Longitudinal evaluation of a training program to promote routine antenatal enquiry for domestic violence by midwives

Running head: follow-up evaluation of DV training

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Abstract

Background: Routine enquiry about domestic violence during pregnancy is accepted best practice. Training is essential to improve knowledge and practice. Few studies have undertaken a comprehensive evaluation of training impact over time.

Aim: To evaluate the longitudinal impact of a domestic violence training and support program to promote midwives' routine antenatal enquiry for domestic violence using a mixed methods design.

Method*:* Data sources included (1) surveys of midwives at 6 months post-training, (2) interviews with key stakeholders at 12 months, (3) chart audit data of screening, risk, and disclosure rates (for 16 months). Measures included midwives' knowledge, preparation for routine enquiry, and perceptions of organisational barriers to routine enquiry.

Findings: Forty (out of 83) participant surveys could be matched and responses compared to baseline and post-training scores. Wilcoxon signed-rank test identified that all 6-month follow-up scores were significantly higher than those at baseline. Level of preparedness increased from 42.3 to 51.05 ($Z = 4.88$, $p < .001$); and knowledge scores increased from a mean of 21.15 to 24.65 ($Z = 4.9$, $p < .001$). Most participants (>90%) reported improved confidence to undertake routine inquiry. A chart audit of screening rates for 16 months post-training revealed of the 6671 women presenting for antenatal care, nearly 90% were screened. Disclosure of domestic violence was low (< 2%) with most women at risk or experiencing violence declining referral.

Conclusions: Training, support processes, and referral pathways, contributed to midwives' sustained preparedness and knowledge to conduct routine enquiry and support women disclosing domestic violence.

Keywords: Domestic violence, midwives, training, antenatal, routine inquiry, evaluation.

Statement of Significance

Problem statement	There is relatively little longitudinal evaluation of training programs for midwives to conduct routine enquiry for domestic violence.
What is already known	Asking pregnant women about their experiences of domestic violence is accepted best practice. Training and workplace support can enable midwives to conduct routine enquiry about domestic violence.
What this paper adds	At 6 months post-training, midwives' knowledge and preparedness for routine enquiry continued to be higher than pre-training. Training outcomes were enhanced by peer-support, changes to documentation, and awareness of referral pathways. Organisational strategies are needed to maintain commitment to screening and referral.

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Introduction

In Australia, 36% of women who experienced violence by a partner reported that this occurred when they were pregnant.[1] Around seventeen percent of women experience domestic violence (DV) for the first time during pregnancy.[1] Routine enquiry about personal safety and risk during pregnancy is recognised as best practice.[2] Research evidence also shows that midwives and health professionals who have received DV training are more likely to ask women about their experiences, respond sensitively, and offer appropriate referral.[2]

Although asking all women about a history of DV is considered best practice, it may not lead to referral. O'Doherty et al.[2] suggested that poor referral rates by health professionals may be attributed to a lack of education and training around responding to a woman's positive disclosure. DV training is essential for staff working in services used by women at risk or experiencing violence. Although there is some research evaluating the longitudinal impact of nurse training for routine enquiry about DV with women attending emergency departments, [3,4] there is relatively little research examining the longitudinal impact of training on midwifery practice.

Robust training programs can provide midwives with the knowledge and skills necessary to confidently enquire and support women who positively disclose DV. Midwives participating in a recent Australian study reported that working in health services where there was initial training and a clear DV referral pathway increased their confidence for practice.[5] However, the provision of education and training programs to enhance midwives' knowledge and skills to carry routine enquiry in Australia has been somewhat inconsistent. In a survey of Australian midwives' knowledge about DV, most participants (n=125, 82.2%) reported some workplace training, but this varied from watching a DVD (32%), to reading hospital policy (44%), or attending a skill based DV workshop (39.2%).[5]

McCosker-Howard, Kain, Anderson and Webste [6] investigated midwives' perceptions of barriers and supportive strategies for routine screening as part of the 1998 Domestic

Violence Initiative in Queensland. Participants described minimal preparation for the introduction of routine screening, and none reported receiving ongoing training. Although midwives valued the identification and support for women experiencing DV, they felt overwhelmed by the expectations and additional workload that screening created. Midwives described the negative emotional impact of feeling relatively unprepared and unsupported for the introduction of routine screening.[6]

These findings contrast with the evaluation of a three-month Commonwealth funded pilot scheme for routine DV screening in the Sutherland Hospital Antenatal Clinic.[7] Training and site-specific resources that included referral pathways were made available to all antenatal clinic midwives. Whilst some midwives identified common barriers such as presence of the partner at antenatal appointments, most midwives reported feeling confident and strongly supported the introduction of routine enquiry.

