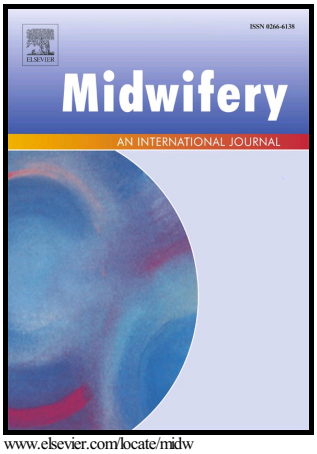

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"Tough love"; The experiences of midwives giving women sterile water injections for the relief of back pain in labour

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Introduction

Sterile water injections (SWI) are often perceived by midwives as a reliable and effective means of pain relief for women with back pain in labour (Lee, Martensson, & Kildea, 2012) However, the significant pain associated with the injection may be sufficient to deter labouring women from considering using SWI for pain relief (Hutton, 2009; Martensson & Wallin, 2008b). Procedural, also referred to as clinically inflicted, pain is not often considered when reviewing medical procedures performed on adults, in particular those related to pain relief (Madjar, 1998), for example the insertion of spinal or epidural catheters. The NICE guideline on Intrapartum Care (National Institute for Health and Care Excellence, 2014)' which has had a significant influence on maternity care practice in the UK and internationally, makes reference to SWI as 'injected water papules' and recommends against their use (section 8.3.6.4, p333); this recommendation appears to reflect concern regarding the degree of procedural pain associated with SWI. No studies have yet explored the

midwives attitudes towards causing procedural pain and whether this presents a barrier to SWI use. In fact there is little literature exploring the clinicians' attitudes with respect to causing procedural pain in adults, however short-lived, seemingly the only study conducted on this topic was reported two decades ago (Madjar, 1998).

In a phenomenological study of nurses attitudes to inflicting procedural pain in a burns or oncology unit, Madjar (1998) describes clinically inflicted pain as often being invisible to clinicians, who tend to view it as an inevitable and non-harmful aspect of treatment. However, where shared control and a relationship of trust existed between the patient and clinician, this worked to preserve the integrity of the therapeutic relationship when procedural pain occurred (Madjar, 1998).

SWI has been examined for its analgesic potential in labour in both non-pharmacological (Labrecque, Nouwen, Bergeron, & Rancourt, 1999) and pharmacological (Ranta et al., 1994) studies., with results suggesting that clinicians' perceptions are somewhat polarised. For example, where SWI is positioned as an alternative, or 'natural', therapy, i.e.it is 'only water', it is not viewed as having the potential to cause harm. This contrasts with the view that injecting water is a clinical procedure that may cause harm by delaying women's access to 'real' analgesia, e.g. epidural anaesthesia. In a study which explored Australian midwives knowledge and use of SWI, findings suggested that some viewed the procedure as invasive, whilst others were sceptical about the analgesic effects (Lee, et al., 2012). This raises the question of whether SWI sits within the midwifery scope of supporting normal birth or, as it is an injection, is more likely to be seen as a medical intervention.

Although the use of SWI as an analgesic option in labour is common in Sweden (Martensson & Wallin, 2006), it is less so in other countries including the United Kingdom, Australia and the United States of America (Lee, et al., 2012; Martensson, McSwiggin, & Mercer, 2008a). A contributing factor to differences in uptake may be opposition to the use of SWI, with an

Australian survey reporting that over 30% of midwives had experienced resistance to the use of SWI from other midwifery and/or medical colleagues (Lee, et al., 2012).

To date no studies have reported specifically on midwives experiences of inflicting clinical pain through the administration of SWI. Nor has research explored more generally midwives attitudes to SWI use in clinical practice. This paper addresses both gaps in the extant literature.

Methods

Study aim

The aim of this study was to describe midwives' experiences of administering SWI and views about use in clinical practice.

Study design

A qualitative sub-study of a randomised controlled trial examining the use of SWI for back pain in labour (Sterile Water Injections Techniques Comparison: SWITCh trial: Trial registry number ACTRN12609000964213) conducted at two metropolitan hospitals in Queensland, Australia (Lee et al., 2013).

