Effectiveness and experiences of families and support workers participating in peer led parenting support programs delivered as home visiting programs: a comprehensive systematic review

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Executive Summary

Background

Designing child and family health services to meet the diverse needs of contemporary families aims to minimize impacts of early disadvantage and subsequent lifelong health and social issues. Innovative programs to engage families with child and family support services have led to interest in the potential value of peer led home visiting from parents in local communities. There is a range of benefits and challenges identified in a limited number of studies associated with home visiting peer support.

Objectives

To identify:

- the effectiveness of peer led parenting support programs delivered as home visiting programs to indigenous and non-indigenous families, and the characteristics of successful programs
- the experiences of families and support workers participating in parenting support programs delivered as home visiting programs .including the relationships between the program participants.

Inclusion criteria

Participants:

Families/parents with one or more children aged 0-4 years of age, peer support workers and their supervisors.

Intervention and phenomenon of interest:

The intervention was peer led home visiting parenting support programs which use volunteer or paraprofessional home visitors from the local community compared to standard community maternal-child care.

The phenomenon of interest was the relationships between participants in the program.

Types of studies:

Included studies: Quantitative studies: Randomized Control Trials. Qualitative studies: Grounded Theory and qualitative descriptive studies.

Types of outcomes:

Parental attitudes and beliefs, coping skills and confidence in parenting, parental stress, compliance with child health checks/links with primary health care services, satisfaction with peer support and services, and the nature of the relationship between parents and home visitors.

Search strategy

The search strategy included both published and unpublished studies. Seven journal databases and five other sources were searched. Only studies published in the English language from 2000-2015 were considered.

Methodological quality

Studies were assessed by two independent reviewers using standardized critical appraisal tools from the Joanna Briggs Institute: Meta-Analysis of Statistics Assessment and Review Instrument and the Joanna Briggs Institute Qualitative Assessment and Review Instrument as appropriate.

Data collection

Both quantitative and qualitative data were independently extracted by two reviewers using standardized data extraction tools from the Joanna Briggs Institute: Meta-Analysis of Statistics Assessment and Review Instrument and the Joanna Briggs Institute Qualitative Assessment and Review Instrument respectively, including qualitative and quantitative details about setting of interventions, phenomena of interest, participants, study methods and outcomes or findings.

Data synthesis

For quantitative findings, statistical pooling was not possible due to differences in interventions and outcome measures. Findings were presented in narrative form. Qualitative findings were aggregated into categories based in similarity of meaning from which synthesized findings were generated.

Results

Quantitative results from two RCTs demonstrated positive impacts of peer led home visiting parent support programs including more positive parenting attitudes and beliefs, and more child preventative health care visits.

Fifteen qualitative findings from two studies were aggregated into five categories from which two synthesized findings emerged. Parents and home visitors identified similar components as contributing to their program's success, these being quality of relationships between parents and home visitors with elements being mutual respect, trust and being valued within the partnership. Additionally, home visitors identified importance of enabling strategies to develop relationships. They also needed supportive working environments with clinical staff and management.

Conclusions

This review indicates a positive impact of peer led home visiting parent support programs, incorporating a framework of partnership between parents and home visitors, on mother-infant dyads. Positive changes in parenting attitudes and beliefs and increased number of child preventative health care visits are supported by the quality of the relationship between parent and home visitor, and home visitors' working environments.

Implications for practice

The essential characteristics of an effective parent support program are strategies for relationship building between parents and home visitors; ongoing staff and home visitor education to enhance communication, collaboration and working in partnership; supervision by team leaders and continuous quality improvement.

Implications for research

The focus of further research should be on confirmatory studies using an action research methodology, and the cost-effectiveness of these models.

Keywords

Parent support programs, peer led home visiting, home visiting parent support, volunteer home visitors

Background

This review aimed to examine peer led home visiting parenting support for families with young children. This was undertaken by synthesizing existing quantitative and qualitative evidence on the effectiveness of peer led home visiting parenting support programs and the experience of both indigenous and non-indigenous families, and staff participating in these programs.

The early years in a child's life have a significant impact, positively or negatively, on their future. This is a sensitive period where interactions between children's genes and environmental experiences influence brain development, particularly in relation to emotions, self-control and stress responses.[1,2] Risk factors such as poverty, emotional and physical neglect, family dysfunction and low community support impede positive long term developmental trajectories, particularly for indigenous families who are vulnerable on a number of child wellbeing and developmental outcomes.[1,2]

Evidence to date suggests that early intervention parent support programs to enhance protective factors and moderate social and economic disadvantage in this early childhood period from infancy to when the child enters the formal educational system, have a positive impact on these factors and moderation of disadvantage.[1,2] Designing and implementing child and family health services to meet these needs include the use of home visiting. This is a home based outreach service by professional, paraprofessional and volunteer staff based on identification of client need to ensure that every family has access to appropriate support and assistance.[3] Central to the appropriateness of home visiting is the need to develop, implement and evaluate programs within the broader context of impacting social and cultural factors as these influence parents' acceptance of and engagement with the support.[4]

Home visiting parent support programs are not standardized in relation to intervention delivery[1] with variations in aspects such as facilitators, resources and the period of support for the parent(s). A significant feature is the use of nurses, paraprofessionals or community volunteers to undertake the home visiting. While community nurse led home visiting is an established strategy to support parents[5-7], there is increasing interest in the potential value of peer led home visiting from parents in local communities[4,8] the rationale being that shared social characteristics and experiences increase the support worker's ability to empathize with the parents, who in turn are more likely to trust those similar to themselves.[4,8]

There a various terms for and definitions of a peer support worker. 'Home visitor' and 'family visitor' are terms used by different countries and programs.[4-9] Peer support workers have no formal

educational qualifications in the area of parent support and work in a voluntary or paid capacity to support members of their own community.[4] They may, however, have some training. Those community workers with more training in family support are often referred to as paraprofessional support workers and usually work in a paid capacity.[9]

A research program in North America on the impact of nurse-led home visiting programs on parental care and child health began three decades ago. The Nurse Family Partnership (NFP) program was designed for low income first time mothers from the antenatal period to two years postnatally.[1,5-7,10,11] More recently, the NFP program engaged the use of paraprofessional workers to assist the nurses.[9,12] An RCT[12] and a follow up study[9] two years later investigated the impact over a two year period of both nurses and paraprofessionals supporting families of various ethnicities who had low psychological resources. At the end of the first study[12] the effect of paraprofessional support on maternal and child health outcomes was only half that of nurses. However, at the end of four years the paraprofessionals had a greater effect on some of the mothers' outcomes than the nurses when compared to the controls e.g. mental health scores, but not on the children's outcomes.[9]

The Healthy Tomorrows for Denver (HTD) program provided early intervention home visiting paraprofessional and nurse led support for low socioeconomic parents with children from newborn to age five, with research evaluation data collected one year after referral. There were no significant statistical differences in results of home visiting support between nurses and paraprofessionals.[13] However, none of the above studies[5-7,9,12,13] took into account qualitative research methods where the experiences of families participating in peer led parenting support programs could be explored nor did they address indigenous populations.

In a strategy to provide empathic, meaningful support for parents, local community volunteer and remunerated peer led home visiting has been undertaken in various communities in England and Australia. The Community Mothers Program is one of the earlier documented community based volunteer parent peer support projects, commencing in Dublin, Ireland and extended in later years to Bristol, England. A significant aspect of this home visiting program was the use of non-professional mothers from a low socioeconomic area to support first time mothers from the same community.[14-16] The peer support workers were able to work in partnership alongside parents and facilitate capacity building and empowering strategies to encourage maternal self-esteem and self-confidence in child rearing. Volunteer peers are able to spend more time with parents in a supportive, relaxed and informal environment, as compared to a professional community nurse, who tends to provide a specific service.[14-16] Strategies include promotion of parents' potential through praise and encouragement for their parenting activities rather than advice giving and direction. Parents are encouraged to stimulate their children through activities such as reading, encouraging breast-feeding, and praising their children, as well as focusing on child safety. The program uses illustrated health promotion sequences to trigger peer-parent discussions on healthy and developmentally appropriate coping strategies for child-rearing challenges.[17]

The Family by Family program in South Australia links families seeking to make positive changes to their parenting to volunteer peer support workers from local families who have successfully transitioned though their own difficulties, with assistance lasting 10, 20 or 30 weeks. A mixed method evaluation highlighted the necessity for responsive programs that adapt to varying circumstances and allowing families to create their own change.[18]

Recent studies and reviews in Western Australia[4,19,20] have identified the need for improved, innovative ways of providing parent support and child health service delivery for indigenous families, including home visiting. To strengthen culturally meaningful child and family health services provided by child health nurses, peer led support for indigenous families delivered as home visiting programs is considered important as local parents working as peers are cognizant of the lived experiences of these families in their immediate geographical area, along with contemporary psychosocial impacts. Given the vital importance of early childhood development, it is timely to undertake a systematic evaluation of peer led home programs to review their effectiveness and identify the elements of successful implementation in order to enhance the evidence base, thereby informing further program development.

An initial search of the databases through MEDLINE (Ovid) and CINAHL between May to June 2014 elicited a meta-analysis of quantitative studies[21] that identified characteristics of prenatal and early childhood home visiting programs that strongly predicted outcomes. As few studies were located, the

focus was on program content with only a very brief reference to non-professional home visitors. No systematic reviews specifically reviewing quantitative and qualitative data for peer led home visiting parenting support programs for indigenous or non-indigenous families were identified.

The objectives, inclusion criteria and methods of analysis for this review were specified in advance and documented in a protocol.[22] The systematic review (SR) deviates from the a priori protocol[22] in three ways. Firstly, the main objective and intent of the SR was to explore the experiences of the participants. While a sub-objective of the review was also to explore 'meaning', which highlights the attraction of and significance of the experiences to families and support workers,[19] more complete consideration and understanding of the topic during the conduct of the review led to the determination by the review authors that exploration of 'meaning' was beyond the scope of the review. Secondly, while the intent in the protocol[22] was to explore the experiences of families, from the data it became clear that the experiences of the support workers were integral to a comprehensive approach to peer led parent support. The third area of difference from the protocol[22] is an addition to the inclusion criteria of the category "supervisor of support workers". The data supported this inclusion, emphasizing the supervisors' influence on peer support workers' experiences.

Objectives

The question that led to this review was: What is the effectiveness of peer led parenting support programs delivered as home visiting programs, what are the experiences of families and support workers participating in these programs and how can the programs be improved?

The aim of the review was:

- to identify the effectiveness of peer led parenting support programs delivered as home visiting programs to indigenous and non-indigenous families, and the characteristics of successful programs
- to identify the experiences of families and support workers participating in these parenting support programs delivered as home visiting programs, including the relationships between the program participants.