In a systematic review of DV training for health professionals, Davidson et al.[8] concluded that most training programs were of limited duration, offered to small groups, were rarely repeated or followed-up, and provided scant detail of program content. Similar findings were reported by O'Campo et al.[9] in a systematic review of 23 studies. DV training programs were more likely to be successful if there was organisational support; training was offered in an ongoing way; included content about prevalence, impact of DV, and community resources; used screening protocols; and were supported by readily available referral services.[9] More recently, a scoping review of DV education and training programs for midwives and nurses by Crombie et al.[10] also identified significant variation in how training programs were delivered. Relatively few training programs included a long-term evaluation.

The Bristol Pregnancy Domestic Violence Programme, a skills-based training course, aimed to equip community midwives (n = 79) in the United Kingdom with knowledge and confidence to enquire about DV during pregnancy.[11] The authors found improvements in knowledge, attitudes and efficacy that were still evident six months after the program. Five years after training, 58 midwives completed a repeat questionnaire and eleven participated in focus group discussions.[12] Midwives described continued feelings of confidence and a sense of pride regarding their role in routine enquiry. Their sustained commitment to routine enquiry also prompted these

midwives to employ innovative strategies to overcome some of the previously identified workplace barriers.[12]

A review of the DV program evaluation literature suggests that most training programs have some degree of success in changing practice. For instance, Janssen et al (2002) [13] examined medical records to determine the impact of a DV training program conducted 18 months previously. The training was brief (one hour), and consisted of participants watching a demonstration of how to ask the screening question and being offered practice supervision. Using the Diffusion of Innovation theory[14] as an evaluation framework, the authors reported positive change in staff behaviour and screening rates which improved from 42 to 60%. Similarly, a six-month follow-up evaluation of a 4-day DV training program with Sri Lanka public health midwives (n = 408) also found improved knowledge levels, ability to identify and follow-up women experiencing DV, and fewer perceived barriers to screening.[15] Factors contributing to changes in practice were attributed to an emphasis placed on cultural values and developing close relationships between women and midwives.[15] Protheroe et al.[16] undertook follow-up interviews with midwives (n=26) to discuss the impact of DV training that occurred 6 to 22 months previously. Participating midwives identified that training improved their understanding of DV and skills in screening. Participants also suggested that future training could consider the inclusion of role play and involve specialist agencies.

The review of the literature revealed relatively limited research following-up the introduction of DV training for midwives. Building on the data collection approaches of others[12,13] this paper presents the findings of a multi-phased evaluation using a mixed method design to determine the longitudinal impact of training to promote routine antenatal enquiry for domestic violence.

Method:

Design

A mixed method design with three phases was used. The three forms of data collection included: (1) follow-up survey of workshop participants; (2) interviews with key stakeholders; and (3) a chart audit of screening practices.

Setting and Sample

All midwives offering antenatal care at three hospitals in South East Queensland were supported to attend a one day training workshop to promote awareness and preparedness for routine antenatal enquiry about domestic violence. Workplace arrangements were made to facilitate workshop attendance for interested staff (n = 83) during work time. This sample of midwives were followed-up at 6 months post-training.

Interviews were conducted with key stakeholders, including two 'local champions' and 3 maternity service managers. Local champions were experienced clinical midwives nominated by each participating organisation to mentor and support staff undertaking training for routine enquiry about DV.

Workshop content and processes

The seven-hour workshop (one day) contained a variety of teaching approaches including group activities, role-play, and analysis of case studies. A survivor shared her experiences of DV during pregnancy and responses of health professionals. This was followed by an information sharing session from a local domestic and family violence community support and referral agency. The workshop also included discussion of strategies to overcome potential barriers for routine enquiry in practice. The final session of the day provided an opportunity for participants to share concerns and debrief.

Measures

Survey

Survey items were drawn predominantly from the literature and the Bristol Domestic Violence Study.[12] All scale items were used with permission of the authors. The survey form was adapted for the Australian context and modified to enhance reliability and validity. Respondents were requested to generate a two-part personal identification code which was used to match surveys and provide anonymity. The survey consisted of 5 sections. Section 1 asked for information about professional role, years of experience, and any previous DV training undertaken. Section 2 sought respondents' perceptions of preparedness to undertake routine enquiry and support women experiencing DV on a 4 point Likert scale ranging from 1 = 'not at all prepared' to 4 = 'well prepared'. The Preparedness Scale was reliable with a Cronbach's alpha

coefficient of .89.

