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Current Evidence on Perinatal Home Visiting and Intimate Partner Violence

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Abstract

Objective—To describe current evidence on home visiting (HV) interventions for pregnant or postpartum women with specific intimate partner violence (IPV) assessment and content.

Data Sources—Online bibliographic databases including PubMed, CINAHL Plus, and Web of Science and a hand search of bibliographies of relevant articles.

Study Selection—Original research and intervention studies were included that contained 1) a well-described prenatal and/or postpartum home visitation; 2) an assessment of perinatal IPV; and 3) quantitative data describing health outcomes for the women and their infants.

Data Extraction—The search yielded 128 articles, and eight relevant articles met all of the inclusion criteria. Non-research, non-intervention and international articles were excluded.

Data Synthesis—No perinatal home visiting interventions were designed to address IPV. Programs that screened for IPV found high rates, and the presence of IPV limited the ability of the intervention to improve maternal and child outcomes.

Conclusions—Perinatal home visitation programs likely improve pregnancy and infant outcomes. Home visiting interventions addressing IPV in non-perinatal population groups have been effective in minimizing IPV and improving outcomes. This suggests that perinatal HV programs adding a specific IPV interventions may reduce IPV and improve maternal and infant health. Continued rigorous research is needed.

Keywords

Home Visitation; Abuse; Domestic Violence; Pregnancy

CALLOUTS

Intimate partner violence during pregnancy has been associated with poor health outcomes for mother, fetus, and neonate.

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Prior work documents that home visiting can be effective in improving the health and well-being of non-pregnant abused women.

All home visitors should be trained in the dynamics of intimate partner violence including assessment and intervention.

Current Evidence on Perinatal Home Visiting and Intimate Partner Violence—

Intimate partner violence (IPV) continues to be a major public health problem that affects the health and well-being of women and children. Pregnant women are not protected from IPV. Perinatal home visiting (HV) interventions have been used to reduce risks for poor pregnancy outcomes, improve parenting skills and enhance infant development, and they may have potential to reduce the harms of IPV. The purpose of this article was to conduct a comprehensive review of the literature specific to HV interventions for pregnant or postpartum women, with a focus on IPV assessment and content.

Violence Against Women: The National Violence Against Women Survey documents that 1 in 4 women are raped and/or physically assaulted by a current or former spouse, cohabitating partner or date at some point in their lifetime (Tjaden & Thoennes, 2000). Two recent (2003-2005) surveys, one of 3,568 women in a large HMO in Washington and Idaho and the other a population based survey of 3637 women from 12 US cities, found IPV prevalence of just under 8% for the past year and 9.8% for the past two years, respectively (Thompson, Bonomi, Anderson et al, 2006; Walton-Moss et al, 2005). The abuse of women by intimate partners has been associated with traumatic injuries, long term physical health consequences (including headaches, sexually transmitted infections, and chronic backaches) and long term mental health consequences (including depression, low self esteem and post-traumatic stress disorder (PTSD) (Campbell, 2002; Humphreys & Campbell, 2004; Walton-Moss et al, 2005). Given the significant magnitude and impact of IPV, preventing violence against women has become a national health priority, as addressed in Healthy People 2010 (U.S. Department of Health and Human Services, 2000).

CALLOUT 1

Pregnant women also experience IPV. Recent studies estimate that 3% - 19% of women report being abused during the childbearing year - that is in the year before, during or after a pregnancy (Campbell, Garcia-Moreno & Sharps, 2004). Rates vary depending on how women are asked (one-one interview, questionnaires, computer assisted), the setting in which women are asked (i.e. alone in a private location place, at triage in an office setting), at what point during the pregnancy they are asked, and which questions they are asked.

IPV during pregnancy has been associated with poor health outcomes for mother, fetus, and neonate. Poor maternal outcomes include late entry into or no prenatal care, poor maternal weight gain, and traumatic injuries that may cause premature termination of the pregnancy. Similar to abused non-pregnant women, abused pregnant women experience poor mental health including low self esteem, substance abuse (including smoking), depression, and PTSD (Bullock, Mears, Woodcock, & Record, 2001; Martin, Kilgallen, Dee, et al, 1998). IPV has also been associated with poor fetal and neonatal outcomes such as preterm delivery and low birth weight (Murphy et al, 2001). Abuse during pregnancy is also a risk factor for intimate partner homicide of women, both during and after the pregnancy (McFarlane et al, 2002).

