Not specified.	Pre-term infants and mothers in hospital and home settings. Some studies included fathers	Immediately after delivery.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Doggett (2005)	Home visiting.	Improving outcomes for pregnant or postpartum women with drug or alcohol problems.	A range of health professionals including doctors, nurses, social workers, counsellors, trained lay people.	Majority started postpartum and continued for up to six months; four studies continued beyond six months. Frequency ranging from less than weekly, to weekly.	Pregnant or newly delivered mothers with a drug or alcohol problem. Intervention delivered in the home.	No studies provided a significant antenatal component. Predominantly focused on postnatal period.
Doughty (2007)	The effectiveness of interventions which promote positive trusting parent child relationships.	.Parent training or educational programmes; group based parenting programmes; home visiting with clearly identified parent training component; dyadic therapies including video-feedback.	Health professionals/therapists or paraprofessionals.	From under 5 sessions (eg videofeedback); to interventions lasting several months (eg home visiting; parent-infant psychotherapy).	Parents or primary carers of children aged 0 – 4. Home or clinic settings.	Age 0-4
Elkan (2000)	The effectiveness of home visiting programmes relevant to UK health visitors. The great majority of interventions were postnatal	Interventions aimed to improve a range of outcomes including parental mental health, maternal life course, parent-child interaction, child mental and physical health, nutrition etc. Most programmes included parenting support	Nurses, teachers, infant and parent therapists, lay workers, health visitors, paediatricians and paraprofessionals (trained mothers).	Interventions which included at least one post-natal home visit, covering counselling, advice, peer support, parent education and training on child health and cognitive development, maternal support.	High risk, low income pregnant and post partum women; low SES families; black teenage mothers; infants with failure to thrive, LBW infants, parents of preschool children with multiple psychosocial problems and universal programmes.	Primarily aged 0-4. Some programmes include an antenatal component.
Kendrick (2000)	Further analysis of Elkan (2000) above.					

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Feldman (1994)	To establish whether parents with intellectual disabilities and their children benefit from parent education programmes	Improve parenting skills in parents with intellectual disabilities.	Not specified.	Not specified. Follow up from 2 – 76 weeks.	Parents with IQs ranging from 50 - 79 (below normal level).	Children aged 4 - 94 months.
Gagnon (2007)	Antenatal interventions that (i) focus on childbirth or (2) include a component of preparation for parenthood	To help prospective parents prepare for childbirth and/or parenting.	Primarily nurses/health professionals.	Duration varied from 2 to 16 sessions.	Expectant couples/fathers.	Antenatal.
Gamble (2001)	Effectiveness of a single debriefing session (non-directive counselling)	To reduce depression and trauma symptoms in women following birth.	Midwife.	One session whilst the woman is in hospital following birth.	Newly delivered women. Hospital setting.	Within 1 week of childbirth.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Gjerdingen (2003)	Effectiveness of the treatment of postnatal depression including pharmacological and non pharmacological	Treatment of depression	Health professionals/ therapists or paraprofessionals.	Group therapy/individual therapy and nurse home visiting for treatment of - postnatal depression; weekly sessions of approx 1 hour duration ranging from 4 to 12 weeks.	Mothers diagnosed with postpartum depression. Clinical setting); individual/ group setting; home visits.	Following diagnosis of postpartum depression.
Guterman (1999)	Early life programmes to prevent abuse and neglect	To reduce abuse and neglect by improving parent mental health, maternal life course, parent-child interaction, and child mental and physical health.	Paraprofessionals or nurses.	Home visiting supplemented sometimes by centre based or health care setting Interventions could involve or be combined with psychosocial support, parent education, links to support groups, counselling and peer education.	Some populations were screened as at risk some; some interventions targeted at high risk communities eg women from low income groups, eg African-American teenage mothers; unmarried mothers.	Perinatal period. Some parents already had older children. All included interventions began before maltreatment had been reported.
Kane (2007)	To review qualitative studies of parent experience and perceptions of parenting programmes	Improvement of parenting skills and child emotional and behavioural adjustment.	Psychologist; health visitor; trained practitioners	Group based (3) and individual (1) structured parenting programmes lasting 10-12 weeks Individual involved videotaped modelling and individual therapist consultation; parent training delivered by health visitors in community setting; school based parenting programmes.	Parents with varying degrees of risk and need for support.	Any. Includes parents of school age children.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Letourneau (2004)	Parenting and other types of intervention designed to provide support to adolescent mothers including; Informational support; social support; videotape instruction; parenting workshops/groups; family counselling; affirmational support.	To provide support to young parents - educational, social, parenting. Varied. The review is not entirely focused on efficacy of interventions, it also explores other sources of support including family and partner provided support.	Professionals; social workers; nurses; lay workers and volunteers; paediatrician; therapists.	Wide ranging including; daily contact for 10 months; weekly contact for 2 years; to 4 sessions on alternate weeks (group); Duration from 4 weeks to 4 years.	Adolescent mothers/parents. Variety of settings including home, community, school.	Age not specified in most cases, but typically 'early years'.
Lundhal (2006a)	Effectiveness of parent training programme in reducing or prevention of child physical abuse	Modification of parental behaviours and beliefs associated with increased risk of child physical abuse.	Parent trainers, mental health professionals.	Behavioural and non behavioural interventions, varied timing.	Parents from demographically high risk groups; parents at identified as at risk of child abuse; parents who had abused children.	Not stated.
Lundhal (2006b)	Effectiveness of parent training programme in modifying disruptive child behaviour and parental behaviour and perceptions.	Individual or group based parent training, based in a variety of theoretical orientations.	Parent trainers, mental health professionals.	Behavioural and non behavioural interventions, varied timing. Individual, group based, self directed.	Parents from disadvantaged and non disadvantaged groups.	Child age from preschool to age 12.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
MacMillan (1993; 2000)	Programmes to prevent child maltreatment	Intervention included home visiting, parent training programme free access to child care, intensive paediatric care.	Nurse; paraprofessionals; college educated lay women.	1 – 27 months 10 contacts to weekly visits	Women referred because identified ante-natally as at risk of abuse / neglect. Home visiting; paediatrician office drop in centre, community settings	Antenatal and/ or postnatal.
Magill-Evans (2006)	Effectiveness of interventions for fathers with infants and toddlers to promote sensitive responsive father child interaction	Interventions included infant massage, observation and modelling of infant behaviour; discussion groups parent training and participation in preschool programmes.	Not specified	1 sessions- 30 sessions; over 0-8 months.	Predominantly middle class fathers Mothers included in 7/12 interventions Two addressed low income families; two fathers of pre-term infants	Antenatal to early years.
MacLeod (2000)	Programme to promote family wellness and prevent abuse.	Home visiting multicomponent intensive family preservation social support media, parent training delivered either proactively or reactively to prevent abuse and neglect.	Professionals, paraprofessionals; or mixed or volunteers.	6 months or less to 5 years on a universal selective or indicative basis. 3 -536 visits. Home agency, paediatrician office, nursery, community hospital.	Universal selective or indicated. Predominantly black, low SES and primiparous mothers. Most were first time mothers Sexual abuse excluded	Children up to 12 years of age.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Moore (2007)	Skin-to-skin contact (SSC) at birth.	Improved bonding and attachment, and initiation of successful breastfeeding.	Mothers guided by health professionals.	Not specified.	Healthy mother-infant dyads in hospital setting.	Immediately after delivery.
NICE (2006)	Studies of psychiatric screening for depression included within a review of routine care for healthy pregnant women.	Early identification of risk/symptoms of depression or other mental health problems.	Health professionals.	EPDS usually administered on a single occasion. 2-3 questions may be administered in early and mid pregnancy and in the postnatal period.	General population and women with, or at risk of, mental health problems in the ante/postnatal period. Home, community and clinic settings.	Antenatal and/or postnatal period.
NICE (2007)	Interventions to prevent and treat mental health problems in pregnancy and postnatal period.	Detection prevention and treatment of mental health problems in pregnancy and postnatal period.	Health professionals/ therapists or paraprofessionals.	Psychological and psychosocial interventions for prevention / treatment of depression in the antenatal and postnatal period. Interventions ranged from single session (eg identification of depression) to treatment over several months	General population and women with, or at risk of, mental health problems in the ante/postnatal period. Home, community and clinic settings.	Antenatal and/or postnatal period.
Nowak (2008)	To undertake a meta-analysis of results of studies of Triple P-Positive Parenting Program	Improvement of parenting skills and child emotional and behavioural adjustment through Triple P.	Trained facilitators	Varied between primary studies	Parents with varying degrees of need for support including universal, referred for behaviour problems and clinical level behaviour problems	Child age 2 – 16, mean age 5.5.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Poobalan (2007)	Impact of treatments for postnatal depression on outcomes relating to parenting and children's cognitive development.	Interventions included interpersonal psychotherapy, dyadic interaction coaching, infant massage, home visits and support group for mothers.	Mental health professionals.	Not specified	Mothers diagnosed with post-partum depression.	Postnatal and beyond. Outcomes measured in children up to 14 years of age.
Reyno (2006)	To isolate child, parent and family variables that predict response to parent training for child externalising behaviours.	Completion of programmes and child emotional and behavioural adjustments.	Not specified	Not specified	Parents of child 3-16 years with aggressive behaviour or conduct problems in the indicated prevention or treatment severity range.	Child age 1-16 years
Roberts (1996)	Home visiting programmes to prevent injury and abuse.	Home visiting programmes had a wide range of goals; not focused on child abuse prevention specifically.	Professionals, non-professional volunteer mothers or para-professionals.	Frequency and duration not clear.	Parents of LBW infants, disadvantaged primiparous mothers, teenage, unmarried mothers, women of low SES, families at risk of child abuse.	Antenatal and postnatal.
Regalado (2001)	Advisory and educational services provided in a general paediatric setting as part of routine well-child care and health supervision and aimed at preventing a range of potential health and mental health problems.	Promoting optimal development in children from birth to early years.	Health and/or educational professionals; instructional videotapes; clinicians.	Wide ranging, from single briefings to interventions spanning pre and postnatal periods.	Parents from the antenatal period to child early years.	Antenatal to early years.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Schrader McMillan (2008)	Secondary prevention and parent-focused treatment of child emotional abuse.	Prevent onset of emotionally harmful behaviours by women at risk; prevent reoccurrence of emotional abuse / emotional neglect of children.	Mental health professionals; social workers.	Ranged from 2 – 3 months (eg parent training) to several years (eg family therapy plus follow-up)	Parents who habitually engage in emotionally harmful behaviours towards children.	From antenatal period (eg mentalisation based psychotherapy) through early infancy to child age 5.
Serkitch (1996)	Individual or group based behavioural parent training programmes.	To modify antisocial behaviour in children at home or school.	Not specified	Not specified	Parents of children with behaviour problems. 19 of the 36 groups of children scored in the clinical range for behaviour problems.	Child age 0 – 14. Mean 6 yrs
Shaw (2006)	Universal or targeted postnatal interventions aimed at enhancing maternal mental health: Home visiting; hospital based provision of information and guidance; hospital based screening for relationship difficulties; postpartum debriefing; telephone based peer support from a trained mothers; support group.	To enhance parenting, maternal mental and physical health, quality of life.	Nurses, midwives, paediatricians	Ranged from single session (debriefing) to multiple contacts over years (home visiting)	Mothers in the postnatal period and beyond, in home or hospital settings	Within 1 week of childbirth
Skowron (2005)	Psychological treatments for child maltreatment (CM): individual, group, family, milieu or multicomponent approaches; behavioural and nonbehavioural interventions.	Amelioration of child cognitive process; child behaviour and behavioural disorders; parental behaviour; family functioning.	Not specified	Not specified	Parents only (1 study); parents and children (14 studies).	Average child age 6.8 years.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Suchman (2006)	Outpatient and home visit parenting interventions for drug and substance addicted mothers.	Improvement of child outcomes for infants/children with Substance addicted mothers.	Health professionals/ therapists.	Varied, including; weekly 2 hour sessions for 8 weeks; 2 weekly home visits from pregnancy to 18m postpartum; 2 weekly visits in first year postpartum and group sessions; 4 hours daily intervention based in high school.	Drug using/dependent mothers. Varied settings including clinic, community, school, home.	From birth to five years of age.
Underdown (2006)	Effect of Infant massage on the physical and mental health of infants, improved adult-infant interactions.	Effect of infant massage on various outcomes.	Research associates; trained researchers; parents; trained group leaders; nurses.	Group duration weekly 45-60 minutes over 4 / 5 weeks. Massage frequency; wide range from one 8 minute session, once; 30 minutes per day over 14 days; 15 minutes twice a day for 4 weeks; 10 minutes per day for 16 weeks; 5-7 minutes daily over 3 months; 15 minutes periods 3 times per day over 3 months.	General population families with infants under 6 months; one study in a Korean orphanage; mostly one to one setting; two group based setting. 13 studies in China; one in India.	Infants' first six months.
Vickers (2004)	Infant massage.	Growth and development of premature and low birthweight (LBW) babies.	Nurses or parents trained to massage infants.	In most studies babies were touched or stroked for about 15 minutes, three or four times a day, usually for five or ten days.	Infants born before 37 weeks gestation, or weighing less than 2500 grams. Setting; hospital and at home.	Postpartum for up to 10 days.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Wyatt Kaminski (2008)	Parent training.	To enhance behaviour and adjustment of children aged 0 – 7.	Not stated.	Not stated.	Parents or other caregivers of children aged 0 – 7. Parents with learning difficulties and programmes directed solely at eg enhancing children's literacy or sensorimotor development were excluded.	Not stated.