Participants, data collection and analysis

Methods for recruitment, data collection and analysis have been previously described (Lee, Kildea, & Stapleton, 2015). In summary, midwives (n=11) participating in the SWITCh trial consented to, and participated in, focus groups (n=3). There were two groups of four participants and one group of three. The focus group interviews were conducted at the midwives workplaces, lasted approximately one hour and were audio recorded. Topics for discussion were based upon areas of interest to the study and domains identified in the literature (Table 1). The focus groups were facilitated by the first author (PhD candidate) whilst field notes, including the order in which participants responded, were taken by the third author. The focus groups were transcribed by a third party, who also assigned

participants' pseudonyms. All transcriptions were read and verified as accurate by the first author. The first and third authors independently coded all transcripts and resolved discrepancies before agreeing a final coding scheme. Data were then analysed thematically (Mason, 2002) utilizing NVivo qualitative data analysis software (QSR International Pty Ltd. Version 8, 2009). To assess whether the themes accurately reflected the original data they were evaluated against the original transcriptions and coding structure to ensure a consistent progression. Subthemes underwent an iterative process that involved reviewing, collapsing and merging into a final thematic structure (Tong, Sainsbury, & Craig, 2007). Examples of how data were employed in the coding process are provided in Table 3.

Results and discussion

Participant descriptions and demographics are provided in Table 2. Data analysis identified the following three themes:

i. SWI: Midwifery strategy or medical intervention? (sub theme; Resistance to SWI)
ii. Tough love – causing pain to relive pain (sub theme; 'pain talk' – presenting information about SWI to women);
iii. The analgesic effect of SWI and impact on midwifery practice.

Representative quotes are provided to support the text commentary. Where necessary, clarification and non-verbal content has been provided, for example: (laughs). Some quotes were edited to maintain focus on the issue under discussion; the format […] indicates where this has occurred.

Theme i: SWI - Midwifery strategy or medical intervention?

Some midwives viewed SWI as invasive, were generally unsupportive of the practice, and/or were suspicious regarding effectiveness. In this context SWI was referred to as an "intervention" (Lee, et al., 2012). Although there is no precise definition in the midwifery/obstetric literature regarding what constitutes an intervention during labour, in this study the term is used to refer to a treatment that is either clinically justified or one instigated for convenience, clinician's choice or to achieve efficiency. The term has also be used to

describe aspects of care that are not seen to sit comfortably within the concept of woman centred care (Maputle & Donavon, 2013). An interactive discussion during one focus group challenged participants' ideas about what constituted an intervention, how this defined their views of midwifery practice and philosophy, and where they positioned SWI within these debates:

> *Are you hinting that it's (SWI) an intervention? That its non-midwife? […]Is that what we are getting at? I think it's very midwife. It's as midwife as a bath because it's not a drug. It's invasive, but it's as invasive as we can get. It's immediate. It's effective.* (Alexandra, midwife eight years)

> *I don't feel like it's an intervention at all because it has no lasting effects on mother or baby. […] An epidural clearly goes against how the body works but the sterile water is dot, dot, done and she can continue with all her previous coping mechanisms. […] So to me that's not an intervention. It's an enabled woman. It's working in harmony with a woman's body and not taking away any of the other coping mechanisms.* (Sarah, midwife seven years)

> *Yeah, initially I was thinking that it was an intervention because we are doing something to the woman but when you consider what Sarah is saying, about its not taking away, it's actually enabling her to actually do, follow her wishes, then I guess it's not. I have to rethink that,* (Karleen, midwife three years)

Sarah persuades Alexandra and Karleen towards her viewpoint by describing an intervention as an act that interferes with, reduces, or removes, a woman's coping mechanisms. This description could be drawn from a view of midwifery practice which supports birth as a normal physiological process, for which women have innate coping mechanisms, compared with obstetric views of birth as an imperfect process requiring pre-emptive support and interventions (K. Fahy & Parratt, 2006; Rooks, 1999). Determining what constitutes an intervention can thus also reflect the flow of power and decision making between care

providers and pregnant/labouring women. For example, midwives may view themselves as guardians of normal birth; as gatekeepers protecting women from medical interventions or interference. Fahy & Parrat (2006, p. 47) discuss the concept of midwifery *"guardianship"* that fosters trust and mutual respect with the woman leading decision-making processes, as opposed to midwifery *"dominance"*, where midwives pursue their own agendas and impose them upon the women in their care. The fine line between these two approaches is explored in the seminal work by Valerie Levy through a concept she described as "protective screening: picking your line" (Levy, 1999, p. 105). In the same paper Levy describes the dilemma midwives face in providing unbiased information whilst acknowledging strongly held personal attitudes. She refers to midwives walking a "tightrope" between respecting women's wishes and other competing interests; picking the wrong 'line' could impact on the woman's relationship with the midwife (Levy, 1999). This suggests then, that attitudes towards the use of an intervention are not bound to specific professional groups but are more dependent on the quality of the relationship between the woman and her care providers, and the underlying philosophical beliefs of the care provider. These attributes are also discussed in terms of a concept of woman-centred care by Maputle & Donavon (2013) encompassing mutual participation, information sharing, shared responsibility and midwifery practices that support choice.