IPV continues to negatively affect children throughout childhood. Research in the past 20 years documents that children exposed to IPV are at risk for a host of poor social-emotional and physical health outcomes including depression, anxiety, poor self-esteem, aggression,

poor peer relations, poor school performance, physical health symptoms, under-immunization and adolescent risk behaviors (Polillo, 2003; Fantuzzo, DePaola, Lambert et al, 1991; Baldry, 2003; Fredland, Han & Campbell, in press; Kernic, Holt, Wolf, et al 2003; Bair-Merritt, Blackstone, Feudtner 2006).

Despite the documented poor pregnancy and child outcomes associated with IPV, there have been few systematic or evidence-based intervention strategies specifically targeting the reduction or prevention of IPV against pregnant women. Commonly employed strategies to address the health issues related to perinatal IPV include early case-finding to get women into prenatal care, provision of nutritional support, and programs to decrease substance use, including smoking cessation.

Nurse Home Visiting: A Strategy for Preventing Perinatal IPV: Home visiting (HV) historically has been an essential component of public health/community health nursing practice. Perinatal HV interventions have been used to reduce risks for poor pregnancy outcomes, improve parenting skills and enhance infant development. The Olds nurse HV intervention (Nurse-Family Partnership) has been recognized as the one intervention with evidence for decreasing child maltreatment (Chalk, 2003; Chalk & King, 1998). Yet current economic slowdowns and under funding of a variety of health initiatives and interventions have forced many public health departments to eliminate HV interventions.

The core content of most perinatal HV programs includes the following: 1) delivery of anticipatory guidance; 2) implementation of a pre-specified curriculum to enhance parenting and/or child development; 3) provision of social support and practical assistance to caregivers; and 4) referrals to community resources. The prior education and training of home visitors varies between programs; some home visitors are paraprofessionals, while others are nurses, social workers or health educators. Some literature suggests that community/public health nurses are uniquely suited to be home visitors because of their advanced training in maternal and infant health and parenting and their ability to gain insight on family functioning (Tandon, 2005).

This comprehensive review of the literature specific to HV interventions for pregnant or postpartum women was designed with a focus on IPV assessment and content. The overall goals of this work were to benchmark current knowledge and establish a foundation on which to develop future interventions for abused pregnant and/or post partum women. The article concludes with a discussion of important implications for evidence based clinical practice, and directions for future research and policy development for abused pregnant and/or post partum women and their infants.

METHODS—To examine the literature for this critique and synthesis, a computerized literature search was conducted in three databases: PubMed, CINAHL Plus, and Web of Science. The limits were set for original research articles based in the United States that were published between 1997 and 2007 and written in the English language. Search terms included “home visitation”, “abuse”, “pregnancy”, “maternal health” and “infant health.”

Inclusion criteria for this critical review were established *a priori*. The articles had to include 1) a well-described prenatal and/or postpartum home visitation intervention that utilized nurses, paraprofessionals or lay health workers; 2) an assessment of perinatal (during pregnancy through one year after birth) IPV; and 3) quantitative data describing health outcomes for the women and their infants.

The PubMed, CINAHL Plus, and Web of Science online database search produced a total of 439 articles. The search was conducted first by using individual, specific keywords and then

narrowed to include keyword strings. This strategy was utilized to prevent the exclusion of relevant articles.

An initial screening of article titles was used to eliminate articles clearly not meeting study criteria and to recognize overlap of articles between search engines. Abstracts of all potentially relevant articles were retrieved. A total of 128 potentially relevant, non-repeated abstracts were reviewed to determine whether they met inclusion criteria. Reasons for exclusion at the abstract level included systematic reviews (11), international studies, non-research commentary or non-intervention studies. However, reference lists from all of the 128 abstracts were reviewed for papers that may not have been identified through the electronic search.