Table 2: Critical Appraisal

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Bakermans-Kranenburg (2003)	Yes	Range of study designs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Bakermans-Kranenburg (2005)	Yes	Range of study designs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Barlow, Coren & Stewart-Brown (2003)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Barlow & Stewart-Brown (2000)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Barlow and Parsons (2003)	Yes	RCTs	Yes	Yes	Meta-analysis.	Effect sizes and confidence intervals	Not assessed
Barlow Shaw Stewart-Brown al (2004)	Yes	Range of designs from uncontrolled to RCT	Yes	Yes	Meta-analysis of quantitative data; narrative qualitative findings.	Effect sizes and confidence intervals	Not assessed
Barnes (2002)	Yes	Range of study designs inc. RCTs and CCTs, process evaluations and case studies	Yes	No	Summary of effect of individual studies	Summary results of individual trials	Not assessed
Benasich (1992)	Yes	RCTs and quasi-experimental controlled studies	Yes	No	Narrative summary	Summary results of individual trials	Not assessed

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Bernazzani (2001)	Yes	RCTs	Yes	No	Individual test statistics	Effect sizes and confidence intervals	Not assessed
Cedar (1990)	Yes	Controlled trials	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Ciliska (1996)	Yes	RCTs, controlled trials and cohort studies	Yes	Yes	Individual test statistics	Significance levels	Not assessed
Conde-Aguedo (2003)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Corcoran (2000)	Yes	Not stated	Not clear	No	Narrative summary of key findings	Effectiveness of individual trials	Not assessed
Corcoran (2008)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Coren & Barlow (2001)	Yes	RCTs	Yes	Yes	Individual test statistics	Effect sizes and confidence intervals	Not assessed
Das Eiden (1996)	Yes	Randomised and non-randomised controlled studies.	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Dennis (2004)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Dennis (2007)	Yes	RCTs	Yes	Yes	Individual test statistics	Effect sizes and confidence intervals	Not assessed
Dodd (2004)	Yes	RCTs, pretest-posttest designs, and other comparative studies	Yes	No	Narrative	Percentage improvement scores of individual trials	Not assessed
Doggett (2005)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Doughty (2007)	Yes	RCTs	Yes	Yes	Effect sizes, not combined	Effect sizes and confidence intervals	Not assessed
Elkan (2000) Kendrick (2000)	Yes	RCTs and controlled trials	Yes	Yes	Meta analysis of some outcomes Meta analysis	Effect sizes and confidence intervals	Some indicators that home visiting is cost effective, but further evidence is needed.
Feldman (1994)	Yes	Range of study designs	Yes	No	Narrative summary	Percentage improvement scores of individual trials	Not assessed
Gagnon (2007)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect size and confidence intervals	Not assessed
Gamble (2001)	Yes	RCTs; cohort arm of RCT	Yes	Yes	Individual trial statistics	Effect size and confidence intervals	Not assessed

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Gjerdingen (2003)	Yes	Range of study designs	Yes	No	Narrative summary	Percentage improvement levels of individual trials; significance levels reported for some studies.	Not assessed
Guterman (1999)	Yes	Range of study designs	Yes	No	Narrative summary	Narrative report of outcomes of individual studies	Not assessed
Kane (2007)	Yes	Qualitative studies	Yes	N/a	Meta-ethnography	Meta-ethnographic synthesis	Not assessed
Letourneau (2004)	No	Range of study designs	Yes	No	Narrative summary	Narrative report of outcomes of individual studies	Not assessed
Lundhal (2006a)	Yes	RCTs and controlled trials	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Lundhal (2006b)	Yes	RCTs and controlled trials	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
MacLeod & Nelson (2000)	Yes	Controlled trials	Yes	Yes	Meta analysis	Effect sizes and confidence intervals	Not assessed
MacMillan (1993)	Yes	RCTs , controlled trials, cohort studies	Yes	Yes	Individual test statistics, not combined	Significance levels	Not assessed
MacMillan (2000)	Yes	RCTs , controlled trials, cohort studies	Yes	Yes	Individual test statistics, not combined	Significance levels	Not assessed

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Cost-benefit analysis
Magill-Evans (2006)	Yes	Range of study designs including RCTs	Yes	Yes	Narrative summary of key findings	Narrative report of outcomes of individual studies	Not assessed
Montgomery (2001)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Moore (2007)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
NICE (2006)	Yes	Range of study designs, including RCTs, cohort studies, non-randomised controlled trials.	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Partial
NICE (2007)	Yes	Range of study designs, including RCTs, cohort studies, non-randomised controlled trials.	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Partial
Nowak (2008)	Yes	RCTs, Quasi-experimental trials, controlled trials,	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Poobalan (2007)	Yes	RCTs and controlled trials	Yes	No	Individual test statistics	Significance levels	Not assessed

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Cost-benefit analysis
Regalado (2001)	Yes	Range of study designs	Yes	Yes	Narrative summary	Significance levels provided In some instances.	Not assessed
Reyno (2005)	Yes	Controlled trials	Yes	No	Meta-analysis	Effect sizes	Two included studies included some analysis of cost-benefit.
Roberts (1996)	Yes	RCTs	Yes	Yes	Meta-review	Effect sizes and confidence intervals	Not assessed
Schrader McMillan (2008)	Yes	RCTs, group pre and post-test, case studies.	Yes	Yes	Effect sizes for individual studies; narrative reports of case studies.	ES/CI for RCTs; percentage change in pre and post test; narrative for case studies.	Not assessed
Serkertich (1996)	Yes	Controlled trials	Yes	No	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Shaw (2006)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Skowron (2005)	Yes	Controlled trials	Yes	No	Meta analysis	Effect sizes and confidence intervals	Not assessed
Suchman (2006)	Yes	RCTs Quasi experimental studies	Yes	No	Narrative summary	Narrative report of outcomes of individual studies	Not assessed
Underdown (2006)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Not assessed
Vickers (2004)	Yes	RCTs	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	Yes
Wyatt Kaminski(2008)	Yes	RCTs	Yes	No	Meta-analysis	Effect sizes and confidence intervals	Not assessed