Section 3 presented 14 questions related to knowledge of DV issues with responses on a true, false, don't know basis. Correct answers attracted a score of 2, unsure responses received a score of 1, and 0 for incorrect responses. Examples of questions were "a family history of abuse increases a woman's risk of IPV" and "a woman experiencing violence may not be able to leave a relationship because of the needs of her children". The reliability for this scale was satisfactory with a Cronbach's alpha coefficient of .74. Test-retest reliability was also satisfactory with a Cronbach's alpha coefficient of .## (Baird et al 2017)

Section 4 asked six items related to the impact of the training program on knowledge and practice. Support to undertake routine inquiry was assessed in Section 5. Participants were asked how likely it was that they would seek support from various sources within their organisation (such as peers, manager, doctors). Responses were recorded on a scale of '1' (least likely to seek support from) to '5' (most likely to seek support from). Participants were also invited to provide open-ended comments on the form.

Survey procedure

Midwives working at each participating site were notified about the 6-month follow-up evaluation through their regular staff team meetings. Survey forms and collection boxes were made available in each maternity service. An information sheet was attached to the survey form and completion of the survey was deemed to imply consent.

Approach to analysis of surveys

Data were entered into SPSS. All continuous variables were checked for normality. Comparisons were made between follow-up (T3), post-training (T2) and baseline (T1) where the items were common to all surveys. None of the continuous variables were normally distributed at T3. Therefore, Wilcoxon signed rank test, which is the non-parametric equivalent of the paired t test was used.

Interviews with stakeholders

At 12 months post-training workshop, a list of stakeholders was generated by the research team. Interviews were conducted with identified stakeholders about the implementation of routine antenatal enquiry. Managers were also asked about service commitment to routine enquiry and sustainability of the program. Organisational barriers identified in the survey data also guided some interview questions.

Interview Procedure

Individuals were approached either personally or by email with an invitation to participate. If a person gave initial agreement, a convenient time was negotiated and they were sent an information sheet and consent form. Prior to the interview commencing, any questions were answered, and informed consent was obtained. The interviews were audio recorded and transcribed verbatim.

Approach to qualitative data analysis

A thematic analysis identified some common themes across the interviews. The interview transcripts were analysed by two members of the research team using an inductive thematic analysis approach.[17] The analysis process involved each transcript being read several times by each of the researchers until they became acquainted with the data. Initial codes were then generated, followed by provisional themes, which were then refined. As themes and sub themes were formed, a thematic map was then developed with connections between the themes identified. [17]

Chart audit

Training coincided with the introduction of an online reporting function in medical records used by the antenatal clinics at one site. The online form asked about a woman's actual and potential risk for domestic violence. Questions related to women's perceptions of safety, experience of physical and emotional abuse, as well as a history of childhood sexual abuse. Women disclosing violence or perceived to be at risk were offered referral to the hospital social work service or a linked-in community based domestic violence centre. Anonymous, extracted records of the DV screening questions for every woman who attended the antenatal services at one site for 16 months were examined. Frequencies were generated and rates of missing data were identified.

Ethical Approval

Ethical approval was obtained and granted by Griffith University Human Research Ethics Committee and participating Health Service Human Research Ethics Committee (HREC/15/QGC/8) prior to commencement of the study.

Results

Participant surveys

Using the participant-generated code, 40 out of 83 surveys could be matched across 3 time points. This represented a response rate of 49.3%. Forty percent of midwives held a degree qualification and around one in six had a postgraduate diploma (17.5%). Sixty percent of respondents worked part time. The mean years of practice as a midwife was 15.2 (SD=11.83, range = 1-42 years). Participant characteristics are presented in Table 1. There were no statistically significant differences between responders and non-responders regarding role, full or part-time employment, level of previous training on DV, preparedness or knowledge of DV.

Insert Table 1 here

Preparedness

Participants were asked how prepared they felt to routinely enquire about DV and support women experiencing DV. Most midwives (over 80%) felt at least moderately prepared on all items (as outlined in Table 2). At six months follow up, participants' mean score on the Preparedness Scale was 51.05 out of a possible 60 (SD 5.5, range = 41-60). This score was significantly higher than baseline (mean 42.3, SD = 7.26, range 29-60) ($Z = 4.88$ $p<.001$) but slightly less than the post-training score (mean 53.8, SD = 4.2, range 44-60). However, some midwives (25%) found it difficult to discuss sensitive issues with an interpreter; and some (40%) felt unprepared to help women develop a safety plan to leave a violent relationship. Comments??