Articles with abstracts that indicated a good match for this review, as well as those that did not mention all of the inclusion criteria, were obtained and read in their entirety to assess if inclusion was possible. Additionally, articles that were written based on the same study (i.e. Duggan's Hawaii Healthy Start evaluation) were read, and the most applicable were selected for inclusion in this paper. Those that assessed family violence not inclusive of IPV (elder abuse, child abuse), were published prior to 1997, discussed home visiting not specific to perinatal period, or researched perinatal home visiting without addressing IPV were excluded at this point. Table 1 details the number of citations retrieved, the number of abstracts reviewed and the number of articles retained from each database search.

REVIEW OF RESEARCH—Eight research reports were found that assessed IPV and used home visitation during the perinatal period (pregnancy through one year postpartum) to improve maternal-infant health outcomes. These studies are described in detail in Table 2. All studies involved impoverished, high risk samples of women, and sample sizes ranged from 142 (Cerney 2001) to 1139 women (Olds 2004). Half of the studies assessed IPV using the Child Abuse Potential (CAP) or Conflict Tactics Scale. Past year prevalence of IPV ranged from 14% to 52%. The research reports included four intervention-based trials, one of which was reported in several articles, and one cross-sectional descriptive study. The following review provides a summary of findings across studies and comments about their applicability to home visiting programs for perinatal IPV.

Co-Occurrence of Child Abuse and IPV: A significant relationship between IPV and child abuse has been well-established in the literature (Appel, Holden; Edleson, 1999; Hazen, Connelly, Kelleher, et. al., 2004). One common goal of perinatal HV programs is to decrease child maltreatment. Cerney & Inouye (“2001”) recommended that home visiting nurses provide education and support to families experiencing IPV to reduce the risk for child abuse. Early intervention by home visitors that reduces IPV may improve parenting attitudes and stabilize the home environment thereby preventing abuse and neglect and promoting positive childhood development (Nair et al. 2003).

IPV Limiting HV Program Effects: Failure to provide sufficient focus, time and resources on IPV may limit the effectiveness of perinatal HV programs in promoting positive child development. A nationwide nurse home visitation program reported that their program was not as effective in decreasing child abuse and neglect in households with IPV (Olds, 2002). In another analysis of the same program, Eckenrode found that in families with more than 28 episodes of IPV, the HV intervention was ineffective at reducing child maltreatment (Eckenrode et al, 2000). This highlights the importance of screening and intervening for IPV, because the signs may not be obvious. If IPV is left unaddressed, the associated risks can significantly impact the greater family environment.

Response: Screening & Referral: Despite the need for a focus on IPV, none of the reviewed HV programs included specific, targeted IPV content delivered as a part of the HV intervention program. Instead, IPV was addressed by screening and/or identifying the problem when signs were clear (e.g. obvious bruising, spontaneous disclosure by clients) and making outside referrals. Comfort in screening and making referrals for IPV, however, varied amongst home visitors, with many citing barriers such as limited IPV training.

For example, Duggan et al. (“2004”) found that home visitors in Hawaii Healthy Start rated their competence in addressing IPV as low. More importantly, the paraprofessional home visitors in this study were not able to make appropriate referrals to community resources when necessary. In addition, Tandon et al. (2005) found that paraprofessional home visitors demonstrated limited ability to communicate and respond to issues concerning IPV. These findings are consistent with prior literature, mostly in acute and clinical health care settings, that has identified many barriers to routine screening for IPV (Yonaka, Yoder, Darro & Sherck, 2007; Fried, Aschengraue, Cabral & Amaro, 2006). These barriers include lack of education and training, confidentiality issues, time restrictions, personal experience with IPV, inadequate resources and selective screening of patients.

Nurses making home visits likely face the same barriers to IPV screening and referrals as other nurses and other health professionals. Hence, while nurse home visitors' ability to be effective in improving maternal and infant outcomes using the Nurse Family Partnership model have been clearly documented (Olds, Kitzman, Cole et al., 2004; Olds, Robinson, O'Brien et al., 2002), the effectiveness of nurse home visitors in screening and addressing IPV has not been demonstrated. In all of the studies reviewed, lack of education and training were identified as barriers for all home visitors, including nurses, who screen for and refer patients experiencing IPV. There is a need for future studies that examine what type of training (i.e. nursing, paraprofessional) is best suited to provide HV related to IPV.