Table 3: Results of reviews

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Bakermans-Kranenburg (2003)	70 studies describing 88 interventions on parental sensitivity or infant attachment.	Sensitivity outcome measures; Ainsworth/Erickson, HOME, NCATS, other. Attachment outcome measures; Strange Situation Procedure, Attachment Q sort (mother or trained advisor); other. Insecure attachment classifications combined and compared with secure attachment	<p>Interventions that were more effective in enhancing parental sensitivity ($d = 0.40$) were also the most effective in enhancing the children's attachment security ($d = 0.45$, $p = .001$) which supports the notion of a causal role of sensitivity in shaping attachment.</p> <p>Interventions with an exclusive focus on maternal sensitivity appear to be the most effective</p> <p>Short-term interventions (with fewer than five sessions) ($d = 0.33$) were as effective as interventions with 5 to 16 sessions ($d = 0.36$), but they were both more effective than interventions with more than 16 sessions ($d = 0.20$; $Q = 9.92$, $p = .007$).</p> <p>Interventions starting later ($d = 0.44$) were more effective than interventions starting prenatally ($d = 0.32$) or in the first 6 months of life ($d = 0.28$; $Q = 6.40$, $p = .04$).</p> <p>The three studies involving fathers were significantly more effective ($d = 1.05$) than studies without fathers ($d = 0.42$). This difference was statistically significant ($Q = 8.67$, $p = .003$) but is based on small samples</p> <p>Risk factors (SES teenage motherhood etc) did not influence effect sizes. Effect sizes with clinically referred were greater</p> <p>Four studies with small samples that did not use personal contact as a means of intervening ($d = 0.62$ 0.08-1.17, $p > .05$) showed the largest effect size. These studies relied on the provision of soft baby carriers or introducing the kangaroo method, a workbook on responsiveness or a videotape. Confidence intervals wide and result not significant.</p>	<p>The most effective interventions used a moderate number of sessions and a clear-cut focus on enhancing sensitivity. Sensitivity focused interventions are easier to replicate than broadband interventions and tend to be shorter than broadband interventions.</p> <p>Sensitivity is easier to influence than attachment security. It is possible that there are sleeper effects on attachment that would be picked up with longer term follow up.</p> <p>Interventions that were more effective in enhancing parental sensitivity were also more effective in enhancing attachment security, which supports the notion of a causal role of sensitivity in shaping attachment.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Bakermans-Kranenburg (2005)	10 studies with 15 preventive interventions.	Attachment outcome measures; Strange Situation Procedure, Attachment Q sort (mother or trained advisor); other.	<p>Effectiveness of interventions ranged from negative to positive, with a non-significant overall effect size ($d=0.05$).</p> <p>Effective interventions more likely to start after 6 months.</p> <p>Sensitivity-focused interventions ($d=0.24$) were more successful at preventing disorganised attachment ($d=0.04$) than interventions with broader foci (broadband interventions including parental support and parents mental representations).</p> <p>Studies with children at risk (preterm, irritable) ($d=0.29$) were more successful than studies with at-risk parents (-0.10). Studies on samples with higher percentages of disorganised children in the control group were more effective ($d=.031$) than those with lower percentages of disorganised children in the control group.</p>	<p>Some interventions aiming to enhance sensitivity can prevent disorganised attachment, but not all interventions are effective in this regard.</p> <p>Low risk parents with high risk babies respond more readily than high risk babies.</p> <p>It may be that parents find it difficult to respond to these interventions in the first six months of life. Sensitivity enhancing interventions may be easier to replicate and require less skill on behalf of practitioners than broad band interventions, but the latter may be necessary for high risk parents and intervention in the first six months.</p> <p>Further research is needed to develop interventions aimed at decreasing parental non-involved or intrusive behaviour that specifically focus on the prevention of disorganisation.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Barlow, Coren & Stewart-Brown (2003)	26 studies of parenting programmes grounded in behavioural, cognitive-behavioural, multi-modal, behavioural-humanistic or rational-emotive therapy.	64 assessments of aspects of maternal psychosocial functioning, including depression, anxiety, stress, self-esteem, social competence, social support, guilt, mood, automatic thoughts, dyadic adjustment, psychiatric morbidity, irrationality, anger and aggression, mood, attitude, personality, and beliefs. Data sufficient to combine in meta-analysis existed for only 5 outcomes (depression; anxiety/stress; self-esteem; social support; and relationship with spouse/marital adjustment).	<p>Of 23 included studies, 20 provided sufficient data to calculate effect sizes</p> <p>Data sufficient to combine in meta-analysis showed statistically significant results favouring the intervention group for:</p> <p>Depression: a small marginally significant difference favouring the intervention group -0.26 [-0.40, 0.11]</p> <p>Anxiety/stress: significant difference favouring the intervention group - 0.4 [-0.6, -0.2]</p> <p>Self-esteem: significant difference favouring the intervention group - 0.3 [-0.5, -0.1].</p> <p>Marital adjustment: significant difference favouring the intervention group -0.4 [-0.7, -0.2].</p> <p>Social support: no evidence of effectiveness -0.04 [-0.3, 0.2].</p> <p>Of remaining data, approximately 22% of outcomes measured showed significant differences between the intervention and the control group. A further 40% showed non-significant differences favouring the intervention group. Approximately one-third of outcomes showed no evidence of effectiveness.</p> <p>A meta-analysis of follow-up data on three outcomes - depression, self-esteem and relationship with spouse/marital adjustment – was conducted. The combined data show a significant difference favouring the intervention group on self esteem -0.4 [-0.7, -0.2], and non-significant differences favouring the intervention group on marital adjustment -0.3 [-0.8, 0.1] and on depression -0.2 [-0.4, 0.002].</p>	<p>Parenting programmes can make a significant contribution to the short-term psychosocial health of mothers but there is limited long-term data.</p> <p>Whilst the results were positive overall, some studies showed no effect. Further research is needed to assess which factors contribute to successful outcomes in these programmes with particular attention being paid to the quality of delivery.</p>