Insert Table 2 about here

Knowledge

At follow up, participants' mean level of knowledge about DV issues was 24.65 out of a possible 28 (SD 2.67, range = 19-28) indicating a high level of knowledge. No

significant differences were found in total knowledge scores between follow up and post-intervention (mean 25.1 SD 2.63 range = 18-28), but were significantly higher at follow up compared to baseline (mean 21.1 SD 2.83, range 15-27) (Z= 4.9 p<0.001).

Perceptions of impact of the training program

At six months follow-up, nearly all participants indicated the training program had improved their practice in regard to DV screening and referral. The mean impact score was 25.33 (SD=3.96, range 12-30). Over 90% of participants reported improved skills regarding routine enquiry, how to respond if a woman disclosed DV, awareness of referral pathways and how to work with other agencies to support women experiencing DV (as outlined in Table 3). ~~However, some midwives (25%) found it difficult to discuss sensitive issues with an interpreter; and some (40%) felt unprepared to help women develop a safety plan to leave a violent relationship.~~ Written comments revealed frustration by midwives when women failed to disclose; refused referral, or refused to leave their violent relationship.

Insert Table 3 here

In regards to sources of support for issues surrounding their DV work, participants were more likely to consult with peers (82.5%) and a hospital social worker (62.5%) compared to their service manager (45%) or local champion (25%). Comments

Chart audit data

A chart audit of screening rates for 16 months post-training revealed that of the 6671 women presenting for antenatal care, nearly 90% were screened (as shown in Table 4). On average 44 women per month were not screened. Disclosure of DV was low (< 2%) with 2.4% of all women declining referral. Disclosure rates of childhood sexual abuse 12.3% (n=822) were higher than anticipated.

Insert Table 4 here

Findings from the Interviews

Domestic violence champions

Interviews with local champions at 12 months post training indicated an on-going commitment to the role, but only as an informal source of support. Indeed, neither champion was still in the same clinical role. Two main themes emerged from the data: 'source of informal support' and 'organisational support'.

Source of informal support

Both local champions perceived themselves as a source of "informal support" and more of a "go to person" who monitored and encouraged midwives to routinely offer screening to women:

"The midwives know that I am here as an extra resource that they can use if they have any concerns, but I honestly think that is as far as it now goes. Most of the midwives are aware of all the community supports and resources and what the referral processes are." (Domestic violence champion 1).

Both local champions noted an increased confidence by midwives regarding routine enquiry and therefore felt their support role became superfluous over time:

"Since the workshop the midwives may mention that they had a woman disclose to them and they will tell me how they handled the disclosure and the plan they put in place. They then may ask me 'do you think there is anything else that I should or could have done?'" (Domestic violence champion 1).

Organisational support

Both local champions reported they had not been allocated protected time to fulfil their role nor had they received any form of organisational support. These reports suggest a level of token commitment from their participating organisations. Regarding the ongoing sustainability of the DV training program and screening practices, neither champion felt their role extended to orientating, training or preparing new staff to conduct DV enquiry, especially as no extra time had been allocated for them to fulfil this aspect of the role. They both believed that a prominent level of adherence with DV best practice could be achieved if all new staff attended a dedicated DV training workshop. Both also recommended a yearly refresher workshop of around 2-4 hours for all members of staff:

"Even just having little mini in-services of one to two hours with a focus on what is new, checking in that everyone still okay and that they are still confident with screening, perhaps six months later after the initial training day and then yearly, would ensure a commitment to the training" (Domestic violence champion 2).

Service managers

Interviews were conducted with 3 service managers from two of the three participating hospitals. Four key themes emerged from the interviews: DV is a health priority; importance of training and education for staff; working in collaboration with hospital and community agencies; and the importance of continuity of midwifery care.

DV is a health priority

All three service managers agreed that DV is a key priority for health and that midwives have a key role in identifying and supporting pregnant women who are survivors of DV. They all recognised significant health benefits to women from midwives embracing this extension to their role. Participants also believed that maternity services should be taking a lead in this area by providing women with a safe space to disclose DV:

"…domestic violence is very high in our service priorities, we are very committed to this agenda at …. hospital, so much so we're adding it to our divisional women's and children's operational plan" (Service Manager 2).

"I think it's critical that we stand out and actually place ourselves as being the health provider to actually reach out to women at this vulnerable time of their life. It might be the only time we have an opportunity to ask" (Service Manager 1).

"Domestic violence is a massive public health agenda, we now know about the long-term potential consequences for women and their families living with DV, it is therefore critical then that we offer women the opportunity to disclose at any time when she sees a midwife" (Service Manager 3).