More specifically, the objectives were to identify:

- The types of peer led home visiting programs that are, or have been undertaken.
- The effectiveness of peer led home visiting parent support programs for families.
- The successful components of peer led home visiting parent support programs.
- The experiences of families with regard to peer led home visiting parent support programs.
- The experiences of both peer support workers and their supervisors with regard to peer led home visiting support programs.
- The differences between peer led home visiting programs offered to indigenous and non-indigenous families.

Inclusion criteria

Types of participants

The quantitative and qualitative components of this review considered community based studies that included:

1. Families/parents (including indigenous and non-indigenous) with one or more children aged 0-4 years of age. After four years, children are usually in the formal education system, e.g. kindergarten and preschool, and are supported by educational services.[23] Parents may be married, single or in defacto and/or same sex relationships.

2. Peer support workers – one or both of the following types of family support worker:

- Peer support workers have no formal educational qualifications in the area of parent support and work in a voluntary or paid capacity to support members of their own community.[4]They may, however, have some training.
- Those community workers with more training in family support are often referred to as paraprofessional support workers and usually work in a paid capacity.[9]

3. Supervisor of support worker: Community based Registered Nurses undertaking home visits to support families.

   There a various terms for and definitions of a peer support worker. “Home visitor” and “family visitor” are interchangeable terms used by different countries and programs. In this review, the term “home visitor” will be used.

Exclusions

Studies that included children older than four years of age.

Programs delivered as non-home visiting support or in which support was provided by individuals other than peers.

Types of intervention(s)/phenomena of interest

The quantitative component of the review considered studies that evaluated effectiveness of peer led home visiting parent support programs which used volunteer or paraprofessional workers who have shared similar parenting experiences in the local community to deliver the intervention. There were no requirements regarding minimum duration or frequency of interventions or essential elements or topics that needed to be addressed in the interventions.

Comparator: Standard care provided by local health and social services to the families in that community.

The qualitative component of this review considered studies that investigated:

- experiences of peer led parenting support programs for families who used volunteer or paraprofessional parents who have shared similar parenting experiences in the local community to deliver the intervention, and
- experiences of the volunteer or paraprofessional parents delivering the intervention.

Context

The context was rural and urban community based services involving home visits.

The “home visit” does not necessarily have to take place in the family home. The support sessions can occur in an alternative location chosen by the parent, such as the local park.

Types of outcome measures

This review considered studies that included but were not confined to the following outcome measures.

Program effectiveness as measured by:

- Changes in parental attitudes and beliefs, as measured by the Bavolek’s Adult-Adolescent Parenting Inventory (AAPI)
- Improved coping skills with parenting, as measured by the AAPI and client self-reported improved coping skills
- Increased confidence in parenting, as measured by the AAPI and client self-reported increased confidence in parenting ability
- Decreased parental stress, for example, client self-reported decrease in parental stress
- Increased compliance with child health checks/links with primary health care services, for example, the number of well-infant care and immunization visits

Participant experience of peer led parent support programs as assessed through a variety of research methods such as individual and focus group interviews providing qualitative data on:

- Client self-reported satisfaction with peer support
- Client self-reportedsatisfaction with home visiting services
- Self-reported satisfaction of relationships from the perspectives of both clients and home visitors
- Self-reported satisfaction of relationships from the perspectives of both home visitors and supervisors
- Any other self-reported experiences that impacted on participants' parenting

Types of studies

The quantitative component of the review considered both experimental and epidemiological study designs including RCTs, non-randomized controlled trials, quasi-experimental, before and after studies, prospective and retrospective cohort studies, case control studies and analytical cross sectional studies for inclusion. Descriptive epidemiological study designs including case series, individual case reports and descriptive cross-sectional studies were also considered.

The qualitative component of the review considered studies that focused on qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, action research and feminist research.

As a number of studies were identified, other texts such as expert opinion, discussion papers and position papers were not considered.

Search Strategy

The search strategy aimed to find both published and unpublished studies.

A three-step search strategy was utilized in this review. An initial limited search of MEDLINE (Ovid) and CINAHL was undertaken, followed by analysis of the text words contained in the title and abstract and of the index terms used to describe the article. A second search using all identified keywords and index terms was then undertaken across all included databases. Third, the reference lists of all identified reports and articles were searched for additional studies.

Initial keywords were paraprofessional parent support, peer led parent support, peer led home visiting parent support, and home visiting parent support. The databases searched included MEDLINE Ovid and CINAHL, Science Direct, Scopus, AIATSIS - Indigenous studies bibliography (Informit), ATSI Health - Aboriginal and Torres Strait Islander health bibliography (Informit) and Australian Indigenous Health*InfoNet*. The search for unpublished studies included Grey Literature Network Service, Australian National Library, WorldCat, Conference Papers Index through ProQuest and Google.

For details of specific search strategies see Appendix I.

Methods of the Review

All studies identified during the database search were screened for relevance to the review based on the information provided in the title, abstract and descriptor terms. A full report was retrieved for all studies that met the eligibility criteria.

Only studies published in the English language were considered for inclusion in this review as no translation services were available. No authors of primary studies needed to be contacted for missing information or to clarify unclear data. This screening was undertaken between 24/5/14 and 4/6/14, considering studies from 2000-2014 as the year 2000 was the time from which volunteer or paraprofessional visiting began to emerge on a substantial basis in the literature. Home visiting peer support is a relatively new intervention, with most previous studies being related to professional home visiting support. As the search was conducted over 12 months ago, additional searches were undertaken in November 2015 and March 2016, with no further relevant studies identified.

Studies identified from the reference list searches were assessed for relevance based on the study title and abstract.

Assessment of methodological quality

Quantitative papers selected for retrieval were assessed by two independent reviewers, with the assistance of a third reviewer, for methodological validity prior to inclusion in the review using standardized critical appraisal instruments from the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) (Appendix IIa). Qualitative papers selected for retrieval were similarly assessed for methodological validity prior to inclusion in the review using the standardized critical appraisal instrument from the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI) (Appendix IIb). To facilitate inter-rater reliability, the reviewers came to an agreement on aspects of appraisal criteria wording needing clarification or interpretation. For the second criterion (Is there congruity between the research methodology and the research question or objectives?), it was agreed that the term 'methodology' would incorporate study designs congruent with the interpretive paradigm. The reviewers also discussed the questions in each of the critical appraisal checklists to identify those components considered essential for a study to be included in the systematic review. For RCT's questions 1, 5-10 were selected as were questions 2-4, 6, 8-9 for descriptive/case series. The questions in the JBI-QARI checklist for interpretive and critical research selected were 1-5 and 8-10 (Appendices IIa and IIb).

Data extraction

Quantitative data were independently extracted from papers included in the review using the standardized data extraction tool from JBI-MAsTARI (Appendix IIIa). Data extracted included specific details about study setting, study method, participant details, intervention treatment, intervention control, outcome measures, study results and author conclusions (Appendix V).

Qualitative data were independently extracted from papers included in the review using the standardized data extraction tool from JBI-QARI (Appendix IIIb). The data included specific details about study context, study populations, study methods, study interventions and findings of significance to the review question and specific objectives (Appendix V).

There were no disagreements between the reviewers that needed to be resolved through discussion.

Data analysis and synthesis

As there were no comparable RCTs identified, the quantitative data were not able to be pooled. The two studies differed considerably in terms of participants, interventions and outcome measures. As meta-analysis is only indicated when studies are homogeneous in relation to participants, interventions and outcome measures, the extracted data were developed into a narrative summary.[25]

The qualitative data were synthesized. This involved synthesis of qualitative findings to create a set of statements representing data aggregation. The findings were collated (Level 1 findings) and were categorized based on similarity of meaning (Level 2 findings). The level 2 findings were synthesized, constructing synthesized findings (Level 3 findings). These will be foundational for evidence-based practice recommendations. The Level 3 findings were then assessed using the JBI levels of credibility:

- Unequivocal (U) – the findings are not open to challenge and are directly observed from textual data in the studies
- Credible (C) – the findings can be logically inferred from the data, but could be challenged
- Unsupported (Un) – the findings are not supported by the data[26]

Two primary reviewers collaboratively examined all extracted findings and grouped these into draft categories. The draft categories were linked to their associated findings and were reviewed, discussed and clarified. Central to the grouping of findings into categories was affiliation in relation to terms of meaning. The synthesized findings were drafted by the primary author, following which they were sent to the second reviewer for review, clarification and validation.

Review Results

Description of studies

The initial database search resulted in a total of 401 records being identified. Following removal of 33 duplicates, there were 386 abstracts screened against key words resulting in the exclusion of 376 records, with the key words being; parent* program; peer support; home visit*; parent* support. If any key words did not appear in the abstract, they were not included. If there were any queries by reviewers, full texts were obtained. The full text articles for the remaining 10 records were retrieved and assessed against the inclusion criteria. Three of the studies did not meet the inclusion criteria and three of the studies did not meet the criteria of methodological quality (Appendices IIa and IIb), leaving four studies (two quantitative and two qualitative) to be included in the systematic review (Figure 1). The four included studies (Appendix V) were published over a four year period (2003-2007). See Appendix V for details of included studies.