Author (Year)	Number and	Mental health	Results
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	focus of included studies	outcomes measured		Conclusions
Barlow & Stewart-Brown (2000)	16 group-based parenting programmes that used at least one standardised instrument to measure emotional and behavioural adjustment.	Behaviour problems (eg temper tantrums, aggression, non-compliance) in 3 – 10 year old children.	All outcomes – parent's reports of children's behaviour: effect sizes ranged from 0.6 to 2.9 in favour of the intervention group. All outcomes –independent observation of children's behaviour: effect sizes ranged from 0.2 to 0.4 in favour of the intervention group.	Group based parent education programmes are effective in producing changes in both parental perceptions and objective measures of children's behaviour. Some evidence to suggest that these changes are maintained over time. However, small number of studies in which effect sizes could be calculated means that findings cannot be generalised broadly.
Barlow & Parsons (2003)	5 group-based parenting programmes that used at least one standardised instrument to measure emotional and behavioural adjustment.	Emotional and behavioural adjustment of infants aged 0 – 3.	A meta analysis of the limited outcome data shows a small marginally significant result favouring the intervention group (Effect size (ES) – 0.29, CI – 0.55 to 0.02) for parent-reports. On independent observations of children's behaviour (ES – 0.54, CI – 0.84 to – 0.23) a significant effect was found favouring the intervention group. Meta-analysis of the limited follow-up data available showed a small non-significant result favouring the intervention group (ES – 0.24, CI – 0.56 to 0.09).	The results provide some support for the use of group-based parenting programmes to improve the emotional and behavioural adjustment of children under 3 years of age. There is insufficient evidence to reach any firm conclusions about their role in the primary prevention of such problems. Long-term data exploring effectiveness is limited; included studies showed findings of borderline significance.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Barlow Shaw & Stewart-Brown (2004)	39 RCTS, controlled/comparative, one group and retrospective studies; 12 qualitative studies.	Children's emotional and behavioural adjustment and learning problems; parenting attitudes, behaviour and mental health and behaviour.	<p>Overall effectiveness of parenting programmes:</p> <p>Traditional parenting programmes (Rational Emotive Therapy, Filial Therapy, Incredible Years) showed the most robust evidence of effectiveness across a range of variables and with different minority ethnic groups.</p> <p>Results were mixed for culturally specific programmes. Some studies of the Effective Black Parenting Programmes showed improvements in parent stress, parent perceptions of children's emotional and behavioural adjustment and parenting attitudes including confidence, but another did not. Similarly, mixed results were found for some child outcomes (eg teacher reported externalising behaviours). Results were also mixed for culturally adapted versions of traditional parenting programmes (eg STEP< PET and Confident Parenting). The variance in results may be due to the fact it is easier to evaluate the effectiveness of standard parenting programmes than the more diverse culturally specific programmes. Studies of traditional parenting programmes tended to report on a wider range of outcomes than culturally specific or culturally adapted programmes.</p> <p>There was no evidence to show greater effectiveness in parents from any particular ethnic group. Results show improvements across all types of outcomes.</p> <p>Qualitative data shows that parents from minority ethnic groups perceived the benefits of parent training programmes as improved relationship with their children and greater enjoyment in being a parent.</p>	<p>Traditional parenting programme are effective with minority ethnic group families.</p> <p>Programmes benefit from tailoring to these parents specific needs.</p> <p>Good practice includes the following:</p> <p>sensitivity to the fact that parents from minority ethnic groups may endorse different parenting practices as a result of ethnicity and culture. This should not be assumed and some time may be needed to explore whether this is the case.</p> <p>exploring the values underpinning the programme and making these explicit, eg whether the programme makes assumptions about childrearing practices.</p> <p>recognising diversity in family composition and the parenting role of others in addition to birth parents.</p> <p>Adapting programmes in order to offer courses that are specifically directed at meeting the needs of parents from minority groups.</p> <p>Although the evidence base to support the effectiveness of culturally specific parenting programmes is not strong, this is the result of inadequate research rather than evidence of ineffectiveness. Qualitative studies strongly suggest that these programmes can have 'added value' for parents from different minority ethnic groups.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Barnes (2002)	90 studies focused on promoting mental health of families / preschool children, primarily focused on those at high risk.	Infant health, developmental and emotional outcomes; maternal, paternal emotional and psychological functioning; parenting sensitivity; parenting skills; parent-child interaction.	<p>Results. It is possible to improve outcomes in both low and high risk families, but not all programmes have proved effective.</p> <p>Participant characteristics: Low risk populations respond to brief interventions such as NBAS, minimal parent coaching and interactional guidance enhancing knowledge, sensitivity and behaviour towards children. High risk populations eg young unsupported mothers are frequently the target of intervention but do not respond well to all approaches as risk factors reduce capacity to engage. Otherwise no clear pattern has emerged about what high and low risk groups benefit from specific intervention types. A focus on high risk communities may be more effective than focus on high risk families.</p> <p>Programme types: Specific theoretical approach may be less important than the therapeutic alliance. A variety of approaches have proved effective; many published reports do not specify a theoretical approach. Developmental guidance more likely to impact on children's social competence and adaptation. Interaction or transactional methods impact more on maternal responsiveness and home environment'. To achieve lasting impact with high risk families flexible multidisciplinary, multimethod approaches, grounded in an ecological context are likely to be important. Intervener characteristics: Therapeutic alliance is critical. Interventions by trained professionals tend to be more effective than those by lay workers especially for psychodynamic interventions; paraprofessional programmes effective for support and guidance. More research needed on levels of training and supervision, and role of lay interventions. Timing and length of intervention. -Programmes , < 1 year duration (regardless of intervention intensity) are more effective and cost-effective than longer term interventions. -Greater programme intensity (e.g. weekly rather than bimonthly sessions) and additional programme components (e.g. parenting classes) appear to result in better outcomes with high risk. - positive effects) or unplanned, secondary positive outcomes. Interventions beginning in the antenatal period are more effective than those that start postnatally.</p>	<ol style="list-style-type: none"> 1. A range of services is needed to work with children, parents and parent-child pairs, or family groups 2. No single approach will be appropriate for all. Developing shared understanding of goals is the key. 3. Videofeedback/ interactional guidance is an effective component of dyadic work. 4. High risk families benefit from lay workers and professionals working together and sharing decision making. 5. Targeting at risk communities may be more effective than targeting high risk families. 6. Offering a smaller number of high intensity services is more likely to be effective compared with a large number of low intensity components. 7. Attrition from programmes is common and reduces effectiveness, Incentives (including financial and practical support) may ameliorate attrition. 8. Prenatal components are valuable. Low risk families benefit from minimal interventions (from a few hours to several days). For vulnerable families interventions of medium length (up to a year) with weekly contact are most effective.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Benasich (1992)	27 intervention studies. 11 centre based and 16 centre and home based	Mostly cognitive outcomes but some studies included child behaviour; maternal child interaction; parenting and quality of home environment	Of the studies with relevant outcomes 13 of the 14 with a home visiting component and 3 out of 6 entirely centre-based programmes show some positive effect on parenting, child mental health or maternal mental health	Programmes had most impact on maternal employment and education and fertility; also impact on mother infant interaction and maternal mental health.
Bernazzani (2001)	7 CTs of both universal and targeted interventions. Parent training or support was a major component of the included programmes.	Child disruptive behaviour	3 out of 7 trials reported significant effects favouring the intervention group.	Caution is suggested on the interpretation of as few studies (two of seven) were specifically designed to prevent disruptive behaviour in preschool children. This review did not include key home visiting studies which appeared to meet the inclusion criteria, raising some doubts on the search strategy.
Cedar (1990)	26 controlled trials of PET	Parent course knowledge, parent attitude, parent behaviour, parent self esteem (self-reported), child attitudes, child behaviour (child self esteem).	The overall mean effect size for PET is small (0.328), but on a par with comparable programmes (e.g. family enrichment programmes) and higher than some treatments to which it was compared ($p < 0.009$). Strong effect sizes were found for parents' course knowledge and small to moderate effects on attitudes towards parenting, behaviour toward children, and children's self-esteem. Higher effect sizes were associated with older children, which may be due to the verbal nature of parent training programmes. Sig. stronger effect sizes were associated with children with learning difficulties compared with children at risk of delinquency ($p < .05$). The necessity of trained group leaders was highlighted by the lower effect sizes associated with lack of leader certification ($p < .05$).	PET has an overall significantly positive effects, and on children's self esteem. These effects endured (up to 26 weeks) after the programmes were completed.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Ciliska (1996)	3 RCTs, 5 controlled trials (CCTs) and 3 cohort studies. Antenatal, pre and post natal and postnatal home visiting programmes, with and without adjunctive supports (eg telephone contact; community based social supports).	A range of outcomes including: physical health and development; mental health and development; maternal knowledge, attitudes or perceptions.	One intervention study (of the Nurse-Family Partnership programme) aimed to improve relational aspects of parenting (improved babies mood ($p>.040$) and restrictive parenting ($P<007$), but not verified cases of abuse; three studies included provision of social support; ;only one measured parenting and found no difference in parenting style two provided support for postnatal depression studies, both reported reduced depression (CES-D $p< 0.05$; PDS $P<0.01$). No negative effects found for home visiting.	The Nurse-Family Partnership programme can produce significant benefit, particularly with interventions of high intensity.
Conde-Aguledo (2003)	3 studies (all in developing countries) comparing kangaroo care with routine hospital care for LBW babies.	Maternal attachment behaviours, sense of competence and feelings of worry and anxiety .	Scores on mother's attachment behaviour were no better in KC than in control group Mother's sense of competence was greater in kangaroo care group (ef .31 (0.13-0.50) on one out of two measures, but there was no difference in feelings of anxiety and worry.	Majority of findings are based on a single trial. Insufficient evidence to recommend routine use, but more studies are warranted.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Corcoran (2000)	Number of studies not stated. Studies arranged in the following groups: behavioural interventions, cognitive behavioural interventions, family therapy, social support and atheoretical programmes.	Parental attitudes and behaviours associated with child abuse and neglect, including parental attributions, parenting skills, parent-child interactions, child behavioural management skills, attention to child's needs. Child outcomes include child abuse and neglect. Parents social networks / support systems measured in ecological / multisystemic interventions.	<p>Behavioural interventions aim to break the negative cycle in which parents inadvertently reinforce negative behaviour and fail to enforce positive behaviour by paying attention only to the former; this is the basis of behavioural parenting programmes. Four studies of behavioural training were included. There is some evidence of the effectiveness of behavioural and cognitive behavioural approaches in treating parents who physically abuse children, although these interventions pay limited attention to other potential contributing factors, eg parents social isolation and poverty – risk factors for neglect - or to parents underlying cognitive distortions.</p> <p>Cognitive interventions aim to deal with parental misattributions about their children (eg "she doesn't like me/ is doing this just to annoy me") and developmentally inappropriate expectations.</p> <p>4 studies involved Cognitive behavioural approaches that address parents cognitive distortions, as well as child management skills. These were associated with reduction in child abuse potential and actual occurrence of child physical abuse.</p> <p>3 studies focused on multisystemic family therapy, all of which were effective in changing behaviour of maltreating parents. Family therapy tends to address the wider ecological context and influences on internal dynamics of families, by taking. One study compared individual family therapy with group family therapy grounded in cognitive behavioural strategies. The group intervention posed more advantages and reported enhanced parent child interactions and child assertiveness.</p> <p>Social network interventions with maltreating families show some evidence of improvement over casework as usual controls, but the level of change reported remained low.</p> <p>Atheoretical interventions generally involve parents of young children. The limited information on length, intensity of treatment and use of services is unknown.</p>	Behavioural, cognitive behavioural and multisystemic family therapy approaches showed promise. However the quality of studies was not strong enough to draw clear cut conclusions, particularly with reference to treatment of neglect, since most studies focused on physical abuse.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Corcoran (2008)	10 studies	Range of outcomes including depression, anxiety, post traumatic stress (PTSD), child sexual behaviour, child behaviour	<p>Findings were organised according to children's age range.</p> <p>Preschoolers and parents: CBT offers benefits to both preschool survivors of CSA and their parents over those provided by non-directive treatments, in spite of research showing more limited effectiveness of CBT with preschoolers in other contexts.</p> <p>School age children and parents: CBT also effective with school age children. Treatment models that included parental involvement also appear to benefit recovery of children. Parental interventions at the time of a CSA disclosure (e.g. instructional videotapes based on social learning theory) also appear to benefit children's psychosocial functioning.</p> <p>No studies were found that directly assessed the impact of parental involvement on treatment for adolescent CSA in spite of the fact that parental support is critical for adolescent recovery process. Trend for parents to be least supportive of teenage victims of CSC.</p>	<p>CBT appears more effective than person-centred treatment in interventions for CSA that involve preschool or school aged children.</p> <p>Parental support is critical for recovery and interventions need to include provision of adjunctive (eg social) supports for parents.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Coren & Barlow (2001)	4 RCTs of parenting programmes – one to one or group, based on a structured format	Psychosocial well being of teenage mothers and their children.	<p>Both individual and group-based parenting programmes produced results favouring the intervention group on:</p> <p>Mother-child interaction : large effect size -0.79 [-1.53, -0.36]. Parental attitudes: medium effect size -0.4 [-1.07, 0.07].</p> <p>Child outcomes: positive but non significant effect favouring infants in the intervention groups were reported for the following interventions: home based instruction with videofeedback and for a 12 week group based parenting programme focused on infant development.</p>	<p>The conclusions which can be drawn from this review on parenting programmes for teenage mothers are limited due to the small number of included studies, and the use of a restricted number of outcomes measures and by some methodological deficiencies of the included studies.</p> <p>Despite these problems the findings of the included studies suggest that parenting programmes may be effective in improving outcomes for both teenage mothers and their infants.</p> <p>There is a need for further research into the effectiveness of parenting programmes for teenage parents.</p>
Das Eiden (1996)	13 studies were included.	Ratings of maternal and paternal sensitivity responsivity; mother-infant interaction and father involvement.	<p>Effect sizes were reported in terms of the correlation coefficient (r) as well as the difference between experimental and control group means divided by the pooled standard deviation (Cohen's d). Analyses were conducted by weighting each study equally (unit weighting) and also by sample size. Similar average effect sizes were obtained for both weighting procedures (r's of about .2, d's of about A), indicating that Brazelton-based interventions during the neonatal period have a small to moderate beneficial effect on the quality of later parenting.</p>	<p>Demonstrations or parental administrations of the NBAS with detailed explanations have a small to moderate effect on the quality of parenting.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Dennis (2004)	15 trials included. Types of studies; comparing standard or usual care with a variety of non pharmaceutical interventions including; psychoeducational strategies; CBT; interpersonal psychotherapy; non directive counselling; various supportive interventions.	Symptoms of postnatal depression. Infant health and developmental outcomes.	<p>Overall, psychological and psychosocial interventions compared with usual care provided antenatally or postnatally do not reduce the risk of postpartum depression. (RR) 0.81, 95% confidence interval (CI) 0.65 to 1.02).</p> <p>Interventions are effective in mothers 'at'- (RR 0.67, 95% CI 0.51 to 0.89).</p> <p>Interventions with a postnatal component only appeared to be more beneficial (RR 0.76, 95% CI 0.58 to 0.98) than interventions that also incorporated an antenatal component. While individually-based interventions may be more effective (RR 0.76, 95% CI 0.59 to 1.00) than those that are group-based, women who received multiple-contact intervention were just as likely to experience postpartum depression as those who received a single-contact intervention. One promising intervention appears to be the provision of intensive postpartum support provided by public health nurses or midwives (RR 0.68, 95% CI 0.55 to 0.84).</p>	<p>No evidence of the effect of psychosocial interventions in preventing the onset of depression in general population samples.</p> <p>Intensive professionally based postpartum (eg nurse home visiting) support can be helpful in preventing depression in high risk populations.</p> <p>Individually based programmes appeared to be more beneficial than group based programmes.</p>
Dennis (2007)	1 RCT comparing psychosocial and psychological interventions for treatment of antenatal depression.	Symptoms of antenatal depression.	Compared with a parenting education program, interpersonal psychotherapy was associated with a reduction in the risk of depressive symptomatology immediately post-treatment using the Clinical Global Impression Scale (one trial, n = 38; relative risk (RR) 0.46, 95% confidence interval (CI) 0.26 to 0.83) and the Hamilton Rating Scale for Depression (one trial, n = 38; RR 0.82, 95% CI 0.65 to 1.03).	Interpersonal psychotherapy more effective than parent education in reducing depressive symptomatology, but the evidence in this review is limited to a single trial.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Dodd (2004)	32 studies. 13 RCTs, 3 quasi experimental, 12 non experimental pre test-posttest designs and 4 non experimental comparative studies.	Infant morbidity and mortality; maternal satisfaction with care; maternal–infant interaction /attachment behaviours.	<p>2 RCTs and 2 further studies reported increased quiet sleep. 1 RCT reported higher maternal sensitivity.</p> <p>2 comparative studies reported increased Bayley scores. One found no difference at 6 months but no significant difference at 12 months, suggesting sleeper effects. 2 comparative studies used HOME scores. 1 found no difference in HOME scores and 1 improvement post-intervention.</p>	Kangaroo care for preterm infants increases parental attachment. Kangaroo care is safe for preterm infants and may have important benefits for growth and development.
Doggett (2005)	6 studies on postnatal home visits for women with alcohol or drug problems.	Maternal drug and alcohol related outcomes; pregnancy and pueriperium outcomes; Infant/child outcomes; Psychosocial outcomes.	<p>Evidence that home visits after the birth increased the engagement in drug treatment services.</p> <p>Otherwise no significant differences in continued illicit drug use (RR) 0.95, 95% confidence interval (CI) 0.75 to 1.20), continued alcohol use (RR 1.08, 95% CI 0.83 to 1.41).</p> <p>No significant difference in non-accidental injury and non-voluntary foster care (RR 0.16, 95% CI 0.02 to 1.23), child behavioural problems (RR 0.46, 95% CI 0.21 to 1.01), or involvement with child protective services (RR 0.38, 95% CI 0.20 to 0.74).</p>	Insufficient evidence to recommend routine use of home visits for women with drug or alcohol problems. Further large high quality trials are needed, and women's views on home visiting need to be assessed.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Doughty (2007)	Two secondary studies and 18 primary studies.	Key socio-emotional outcomes relating to the relationship with the maternal parent classified into the following categories; 1. parental sensitivity or responsiveness to infant needs 2. infant parent attachment security.	As with Bakermans-Kranenburg (2003, 2005 – see above) results indicate that behaviourally focused interventions including Video Interaction delivered one-to-one and involving a moderate number (>5) of sessions are effective. Changes in attachment security reported were generally in a direction consistent with attachment theory, but modest. Infant-parent psychotherapy shows some promise, while group educational interventions generally do not. Results of studies with mothers with post natal depression are inconsistent.	Overall, evidence from primary and secondary research suggests that a variety of types of intervention for enhancing maternal sensitivity, and to a lesser extent attachment security are effective, with nearly all of the different approaches involving home visiting to deliver the intervention.
Elkan (2000)	27 RCTs and 7 nonrandomised controlled trials.	A range of outcomes including: maternal anxiety, depression; parenting and home environment; maternal life course (eg return to education); measures of child health; child mental health. Home environment related as it is affected by parenting.	12 pooled studies found significant effect of home visiting on HOME scores favouring intervention ($x = 126.9, 28 \text{ df}, p < 0.0001$). 5 pooled studies showed borderline positive effect on child temperament ($\chi^2 = 30.0; 20 \text{ df}; p = 0.07$) 12 of 17 studies reporting mother child interaction reported significant difference favouring intervention group. 3 out of 7 studies found significant benefit in parental discipline. 8 of 13 studies reported improvements favouring intervention on maternal mental health or self esteem. 5 out of 9 studies reported positive effects on child behaviour child behavioural problems. One out of 10 studies reported a significant reduction in child abuse. The 8 of 13 studies measuring mothers psychological health reported positive outcomes.	Home visiting can be successful in improving parenting skills and enhancing the quality of the home environment. Programmes may have a beneficial effect on child behaviour and temperament. Programmes that did not report improvements in maternal mental health (5/13) had as their primary objective prevention of child maltreatment rather than maternal mental health. Since most studies took place in the US, caution is needed when extrapolating results in other settings.
Kendrick (2000)	Further analysis of the above with meta-analysis of HOME scores of 12 studies.			