Education and training for midwifery staff

The continuing education and training of midwives was a strong theme. All the managers agreed that the education and training of midwifery clinicians should be a service priority. They also highlighted that DV training should form part of the ongoing midwifery mandatory education program, thereby ensuring the continuation of midwives' skills and knowledge:

"We should make DV training a priority, along with all our other clinical mandatory education training that we expect midwives to complete. I think it is just as important, as basic life support and some of the other training that midwives have to complete every year" (Service Manager 2).

Two of the managers agreed the DV agenda could and should be linked to other service priorities such as child protection and mental health screening, thereby ensuring that DV remained high on the Hospital Service Operational Plan. One manager voiced some caution of linking DV with other service priorities such as child protection, fearing it may prevent women from disclosing:

"I think we have to be careful, if we start linking domestic violence to child protection, there's a risk that women won't disclose if they think there is a risk that their kids are going to be taken off them" (Service Manager 1).

Participants also considered that routine enquiry and referral could only be successful with an ongoing program of education, training and support for midwives. Training was felt to be an essential element to ensure continued best practice:

"This work is not just about ticking the boxes, its actually about reaching out and providing women with an opportunity to disclose about DV safely. To do this, our staff must be skilled and confident in this work…This is more around a therapeutic interaction with the women, it is not just a tick box exercise" (Service Manager 2).

Working in collaboration with hospital and community agencies

The importance of multi-agency collaboration was articulated by all service managers. There was an expressed belief that responding to DV effectively and safely required a multi-agency response and that every agency has a key role to play. There was a conviction that responding to DV could not just be a hospital response:

"If we really want to offer ongoing care and support to women and their families then it must be a long-term commitment which midwives cannot provide, we are only with them [women] for a brief time. Therefore, the long-term support has to come from other agencies that we liaise and work closely with" (Service Manager 3).

There was a belief that midwives should act as a conduit, supporting women to reach out to non-government community DV organisations who would provide them with the long-term support they require:

"We know that most women won't walk into a community organisation, or go and see a social worker or even a counsellor, however, seeing a midwife provides them with a window of opportunity to disclose…… with the midwives' help, she can be referred onto the most appropriate service that will meet her individual needs (Service Manager 1).

It is important for the midwife to understand that they do not have to be the specialist in this area, yes, they are the midwife reaching out to women, providing them with a safe space to talk about DV, but then we point them in the direction of the specialist services" (Service Manager 2).

There was concern expressed by one service manager that some midwives may tend to become too involved with a woman's disclosure and even take on the role of a counsellor:

"One of the things I worry about the most, is that sometimes midwives may get caught up with a woman's circumstances and then all of sudden they find themselves in the role of the counsellor, they are not trained counsellors. They have to be very careful not to over step the professional boundaries of their role, we have other agencies that can do this role effectively and safely" (Service Manager 3).

One manager described how their hospital was committed to developing a multi-professional collaboration pathway to respond to DV. They also stressed how important it was that this program of work was not just seen as 'midwives work':

"We have just set some multi-professional meetings and awareness raising sessions with social work, child protection, non - government agencies, and staff including doctors in the newborn care nursery and child health. This is to make sure everyone is aware of what is going on but also to develop a team approach, this [routine enquiry and referral] is not just the role of the midwife…. we all have a responsibility" (Service Manager 2).

Continuity of care (CoC) makes a difference

Two of the service managers believed that asking women to disclose about a history of DV required time for a relationship to be built between a woman and a midwife. They believed that DV screening was not facilitated in a fragmented model of care, reinforcing that midwives working within a CoC model could optimise opportunities for disclosure:

"Providing continuity of care by a known midwife, will provide women with an opportunity to feel more comfortable and safe about disclosing. For example, once that one – to – one relationship is developed women will feel much more comfortable.

We must continue to re-orientate our maternity services away from fragmented models of care, if we are to provide opportunities for disclosure" (Service Manager 2).

One service manager discussed how their antenatal services had been recently re-designed to ensure a woman would see the same midwife each time in the antenatal clinic. Furthermore, the introduction of community-based clinics where women receive both antenatal and postnatal care from the same midwife was considered valuable in taking the DV screening work forward. However, there was some concern about screening offered to the considerable number of women who continued to opt for GP shared care:

"In our community clinics, women do get the option to see the same midwife throughout the antenatal period and in some of the clinics we offer continuity through the antenatal and postnatal period. However, there are still many women who see their GP for their antenatal care, so although the system is improving in some areas there is still much work to be done, yes, it is still very much a work in progress" (Service Manager 3).