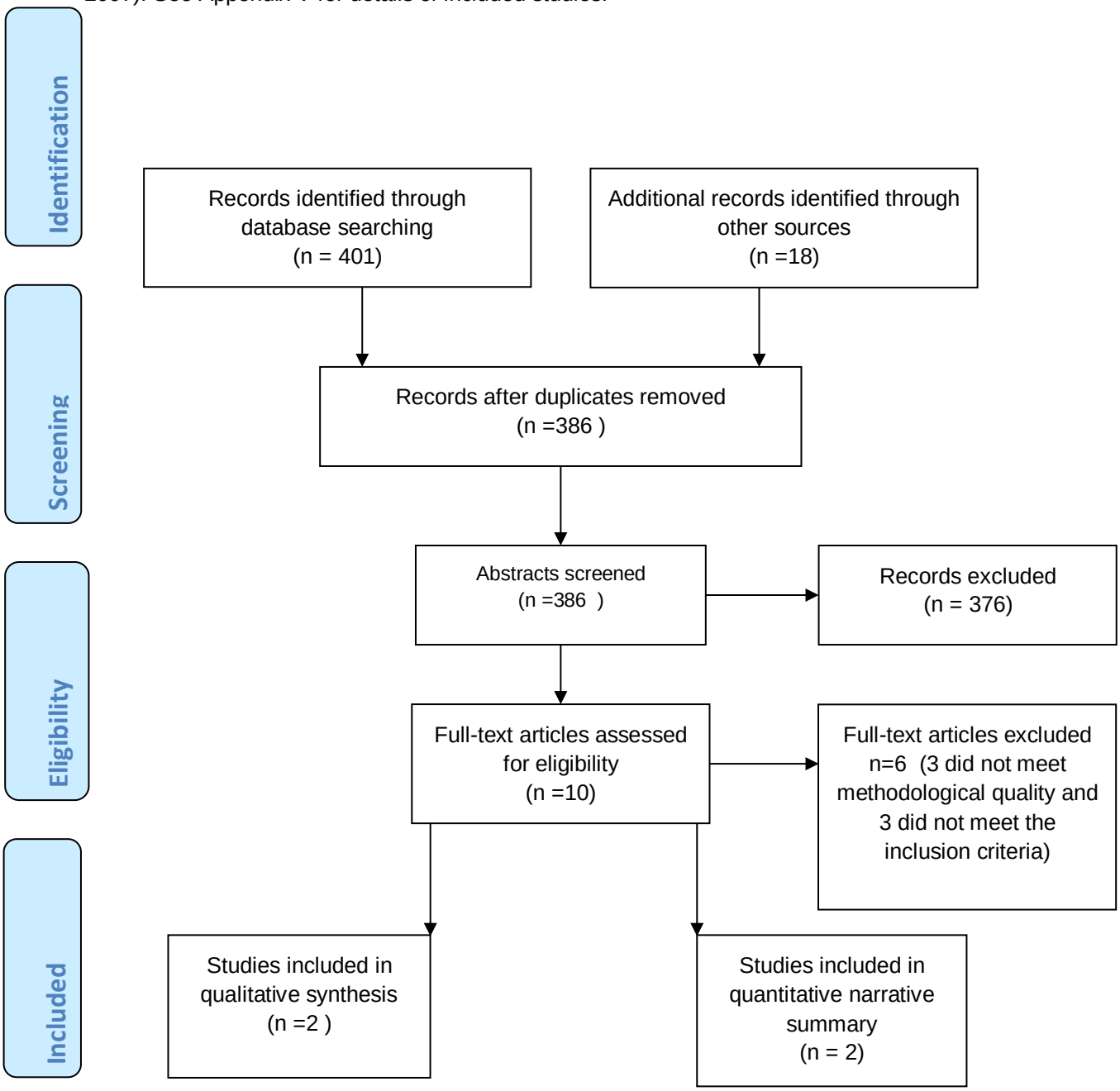

Figure 1: PRISMA Flow Diagram[27]

Location

Both quantitative studies[28,29] were conducted in major cities in the United States of America (USA) – Baltimore and Washington DC respectively. [29] The two qualitative studies[30,31] were conducted in Canada, one working with at-risk mothers within rural and urban areas in the Province of Manitoba [30] with the second targeting at-risk families in a non-specified location within the Province of Manitoba.[31]

Participants

All programs within this systematic review were targeted towards at-risk mothers, with participation being voluntary. The study by Jack et al.[31] recruited participants (with no identified age range) during 2001-2012, with data collection and analysis occurring simultaneously. In 2002, Heaman et al.[30] enlisted participants with a mean age of 24.7 years into the BabyFirst program with data collection undertaken over a five month period from October 2003 to February 2004. The randomized control study undertaken by El-Mohandes et al.[29] recruited participants between April 1995 to April 1997 for a year-long intervention. The mean age of the mothers was 24.8 years. Barnet et al.[28] recruited participants for a randomized control trial between February 2001 and January 2003, for an engagement of two years. This study focused on adolescent mothers with a mean age of 16.9 years.

One quantitative[28] and one qualitative[30] study identified parent support by peer led home visitors working alone, with the remaining quantitative[29] and qualitative[31] studies documented a partnership approach for home visiting between the home visitors and community nurses. In all program implementation, the home visitors were supported by supervisory community nurses.[28-31]

The number of mother and child dyads enrolled in the four studies totaled 410 with the majority of the participants (n=286) contributed by one of the RCTs.[29] The two quantitative studies collected detailed data on maternal characteristics including marital status, education, socioeconomic status, reproductive history, abuse and violence exposure, and substance use. There were some commonalities between the participants in these two studies e.g. very high percentage of African American mothers (91% and 98.6%) and majority receiving Medicaid health insurance (77% and 79%). On other areas there were differences in several characteristics due, at least in part, to the age difference between the two samples. For example in respect to substance use in the adolescent study[28] (mean age of 16.9 years), on entry to the program 10% reported smoking compared to 28% in the older age group (mean of 25 years).[29] Similar differences were noted in alcohol use (5% compared to 20%) and illicit drugs (5% compared to 13%). In the adolescent group 13% had had a prior pregnancy, while the average number of children in the study with older participants was 2.9 children.

Only one of the qualitative studies[30] provided demographic data on the families involved. Of the 20 participants 45% were married or in common law relationships. The mean length of education was 12 years and the majority (65%) reported they were homemakers. Twenty percent identified themselves as indigenous (either First Nation or Métis). The mean age of the children in the program was 14.7 months.

This study[30] also included information on the home visitors and their supervising public health nurses. The fourteen home visitors were all women with an average age of 39 years who had worked in the support program for a mean of 35 months prior to the study commencing. Four of them identified themselves as of aboriginal descent. The average age of the supervisors was 46 years. They were very experienced nurses and had worked in public health on average for 14 years and for 56 months in the support program.

Study Design

The two RCT's [28,29] used a two group design. One qualitative study[30] used a descriptive approach describing findings related to relationships between lay home visitors and parents participating in an early childhood home visiting program. The remaining qualitative study employed grounded theory to describe the process of engagement between paraprofessional home visitors and mothers.[31]

Sampling

The RCT's utilized randomized sampling[28,29] while the qualitative studies[30,31] employed purposeful sampling. The number of participants in the four studies totalled 438: 410 mothers, 14 public health nurses and 14 home visitors. The numbers in each study ranged from 20 to 286. One RCT[28] focused on pregnant adolescents between 12-18 years of age while the other[29] selected mothers who had had inadequate or no prenatal care.

Intervention

While the "control" intervention used by both quantitative studies was the same - standard health and social services - the home visiting intervention programs varied in several respects. One variation was the number of components included in the intervention. In the study by El-Mohandes et al.[29] the home visits were accompanied by playgroup visits with an associated parent support group plus monthly support telephone contact. Barnet, et al.[28] relied on home visits only. The period of support offered also varied. Barnet et al.'s study, having commenced in the third trimester of pregnancy, extended over the first two years of the child's life with biweekly home visits for one year and then monthly visits for the following two years. The other study[29] intervention provided weekly visits until the baby was five months old then two weekly visits to 12 months of age.

For the qualitative studies the phenomena of interest were the mothers' experiences, beliefs and expectations in relation to engagement with home visitors[31] and the relationships between the study participants, the public health nurses and the home visitors.[30]

The program content of all four studies was similar. Both quantitative studies employed a standardized curriculum for training home visitors, including instruction on parenting and child care topics aligned with children's ages and developmental stages, modelling of good parenting attitudes in addition to encouragement of parent engagement with community health and social service resources. One study[28] also emphasized adolescent appropriate learning for safer sexual practices, prevention of repeat pregnancy and communication skills for maintaining both parents in the family. The qualitative studies[30,31] promoted positive parenting skills and child engagement, improvement of children's health and development, and linking families with community resources.

Data Collection

Both the qualitative studies[30,31] employed in-depth interviews to obtain data with one study[31] also using client record interviews. The two quantitative studies used different data collecting methods: client record interviews[29] and interviews to obtain responses to validated assessment tools.[28]

Outcome Measures

Outcome measures employed by Barnet et al.[28] included scores obtained on the Bavolek's Adult-Adolescent Parenting Inventory (AAPI) and the Centre for Epidemiologic Studies Depression scale (CES-D). The AAPI measures changes in parenting attitudes and beliefs around aspects of raising children. Four subscales contribute to an overall score: appropriate expectations, empathy, avoidance of physical punishment and avoidance of role reversal. The CES-D was used to measure maternal mental health (score ≥21). Program impact on a variety of other outcomes – contraception use, pregnancy, school completion and linkage with primary care were measured by means of self-report on follow-up at 12 and 24 months.

El-Mohandes et al.[29] measured the impact of the home visiting support program on the use of preventative healthcare services in the first year of life. The specific measures of interest were the initiation and frequency of well-infant care visits and compliance with scheduled immunization visits. These self-reports were verified against providers' records.

Methodological quality

Of the ten studies meeting the screening criteria for consideration for inclusion in the review, three were excluded on the basis of methodological quality[15,33,34] (Appendix VI), as they did not meet the essential criteria for inclusion using the JBI- MAStARI and JBI - QARI checklists (Appendices IIa &II b).

Methodological assessment of the four included quantitative and qualitative studies are detailed in Table 1.

Table 1: Methodological assessment of included studies

Quantitative studies - Randomized control trials

Criteria 1, 5-10 are essential for inclusion. Criteria 2, 3 and 4 are not essential for inclusion.

Study	**Q1**	Q2	Q3	Q4	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**
Barnet, et al[28]	Y	N/A*	U*	N	Y	Y	Y	Y	Y	Y
El-Mohandes, et al[29]	Y	N/A*	U*	N	Y	Y	Y	Y	Y	Y

*N/A – not applicable – not possible to blind recipients for intervention
U – Unclear

Qualitative studies

Criteria 1-5, 8-10 are essential for inclusion. Criteria 6 and 7 are not essential for inclusion.

Study	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**
Jack et al[31]	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Heaman et al[30]	Y	Y	Y	Y	Y	N	N	Y	Y	Y

<u>Quantitative studies</u>

Both included quantitative studies[28,29] met seven of the criteria: assignment to treatment groups being truly random (criterion 1), those assessing outcomes being blinded to treatment allocation (criterion 5), control and treatment groups being comparable at entry (criterion 6), groups treated equally other than for the named interventions (criteria 7), outcomes being measured in the same way for all groups (criterion 8) and outcomes measured in a reliable way (criterion 9) and use of appropriate statistical data (criterion 10).

The numbers of participants withdrawing from the quantitative studies were identified and rationales given (criterion 4). However, their outcomes were not described.

The weakest methodological areas for both studies were: were participants blinded to treatment allocation (criterion 2), was allocation to treatment groups concealed from allocators (criterion 3) and were the outcomes of people who withdrew described and included in the analysis (criterion 4). As it was not possible to blind the participants to the intervention, criterion 2 was not applicable to both studies.

<u>Qualitative studies</u>

Both included studies[30,31] met seven of the criteria: congruity between the stated philosophical perspective and research methodology (criterion 1), congruity between methodology and research question or objectives (criterion 2), congruity between the research methodology and methods used to collect data (criterion 3), congruity between research methodology and representation of analysis of data (criterion 4), congruence between research methodology and interpretation of results (criterion 5), ethical approval by an appropriate body (criterion 9) and relationship of conclusions to analysis or interpretation of data (criterion 10).