SUMMARY OF EVIDENCE TO DATE—One strength of the studies reviewed is that the underlying study methodologies were solid, with several evaluating data from four randomized control trials, and although they only reported cross sectional data most studies used standardized measures of IPV, either CTS or the CAP, both of which have good reported psychometric properties and have been tested for use diverse populations.

The studies reviewed had several limitations. The majority of the studies reported cross-sectional data only, which provides little knowledge about the pattern of IPV during prenatal and postpartum period. Across all studies, families included in the samples were low income and Medicaid eligible, which limits generalizing findings to families of other socio-economic backgrounds. However, most home visitation programs are limited to “at risk” families, usually of low income. Studies also used different types of home visitors with differing educational backgrounds and preparation for the home visiting roles. Most studies did not report documentation of home visitors' adherence to study protocols or monitoring fidelity. Thus, it is difficult to determine how much of the home visiting intervention protocol families received and how this influenced IPV outcomes.

Despite the limitations cited, we identified several important trends when considering the findings from these studies. HV programs included assessment and referrals for IPV, but they did not have specific curriculum designed for the home visitor to provide direct intervention. Home visitors often felt inadequately trained to deal with IPV. In some programs, the presence of IPV limited the ability of the intervention to improve maternal and child outcomes (Eckenrode et al., 2000). Additionally, these studies suggest that, given their advanced health care education and comprehensive assessment skills, nurses might be better positioned than paraprofessionals to provide comprehensive HV services, especially

in terms of child abuse prevention (Olds, 2002, 2004; Duggan, 2004; A, McFarlane E, Fuddy L, et al., 2004). However, it remains unclear whether or not nurses are more effective than paraprofessionals in conducting IPV-related HV intervention.

DISCUSSION—IPV is perhaps the proverbial “elephant in the room.” Violence against women in the perinatal period is common and leads to negative health outcomes for women and infants. Failure to recognize and directly and effectively address this issue may prevent perinatal HV programs from achieving their desired outcomes.

Prior work documents that HV can be effective in improving the health and well-being of non-pregnant abused women. Specifically, in a longitudinal experimental study, Sullivan (1999) used paraprofessional advocates to deliver a ten week home visitation intervention after shelter stay. Researchers found that women receiving advocacy HV (n= 135) experienced less physical violence, sought more community resources and had improved emotional health and support than women in the control group (n= 130) (Sullivan & Bybee, 1999).

CALLOUT 2

Similarly, a pilot project, *Passport to Health*, tested the feasibility and efficacy of a community health nursing home visiting intervention (CHNHVI) for abused women leaving a domestic violence shelter. The goals of the program were to reduce health disparities by increasing 1) access to health care; 2) health promoting and safety behaviors; and 3) parenting skills of women and children survivors of IPV. Women and children received up to 14 weekly visits over six months post shelter stay. A total of 14 women were recruited, ten women completed the intervention, and nine women had sufficient data to conduct analyses. Among those women, the mean age of the women was 29 years, 7 were African American, 1 was Latina, and 1 was Caucasian. There were no significant differences between those who completed and those who did not complete the study. No enrolled woman was pregnant, but two of the enrolled women had infants who were less than 6 months old at baseline. The post shelter CHNHVI included health education for women's and children's health and parenting, strategies for implementing safety plans and reducing IPV and coaching and/or referrals for accessing health care. There were several significant changes from baseline to the six-month follow-up. Specifically, using the Abuse Assessment Screen, the women reported decreased IPV ($p=0.003$); decreased emotional abuse based on the Women's Experiences with Battering ($p<0.001$); improved health measured with the Miller Abuse Physical Symptoms and Injury Scale ($p=0.012$); decreased danger in intimate partner relationships using the Danger Assessment ($p=0.014$) and increased self esteem using the Rosenberg Self Esteem Scale ($p=0.012$). Both Sullivan's work and the preliminary work of *Passport to Health* suggest that home visiting with a specific IPV curriculum is feasible and effective with abused women, and warrants further testing with abused women in the perinatal period (Sullivan & Bybee 1999; Sharps, 2004).