Sub theme: Resistance to SWI

Resistance from colleagues can impact upon the acceptability and uptake of new practices and procedures, such as SWI (Lee, et al., 2012; Martensson, et al., 2008a). During focus group discussions, some midwives in this study described difficult encounters with medical colleagues and the impact of on clinical care and women's decision making. Kirstie described a woman's prerogative to use the analgesia of her choice and her obstetrician's contrary view:

> *I have discussed with the woman that she wanted the sterile water injections, rung the obstetrician and the obstetrician said, 'No just give them the epidural, don't muck around with that (SWI), just give them the epidural'.* (Kristie, midwife five years)

Fahy and Parratt (2006, p. 46) discuss the theory of "birth territory" and an individual's use of power, referred to as "jurisdiction". Power may be integrative, where all persons within the birth territory share power to support the birthing woman in her choices; conversely, and as described in the above quote, power may be disintegrative, where one person (the obstetrician) exerts an ego-driven dominance over others (in this case, both the woman and her midwife) (K. Fahy & Parratt, 2006). Collaboration between professionals requires mutual trust and respect for each other's skills and knowledge (Heatley & Kruske, 2011) and the use of language that conveys these sentiments (Reiger & Lane, 2009). Some midwives expressed a sense of exasperation at dominant opinions that were not grounded in either evidence or experience:

> *It is frustrating because* (pause) *I think its (SWI) just such an amazing thing that we can do for women. That for someone (the obstetrician) who has never seen it* (SWI)*, who makes the decision and that biased assumption that it's stupid or not going to work.* (Kirstie, midwife five years)

Kirstie's sense of frustration with the obstetrician's attitude may also reflect differences in approaches to research evidence, and different perceptions of the relevance and legitimacy of that evidence. Reime et al (2004) have suggested that the technical nature of obstetric knowledge means that obstetricians are more likely to focus on risk reducing evidence, whereas midwives are more inclusive, drawing on a wider research base, including that which is socially derived and which affords a more holistic view of women. Martensson et al. (2008a) noted that medical resistance to SWI can arise from the view that it is incompatible with existing ideas of effective analgesia in labour; that injecting water under the skin to produce an analgesic effect is simply untenable and 'evidence' to the contrary likely to be

questioned and/or dismissed. That said, it is interesting to note that most of the RCTs that provide high level evidence for the use of SWI have actually been conducted by obstetricians and anaesthetists, with (positive) results published in peer-reviewed, respected medical journals (Fogarty, 2008). Hence the view of lead researchers in this area; that preconceived ideas and out-dated attitudes to SWI, rather than the quality of the evidence, significantly influences resistance to use in maternity settings (Martensson, et al., 2008a).

Theme ii : Tough Love – causing pain to relieve pain

Midwives often see a significant part of their role as supporting women through the pain of labour (Aune, Amundsen, & Aas, 2014). Therefore, causing a brief, but nonetheless significant, degree of additional pain could be seen as counter-intuitive; as contrary to midwifery practice. This may be especially so for midwives administering SWI for the first time, as reflected in the following quotes from Alexandra and Sarah:

> *And then the girl really screamed and abused me. I felt really bad and I was relieved when it worked really well, but I still felt a bit sad that I hurt her so much. Because we're not use to doing that. We're not use to hurting people […].* (Alexandra, midwife eight years)

> *Bit shocked about how much she screamed and jumped off the bed. But then two minutes later, she's your best friend […]. And then they ask for another lot three hours later.* (Sarah, midwife seven years)

These accounts illustrate the dilemmas facing midwives in causing women additional pain, albeit to relieve a more severe pain. Later in the same focus group discussion the midwives reflected on how their opinions had developed and changed over time:

Well you feel pretty bad about torturing somebody if it (SWI) doesn't work. I don't think we would love it as much if it doesn't work so miraculously. We wouldn't be willing to cause that intensity of pain […].(Sarah, midwife seven years)

It has to be that level of goodness to inflict pain on people, definitely. We aren't really good on tough love. (Alexandra, midwife eight years)