Methodological weaknesses were identified for both studies. Only one study met the criteria: influence of the researcher on the research, and vice-versa[31] (criterion 7). Locating the researcher culturally or theoretically was not addressed in either study (criterion 6).

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RESULTS

Quantitative studies

As data from the two studies[28,29] could not be pooled nor was a narrative synthesis possible given the differing interventions and outcome measure, a narrative summary of the outcomes of each study has been provided. The outcomes measured were parenting skills; parental attitudes and beliefs related to parenting; impact of life events; maternal knowledge, skills and behavior; mental health and compliance with well child care. Each of these outcomes was addressed by only one of the two quantitative studies, with the exception of maternal knowledge and skills which both studies addressed, albeit focusing on different knowledge sets and skills.

Parenting scores

These skills were measured by the Bavolek's Adult-Adolescent Parenting Inventory (AAPI) and included confidence and coping skills in parenting. In the first study,[28] 84 participants were randomized to either receive home visits (n = 44) or the usual standard social and health services as a control (n = 40). The two groups were comparable at the start of the study on most measures except for their parenting scores. The authors stated that they controlled for baseline differences in the follow up analyses.[28, pp224-226] The intervention group scored higher than the control group (mean score 114.4 vs 108.0 respectively, p = 0.04 - higher scores indicating better parenting).

Parent attitudes and beliefs

The first study[28] also used the AAPI to measure the impact of the home visiting program on parental attitudes and beliefs. The program had a positive impact on the participants' parenting attitudes and beliefs. Compared with the control group, participants in the intervention group displayed significantly improved changes over the two follow up periods of one and two years. Total AAPI scores were higher for the home visiting group. The AAPI scores for the home visiting cohort were 119.6 at year one and 122.0 at year two, compared with the control group scores of 110.1 at year one and 111.8 at year two. These results indicated a statistically significant benefit of the home visiting program to those parents relative to standard support provided to the control group parents (5.5 points higher, Confidence Intervals [CI] 95% - 0.5 -10.4, p = 0.03).

Maternal knowledge, skills and behaviorA number of other maternal outcomes were measured by the AAPI in the first study[28]: continuing with schooling, repeat pregnancies, use of hormonal contraception and use of primary healthcare services. The program showed a positive effect on school continuation with the adjusted odds ratio (AOR) being 3.5 times greater than that of the control group's AOR of 1.0 (CI 95% - 11.8, p <0.05). However the program had no impact on repeat pregnancy or births, use of hormonal contraception, or linkage with primary care.

In the second study[29], earlier engagement with and use of infant health care services was associated with improved maternal knowledge of health issues and life skills in relation to child care. The authors concluded that the association between program intensity and desired outcomes was suggestive of the intervention effectively impacting on maternal health choices and behaviors in addition to enhanced decision making, coping and organizational capabilities

Mental health

In Barnet's study[28] assessment of maternal depression (CES-D score) indicated that the intervention had had no impact at years 1 and 2 of the study, despite therapy being provided and recommending further treatment by primary care and mental health services to the affected adolescent mothers. Of note was that there was a significant statistical difference at the end of the second year of the study in the percentage of those participants with a CES-D score of ≥21 and with no regular personal doctor when compared to the percentage of the group with a CES-D score of ≥21 but with a regular personal

doctor (p<0.05, 17% compared to 41% respectively). The authors suggested several possible explanations for this unexpected outcome.

Compliance with well child care

The second study[29] found that mothers in the intervention group initiated care earlier than did control mothers. A higher percentage of infants in the intervention group, as compared with the control group, had attended at least one well-infant outpatient visit by two, four and six weeks of age. However, the difference between the two groups was only statistically significant at six weeks (p <0.05).

A comparison of timing of preventive health care visits between the intervention and control groups at four, six, nine and twelve months demonstrated that infants in the intervention group attended more well-infant visits than those in the control group. At four months, 78.3% of the intervention infants had attended at least one well-infant visit versus 64.1% of control infants (p <0 .02). At six months, 68.2% of the intervention infants had attended at least two visits, versus 50.6% of control infants (p =0 .01). At this point in time the mean number of visits for infants in the intervention group was 3.14, whereas for infants in the control group the mean was 2.18, a difference that was highly statistically significant (p <.01), demonstrating greater adherence by mothers to the age-appropriate health supervision schedule for their infants. At nine months, 65.9% of the intervention infants had attended at least three well-infant visits as opposed to 44.2% of control infants (p =0.004). By 12 months there was no longer a significant difference between the groups with 52.7% of participating intervention infants having attended at least four visits as opposed to 41.6% of the control group (p=0.09). However the mean number of visits was statistically significant with a higher percentage of infants in the intervention group having attended at least three well-infant visits (71.4% vs 51.9%, *p* <0 .01) which was a number adequate to deliver the prescribed immunizations.

A comparison of immunization visit attendance highlighted the greater number of immunization visits for the intervention group than for the control group. At four months, the mean number of immunization visits for the intervention group was 1.01, whereas for the control group the mean was 0.77 (p <0 .05). At six months, the mean was 1.5 immunization visits for the intervention group and 1.13 for the control (p < 0.03), and at nine months the mean was 2.20 immunization visits for the intervention infants and 1.64 for the infants in the control group (p > 0.01). At 12 months, the mean number of immunization visits was 2.44 for the intervention group and 2.00 for the control group (p <0.09) which was not statistically significant. At nine months those mothers who had had 30+ visits from study personnel (classed as the 'high intervention' sub-group) were more likely to have followed age-appropriate immunization schedules than those who had received less than 30 visits ('low intervention' sub-group)(OR= 3.63, CI 95% - 1.58 -8.33, p 0.002). However by 12 months there was no statistical difference between the two groups, although the infants of the low intervention group of mothers had not caught up with the infants in the high intervention group.

Data synthesis - Qualitative studies

The accompanying illustrations for each finding are provided in Appendix VII.

Meta-synthesis of parent and home visitor findings

Meta synthesis of parent and home visitor findings included in the review generated two synthesized findings. These were derived from 15 study findings that were aggregated into five categories.

Parent findings

Synthesized finding 1

A number of factors influence a parent's engagement with the home visitor, including trust/lack of trust, and perception of equality and partnership. Those who do engage employ strategies to limit the family's vulnerability.

Table 3: Synthesized finding 1

Findings	Category	Synthesized Finding
Central to creating a supportive relationship was developing trust. (U) As trust in the HV increased, the mother's sense of vulnerability decreased and she was more willing to take a risk and discuss personal, sensitive issues. (U) Mothers who did not trust the HV…many were hesitant because they were fearful…a telephone call to the child welfare agency. (U)	Trust/lack of trust	A number of factors influence a parent's engagement with the home visitor, including perceived risks of participating in the home visiting program, fear, trust/lack of trust, and perception of equality and partnership. Those who do engage employ strategies to limit the family's vulnerability.
Seeking mutuality is the third phase of limiting family vulnerability: -positive effects of a respectful and non-judgemental approach from the HV. (U) -lack of partnership and collaboration leading to a lack of mutuality, cooperation and positive relationships. (U) Mothers placed a high priority on collaborating with the HV to define common goals for home visits. More common for HV …not to provide this. (U)	Perception of equality and partnership	

This synthesized finding was derived from two categories and six findings (Table 3).

Single supported findings

There were also two single supported findings that related to engagement with the home visitor: Difficulties in working with a new home visitor and flexibility in working with another home visitor. As these could not be combined with any other like finding they did not contribute to a category and consequently nor to a synthesized finding. These findings have been included to complete the reporting of the extracted supported data.

Some parents reported that changing home visitors was difficult but not problematic. Others expressed considerable concern about having to end their relationship with and change their visitor. Willingness to adjust to another home visitor if necessary was the second single supported finding which relates to mothers' flexibility in working with a new home visitor.

These supported findings highlight that some parents are concerned about and may experience difficulty in disengaging with home visitors while others demonstrate readiness to be flexible when engaging and working with a new home visitor. Parents disengaging and re-engaging with home visitors demonstrate a range of coping styles.

Summary

Parental self-identified effectiveness was highlighted as being the development of trust through supportive relationships with their home visitors. This was impacted by their ability to disengage and re-engage with different home visitors when moving to new geographical areas, emphasizing the influence of their individual coping styles.

The experiences of parents in relation to the programs influenced the meaning they placed on them. Lack of a communicative partnership approach by home visitors and not following through with what was expected of them led to a sense of fear, reduced trust, reduced perception of equality, feelings of increased vulnerability, and lessening of parent cooperation and collaboration. A parent's need for respectful, non-judgemental support, guidance and information influenced their decision to participate in a program, following which they employed various strategies to safeguard the integrity of their family including overcoming fear and pretending acquiescence.

Positive experiences of trust with home visitors enabled parents to freely discuss personal sensitive issues, finding they had feelings of mutuality and respect. Considerable concern was expressed by some parents when there was a need to change home visitors, but those better able to cope with change were able to accept and adapt to the new relationship.

Home visitor findings

Meta synthesis of home visitor findings included in the review generated one synthesized finding. This was derived from nine study findings that were aggregated into three categories.

Synthesized finding 2 Home visitors identify the importance of strategies for establishing, maintaining and terminating relationships with parents. Being authentic, listening to parents, confirming their needs and parenting abilities contribute to developing and maintaining positive, trusting relationships with parents. Maintaining professional boundaries are important but pose challenges for home visitors who work with parents in everyday parenting activities. Terminating relationships are most optimally achieved through long term planning. However there can be negative impacts in terms of disruption of trust and continuity of care for families when the home visitor is reassigned.

Table 4: Synthesized Finding 2

Findings	Category	Synthesized Finding
Making initial connection - establish own individual relationship with parents. (U) Helping to establish priorities for parents. (U) Being one's self. (U)	Strategies for establishing the relationship	Home visitors identify the importance of strategies for establishing, maintaining and terminating relationships with parents. Being authentic, listening to parents, confirming their needs and parenting abilities contribute to developing and maintaining positive, trusting relationships with parents. Maintaining professional boundaries are important but pose challenges for home visitors who work with parents in everyday parenting activities. Terminating relationships are most optimally achieved through long term planning. However
If HVs could establish an initial connection with the parents, they could usually progress with their work. (U) Building mother's self-esteem. Reinforcing parenting ability. HVs were also required to maintain professional	Strategies for maintaining the relationship	

boundaries with clients. In many ways, this was more challenging for the HVs than the nurses…whereas HVs' interactions with parents were often day to day activities such as talking about child care and taking the bus together to a parents' group. (U)		there can be negative impacts in terms of disruption of trust and continuity of care for families when the home visitor is reassigned.
HVs considered that terminating relationships with families was best accomplished when there was a planned exit over a number of visits. (U) HVs considered the requirement to terminate their relationship with families when they moved to another area to be problematic…in addition, changing HVs meant severing bonds rather than building consistent, trusting relationships. (U)	Strategies for terminating the relationship	

This synthesized finding was derived from three categories and nine findings (Table 4).