RECOMMENDATIONS

Implications for Practice: Health care providers have frequent contact with women during prenatal, postpartum and well-child visits. Additionally, health care providers often have long-standing relationships with their patients that afford the trust and partnership needed to discuss sensitive psychosocial issues such as IPV. Given the high rates of IPV in the perinatal period and the associated negative health outcomes, health care providers should routinely screen women for IPV; without such screening, few IPV cases are likely to be detected and women cannot be appropriately referred to resources such as home visitation. Screening should be done sensitively and privately, with protocols detailing best-practice responses to help women disclosing abuse. Additionally, it is important for health providers

to serve as advocates for abused women, supporting them in their decision making and providing necessary resources and referrals. Communication with local domestic violence agencies can facilitate the development of plans to meet the needs of these women. Networking with local domestic violence agencies also may provide opportunities for training health care providers about issues related to IPV screening and intervention. Intensive perinatal home visitation with direct IPV intervention for abused women, if available, may offer additional support and benefit.

Implications for Research: This review revealed the relative dearth of perinatal HV programs that screen and provide interventions for IPV. Rigorously designed randomized control trials are needed to determine the risks and benefits of adding specific IPV curriculum to perinatal home visitation programs. These trials should consider multiple endpoints including pregnancy outcome, maternal physical and mental health, infant growth and development and child maltreatment. Additionally, these studies ideally should follow maternal-child dyads for several years to determine if the impact of the home visitation program is sustained over time.

The Domestic Violence Enhanced Home Visitation (DOVE), funded by National Institute of Nursing Research, represents one promising randomized control trial evaluating the efficacy of a community health nursing home visitation program for at risk, pregnant women who have experienced IPV. Women from both urban and rural settings are recruited through health departments. For women randomized to the intervention group, DOVE uses a brochure-based curriculum to increase women's knowledge of abuse, provide them with options and empower them to make decisions and adopt behaviors that will prevent and reduce further IPV.

Future research also should pursue the question of how to improve cost-effectiveness of HV services including direct intervention for IPV. While nurses have been shown to deliver effective HV, potentially related to their expertise and holistic approaches to health care, both cost and reproducibility must be considered. A study that directly compares the financial costs, home visitor training needs and participant outcomes for home visiting interventions by nurses versus para-professionals would be useful.

Implications for Policy: Future research must further examine how to deliver perinatal home-based interventions most effectively, including cost-efficiency, with a specific focus on how to best intervene in families with IPV. In order to continue to study this promising intervention strategy, however, there must be continued financial support of rigorously designed trials of perinatal HV programs that include specific interventions for IPV prevention and intervention.

Meanwhile, the data reviewed here clearly justify addressing IPV in home visitation programs. All home visitors need to be trained in the dynamics of IPV, how to assess and how to intervene, as is now being done in Healthy Start Programs (Rivera, 2006). At the least, home visitors should routinely assess women for IPV at entry into the program, one other time during the prenatal period (when trust has been established) and at post partum, when abuse is known to restart (e.g. Martin et al, 2001; Saltzman et al,2003). Appropriate community referrals to domestic violence shelters, advocacy programs and the criminal justice system if desired should be discussed with abused women, and the home visitor should provide assistance in making those referrals. As with other health problems, home visitors need to periodically assess what is happening with the violence in follow-up visits. These basic procedures with appropriate training should be part of all home visitation programs.

CALLOUT 3

Conclusions—Perinatal IPV is a significant public health problem which affects pregnancy outcomes as well as the health of mothers and infants. Nurses often have long-standing relationships with their patients and are therefore ideally suited to screen women for IPV. Providing abused women with support and, as appropriate, with referrals to community agencies, empowers women and may improve both their and their infant's health.