All service managers recognised significant benefits of routine enquiry for women and reinforced the importance of midwives supporting women who are experiencing domestic violence. All agreed that the practice of routine enquiry for DV by midwives should be embedded in practice and form part of the midwives' role.

Discussion

DV training programs aim to increase midwives' understanding of DV as well as providing knowledge and skills to respond appropriately to women.[18] The DV program offered in this study was multifaceted and aimed to not only promote midwives' abilities to conduct routine enquiry, and sensitively support women who disclose violence; but also improve workplace policies and processes. In line with previous findings, the current study demonstrated that robust educational programs can support midwives to undertake this role.[19-21] Indeed, when midwives feel knowledgeable about the prevalence, risk factors and cues for DV, they are more likely to undertake routine enquiry. [11,12]

The DV training program evaluated here adopted a 'whole of work unit' approach and used a variety of strategies. The 6-month program was inclusive of experiential learning (during the workshops), peer-mentoring, and support through the introduction

of domestic violence champions. In line with best practice, the training workshops also involved the input from consumers and community based organisations.[21]

Participating midwives placed great importance on routine DV enquiry and survey scores and written comments attest that training did make a difference to knowledge and practice. However, there are still some practice barriers to overcome including time in a busy clinic to deal with positive disclosures by women, presence of the woman's partner, and working with women from diverse cultures and languages. Some midwives reported feeling frustrated with women's reluctance to disclose or leave a violent relationship; and concern for the safety of women as well as their children. Similar barriers have been identified by other researchers. [6,11,12,22,23] Such concerns highlight the need for skills training, as well as peer support, and service remodelling towards caseload care that is relationship based, reflects a social model of health care, and holistic in nature.

In the current study, continuity of care (CoC) was identified as a positive enabler to building a trusting relationship with women. Stakeholders believed that CoC models enhanced opportunities for DV enquiry. One hospital was committed to restructuring their service to provide more women with continuity of care by a known midwife, whereas other services were promoting antenatal and postnatal care by a known midwife, but at this time were not committed to providing full continuity of care across the continuum. Differences in maternal outcomes between these two approaches needs to be monitored and evaluated in the future, with services being modelled on the best available evidence.

The program facilitators were mindful that some participants had/were experiencing DV themselves or were aware of family members experiencing violence. Primary or secondary exposure to traumatic events such as DV may adversely affect midwives' willingness to conduct routine enquiry and/or support women following disclosure of violence.[25] Indeed, during the training workshops, several midwives disclosed a history of current or previous history of DV. The high likelihood of some midwives experiencing DV highlights the key role that local champions (or a similar responsible role) can play in monitoring the wellbeing of midwives engaged in sensitive, emotional work on a daily basis.

Organisational commitment to DV screening and referral

It is known that DV education programs that include institutional support develop policies and guidelines, and a pathway for referrals to support services, are more likely to improve the confidence of clinicians. [9-12] While there was evidence of initial organisational commitment (funded attendance at training; new policies for the integrated approach to screening and referral; and inclusion of screening questions on the electronic health record), there was limited evidence of a long-term approach to support practice change. Few strategies were implemented to sustain staff awareness and commitment to screening at 12-months post training. The Diffusion of Innovation[14,] approach applied by Jayatilleke et al.[15] may be useful to bring about sustained organisational changes in a systematic way. Diffusion of Innovation proposes that four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system.

Whilst there was widespread belief in the value of routine antenatal enquiry (the innovation) by participants in the current study, the researchers did identify a lack of communication between services in each facility (especially between antenatal clinics and the emergency department). There was also a lack of commitment to the local champion role. The champions were not provided with any protected time to undertake this role and consequently struggled to continue their commitment to staff support. These factors in combination may have hindered the effectiveness of routine enquiry at participating sites. While a high level of screening was recorded, the number of women disclosing DV and accepting a referral was very low. Further research could ask midwives to deconstruct the process of routine enquiry and suggest new processes that may enhance the likelihood of disclosure by women at risk. For example, routine enquiry could focus on how the couple interact and express anger and frustration rather than ask explicit questions about violence.

Stakeholders (local champions) perceived a significant change in the attitudes of midwives towards their role in responding to DV. Over time, the champions highlighted that clinic midwives demonstrated increasing capability to manage such situations and would ‘check in’ to confirm the approach they had adopted. As identified by participants and the literature, ongoing training and support is necessary to sustain

confidence, knowledge and skill levels, as well as ownership of the role. [12,25,26] However, service managers were clear about limitations of the midwifery role and the importance of a multi-agency response to women's experience of DV. Multi-agency working is vital in meeting the needs of women and children experiencing DV, and all service managers expressed a conviction that responding to violence and abuse should not just the responsibility of the health services. Participating service managers believed all statutory and non-government organisations should continue to work together to support families experiencing DV.