Single supported findings

There were also four single supported findings relating to mutual respect, trust, valuing of contribution and lack of acknowledgement. As these could not be combined with any other like finding they did not contribute to a category and consequently nor to a synthesized finding. These findings have been included to complete the reporting of the extracted supported data.

Two central components that home visitors in particular talked about in establishing and maintaining relationships were showing respect and being shown respect, that is, mutual respect. The second single supported finding was that most home visitors considered the supervisory relationship with the public health nurses in a positive light and valued the nurses' input and guidance, particularly when they detected problems and crises with their families. This relates to the valuing of the home visitors' contribution and contrasts with the third finding which articulated the lack of acknowledgement of their contribution.

Summary

The ability to establish positive relationships between home visitors and parents was viewed as crucial to the success of home visiting programs. Following successful establishment of relationships, it was found that, by working together, the home visitor and parent could make satisfactory progress with the program.

Home visitors had varied experiences with both parents and their supervising public health nurses. Confirming parent experiences, the home visitors identified trust as being central to creating supportive relationships. Aligned with this was proficiency in establishing and maintaining these relationships by demonstrating respect and for this to be reciprocated by parents. While some home visitors acknowledged a positive engagement with mothers, others did not always consider that they were treated with respect or as partners in this relationship.

Maintaining professional boundaries are important but posed challenges for home visitors who work with parents in everyday parenting activities. Home visitor interactions with mothers were often around day to day activities in relation to themselves and their children, with many mothers wanting

the home visitor as a friend. Substantiating parent experiences, home visitors expressed concern relating to difficulties with the disengagement of families from the program due to their relocation to other geographical areas.

The home visitors' sense of self-worth in supporting families was important along with trust and respect between themselves and the supervising public health nurses which either encouraged or inhibited their feelings of being an equal program team member. Home visitors identified the essential elements of this relationship as being mutual respect, trust, and the perception and valuing of partnership within the home visiting program. However, these essential elements were not demonstrated in the working relationship. Most home visitors valued the contribution of their supervisory public health nurse, particularly with assistance of parents during periods of family crisis or with difficult problems. However, for some, a lack of acknowledgement from their supervisor contributed to feelings of frustration.

Discussion

The objective of this systematic review was to synthesize the existing quantitative and qualitative evidence on the effectiveness of peer led parenting support programs delivered as home visiting programs and the experience of both indigenous and non-indigenous families participating in these programs. Although one study[30] included indigenous participants, there was no subgroup of findings obtained. Therefore no reporting could be undertaken.

Following a comprehensive literature search and critical appraisal, two quantitative[28,29] and two qualitative[30,31] studies of peer led home visiting programs were assessed as eligible for inclusion in this systematic review. All four studies were conducted in North America - two in Canada[30,31] and two in the USA.[28,29] The following discussion will compare synthesized findings from these studies with that of related published evidence.

Components of successful programs

Peer led home visiting has been identified as an innovative, parent support strategy for indigenous and non-indigenous families which has the potential to enhance parenting skills and minimize risks of early disadvantage.[4,8,16] This systematic review has investigated a range of peer led home visiting programs along with the successful components influencing their effectiveness and the experiences of the families, peer support workers and their home visitor supervisors. The included studies related to programs delivered to vulnerable parents in rural and urban settings, focusing on the broad family social and cultural contexts.[28-31] No study investigated peer support for indigenous families or had an aim of predictive outcomes in their study design.

The programs' psychosocial and psychocultural approaches for families assisted facilitation of relevant and sustainable parent support.[4,14,15] In the qualitative studies,[30,31]both parents and home visitors recognized similar components which they identified as contributing to their program's success. The quality of relationships between parents and home visitors was paramount, with the essential elements being mutual respect, trust and being valued within the partnership. Home visitors more specifically identified the importance of enabling strategies to develop the relationships; being authentic, listening to parents, confirming their needs and parenting abilities, maintaining professional boundaries and long term planning for terminating relationships. Additionally, home visitors regarded the valuing of their contribution to the home visiting process by their supervisory public health nurse as being a successful contributory factor. Implementation of these components facilitated positive engagement and ongoing relationships between parents and home visitors, enabling parents to feel supported in their parenting journey, similar to the affiliation between home visitors and supervising public health nurses.

Sense of self-worth was vital for both parents and home visitors, with proficiency in maintaining reciprocal respect underpinning relationships. However, failure to recognize the importance of these components by all participants, including supervisory public health nurses, can lead to challenges to program effectiveness, which has been a similar feature in other indigenous and non-indigenous peer led parent support activities.[4,8,16]

The quantitative studies[28,29] identified statistically significant results following program implementation for parenting attitudes and beliefs,[28] initiation of well care visits for infants and likelihood of completion of immunization schedules.[29] Comparing the relationship of these findings with those of a meta-analysis of home visiting programs,[21] mean effect sizes from the meta-analysis were significant and positive for 3 of the 6 outcome domains, these being maternal life course outcomes, child cognitive outcomes, and parent behaviors and skills, with no consistent pattern of effective program components being identified across all outcome domains. Similar to the systematic review studies,[28,29] research design characteristics in the meta-analysis[21] were not predictive of effect sizes. Additionally, the meta-analysis did not discuss any components previously identified as contributing to program success.[30,31]

Children's outcomes

There was no general consensus on children's health and developmental outcomes. Following peer home visiting program implementation with short specialist led developmental playgroups, Mohandes et al.[29] demonstrated statistically significant results for children's health through initiation of well care visits for infants and likelihood of completion of immunization schedules, but no significant difference for linkage with primary care services. RCT and follow studies[9,12] for a home visiting program utilizing a partnership between community nurses and home visitors identified smaller child health effect sizes for the paraprofessionals at 12 months and four years. A similar professional and home visitor partnership[13] demonstrated no significant statistical differences in relation to child outcomes. In contrast, a peer led program[15] with no accompanying community nurse documented sustainable improvements in parenting skills, which has the potential to extrapolate to enhanced health and developmental outcomes for children.

Maternal outcomes

Differences in program structure and scope of outcomes on maternal lifestyle and parenting attitudes are varied.[28] In a program's partnership approach with home visitors and infant developmental specialists facilitating playgroups,[28] significant mean effect sizes for parenting attitudes and beliefs demonstrated a positive impact on maternal attitudes towards their roles as parents. However, there were no significant impacts on maternal depressive symptoms. The use of the AAPI scale to measure changes in parental attitudes and beliefs was not able to directly measure maternal coping or parenting ability. In relation to lifestyle elements, the program outcomes demonstrated statistically significant effects for parents remaining in school, a positive statistical trend for birth control and reduction of sexually transmissible diseases through condom use, but no statistically significant differences for hormonal contraception, repeat pregnancy and repeat birth. These findings compare with a home visiting program where home visitors assisted community nurses,[9,12] with the impact of home visitor support on maternal health at 12 months being identified as lower than that of the nurses.[12] However, long term follow up at four years demonstrated that home visitors had a greater maternal health effect than the nurses, such as positive mental health outcomes,[9] revealing different aspects and influences of peer led home visiting support over time. In contrast, a home visitor program without community nurse involvement highlighted sustainable improvements in parenting skills and associated maternal self-esteem over a seven year period.[15]

Limitations

There are several important limitations to this systematic review. Only four studies were identified as meeting the study criteria. No studies were found with information on peer led parenting support programs delivered as home visiting programs for indigenous parents. Additionally, there have been no identified randomized controlled trials with large cohorts of parents whereby greater understanding of the change mechanisms of the peer led parenting support programs can be evaluated and understood.

Specifically, in the study undertaken by Barnet et al.,[28] the authors acknowledged that direct observation by researchers may have derived different parenting outcomes in comparison to the self-report measures that were used in this study.

Conclusions

A limited number of studies, employing qualitative or quantitative designs, of several types of peer led home visiting programs have been undertaken. Overall the findings indicate positive effects of such programs in respect to the mother-infant dyad. The systematic review has demonstrated that for peer led home visitors to be effective in their support of families, they need to establish effective relationships with parents.

This supportive relationship requires mutual respect, trust and working in partnership with parents. Professional-client boundaries need to be maintained. The peer home visitors also need a supportive working environment through partnership, support and positive supervision from clinical staff and management. Given the positive findings from these initial studies, further development of peer led home visiting programs and their evaluation is supported in order to establish best practice models and the cost-effectiveness of these models. The ability of community nurses to develop new or alternate models of practice which include lay peers from a local community who are capable of facilitating positive outcomes for parents is encouraging.

Recommendations

Recommendations for practice and ongoing research are based on JBI Grades of Recommendation and the Feasibility, Appropriateness, Meaningfulness and Effectiveness (FAME) scale.[32] (Appendix VIII)

Based on the research currently available and given the following indicators, it is recommended that peer led parenting support programs delivered on a home visiting basis be implemented (Grade A):

- there is evidence of adequate quality to support the use of a peer led home visiting program for parental support
- the benefits to the parent-infant dyad are supported by the findings with no significant negative effects being demonstrated
- the values, preferences and parent experiences have been taken into account
  (See Appendix VIII for detailed linkage of the findings to the FAME scale)

Based on elements of the FAME scale,[23] cost effectiveness has not been addressed in relation to the use of human and physical resources.

Implications for practice

Results from this systematic review provide a model of support for parents with young children that is acceptable to parents. The framework for the model is one of partnership between parents and peer home visitors. The essential characteristics of this partnership based, peer led home visiting program are:

- community health services considering introducing this model need to ensure inclusion and ongoing evaluation of these features and participant responses,
- it is important that regular reflective practice and education sessions are facilitated for staff, including lay or paraprofessional peers,
- strategies for the development, maintenance and termination of relationships between peers and parents are crucial to the model's effectiveness,
- a team partnership framework is needed with particular emphasis on collaborative communication and supervision by community nurse team leaders.

Health services need to develop and maintain these programs for both 'at risk' and 'universal need' population groups through an inclusive program approach for all families with young children which, in turn, requires staff and resource funding.

Provision of enabling strategies to assist parents in identified need together with designing prevention and health promotion approaches for lower risk families will enhance short and long term benefits to a greater scope of parents and children.

Implications for research

Further research is required to develop and confirm effective models of practice for peer home visitors and community nurses. An action research approach is recommended to facilitate ongoing learnings incorporating the perspectives of parents, peer home visitors, community nurse facilitators and community parenting support agencies. Qualitative research approaches such as community-based Participatory Action Research and Most Improved Change Technique[4] have the potential to fill knowledge gaps such as concepts of empowerment and capacity building for parents, families and communities in indigenous and other cross-cultural contexts.