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Feldman (1994)	<p>20 studies of parent training for parents with low IQ.</p> <p>The most common instructional approach was behavioural (e.g., task analysis, modelling, feedback, reinforcement) and focused on basic child-care, safety, nutrition, problem solving, positive parent-child interactions, and child behaviour management.</p>	Family functioning; child behavioural disorders.	<p>Three studies that used between group designs (parent training vs no parent training) found sign differences favouring parent training. 96% of parents showed improvements in one or more skills and improvements in 63% of skills in the training (range 19% to 100%).</p> <p>19 studies conducted follow up (between 2 and 82 weeks). Improvements were maintained in 92% of parents and 55% of skills range (range 0% to 100%).</p> <p>Parent education that involves specific skill assessment, modelling, feedback and praise, in a home like environment showed best outcomes.</p> <p>Two studies with stronger designs showed significant improvement in child cognitive skills as a result of interactional parent training. One study found that improving maternal positive interactions significantly increased cognitive skills of preschoolers. However, child outcome data are weak.</p>	Parent education that involves specific skill assessment, modelling, feedback and praise, in a home like environment, can lead to improvements in range of parenting skills and moderate improvements in child cognitive outcomes. Effect on child behavioural disorders is unclear.
Gagnon (2007)	9 trials of interventions focusing either on preparation for childbirth alone or for childbirth and parenting. 2 interventions with fathers alone.	Maternal and paternal attachment behaviours; maternal competence; paternal knowledge.	<p>Benefits to maternal attachment were found in two very small studies: observed attachment behaviours (n=10) (WMD ES 52.6, 95% CI 21.82 to 83.38; and affectionate behaviour (WMD ES 9.70, 95%0.15 to 19.25, n = 22).</p> <p>Benefits to paternal sensitivity were found in one small study on fathers to be, showed a WMD ES of 0.65 (95% CI 0.4 to 1.6 (n = 66).</p> <p>No differences were found on 3 other relevant outcomes measured.</p>	Antenatal interventions that include a component that involves preparation for parenthood, as opposed to childbirth alone can increase parental sensitivity and empathy.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Gamble (2001)	3 RCTs evaluating midwife led debriefing sessions for women following childbirth.	Maternal depression.	Two of the three studies included in the review indicated that a single debriefing session with the woman whilst in the postnatal ward is of no statistically significant value in reducing psychological morbidity, and may even be harmful. In contrast, women reported that an opportunity to talk with someone about the birth was helpful and facilitated their recovery.	Insufficient evidence to draw conclusions about the effectiveness of debriefing following childbirth because it is unclear whether a standardised debriefing intervention was used.
Gjerdingen (2003)	7 studies of individual or group psychotherapy, 2 studies of nurse home visits.	Maternal depression.	Evidence for effect of individual psychotherapy; 1 trial showed value of including partner in psychotherapy sessions; mixed results for group therapy. Evidence of effect of nurse / midwife home visiting.	Individual psychotherapy and listening visits (nurse home visiting) can improve postpartum depression; evidence for group treatment mixed. Treatments should be combined with patient education about the illness, the treatment selected, and other mechanisms for promoting health such as social support and a healthy lifestyle.
Guterman (1997)	18 controlled outcome studies.	Records of child abuse and neglect or proxy measures including self reported indicators of child abuse potential and other infant interactions.	Three out of ten studies reporting recorded abuse showed marginally positive results; these results sustained in two studies by 2 yr follow up. Half the studies reporting maternal child interaction showed positive effects. Four out of seven studies reported reduction in emergency room visits.	It is more effective to provide home visiting to populations at high risk (eg young, primiparous, low SES mothers) than to screen mothers for risk of child abuse and neglect. More effective interventions are initiated before or shortly after birth; with families who participate voluntarily; involved in home provision include parenting education and guidance and case management.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Kane (2007)	4 qualitative studies of parenting programmes in home / healthcare settings.	To identify factors and processes that parents consider important in motivating their participation and retention in parenting programmes.	Parents begin parenting programmes with feelings of failure. Acquisition of knowledge, skills and understanding, and together with feelings of acceptance and support from other parents in the parenting group, enabled them to regain control and feel more able to cope. This led to a reduction in feelings of guilt and social isolation, increased empathy with their children and confidence in dealing with their behaviour.	<p>The feeling of being supported and understood is more important to parents than course content or theoretical orientation of the parenting programme.</p> <p>In parenting groups, the mutual support of other parents is a factor critical to retention and success. Mutual support is achieved through careful facilitation.</p>
Letourneau (2004)	19 studies were included in the review; of which 4 were prospective experimental and 10 quasi experimental intervention studies interventions included one-to-one, group based and home visiting interventions. Described as 'support-education intervention programmes'. Other types of informal intervention were also considered including family and partner support, and other support resources.	Parental confidence and psychological wellbeing; parenting skills/knowledge; child health and development measures. Measures of social support; contraceptive knowledge/behaviour; employability.	<p>Many studies reported positive findings relating to parenting skills and knowledge; parental confidence and psychological wellbeing.</p> <p>However high levels of attrition (up to 82% in one study especially from the control group); small sample sizes leading to lack of statistical power and inadequately matched control groups and measurement inconsistencies limits interpretation of the findings.</p>	<p>Limitations in study design present practical and theoretical challenges that are difficult to surmount. And limit interpretation of results. No studies were identified which aimed to enhance natural support networks (family, partner, peers).</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Lundhal (2006a)	23 studies of parent training programmes aimed at preventing child abuse.	<p>Parents' attitudes linked to abuse; emotional adjustment; child rearing behaviours.</p> <p>Physical abuse.</p>	<p>Average effect size for attitudes linked to abuse 0.60 (number of studies, k = 11). Average effect size for emotional adjustment 0.51 (number of studies, k = 13)</p> <p>Average effect size for documented abuse 0.60 (number of studies, k = 3).</p> <p>Using higher number of parent training sessions changed attitudes more than fewer sessions $Q_b = 6.12, p = <.05$.</p> <p>Studies that delivered parent training through group and individual modes changed attitudes more than those with individual only or group only parent training. $Q_b = 2.97, p = <.10$.</p> <p>There are no consistent results relating to the theoretical orientation of interventions.</p> <p>Non-behavioural programmes or multimodal programmes with a behavioural component tended to change parental attitudes significantly more than behavioural programmes $Q_b = 8.37$ and $9.71, p = <.01$. Behavioural programmes tended to change childrearing practices more than nonbehavioural programmes $Q_b = 3.36, p = <.10$.</p> <p>Durability of changes in child-rearing attitudes $d = 0.65$ (5 studies).</p> <p>Durability of changes in emotional adjustment and child-rearing behaviours $d = 0.28$ and $d = 0.32$ (6 studies).</p>	<p>Outcomes of parent training are significantly enhanced by:</p> <ul style="list-style-type: none"> Inclusion of home visitors Conducting parent training in both a home and clinic setting Providing one to one as well as group training Incorporating a behavioural component