Perinatal home visitation programs likely improve pregnancy and infant outcomes. Although we were unable to find any perinatal HV programs that had specific IPV intervention content, there have been at least two non-perinatal HV studies that have specific interventions to address IPV. These studies provided preliminary evidence that nurse HV programs may be able to appropriately adapt such interventions to address and reduce perinatal IPV. Practicing nurses should investigate perinatal home visitation programs in their communities as one option to support at-risk women.

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Table 1

Search Process

Database Searched	Citations Retrieved	Original Abstracts Reviewed	Articles Selected
PubMed	258	80	6
CINAHL Plus	109	36	2
Web of Science	72	12	0
Reference Lists	N/A	8	0

Table 2

IPV and Perinatal Home Visitation Articles

First Author	Study Description	Sample Demographics	Home Visitor Type & Training	Intervention Parameters	Violence Measures and Findings
Eckenrode (2000)	15-year follow-up of Olds' randomized controlled trial (Elmira, NY) Original study conducted from 1978-1980.	N=324 mother/child dyads in follow-up (from 400 in original study) Original recruitment of pregnant women with no previous live births, and either <19, unmarried, or low SES. Original study: 47% <19 years of age 62% unmarried 61% of low SES households Follow-up: 81% of original pairs interviewed Completed interviews did not differ by treatment group	Follow up on three arms of study. For groups 3 & 4, nurse conducted home visiting. No information provided on nurse training in this article.	Group 1: sensory & developmental screening of child at 1 & 2 years; Group 2: above and free transportation for appointments through age 2; Group 3: above plus nurse home visits during pregnancy; Group 4: same as group 3 with nurse visits to child's second birthday. Nurse promoted maternal functioning, child care and maternal life-course development. Visits biweekly during pregnancy, weekly in first 6 weeks pp, then fewer until age 2. Average of 9 visits completed during pregnancy and 23 until 2 nd birthday	IPV measured by CTS 48% of mothers reported IPV since the birth of index child, Mean number of incidents was 22.2 over the 15 years. Significantly less child maltreatment with mothers experiencing less than 28 fewer incidents of IPV in 15 years. Treatment effect of intervention decreased significantly as level of IPV increased (p<0.04-0.001)
Cerny (2001)	One group pre/post test intervention study in Hawaii among military families identified as at-risk for child abuse	N= 142 (pregnant or mothers of newborns) All from enlisted military families. Many on food stamps and assistance, 73% married, 65% white, 21% African American	Nurses (no specific mention of qualifications)	Nurses visited 2x/month until baby 1 year old Education provided regarding parenting issues, bonding, breastfeeding, discipline. Intervention focused on increasing mother's self-esteem, knowledge and confidence in caring for baby	History of spouse abuse measured for correlation to Child Abuse Potential (CAP). Spouse abuse significantly correlated with child abuse (p<0.04) among those with higher CAP scores CAP scores showed decline following intervention
Olds (2002)	Randomized controlled trial in Denver, CO	N=735 (255=control; 245=paraprofessionals; 235=nurse) Pregnant women with no prior live births, eligible for Medicaid All groups similar at baseline in age, race/ethnicity, alcohol/drug use, and marital status.	3 study arms (control, paraprofessional home visits, nurse home visits). All trained in home visiting protocols	Nurses: 6.5 prenatal home visits; 21 visits between birth and child's 2nd birthday. Paraprofessionals: 6.3 prenatal home visits; 16 visits between birth and child's 2nd birthday	IPV measured with Conflict Tactics Scale (CTS) Whole group at baseline: 16% reported experiencing domestic violence in last 6 months in control and nurse groups; 18% in paraprofessional group.
Nair (2003)	Study was part of larger longitudinal RCT of home-based intervention for substance-abusing women with infants	N=161 substance-abusing mothers Eligible if woman or infant had positive toxicology screen at birth. Postnatal home visiting only. Sample "predominantly African American"	Lay visitors Training based on the Hawaii Early Learning Program (HELP) and Infant Health and Development program	Weekly home visits from 0-6 months, biweekly visits 6-24 months. Intervention based on Infant Health & Development Program augmented with information specific to substance use/abuse. Goal was to increase maternal empowerment	IPV defined by single question over the past 18 months: "Since we saw you last, have you been a victim of domestic violence?", scored 0 (none since study