Recognizing the gap in the literature related to indigenous family support, it is recommended that a culturally appropriate, participatory action research study be undertaken to assess the feasibility, acceptability and effectiveness of this model in different indigenous communities. There would be similarities in a core framework that could be used in a number of these communities, but each would require the identification of their own unique facilitating features.

Much of the data analysis and discussion focuses on client outcomes and their perceptions of quality of services and relationships. Research is needed on cost effectiveness of parent support programs, identifying economic advantages and challenges to these early intervention strategies.

Conflicts of interest

There are no conflicts of interest to report.

Acknowledgements

The authors would like to thank the Center for Research Excellence in Aboriginal Health & Wellbeing at Telethon Kids for their study and financial assistance given to the principal author. Thanks are also given to the Health Sciences faculty librarian Ms Diana Blackwood for her valuable assistance with search strategies. Acknowledgment and thanks are also extended to the JBI reviewers for their valuable feedback.

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Appendix I: Search strategy

Databases searched:

Medline (Ovid)

CINAHL

Science Direct

Scopus

AIATSIS

ATSI Health

Australian Indigenous Health*InfoNet*

Other sources:

World Cat

Australian National Library

Conference papers through Proquest

Grey Literature Network service

Google

Search Strategies

MEDLINE (Ovid)

Searched on 24/05/14

Results = 145

Additional articles retrieved from reference lists = 3

NOTE: / = MeSH heading; Exp = an exploded MeSH heading that retrieves relevant narrower terms

1. Volunteers/
2. Peer Group/
3. social support/
4. "peer support" OR "paraprofessional home visitor*" OR "peer led" OR "trained home visitor*" OR "community-based" OR "community based"
5. 1 OR 2 OR 3 OR 4
6. House Calls/
7. Home Nursing/
8. "home visit*" OR "home visit* program*"

9. 6 OR 7 OR 8
10. Education, Nonprofessional/
11. Exp Parents/
12. Parenting/
13. "parenting education" OR parent*
14. 10 OR 11 OR 12 OR 13
15. 5 AND 9 AND 14 = 416
16. Limit to: (“newborn infant (birth to 1 month)” or “infant (1 to 23 months)” or “preschool child (2 to 5 years)”) = 217
17. Limit to 2000 – 2014 = 145
18. NOTE: Including the term 'family' in the Medline results decreased the number of relevant articles received

CINAHL

Searched on 24/05/14

Results = 138

Additional articles retrieved from reference lists = 6

NOTE: MH = major heading

1. (MH "Volunteer Workers")
2. (MH "Peer Counseling")
3. (MH "Health Personnel, Unlicensed")
4. "community based" OR "community-based" OR "paraprofessional home visitor*" OR "peer led" OR "peer support"
5. 1 OR 2 OR 3 OR 4
6. (MH "Home Visits")
7. (MH "Home Nursing")
8. "house call*" or "home visit*" or "home visit* program*"
9. 6 OR 7 OR 8
10. (MH "Parents")
11. (MH "Parenting Education")
12. (MH "Parental Attitudes")
13. (MH "Parenting")

14. (MH "Family")
15. Parent* or famil*
16. 10 OR 11 OR 12 OR 13 OR 14 OR 15
17. 5 AND 9 AND 16 = 186
18. Limited results to years 2000-2014 = 138

NOTE: Age limits found to be too restrictive and had the effect of deleting relevant articles

Science Direct

Searched 30/05/14

Results = 23

Additional articles retrieved from reference lists = 1

"Peer led" OR "peer counsel?ing" OR "peer support" OR paraprofessional

AND

"home visit*" OR "home nursing" OR "house call" OR "home visit progr*"

AND

Parent* OR famil* OR "parent* educat*" OR "parent* attitude*"

Scopus

Searched 30/05/14

Results = 76

Additional articles retrieved from reference lists = 8

"Peer led" OR "peer counsel?ing" OR "peer support" OR paraprofessional

AND

"home visit*" OR "home nursing" OR "house call" OR "home visit progr*"

AND

Parent* OR famil* OR "parent* educat*" OR "parent* attitude*"

Informit (Health, Indigenous and Social Sciences)

Includes AIATSIS and ATSI Health

AIATSIS

Searched 05/06/14

Results = 0

"Peer led" OR "peer counsel?ing" OR "peer support" OR paraprofessional

AND

"home visit*" OR "home nursing" OR "house call" OR "home visit progr*"

AND

Parent* OR famil* OR "parent* educat*" OR "parent* attitude*"

ATSI Health

Searched 05/06/14

Results = 0

"Peer led" OR "peer counsel?ing" OR "peer support" OR paraprofessional

AND

"home visit*" OR "home nursing" OR "house call" OR "home visit progr*"

AND

Parent* OR famil* OR "parent* educat*" OR "parent* attitude*"

Australian Indigenous Health*InfoNet*

Searched 05/06/14

Results = 0

The above search strategy from Informit is too detailed for the Australian Indigenous Health*InfoNet*

Home visit AND family (better results than using phrase searching for “home visit”)

World Cat

Searched 05/06/14

Results= 18

“Home visit*” AND family 1654

“Home visit*” AND “Peer led” 23

“home visit*” AND “peer led” AND (famil* OR parent*”) 18

Australian National Library – Trove (advanced search) – very low precision
Searched 05/06/14

Results=0

(peer-led OR "peer support" OR paraprofessional) AND ("home visit*" OR "home nursing" OR visit) AND (Parent* OR famil*)

Conference Papers Index Through Proquest

Searched 05/06/14

Results=0

"Peer led" OR "peer counsel?ing" OR "peer support" OR paraprofessional

AND

"home visit*" OR "home nursing" OR "house call" OR "home visit progr*"

AND

Parent* OR famil* OR "parent* educat*" OR "parent* attitude*"

Grey Literature Network Service

Searched 05/06/14

Results=0

(peer-led OR "peer support" OR paraprofessional) AND ("home visit*" OR "home nursing" OR visit) AND (Parent* OR famil*)

Google

Searched 05/06/14

Results=1

home visit parent support filetype:pdf

Appendix IIa: JBI critical appraisal checklists for quantitative research

JBI Critical Appraisal Checklist for Randomised Control / Pseudo-randomised Trial

Reviewer _____ Date _____

Author _____ Year _____ Record Number _____

	Yes	No	Unclear	Not Applicable
1. Was the assignment to treatment groups truly random?	☐	☐	☐	☐
2. Were participants blinded to treatment allocation?	☐	☐	☐	☐
3. Was allocation to treatment groups concealed from the allocator?	☐	☐	☐	☐
4. Were the outcomes of people who withdrew described and included in the analysis?	☐	☐	☐	☐
5. Were those assessing outcomes blind to the treatment allocation?	☐	☐	☐	☐
6. Were the control and treatment groups comparable at entry?	☐	☐	☐	☐
7. Were groups treated identically other than for the named interventions	☐	☐	☐	☐
8. Were outcomes measured in the same way for all groups?	☐	☐	☐	☐
9. Were outcomes measured in a reliable way?	☐	☐	☐	☐
10. Was appropriate statistical analysis used?	☐	☐	☐	☐
	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info. ☐

Comments (Including reason for exclusion)

JBI Critical Appraisal Checklist for Descriptive/ Case Series

Reviewer_____Date_____

Author_____Year_____Record Number_____

	Yes	No	Unclear
1. Was study based on a random or pseudo- random sample?			
2. Were the criteria for inclusion in the sample clearly defined?			
3. Were confounding factors identified and strategies to deal with them stated?			
4. Were outcomes assessed using objective criteria?			
5. If comparisons are being made, was there sufficient descriptions of the groups?			
6. Was follow up carried out over a sufficient time period?			
7. Were the outcomes of people who withdrew described and included in the analysis?			
8. Were outcomes measured in a reliable way?			
9. Was appropriate statistical analysis used?			

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (including reasons for exclusion):

_____

_____

_____

Appendix IIb: JBI Critical appraisal checklist for interpretive & critical research

JBI QARI Critical Appraisal Checklist for Interpretive & Critical Research

Reviewer _____ Date _____

Author _____ Year _____ Record Number _____

	Yes	No	Unclear	Not Applicable
1. Is there congruity between the stated philosophical perspective and the research methodology?	☐	☐	☐	☐
2. Is there congruity between the research methodology and the research question or objectives?	☐	☐	☐	☐
3. Is there congruity between the research methodology and the methods used to collect data?	☐	☐	☐	☐
4. Is there congruity between the research methodology and the representation and analysis of data?	☐	☐	☐	☐
5. Is there congruity between the research methodology and the interpretation of results?	☐	☐	☐	☐
6. Is there a statement locating the researcher culturally or theoretically?	☐	☐	☐	☐
7. Is the influence of the researcher on the research, and vice- versa, addressed?	☐	☐	☐	☐
8. Are participants, and their voices, adequately represented?	☐	☐	☐	☐
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	☐	☐	☐	☐
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	☐	☐	☐	☐

Overall appraisal: ☐ Include ☐ Exclude ☐ Seek further info. ☐

Comments (Including reason for exclusion)

_____

_____

_____

Appendix IIIa: Data extraction instruments

MAsTARI data extraction instrument

JBI Data Extraction Form for Experimental / Observational Studies

Reviewer _____ Date _____

Author _____ Year _____

Journal _____ Record Number _____

Study Method

RCT ☐ Quasi-RCT ☐ Longitudinal ☐

Retrospective ☐ Observational ☐ Other ☐

Participants

Setting _____

Population _____

Sample size

Group A _____ Group B _____

Interventions

Intervention A _____

_____

Intervention B _____

_____

Authors Conclusions:

_____

_____

_____

Reviewers Conclusions:

_____

_____

_____

Study results

Dichotomous data

Outcome	Intervention ( ) number / total number	Intervention ( ) number / total number

Continuous data

Outcome	Intervention ( ) number / total number	Intervention ( ) number / total number

Appendix IIIb: Data extraction instruments

QARI data extraction instrument

JBI QARI Data Extraction Form for Interpretive & Critical Research

Reviewer _____ Date _____

Author _____ Year _____

Journal _____ Record Number _____

Study Description

Methodology

Method

Phenomena of interest

Setting

Geographical

Cultural

Participants

Data analysis

Authors Conclusions

Comments

Complete Yes ☐ No ☐

Findings	Illustration from Publication (page number)	Evidence		
		Unequivocal	Credible	Unsupported

Extraction of findings complete Yes ☐ No ☐

Appendix IV: List of excluded studies

The following studies were not included as they did not meet the inclusion criteria.

Munns A. Yanan ngurra-ngu walalja Halls Creek community families programme. Neonatal, Paediatric and Child Health Nursing. 2010; 13(1): 18-21.

Reason for exclusion: This paper was a program description and not a research study.