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Lundhal (2006b)	63 studies of parenting programmes designed to modify disruptive behaviour and improve parental behaviour and perceptions of parenting role.	Parent behaviour, parent perceptions, child behaviour.	Overall effect sizes were moderate in size: - child behaviour (ES 0.42 [0.35,0.49]; parent behaviour (ES 0.47 [0.40,0.54] and parental perceptions (ES 0.53 [0.44,0.63]. However in follow up studies, effects on all outcomes particularly child behaviour were smaller in controlled (ES 0.21) than uncontrolled trials (ES 0.87). Relational and behavioural programmes were equally effective. Individually delivered programmes were more effective than group; this may be because the latter were more likely to include a higher proportion of children with clinical level problems, and programmes showed greater change with the latter (ES 0.52 cf ES 0.31). The effectiveness of programmes on children's behaviour declined with child age, showing most effect for children 5 years and under,(Es 0.44) and least for children over 12 years (ES 0.27). Effects on parent behaviour and confidence did not show such trends.	Although outcomes from studies examining behavioural and nonbehavioural parent training programs were similar, behavioural programs have been more rigorously tested with clinical populations. While there is support for the long-term influence of behavioural parent training, the benefits decrease over time. Individually delivered parent training is far superior to group delivered parent training in helping families facing economic disadvantage. There is no support for including supplements to basic parent training and parent training seems to be robust against age effects.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
MacLeod & Nelson (2000)	56 studies of programmes to promote family wellness and/or to prevent maltreatment.	Out of home placement, maltreatment; child abuse risk, using proxy measures eg parent attitudes and behaviour; home environment relating to parenting (HOME scores).	Overall mean effect size of 0.41 for interventions included in the meta-analysis. Effect sizes for specific interventions ranged of 0.22-.61. Less than 12 visits home visiting programmes were the least effective prevention. Most effective programmes were intensive family preservation with high levels of participation empowering strengths based approach and social support . Effect sizes were larger for measures of parent behaviours than those which measured child abuse, eg placement rates or reported maltreatment.	Intensive, multicomponent programmes with high levels of participant involvement, an empowerment/strengths-based approach, and a component of social support were most effective in preventing abuse. Effects strongest in studies of mixed SES than low SES only.
MacMillan (1993) & MacMillan (2000)	The first review (1993) included 11 studies, eight of which reported on child abuse as an outcome. The updated version (MacMillan (2000) included a further 3 RCTs and 1 follow-up to an original study. 7 studies of home visitation programmes some combined with paediatric visits; two studies of parent training one, of free access to health care one of drop in centre.	Physical, emotional abuse and/or neglect. Emergency room visits and injuries also assessed.	2 RCTs of a intensive intervention by trained nurses (Olds' Nurse-Family Partnership) showed substantially fewer reports of child abuse and neglect among home visited women (0.29 v. 0.54; $p < 0.001$) at 15 year follow up; in one study this finding was limited to a subgroup. Non of the other studies (including studies involving home visits by lay home visitors) produced statistically significant effects on child abuse or foster care outcomes.	There is evidence from 2 trials that high intensity, long-term programme by trained home visitors has had positive effect on reduction of risk of child maltreatment. No evidence was found for effectiveness of any other included intervention, including home visiting by lay persons.