Chart audit

The chart audit revealed rates of DV disclosure were very low. This finding is similar to an international study on the prevalence of DV during pregnancy which reported a 2% disclosure rate in Australia.[27] Findings from the chart audit also concur with O'Doherty et al.[2] who concluded that although routine inquiry does increase the identification of women at risk for violence, it does not increase rates of referral, reduction of risk, or levels of violence. Although they found no evidence to support routine inquiry in general health settings, the findings of their review supported screening during pregnancy.[2]

Limitations

Results of this evaluation need to be considered in light of limitations. Although we could match survey responses for nearly half of the original cohort who received training, loss to follow-up introduced potential bias. The actual survey response rate was slightly higher; however, some participants could not remember their personal identification code and their survey forms could not be matched. Some forms were not complete and were also excluded. We recommend specifying fields for an identification code that maintains anonymity but is replicated easily rather than relying on personal choice to formulate a code. Results may also have been influenced by response bias in that those midwives who felt confident about their abilities to routinely enquire about DV were more likely to complete the survey than their less confident colleagues. Levels of preparedness and knowledge may therefore be an overestimate of the larger midwifery cohort.

Chart audit data were collected at one site during the project. The remaining 2 sites

were in the process of changing their data collection procedures, making the collection of reliable data more difficult. Ideally, chart audit data should have been collected at all sites. The data collection system was introduced to coincide with training. We were therefore unable to compare pre-and-post workshop screening rates.

Like many implementation studies in this field we did not have a control group and relied on a pre-post-intervention design. While multi-site studies involving a control site have reported group differences related to knowledge and attitudes, there were challenges in bringing about practice change in sites receiving training.[26, 28] Although several systematic reviews of DV training recommended the use of RCT designs to evaluate the effectiveness of training approaches,[8,9,29] there are challenges controlling a range of confounding variables impacting on practice. Confounders include sustained commitment of administration, staffing levels, philosophy, organisational learning culture and models of maternity care. A multiphase, multi-strategy implementation science approach may be optimal to identify organisational nuances impacting on practice change.

Conclusions

This multi-strategy DV training program achieved some successes in the implementation of routine antenatal enquiry. The full day workshop which reflected elements recommended by the WHO [21] did contribute to sustained improvements in midwives' preparedness and knowledge. An online recording system at one site demonstrated sustained high levels of screening and identification of risk, but low levels of referral. Impact of the program on decreasing women's risk and/or experience of DV is unknown. Organisational commitment to routine antenatal enquiry was essential to fund training, modify recording systems and enhance the integration of hospital and community-based referral systems to support women. However, the DV champion role was not sustained, and due to a change in their role, the DV champions themselves did not actively pursue their support role. Regular, brief, refresher training was recommended by most participants.

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References

1 Australian Bureau of Statistics. *Directory of Family and Domestic Violence Statistics.* 2013. Available from: http://www.abs.gov.au/ausstats/abs@.nsf/mf/4533.0

2 O'Doherty L, Taft A, Hegarty K, Ramsay J, Davidson LL, Feder G. Screening women for intimate partner violence in healthcare settings: abridged Cochrane systematic review and meta-analysis. *British Medical Journal*, 2014;348:2913.

3 Boursnell M, Prosser S. Increasing identification of domestic violence in emergency departments: a collaborative contribution to increasing the quality of practice of emergency nurses. *Contemporary Nurse*, 2010;35:35-46.

4 Ritchie M, Nelson K, Wills R, Jones L. Does Training and Documentation Improve Emergency Department Assessments of Domestic Violence Victims? *Journal of Family Violence,* 2013;28:471-77.

5 Baird K, Eustace J, Saito A, Creedy DK. A survey of Australian midwives' knowledge of intimate partner violence against women during pregnancy, *Women & Birth,* 2015; 28:3:215-220.

6 McCosker-Howard H, Kain V, Anderson D, Webster J. The impact on midwives of undertaking screening for domestic violence - focus group findings. *Birth Issues*, 2005;14(2):49-56.

7 Jones C. Bonner M. Screening for domestic violence in an antenatal clinic, *Australian Journal of Midwifery*, *2002*;15(1):14-20.

8 Davidson LL, Grisso JA, Garcia-Moreno C, Garcia J, King V, Marchant S. Training Programs for Healthcare Professionals in Domestic Violence, *Journal of Women's Health & Gender Based Medicine*, *2001*;10(10):953–963.