Rautio S. Parents' experiences of early support. Scandinavian Journal of Caring Sciences. 2013; 27(4): 927-934.

Reason for exclusion: Intervention. Combined peer and nurse led program. Unable to separate peer led data.

Tandon D, Parillo K, Jenkins C, Jenkins J, Duggan A. Promotion of service integration among home visiting programs and community coalitions working with low-income, pregnant, and parenting women. Health Promotion Practice. 2007; 8(1): 79-87.

Reason for exclusion: Intervention. Study investigates promotion of service, not client outcomes.

The following studies were excluded on the basis of inadequate methodological quality.

Johnson Z, Molloy B, Scallan E, Fitzpatrick P, Rooney B, Keegan T, Byrne P. Community mothers program – seven year follow-up of a randomized controlled trial of non-professional intervention in parenting. Public Health Med. 2000; 22(3): 337-342.

Reason for exclusion: Study excluded on quality for randomized control trials, not meeting criteria 1-5, 9-10.

Katz KS, El-Mohandes AA, Johnson DM, Jarrett PM, Rose A, Cober M. Retention of low income mothers in a parenting intervention study. Journal of Community Health. 2001; 26(3):203-18.

Reason for exclusion: Study investigating retention rates of study participants, not program outcomes. Study excluded on quality for randomized control trials, not meeting criteria 1-5, 8-10.

Katz KS, Jarrett PM, El-Mohandes AA, Schneider S, McNeely-Johnson D, Keily M. Effectiveness of a combined home visiting and group intervention for low income African American mothers: the pride in parenting. Maternal and Child Health Journal. 2011; 15 Suppl 1:S75-84.

Reason for exclusion: Intervention. The intervention not exclusively home visiting. Period of intervention not listed in Exclusions.

Appendix V: Summary of included studies

Quantitative studies

Study details	Study Method	Participant details	Intervention A Treatment	Intervention B Control	Outcome measures	Study results	Author conclusions
Barnet, Liu, DeVoe, Alperovitz-Bichell, Duggan[28] Baltimore, USA	Randomized Control Trial (RCT) N=84 2 groups: Intervention (HV) = 44 Control = 40 Intention-to-treat analysis <u>Setting of intervention</u> Urban community setting	<u>Inclusion criteria</u> Pregnant adolescents 12-18 yrs. Gestation at least 24 weeks. <u>Exclusion criteria</u> Over 18 yrs. Gestation less than 24 weeks. <u>Mean (SD) age of entry to trial</u> 16.9 (1.4) N=84 1 yr follow up n=62 (74%) 2 yr follow up n=63 (75%) Completion 2 assessments n=56 (67%) Completion 1 assessment n=70 (83%)	Paraprofessional home visitors – home visits, mentoring & case management 1. Home visiting commenced 3rd trimester. 2. Home visiting biweekly to infant age 1 yr; monthly to age 2 yrs. *Home visitor training* – 2 days and ongoing Standardized curricula – parenting and adolescent	"Usual care" – presumed standard social and health services	Baseline interviews; outcome data @ 12 & 24 mths 1. Bavolek's Adult-Adolescent parenting Inventory (AAPI)(parenting attitudes and beliefs) 2. Centre for Epidemiologic Studies Depression (CES-D) scale (Depressive symptoms)	<u>AAPI scores</u> *Baseline* HV Group: mean -114.4 (13.8) Control: mean -108.0 (14.5) p=0.44 *12mths* HV Group: mean – 119.6 (14.6) Control: mean -110.1 (13.7) p= 0.03 *24mths* HV Group: mean – 122.0 (17.2) Control: mean – 111.8 (14.7) Mean difference in score change HV relative control group = 5.5 (CI 95% 0.5-10.4, p= 0.03) Home visited participants completing ≥75% of sessions scored 8.3 points (p<0.005) higher	<u>Author's conclusion:</u> Study findings found medium to large effect sizes on parenting outcomes. Program emphasized staff training & monitoring. Program significantly influenced school re-entry & graduation. Program did not reduce use of hormonal contraception, maternal depressive symptoms, reduce repeat pregnancy or achieve co-ordination with primary care. Coordinated care may require explicit mechanisms to promote communication between the community program and primary care.

Study details	Study Method	Participant details	Intervention A Treatment	Interventi on B Control	Outcome measures	Study results	Author conclusions
						than controls on AAPI <u>School status</u> In school or graduated at yr 2 Adjusted odds ratio HV = 3.5 (CI 95% 1.1-11.8, p<0.05) (71% vs 44%) <u>Use of condoms 'always' in last 12 months</u> Adjusted odds ratio HV group = 3.6 (CI 95% 0.9 -14.4, p=0.07) ('statistical trend') There were no statistically significant differences between groups for : Hormonal contraception Repeat pregnancy Repeat birth Depressive symptoms Linkage with primary care	

Study details	Study Method	Participant details	Intervention A Treatment	Intervention B Control	Outcome measures	Study results	Author conclusions
El-Mohandes, Katz, El-Khorazaty, Mcneely-Johnson, Sharps, Jerrett, Rose, White, Young, Grylack, Murray, Katta, Burroughs, Atiyeh, Wingrove, Herman[29] Washington DC. USA 4 hospital sites	Randomized Control Trial (RCT) 2 groups: Intervention (HV) n=146 Control n=140 Intervention – 2 sub-groups for analysis: High intensity: ≥ 30 visits Low intensity: < 30 visits Interviews with mothers at baseline then at 4, 8 & 12 mths Information verified by providers' records Intention-to-treat analysis	N = 286 mother – infant dyads <u>Inclusion criteria</u> Immediate postpartum hospitalization Inadequate or no prenatal care Residence in Washington DC <u>Exclusion criteria</u> *Infant* Infants delivered<34 wks Infants weighed <1500g Infants had congenital abnormalities *Mother* ≥ 18 years of age English speaking Not incarcerated No psychiatric history Adoption not planned N= 286 Intervention n=146 Control n =140	Standard social services provided by recruiting hospital plus a year long, multicomponent intervention: <u>Home visiting</u>*:* *Infant 0-5 months* – weekly visits *Infant 5-12 mths* HV -2 weekly <u>Group session:</u> 2 weekly – 45 min developmental playgroup followed by 45 minute parent support group led by experienced infant developmental specialist at hospital site. Telephone support monthly by PIP family resource specialist for referrals	Standard social services provided by recruiting hospital + telephone support monthly by PIP family resource specialist for referrals	Use of preventative health care services during first 12 months infant's life: - well-infant care visits immunization visits –frequency, adherence to age appropriate immunization schedule and types of immunization.	Main limitation in interpreting results attrition rates - >25% <u>Initiation of well care for infant by 6 weeks</u> Group A: 62.5% Group B: 50% p=<.05 <u>Frequency of well visits at 9 months</u> Group A: 3.5 visits Group B: 2.7 visits p<.001 <u>Likelihood of immunization schedule</u> Group A more likely to have completed – by 9 months OR = 2.2 (CI 95% - 1.09-4.53) <u>Likelihood of following age-appropriate immunization schedules</u> Those with 30+ visits from study personnel more likely to have followed schedules – At 9 months OR= 3.63 (CI 95% - 1.58 -8.33)	**Author's conclusion:** Possible to influence health care usage patterns on high-risk minority populations through public health interventions that are global in their perspective. Focusing on parental knowledge and beliefs regarding health-related issues and life skills in a self-efficacy model is associated with improved usage of infant health care resources.

Study details	Study Method	Participant details	Intervention A Treatment	Intervention B Control	Outcome measures	Study results	Author conclusions
		Groups were comparable - no significant differences <u>Mean age of entry to trial</u> Control n=25.2 Intervention n=24.8 <u>Setting of treatment</u> Community setting, homes, hospital	32 home visits and 16 developmental playgroup and parent support group in total. *Home visitor training:* 9 weeks – standardized curriculum (Pride in Parenting (PIP))				

Qualitative studies

Study details	Aims/purpose Phenomenon of interest	Study design & methods	Participants	Authors' Conclusions
Heaman, Chalmers, Woodgate, Brown[30] Manitoba, Canada Community setting	To investigate relationships between participants in a home visiting program	Qualitative descriptive study In-depth semi-structured interviews Data were analyzed manually using content analysis techniques.	24 public health nurses 14 home visitors 20 parents	There appear to be two periods that are particularly critical in establishing positive relationships with parents in a child health home visiting program. The first is the entry phase. The second critical period is in the development of the ongoing relationship. A number of factors identified in this study that positively influenced ongoing relationship work included showing respect, developing trust, supporting families, working in partnership and maintaining appropriate boundaries. The final phase involves termination when the home visitor ends their contact with the family. Forming and sustaining relationships requires adequate support including adequate training, sufficient human resources and administrative support.
Jack, DiCenso, Lohfeld[31] Ontario, Canada Community setting	Aim: To develop a theory of maternal engagement with public health nurses and home visitors	Grounded Theory Data collection: - client record reviews	Purposeful sample of 20 mothers receiving home visits from a public health nurse and home visitors	Home visitors working with families at risk need to identify client fears and perceptions related to home visiting, and to explain the role of public health visitors and home visitors to all family members. Given the importance that mothers place on the

	To explore mothers' experiences, beliefs and expectations in relation to engagement with public health nurses and home visitors in a home visiting parent support program.	-29 in-depth participant interviews		development of an interpersonal relationship, it is important for home visitors continually to assess the quality of the relationships with clients.

Appendix VI: Methodological assessment of studies

Methodological assessment – Quantitative studies

Included Studies

Randomized control trials

Criteria 1, 5-10 are essential for inclusion. Criteria 2, 3 and 4 are not essential for inclusion.

Study	**Q1**	Q2	Q3	Q4	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	
Barnet, et al[28]	Y	N/A*	U*	N	Y	Y	Y	Y	Y	Y	
El-Mohandes, et al[29]	Y	N/A*	U*	N	Y	Y	Y	Y	Y	Y	

*N/A – not applicable – not possible to blind recipients for intervention
U – Unclear

Studies excluded on quality

Randomized control trials

Study	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	
Johnson, et al[15]	N	N	N	N	N	Y	Y	Y	N	N	
Katz, et al[33]	N	N	N	N	N	Y	Y	N	N	N	
Katz, et al[34]	Y	N	N	N	N	Y	N	Y	Y	Y	

Methodological assessment – Qualitative studies

Included Studies

Criteria 1-5, 8-10 are essential for inclusion. Criteria 6 and 7 are not essential for inclusion.