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Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Magill-Evans (2006)	14 papers describing 12 ante, neo-, post-natal and early childhood interventions with a focus on fathers. Studies included: infant massage; observation and modelling behaviour; kangaroo care; participation with child in a pre-school programme; discussion groups; parent training programmes.	<p>Primary outcomes included: father's sensitivity, engagement with child, parenting, self-efficacy, anxiety.</p> <p>Few studies used the same outcome measures.</p>	<p>The following Interventions had a significant effect on father's behaviour:</p> <p>Infant massage (2 studies included): improved child positive model; eye contact.</p> <p>Prenatal education that was aimed at fathers and involved modelling behaviour with the newborn (1 study included).</p> <p>Observation of infant behaviour by mother and father (NBAS): improved infant motor/cognitive development; improved paternal knowledge (1 study included).</p> <p>Discussion group for fathers of toddlers accompanied by father infant playtime: higher paternal self competence (1 study included).</p> <p>Kangaroo care in NICU by father and mother: increased emotional and verbal responsiveness (1 study included).</p> <p>Participation in Head Start including father-infant support group: increased father involvement at home (1 study included).</p>	<p>Participation in Head Start including father-infant support group: increased father involvement at home (1 study included). Discussion group for fathers of toddlers accompanied by father infant playtime: higher paternal self competence (1 study included).</p> <p>Interventions for fathers that involve active participation with, or observation of his child, enhance father-child interactions. Intervention is more likely to be effective if the father has multiple exposures to the intervention.</p> <p>More research is needed to determine the appropriate dose of effective interventions, their impact over time, and the differential impact of interventions with mothers and fathers.</p> <p>Prenatal education that was aimed at fathers and involved modelling behaviour with the newborn (1 study included).</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Montgomery (2001)	11 media-based behavioural parent training to address a range of behavioural disorders including conduct disorder, sleep problems; bed wetting; ADHD.	Effect of intervention on diagnosed child behavioural disorders.	Impact on child emotional and behavioural problems and parent competence. Media-based interventions effective without further intervention with a proportion of parents (estimated ¾ of the population surveyed in one study).	Media-based behavioural interventions are more effective than no treatment for children with behavioural problems and are recommended as part of stepped-care provision.
Moore (2007)	30 studies of SSC with healthy full term infants compared with routine hospital care.	Varied, including -; maternal affectionate love/touch during breastfeeding (observed); maternal attachment behaviour; length of crying time.	SSC of healthy, full term infants was associated with a range of improved outcomes including mother-infant interaction, attachment behaviours, infant behaviour and infant physical symptomatology. Trends were found for improved summary scores for maternal affectionate love/touch during observed breastfeeding (four trials; 314 participants) (SMD 0.52, 95% CI 0.07 to 0.98) and maternal attachment behaviour (six trials; 396 participants) (SMD 0.52, 95% CI 0.31 to 0.72) with early SSC. SSC infants cried for a shorter length of time (one trial; 44 participants) (WMD -8.01, 95% CI -8.98 to -7.04).	SSC contact between mother and baby at birth reduces crying, improves mother-baby interaction, keeps the baby warmer and helps women breastfeed successfully.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
NICE (2006)	7 studies of effectiveness of psychiatric screening for depression. 1 study of effectiveness of antenatal parent education.	Maternal depression	<p>Assessment of antenatal screening for the detection of postnatal depression has poor sensitivity among the general population. However, it is more effective in identifying women who have had a previous episode of puerperal illness or existing mental illness.</p> <p>One study found no evidence of effectiveness of antenatal parent education in reducing risk of depression.</p>	<p>The use of the 'Whooley questions' is recommended as part of routine screening for depression during the first antenatal visit, booking visit and first postnatal visit. The 'third question' (need for help) to be asked if there is a positive answer to either the first or second 'Whooley questions'.</p> <p>Women should be asked early in pregnancy if they have had any previous psychiatric illnesses. Women who have a past history of serious psychiatric disorder should be referred for a psychiatric assessment during the antenatal period.</p> <p>Pregnant women should not be offered antenatal education interventions to reduce perinatal or postnatal depression, as these interventions have not been shown to be effective.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
NICE (2007)	<p>8 studies on the predictive value of the Edinburgh Postnatal Depression Scale (EPDS).</p> <p>16 studies of psychological and psychosocial treatments of populations at identified risk.</p> <p>16 studies of psychological and psychosocial interventions aimed at preventing mental health disorders for women at no identified risk.</p> <p>6 studies of treatment focussed on mother-infant interaction.</p>	Maternal mental health, maternal-infant interaction.	<p>8 studies that measured the predictive value of the 10-item Edinburgh Postnatal Depression Scale (EPDS) found that EPDS can accurately predict which women would not become depressed, but is relatively poor at predicting those who would experience depression at a later date. Brief identification measures (e.g. 3 questions) are as effective as EPDS in identifying symptoms of depression in ante- or post-natal period.</p> <p>Some evidence that psychosocial interventions to prevent the onset of depression are effective with women at risk, particularly those who have sub-threshold symptoms of depression/anxiety. No evidence that psychosocial interventions prevent the onset of depression in women at low risk (eg no past history of mental health problems; not in demographic high risk groups).</p> <p>Brief psychological treatment e.g. interpersonal psychotherapy or CBT effective in alleviation of symptoms of depression/anxiety. Very little evidence of differential effectiveness. Good evidence for individual therapy; mixed results for group treatment.</p> <p>Evidence that dyadic interventions (parent-infant psychotherapy) can improve parent-child interaction in parents with depression in postnatal period.</p>	<p>The use of the 'Whooley questions' is recommended as part of routine screening for depression during the first antenatal visit, booking visit and first postnatal visit. The 'third question' (need for help) to be asked if there is a positive answer to either the first or second 'Whooley questions'.</p> <p>Women requiring psychological treatment should be seen for treatment normally within 1 month of initial assessment, and no longer than 3 months afterwards.</p> <p>Psychosocial interventions (psychoeducation, home visiting) for women with sub-threshold symptoms and at identified psychosocial risk.</p> <p>CBT, interpersonal therapy or non-directive counselling delivered at home (listening visits) for treatment.</p> <p>Dyadic treatment to improve parent-child interaction in women with depression in the postnatal period.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Nowak (2008)	55 studies involving the Triple P parenting programme in a range of settings	Parenting; child behaviour problems; parental wellbeing (Identification of moderating variables).	<p>Overall effect sizes of Triple P for parenting and child problem behaviour ranged between 0.35 and 0.48 for between-groups and 0.45 and 0.57 for within groups post-intervention comparisons.</p> <p>Small to moderate significant positive effects were reported for both parenting (overall ES=0.38), child outcomes (overall ES=0.35), and parental wellbeing (overall ES=0.17). There is also a strong tendency for parents' relationships to improve.</p> <p>Some limitations pertain to the small evidence-base of certain formats of Triple P and the lack of follow-up data beyond 3 years after the intervention.</p>	Triple P causes positive changes in parental wellbeing, parenting skills and child problem behaviour in a small to moderate range. Larger effects were found on parent report as compared to observational measures and more improvement was associated with more intensive and initially more distressed families.
Poobalan (2007)	8 trials of treatment of maternal postnatal depression in which outcomes were assessed in children. Interventions varied and included interventions for mothers only and interventions involving both mothers and infants. Approaches included cognitive behavioural therapy; psychodynamic therapy; mother infant therapy; interpersonal psychotherapy; infant massage. Some studies included more than one intervention plus controls.	<p>5 of 8 studies measured the effect of interventions on the mother-infant relationship.</p> <p>Other outcomes child cognitive development; behavioural and neurological functioning in neonates and young infants.</p>	<p>Two massage intervention studies, showed some evidence of effect on maternal-infant communication.</p> <p>Two studies of psychotherapeutic approaches for mothers only, showed either short term effects or effects on children other than the baby; neither showed a lasting effect on mother-infant interaction.</p> <p>One small trial examined three groups: mother-infant psychotherapy, interpersonal therapy and waiting list control; both intervention approaches improved mother-infant interaction in the short term.</p>	There is some evidence of improved mother infant interaction as a result of interventions that involve both mothers and infants. Evidence on the effect of treatment for depression on children remains inconclusive at this point.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Regalado (2001)	10 studies (9 papers) of which evaluated temperament-based anticipatory guidance, promotion of healthy sleep; promotion of alternatives to physical punishment.	<p>Self-reported parent responsiveness to child temperament; parenting satisfaction; anxiety;</p> <p>Child bedtime/ sleep routines;</p> <p>Infant night waking</p> <p>Child exposure to TV; disciplinary practices;</p>	<p>Parents self-reported increased understanding of child temperament; effect on behaviour unclear;</p> <p>Effective promotion of child sleep</p> <p>Improvements with mild, but not severe, sleeping problems</p> <p>Effective in promoting alternatives to physical discipline</p>	<p>Anticipatory guidance in healthcare settings recommended on sleep habits, discipline, and promoting child cognitive development (see above). Further research needed on temperament based AG.</p> <p>There is also a need to develop more specified service-delivery pathways to improve the feasibility of wide-scale implementation. Wide-scale, multi-site effectiveness research is needed.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Reyno (2005)	31 studies providing data on drop out and treatment outcome 19 studies of predictors and treatment outcome. 11 studies of predictors and dropout	Self report and/or observational measures of child behaviour and drop out.	<p>Family income most strongly predicted outcome (ES 0.52 P<0.001) and to a lesser extent drop out (r=0.21;p<0.002) produced conflicting results in different studies.</p> <p>Small effect sizes only were observed for single parent status, maternal age, and education, minority group status and large family size on both outcome and dropout (ES approx 0.2).</p> <p>Severity of behaviour problems, parent psychopathology and source of referral (school of social agency) predicted outcomes (ES approx 0.4) but not dropout.</p>	Response to parent training is often influenced by factors unrelated to the child such as family income and maternal psychopathology.
Roberts (1996)	11 RCTs	Child abuse and neglect; or accidental injury	<p>9 trials that examined the effect of home visiting on the occurrence of suspected abuse, reported abuse, or out of home placement for child abuse. In four trials the frequency of occurrence of abuse was lower in the visited group. In five trials the frequency of occurrence was higher in the visited group. Substantial heterogeneity of the odds ratios was found across the studies. The potential for bias in the outcome reporting was considered to be a serious threat to validity in all nine studies. Specifically, the presence of the home visitor may have resulted in an increased surveillance for child abuse and hence an increase in the number of reports of abuse. If present, this bias would have resulted in an apparent increased incidence of abuse in the visited group. Pooled effect estimates were therefore not calculated.</p> <p>In contrast, 8 trials examined the effectiveness of home visiting in the prevention of childhood injury. The pooled odds ratio for the eight trials was 0.74 (95% CI 0.60 to 0.92). Four studies examined the effect of home visiting on injury in the first year of life. The pooled odds ratio was 0.98 (0.62 to 1.53).</p>	Evidence of effect on abuse and neglect difficult to assess because of higher likelihood that it will be detected and reported by home visitors.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Schrader McMillan (2007)	8 studies of interventions that address emotionally abusive parenting	<p>Parental emotional control (e.g. anger management); anxiety; blame and intentionality attributions; problem solving capacity;</p> <p>Capacity to mentalize infant (understand the child as an intentional being)</p> <p>Reversal of parent-child role reversal</p>	<p>1 RCT of parent training (Triple P with enhanced focus on attributional retraining and anger management) found significant differences favouring the intervention in parental blame an intentionality attributions ($p < .01$ for ambiguous situations), potential for abuse ($p < .01$) and child abuse potential ($p < .01$) in groups that included parents at identified high risk. No significant effects between groups on other outcomes, including child outcomes.</p> <p>1 RCT comparing parent-child psychotherapy (PPP) with psycho-educational home visitation (PHV) and standard treatment (CS) controls. Marginal effects favouring PPP over CS ($p < .10$) found in children's positive self-representations and on PPP >PHV in mother-child relationship expectations ($p < .10$) and significant differences favouring PPP over PHV in reduction of children's negative self-representations ($p < .01$)</p> <p>1 pre and post intervention study comparing combined group and individual parent training with individual parent training alone found a relationship of $p < .001$ favouring the combined intervention on measures of parental anxiety, stress, and emotionally abusive behaviours.</p> <p>Case studies involved: motivational interviewing/problem solving training with emotionally neglectful parenting; behavioural parent training focused on negative parent-infant interaction; parent-child psychotherapy/ mentalisation based parent-child psychotherapy to address potential neglect and misattribution; family therapy to address parent child role reversal.</p>	<p>The evidence base is weak, but suggests that some caregivers respond well to cognitive behavioural therapy. However, the characteristics that define these parents are not clear. There is currently no evidence to support the use of this intervention alone in the treatment of severely emotionally abusive parents. Some of the evidence suggests that a certain form of emotional abuse (for example, highly negative parent affect, which may be expressed as frightened and frightening behaviours in the parent) stemming from unresolved trauma and loss, is less amenable to CBT. There is some evidence that interaction guidance and psychotherapeutic approaches can generate change in parents with more severe psychopathology.</p> <p>Further research is urgently needed to evaluate the benefits of both psychotherapeutic and cognitive behavioural interventions, including those which take the form of family therapy, with parents at the more severe end of the spectrum, with fathers, and with older children. There is also a need to gain further understanding about which forms of emotional abuse respond best to different treatments.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Schrader McMillan (2008) (cont.)	<p>2 studies of Parenting Under Pressure (PUP);</p> <p>2 studies of attachment based parent education (RPMG)</p> <p>1 trial of integrated services combining drug abuse treatment, individual, group and family counselling, parent education and support;.</p>	<p>Measures included: PUP: Parenting Stress; child abuse potential; parental substance use</p> <p>RPMG: Child maltreatment risk: Maternal aggression/hostility, neglect/indifference, undifferentiated rejection and low expressed warmth/acceptance Involvement and communication with children Limit setting and promotion of child autonomy/independence Maternal psychosocial adjustment Child psychosocial adjustment Maternal substance use Maternal sensation seeking Readiness for change</p> <p>Integrated services: Adult-adolescent parenting: Inappropriate expectations, empathy, role reversal, belief in corporal punishment, oppression of children's independence Maternal depression Post-traumatic stress Maternal risky sexual, drug-using and smoking behaviour.</p>	<p>Parent training: Compared to standard care or brief parent training, PUP showed significant effects favouring intervention on Parenting stress ($p<.001$); child abuse potential ($p<.001$), parental rigidity ($p<.001$) and methadone use ($p<.001$) favouring intervention. Sig. effect on child behavioural problems ($p<.001$) and child prosocial scores ($p<.001$) also favouring intervention. No sig. differences in alcohol use.</p> <p>Ambivalent results for RPMG. 1 trial (RPMG < standard treatment) showed sig. effects on reduction of child maltreatment risk and improved quality of affective relationships; limit setting and promotion of child autonomy ($p<.05$ in all, favouring intervention). Marginal sig effects on mother's reports of child psychosocial adjustment ($p<.10$)</p> <p>Second trial of RPMG showed limited effects and compared to control groups actual deterioration in some outcomes at 6 month follow up.</p> <p>Integrated services: Sig. improvements ($p<.001$) favouring length of stay ($p<.03$) on maternal attitudes associated with child abuse and neglect and reversal of parent child responsibilities favouring intervention ($p<.01$) Sig. improvements on inappropriate expectations of children ($p<.001$), marginally associated with length of stay ($p<.10$). n/s on empathy, belief in corporal punishment, oppressive power over the child.</p> <p>Significant reduction in harmful maternal behaviours including arrest and IV drug use.</p>	<p>PUP: significant effects of PUP and marginally significant effects of integrated services model results suggest the need to address multiple domains of family life simultaneously, and to tailor interventions to the needs and desires of participating families.</p> <p>Success of PUP affected by the fact participating parents were already on methadone maintenance. It may be essential for adults to have achieved cessation of actual drug abuse before parenting behaviour and child outcomes.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Serketich (1996)	26 controlled studies of behavioural parent training programmes combined with additional therapeutic supports.	Child antisocial behaviour	<p>Children of parents who participated in behavioural parent training reported better adjustment on all measures than those who did not.</p> <p>Overall child outcome: $d = 0.86$ Overall child outcome (parental report): $d = 0.84$ Overall child outcome (observer report): $d = 0.85$ Teacher report: $d = 0.73$ Parental adjustment: $d = 0.44$</p>	<p>The study provides evidence to support the effectiveness of behavioural parent training to modify child antisocial behaviour.</p> <p>However, no reliable conclusions can be drawn about the effectiveness of BPT relative to other treatments.</p>
Shaw (2006)	22 trials, including 13 of home visiting; 5 trials of hospital based provision of information and guidance; 1 trial of hospital based screening for relationship difficulties; 2 trials of postpartum debriefing; 1 trial of telephone based peer support from a trained mothers; 1 trials of a support group.	Maternal depression or anxiety.	<p>In 10 trials of interventions aimed at the universal population (women at low risk) only 1 reported statistically significant effect on maternal mental health.</p> <p>Nurse home visit (2.23, 95%CI -3.72 to -0.74, $p < 0.004$) and peer support (15.0% v 52.4 % OR 6.23, 95% CI 1.40 to 27.84, $p < 0.01$) both produced a significant reduction in depression scores of women at high risk.</p> <p>Nurse home visiting and case conferencing also produced a significant improvement on the HOME scores (home environment as affected by parenting) of women at high risk.</p> <p>Telephone based support by trained peer mothers produced significant increase in peer (15.0% v 52.4 % OR 6.23, 95% CI 1.40 to 27.84, $p < 0.01$)</p>	<p>There is insufficient evidence to endorse universal provision of postpartum support to enhance maternal mental health or parenting. There is some evidence that high-risk populations can benefit from postpartum support.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Skowron (2005)	<p>21 studies, of which 4 focused on children alone.</p> <p>Of remaining 17 studies, 2 focused on parents alone and 15 on parents and children.</p>	<p>Child cognitive process (eg self-esteem, depression, anxiety) and child behaviour, (eg internalizing and externalizing disorders, classroom disruption, social skills; aggression, inappropriate sexual behaviours)</p> <p>Parent behaviour (self report) Family interaction (observation)</p>	<p>Effect sizes were homogeneous at $p < .05$ for five of the six outcome constructs examined: $d+ = .28$, $Qw(6) = 11.11$, for child cognitive performance; $d+ = .44$, $Qw(7) = 13.81$, for child self-report; $d+ = .30$, $Qw(3) = 3.20$, for behavioural observation of child; $d+ = .53$, $Qw(6) = 9.38$, for parent self-report; and $d+ = .21$, $Qw(1) = 0.15$, for behavioural observation of family. Heterogeneity within effects was observed only for parent ratings of child: $d+ = .42$, $Qw(8) = 16.32$.</p> <p>Treatments for child sexual abuse yielded slightly larger effects ($d+ = .69$) than those for general CM ($d+ = .40$), but the significant within-group variance among the sexual abuse treatment effects indicate impact of critical moderators (e.g. length of treatment, severity of abuse, and/or abuse comorbidity). Severity of maltreatment and resulting symptoms are likely to be important moderators of other forms of CM treatment effectiveness.</p> <p>Type of treatment: The small number of non-behavioural interventions reviewed ($n = 3$; $d+ = .87$) yielded larger treatment effects than did behavioural treatments ($n = 12$; $d+ = .40$), which may have been moderated by length of treatment (non-behavioural interventions were of significantly longer duration than behavioural treatments)</p> <p>Treatment modality: Variations in treatment effect sizes did not emerge for treatment modality: individual ($d+ = .39$, $SE = .13$, $n = 8$ treatments), group ($d+ = .69$, $SE = .16$, $n = 3$ treatments), family ($d+ = .28$, $SE = .11$, $n = 3$ treatments), and multilevel ($d+ = .64$, $SE = .11$, $n = 11$ treatments).</p> <p>No significant differences in magnitude of effects were observed between mandated ($d+ = .70$, $SE = .14$, $n = 6$) and voluntary ($d+ = .49$, $SE = .10$, $n = 11$) treatments.</p>	<p>Psychological treatments for CM yielded improvements among participants compared to waiting list, community case management or placebo groups. Caution is needed because self reported outcomes were associated with larger treatment gains than objective behavioural observations. Longitudinal studies are needed as some forms of child abuse (especially sexual abuse) can have sleeper effects (i.e. mental health problems that occur at a later date).</p> <p>Further attention needs to be given to potential moderators of treatment effectiveness.</p> <p>Comprehensive assessment that identifies child victims of maltreatment along a continuum of severity of psychological reactions (from no symptoms to psychiatric disorders) is needed to help practitioners identify the level of intervention needed.</p> <p>Psychoeducation / brief cognitive behavioural therapy may be best suited for families of children with mild symptomatology.</p> <p>Multicomponent, longer term treatment may be used for those who experienced early severe victimisation and severe psychopathology. However, at present limited evidence to provide definitive suggestions for treatment of children with more complicated psychological profiles.</p> <p>Agencies that provide treatment need to train staff in advances in interventions that have been shown to be effective and explore their implementation in broader community settings.</p>