First Author	Study Description	Sample Demographics	Home Visitor Type & Training	Intervention Parameters	Violence Measures and Findings
					entry), 1 (if reported being abused at 6,12, or 18mo visit) Used as factor to quantify mother's environmental risk—cumulative risk index. No significant difference between intervention and control groups
Duggan (2004)	Randomized controlled trial, 3 sites in Hawaii. Families enrolled prenatally or at birth of child, randomized to intervention or control. Data from follow-up interviews, 89% of total. Lost to follow-up not significantly different from those remaining.	N=643 families (373 HSP; 270 control). Groups comparable in age (mean 23.7, 23.3 years respectively), >60% household income below poverty level, index child firstborn in nearly half of families.	Para-professionals trained with 5 weeks core training including child development, child abuse, problem solving and domestic violence.	Healthy Start Program model focused on improving family functioning, thereby preventing child abuse and promoting child health and development. Home visiting for 3-5 years (Level 1 weekly visits; Level 2 biweekly, Level 3 monthly, Level 4 quarterly)	IPV measured with CTS. Control group mothers reported more IPV at baseline than intervention (52% compared to 43%, p<0.02). Home visitation did not improve mother or child outcomes including no differences in child maltreatment
Olds (2004)	Randomized controlled trial. Follow-up on previous Colorado study (Olds, 2002)	N=635 (220=control; 211= para; 204=nurse). Two year follow-up after close of study (2002, see above)	Follow up on 3 study arms (control, para-professional home visits, and nurse home visits). All trained in home visiting protocols	See above.	IPV measured through CTS. OR for IPV (past 6 months & since child age 2) control vs. para-professional nonsignificant. OR for past 6 mo IPV control vs. nurse 0.47 (p=0.05); OR 0.60 for IPV since age 2 (p=0.09)
Olds (2004)	Randomized controlled trial. Follow-up on previous Memphis, TN study in 1990-1991	N=1139 (1: 166; 2:515; 3: 230; 4: 228) 92% black; 85% below poverty level; 98% unmarried; 64% <18 years of age at enrollment; all first time mothers	4 arms (2 with nurse home visitors; no para-professionals) Group 1: transportation to prenatal visits, no postpartum visits; Group 2: same as above + infant assessments; Group 3: same as first group + intensive home visiting prenatally, 2 postpartum visits; Group 4: same as Group 3 + nurse HV through child's second birthday.	Same 3 goals for home visiting: improve outcomes of pregnancy, improve health of children through promoting competent care by parents, and enhance parents' life course development through pregnancy planning, finding work, and completing education. Focused on self-efficacy and resource use	Outcome variable. Measurement not specified. Included experience of domestic violence, birth to age 6y; no effect on IPV (p=0.87)
Tandon (2005)	Cross-sectional study of mothers and home visitors	N=189 (mothers) N=45 (home visitors). Recruited pregnant	Training and home visitor type varied by home visitor	4 home visiting program models assessed for women's need for IPV	Need for IPV services measured by affirmative

First Author	Study Description	Sample Demographics	Home Visitor Type & Training	Intervention Parameters	Violence Measures and Findings
	currently engaged in home visitation program	women or women with child under 6 mos. Families eligible if participated for at least 3 months, had the best relationship with program.	program: Healthy Start model, Healthy Families America model and community developed model all used paraprofessionals. Locally developed model used nursing students Home visitors received training on program goals, services and operating procedures; history of home visiting; issues of confidentiality; child abuse/neglect reporting requirements	resources and home visitors' ability to identify and discuss IPV with mothers. Home visiting provided for 1-3 years; new families receive visits at least every 2 weeks, decreasing as milestones are reached.	answer to one or both items: "Are you experiencing a physical domestic abuse problem with your current partner?" or "Are you now experiencing a verbal or emotional abuse problem with your current partner?" Also asked about receipt, want or need for DV services since joining the program. Of 26 mothers positive for IPV service need (14%), only 5 (19%) were receiving services, and only 1 of those receiving services had been referred there by home visitor. Home visitors who felt more adequately trained in aspects of IPV reported more effective addressing IPV (p<0.05)