Study	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	Q6	Q7	**Q8**	**Q9**	**Q10**	
Jack et al[31]	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	
Heaman et al[30]	Y	Y	Y	Y	Y	N	N	Y	Y	Y	

Appendix VIIa: Study Findings with Illustrations

U – unequivocal; C – credible; Un - unsupported

Findings – Parents

Synthesis 1: Factors influencing engagement with home visitor

Findings and illustrations
Central to creating a supportive relationship was developing trust. (U) *"As soon as I talked with her [home visitor], I knew she was nice and I could actually trust her. A lot of people I won't trust about anything" (P).*[30, p. 326]
As trust in the FV increased, the mother's sense of vulnerability decreased and she was more willing to take a risk and discuss personal, sensitive issues. (U) *[Mothers referred to this as] "opening up' and being able to "talk from the heart" (P).*[31, p.186] *One parent reported that she was not expecting a weekly visit because she knew "how to raise a child," but once the HV came, she found her really "awesome" (P).*[30, p. 324]
Mothers who did not trust the FV…many were hesitant because they were fearful…a telephone call to the child welfare agency. (U) *One parent would "play along with them, so they would leave me alone" (P).*[31, p.187]
Seeking mutuality is the third phase of limiting family vulnerability: -positive effects of a respectful and non-judgemental approach from the FV (U) *[The FV is] "a mother just like me" (P).*[31, p.187] -lack of partnership and collaboration leading to a lack of mutuality, cooperation and positive relationships (U) *"I don't want the FV to get in my face about my daughter. Don't tell me what to do, things I am already doing! Instead, start by asking questions to find out what I am doing and why I am doing it" (P).*[31, p.188] -mothers placed a high priority on collaborating with the HV to define common goals for home visits. More common for HV …not to provide this. (U) *"I don't want the FV to get in my face about my daughter. Don't tell me what to do, things I am already doing! Instead, start by asking questions to find out what I am doing and why I am doing it" (P).*[31, p.188]

Supported single findings

Findings and illustrations
Some parents reported that changing HVs was difficult but not problematic. Others expressed considerable concern about having to end their relationship with and change their visitor. (U) *"If I move to another area, I can't have my same BabyFirst worker as here…we don't want to get someone else" (P).*[30, p.324]
Willingness to adjust to another HV if necessary (U) *"I really like your program [BabyFirst] and the HV, but if I had to have someone else, I would accept them" (P).*[30, p.324]

Findings – Home visitors

Synthesis 2 - Strategies for establishing, maintaining and terminating the home visitor/parent relationship

Findings and illustrations
Making initial connection - Establish own individual relationship with parents (U) - Helping to establish priorities for parents (U) - Being one's self (U) *"I get assigned a family and my number one thing is to be myself –not to go in with an agenda because I think that puts people off, [I] listen and talk to the family about what their needs are . So then what I would do after that initial visit, I would put together what I feel are the priorities. And then from there on the relationship just naturally occurs". (HV).*[30, p.324]
If HVs could establish an initial connection with the parents, they could usually progress with their work. (U) *So then what I would do after that initial visit, I would put together what I feel are the priorities. And then from there on the relationship just naturally occurs" (HV).*[30, p.324]
Building mother's self-esteem (U) *" I work with a mom who had really low self-esteem and doubted her parenting ability and she lives with her father, and he kept telling her, "oh, you are a bad mother"…But I kept telling her she was a good mother…She was like "Wow!" And she had lots of difficulty with her father and the baby, but she had another baby and now she says, "I don't care what he says, I am a good mother" (HV).*[30, p. 325]
Reinforcing parenting ability (U) *" I work with a mom who had really low self-esteem and doubted her parenting ability and she lives with her father, and he kept telling her, "oh, you are a bad mother"…But I kept telling her she was a good mother…She was like "Wow!" And she had lots of difficulty with her father and the baby, but she had another baby and now she says, "I don't care what he says, I am a good mother" (HV).*[30, p. 325]
HVs were also required to maintain professional boundaries with clients. In many ways, this was more challenging for the HVs than the nurses…whereas HVs interactions with parents were often day to day activities such as talking about child care and taking the bus together to a parents' group. (U) *"I really just let the relationship develop, with proper boundaries. Well, the big thing for me is having proper boundaries. Because a lot of families want to have you as their friend. So it is the defining line [boundaries]" (HV).* [30, p.327]
HVs considered that terminating relationships with families was best accomplished when there was a planned exit over a number of visits (U). *"It's just a weaning process. You wean them off, visits become less. You give them lots of notice" (HV).*[30, p.325]
HVs considered the requirement to terminate their relationship with families when they moved to another are to be problematic…in addition, changing HVs meant severing bonds rather than building consistent, trusting relationships (U). *"if my family moves to a different area, I have at times been where I have to give that family up…I feel that it is the failure of the program [that] every time our families move they get a new BabyFirst home visitor…I don't feel that this is appropriate because we are not teaching these families about consistency. And I think that is about building a bond. Trust does not come overnight and to keep that trust is important, and that is to continue working with them when they move" (HV).* [30, p. 325]

Supported single findings

Findings and illustrations
Two central components that HVs in particular talked about in establishing and maintaining relationships were showing respect and being shown respect. (U) *"I think [families] do respect us, they know that we [home visitors] do not make a barrel of money" (HV).*[30, p.325]
Most HVs considered the supervisory relationship with the PHNs in a positive light. They valued the nurse's input and guidance, particularly when they detected problems and crises with their families.(U) *"They [PHN] are all approachable. Nobody makes you feel that "I am a nurse and you are a HV"…I think my word is appreciated along with everybody else. I often have people tell me "I appreciate what you are doing with the family, I am happy they are with you". I find that communication is very open. And nobody is condescending, and they appreciate me and respect me" (HV).*[30, p.325] *"I love working with my [PHN]. She is a very easy person to talk to…it is so nice to be able to come in and say, "Look, this is what's happening"…when I have really challenging visits – which I do - and I get a little uptight, then she's just a good person to bounce it off and, you know, sort of relieve some of that stress" (HV).*[30, p.326-327]
Lack of acknowledgement of contribution (U) *"We're [HVs] way at the bottom of that totem pole, and I feel that [HVs} are very much left out of things and we are the ones that are, well, working our ass[sic] off, and these public health nurses are sitting back and taking credit for everything and I just get really, really frustrated" (HV).*[30,] p.326

Appendix VIIb: Unsupported Study Findings

Parents

Unsupported Findings
A mother's decision to participate in a home visiting program is made by weighing the unknown risks and consequences of participating in the visit with her need for social support, guidance and information. (Un)
Those who take the risk of participating use various strategies to protect the integrity of their family and limit their vulnerability. Limiting family vulnerability has three phases, including overcoming fear. (Un)
Overcoming fear was considered important to enable the mother to identify with, and relate to the HV. (Un)

Home visitors

Unsupported Findings
Partnerships in relationships, although valued, were not always perceived as the norm. Some Public Health Nurses did not consider that HVs were always treated as partners. (Un)
Demonstrating respect for each other was a key component of positive relationships and some HVs felt they were not always treated with respect. (Un)
Building trust was highlighted as a fundamental component of effective home visiting (Un)
Following through with what was expected was an important component of building trust between HVs and parents. (Un)
Use of active listening skills (Un)

Appendix VIII: JBI Grades of Recommendation and FAME Scale

JBI Grades of Recommendation	
Grade A	A '**strong**' recommendation for a certain health management strategy where: 1. it is clear that desirable effects outweigh undesirable effects of the strategy; 2. where there is evidence of adequate quality supporting its use; 3. there is a benefit or no impact on resource use, and 4. values, preferences and the patient experience have been taken into account.
Grade B	A '**weak**' recommendation for a certain health management strategy where: 1. desirable effects appear to outweigh undesirable effects of the strategy, although this is not as clear; 2. where there is evidence supporting its use, although this may not be of high quality; 3. there is a benefit, no impact or minimal impact on resource use, and 4. values, preferences and the patient experience may or may not have been taken into account.

The FAME (Feasibility, Appropriateness, Meaningfulness and Effectiveness) scale may help inform the wording and strength of a recommendation.

F – Feasibility; specifically:

- What is the cost effectiveness of the practice?
- Is the resource/practice available?
- Is there sufficient experience/levels of competency available?

A – Appropriateness; specifically:

- Is it culturally acceptable?
- Is it transferable/applicable to the majority of the population?
- Is it easily adaptable to a variety of circumstances?

M – Meaningfulness; specifically:

- Is it associated with positive experiences?
- Is it not associated with negative experiences?

E – Effectiveness; specifically:

- Was there a beneficial effect?
- Is it safe? (i.e. is there a lack of harm associated with the practice?)

JBI Grades of Recommendation and FAME Scale for Systematic Review

FAME Scale	Evidence for FAME elements
Feasibility	
(i) What is the cost effectiveness of the practice?	Not addressed in the published papers.[28-31]
(ii) Is the resource/practice available?	Peer led parenting support programs delivered as home visiting programs available in two countries.[28-31]
(iii) Is there sufficient experience/levels of competency available?	In all quantitative[28,29] and qualitative[30,31] papers, there were sufficient levels of experience and competency from peer support staff.[28-31]
Appropriateness	
(iv) Is it culturally acceptable?	Peer led parenting support programs delivered as home visiting programs were identified by researchers and parents from a range of population and cultural groups as being acceptable.[28-31]
(v) Is it transferrable/applicable to the majority of the population?	Peer led parenting support programs delivered as home visiting programs have been identified in the systematic review as being transferrable and applicable to the majority of the population as evidenced by their use and acceptability in a range of population and ethnic groups. Further research is indicated on the transferability and applicability for indigenous parent support.[28-31]
(vi) Is it easily adaptable to a variety of circumstances?	Peer led parenting support programs delivered as home visiting programs have been identified in the systematic review as being adaptable to a variety of circumstances as evidenced by their use, perceived and statistically demonstrated effectiveness and acceptability in a range of population and ethnic groups.[28-31] Further research is indicated to adaptability for indigenous parent support.
Meaningfulness	
(vii) Is it associated with positive experiences?	Peer led parenting support programs delivered as home visiting programs have been associated with positive experiences and outcomes as evidenced by researchers, parents and home visitors from a range of population and cultural groups.[28-31]
(viii) Is it not associated with negative experiences?	Two papers had no associations with negative experiences.[28,29] Qualitative analysis in Jack et al.[31] identified trust issues at the commencement of the program between the parent and home visitor which resolved over time and the length of the program. Heaman et al.[30] identified a parent who had positive experiences with the program but expressed concern when she moved geographically and was unable to retain her home visitor. This was similar to a home visitor who expressed similar concern about not being able to maintain contact with parents when they moved.

Effectiveness	
(ix) Was there a beneficial effect?	All four papers[28-31] identified beneficial effects as evidenced by researchers, parents and home visitors from a range of population and cultural groups.
(x) Is it safe	There was a lack of physical and psychological harm identified with peer led parenting support programs delivered as home visiting programs in all four papers in this systematic review.[28-31]

FAME Scale[32]