9 O'Campo P, Kirst M, Tsamis C, Chambers C, Ahmad F. Implementing successful intimate partner violence screening programs in health care settings: evidence generated from a realist-informed systematic review. *Social Science & Medicine*, *2011*;72:855-866.

10 Crombie N, Hooker L, Reisenhofer S. Nurse and midwifery education and intimate partner violence: a scoping review. *J Clin Nurs, 2017;26*(15-16):2100-2125. http://dx.doi:10.1111/jocn.13376

11 Salmon D, Murphy S, Baird K, Price S. An evaluation of the effectiveness of an educational programme promoting the introduction of routine antenatal enquiry for domestic violence. *Midwifery*, 2006;22(1):6–14.

12 Baird K, Salmon D, White P. A five year follow-up study of the Bristol Pregnancy Domestic Violence Programme to promote routine enquiry. *Midwifery.* 2013;29(8):1003-10. http://dx.doi10.1016/j.midw.2013.01.007

13 Janssen PA, Holt VL, Sugg NK. Introducing domestic violence assessment in postpartum clinical settings. *Maternal and Child Health Journal,* 2002;6:195-203.

14 Rogers EM. *Diffusion of Innovations*. 4th ed. New York: The Free Press;1995.

15 Jayatilleke AC, Yoshikawa K, Yassuoka J, Poudal KC, Fernando N, Jayatilleke AU, et al. Training Sri Lanka public health midwives on intimate partner violence: a pre and post-intervention study. *BioMed Central Public Health*, 2015;15:331.

16 Protheroe L, Green J, Spiby H. An interview study of the impact of domestic violence training on midwives. Midwifery, 2004;20:94-103.

17 Braun V, Clarke V. *Successful qualitative research: A practical guide for beginners.* London: SAGE; 2013.

18 Karla N, Di Tanna GL, Garcia-Moreno C. Training healthcare providers to respond to intimate partner violence against women (Protocol). *Cochrane Database of Systematic Reviews,* 2017;Issue 2 art.No:CD12423.

19 Mauri EM, Nespoli A, Persico G, Zobbi VF. Domestic violence during pregnancy: Midwives′ experiences. *Midwifery,* 2015;31(5):498-504.

20 Finnbogadottir H, Dykes AK. Midwives' awareness and experiences regarding domestic violence among pregnant women in southern Sweden. *Midwifery, 2012;28*(2):181-189. http://dx.doi:10.1016/j.midw.2010.11.010

21 World Health Organisation. Responding to intimate partner violence and sexual violence against women: World Health Organisation, clinical and policy guidelines, 2013. Available from: http://www.who.int/reproductivehealth/publications/violence/9789241548595/en/

22 Mezey G. Bacchus L. Hawworth A, Bewley S. Midwives' perceptions and experiences of routine enquiry for domestic violence. *BJOG,* 2003;100(8):744-752.

23 Mauri EM, Nespoli A, Persico G, Zobbi VF. Domestic violence during pregnancy: Midwives′ experiences. Midwifery, 2015;31(5):498-504.

24 Leinweber J, Creedy, DK, Rowe, J. Gamble J. A socioecological model of posttraumatic stress among Australian midwives, Midwifery, 2016;(45):7-13.

25 Ambuel B, Hamberger LK, Guse CE, Melzer-Lange M, Phelan MB, Kistner A. Healthcare can change from within: sustained improvement in the healthcare response to intimate partner violence, *Journal of Family Violence*, 2013;28:833-847.

26 Boursnell M, Prosser S. Increasing identification of domestic violence in emergency departments: a collaborative contribution to increasing the quality of practice of emergency nurses. *Contemporary Nurse*, 2010;35:35-46.

27 Devries KM, Kishor S, Johnson H, Stockl H, Bacchus LJ, Garcia-Moreno C, et al. Intimate partner violence during pregnancy: analysis of prevalence data from 19 countries. *Reproductive Health Matters*, 2010;18(36):158-70.

28 Campbell, JC, Coben JH, McLouglin E, Dearwater S, Nah G, Glass N, Lee, D et al. An evaluation of a systems-change training model to improve emergency department response to battered women. Ac*ademic Emergency Medicine,* 2001;(8):131-138.

29 Ramsay J, Carter Y, Davidson L, Dunne D, Eldridge S, Feder G, et al. Advocacy interventions to reduce or eliminate violence and promote the physical and psychosocial well-being of women who experience intimate partner abuse. Cochrane Database Systematic Review, 2009;(3):CD005043.