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Suchman (2006)	Six studies included in the review. 4 of these took a cognitive behavioural, psychoeducational curriculum-driven approach. 2 adopted approaches emphasising relationship quality.	Parent outcomes included; attendance; drug use; parental adjustment. Parent-child outcomes included; maternal sensitivity; home observations; family relations	Cognitive behavioural parent skills training and advocacy programmes have not yet demonstrated measurable improvement in the quality of mother-child interactions or children's developmental outcomes in families affected by maternal drug use. Programmes that demonstrated the most promise focused on improving the quality of relationships between mother/child or mother/therapist.	The authors argued for the benefits of an attachment-based intervention on the grounds that drug-abuse is likely to stem in part from unresolved attachment issues. Further research is needed on relational (attachment based) parenting programmes for drug dependent women and their young children (see below).
Underdown (2006)	23 studies included. 9 studies were included in the main analysis 13 were analysed separately due to high risk of bias. Studies evaluated effectiveness of infant massage irrespective of the theoretical basis or cultural practice underpinning the massage.	Infant mental health (e.g. CARE-index); infant temperament; attachment.	1 study reported significant benefits of a 5 week massage course for depressed mothers on mother-infant interaction. Further effects reported on infant attentiveness a) attentiveness -1.31 (-2.26 to -0.37); b) liveliness-1.30 (-2.24 to -0.36) and c) reduced distress -0.95 (-1.85 to -0.06). The same study found significant difference favouring the intervention group in global ratings of interactions: 1.32 (-2.27 to -0.38); warmth in the interaction -2.17 (-3.27 to -1.07); reduction of intrusive maternal interactions -0.97 (-1.87 to -0.08). Some evidence of benefits on sleeping and crying. A further study reported significantly less crying -8.20 (-12.24 to -4.16) and significantly increased active sleep in -37.00 (-50.86 to -23.14) the massage group. Some evidence (2 studies) of effect on hormones influencing stress levels, favouring the intervention. There was no evidence of effects on cognitive and behavioural outcomes, infant attachment or temperament.	In the absence of evidence of harm, these findings can support the use of infant massage in the community, particularly in contexts where infant stimulation is poor.

Author (Year)	Number and focus	Mental health outcomes	Results	
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	of included studies	measured		Conclusions
Vickers (2004)	14 studies of massage to promoting growth and development of preterm and/or low birth-weight infants.	Behavioural and developmental outcomes; proxy measures.	Massage interventions improved daily weight gain by 5.1g. There is no evidence that gentle still touch is of benefit. Massage interventions appeared to reduce length of stay in hospital by 4.5 days, though there are some methodological concerns about the blinding of this outcome. There was some evidence that massage interventions have a slight positive effect on postnatal complications and weight at 4-6 months. However serious concerns about methodological quality of the included studies weaken the credibility of these findings.	Evidence of beneficial effects is weak and does not warrant wider use of preterm infant massage. Where massage is currently given by nurses consideration should be given as to whether this is cost-effective use of nurse time.
Wyatt Kaminski (2008)	Parent training programmes to enhance behaviour and adjustment of children aged 0 – 7.	Parental knowledge of child development and care; positive interactions with child; responsiveness, sensitivity and nurturing; emotional communication; disciplinary communication; discipline and behaviour management; promoting child's social skills or prosocial behaviour; promoting child's academic or cognitive skills.	The overall weighted effect size of the final set of 77 studies across all coded outcomes was 0.34 (95% CI=0.29– 0.39), reflecting a significant mean difference between treatment and comparison groups at immediate post-test of just larger than a third of a standard deviation. Approaches associated with more positive outcomes included: coverage of positive parent child interaction and emotional communication skills; teaching parents to use time out and be consistent, having a curriculum or manual and requiring parents to practice new skills with their children during sessions. Components associated with smaller effect sizes were: teaching of problem solving, promotion of children's academic and cognitive and social skills provision of other, additional services	If the intended outcomes are parenting behaviours and skills and externalizing behaviours in children ages 0–7, resources might best be redirected from strategies consistently associated with smaller effects (problem solving; teaching parents to promote children' cognitive, academic, or social skills; and providing an array of other services) to strategies consistently associated with larger effects, such as increasing positive parent–child interactions and emotional communication, teaching time out and the importance of parenting consistency, and requiring parents to practice new skills with their children during parent training sessions.