Alexandra refers to midwives not being good at *"tough love"*, a popular expression that evokes images of stern treatment underpinned by a sense of social, moral and/or professional judgement and responsibility, at best striking a balance between discipline and warmth. The term is also associated with paternalism and control, as illustrated in a political context by neoliberal policies aimed at austerity, but which act to control already disadvantaged groups such as Indigenous persons and young single mothers (Mendes, 2009). As such, the metaphor of tough love does not sit well with the notion of relationships between labouring women and midwives being based on mutual trust and shared power (Kirkham, 2011), nor that of midwifery guardianship (K. Fahy & Parratt, 2006). Alexandra's reference to a *"level of goodness"* suggests that the acceptability of the procedure may be challenged by the pain midwives inflict through the injections. Midwives in this study generally agreed however, that the pain they caused was not necessarily a barrier to suggesting SWI especially for women who had expressed a wish to pursue a 'natural' labour, i.e. without recourse to pharmacological analgesia.

Women's negative experiences of pain associated with SWI sometimes influenced their decisions in subsequent labours:

Some (women) say that no matter how bad this pain gets, I will never have that (SWI) *again. (Marilynn, midwife 10 years)*

Kirstie explored this further:

> *I think for some women that intense short pain that is from the injections is just too much and scares them into getting it again. (Kirstie, midwife five years)*

Kirstie also commented on how the progress of labour may impact on pain perception:

> *But I also think that's (injection pain) experienced a lot more from women who are in early stages of labour. […] When they are in really good labour, that intense feeling of pain from the sterile water doesn't seem to be as bad.* (Kirstie, midwife five years)

Labour is recognised as a dynamic process where the level and intensity of pain increases as labour progresses, requiring women and midwives to constantly reassess their interpretations of pain (Leap & Hunter, 2016). Hence, the experience of additional injection pain may be relative to the pain of labour at the time. Women with back pain which is reflected in a Visual Analogue Scale (a subjective measurement of pain based on a self-reported scale) score of 6/10 or lower, may be more likely to object to the pain of SWI compared with those who rated their back pain higher (Peart, James, & Deocampo, 2006).

Sub-theme: Pain talk – describing the injection pain to women

Research suggests that pain receptor areas of the brain may be activated by trigger words and/or descriptions of pain that then act as verbal primers for perception (Eck, Richter, Straube, Miltner, & Weiss, 2011; Richter, Eck, Straube, Miltner, & Weiss, 2010). During the focus groups the midwives discussed how they presented information about the injection pain to women in their care; references to everyday phenomena and language that emphasized the brevity of the sensation were common:

> *I say it's going to really, really hurt and it's like a bee sting. […] it doesn't last long.* (Deena, midwife 20 years)

> *I say it's like a bee sting but it's quick and it's done.* (Hanna, midwife 14 years)

Midwives often used the image of a bee sting to convey the sensation and duration of the injection pain, a reference they were likely to have heard during their training in SWI by the

first author, who cited publications that contained comparisons to bee and wasp stings (Byrn et al., 1993; Martensson & Wallin, 2008b; Reynolds, 1998). The above quotes from Deena & Hanna also illustrate how similar descriptions of pain can nonetheless convey other information, including that related to intensity and duration. Deena associates the notion of a bee sting with pain that will *"really, really hurt"* ; both midwives , emphasise the brevity of the sensation: *"quick and it's done"*. Other midwives used more colloquial references to insect bites, adapting language to local circumstances:

> *I say look, I'm not going to lie to you this really stings like a bull ant bite. It's really nasty and you are going to try and jump off the bed and (then) it should be all gone.* (Sarah, midwife seven years)

Although Sarah uses the analogy of a bull ant bite, a large aggressive ant common in Australia, the use of familiar imagery is similar to that of a bee sting as lesions from both insects cause intense, short lived, pain. However, the use of such descriptors relies on assumptions that midwives and women share similar understandings of pain and a familiarity with the points of reference. Furthermore, perceptions and experiences of pain, and the use of descriptors such bites and stings, are typically culturally specific (Callister, 2003), carrying different meanings which could be lost on women from different backgrounds. Early research in this area referenced a number of additional descriptors for stinging such as tingling, itching and smarting (Melzack, 1975). The way in which information is provided may affect the acceptability of the procedure. For some women, the intensity of the injection pain can be such that they are discouraged from considering repeat doses of SWI (Fogarty, 2008; Martensson & Wallin, 2008b). Kirstie stresses the importance of presenting information to women in such a way that they are appropriately and adequately prepared:

> *The women who say that the pain from the injections far outweighs what they could have experienced and they don't want it again because that was too much.* (pause) *I*

think that comes down to preparing the women for what it's really going to be like. (Kirstie, midwife five years)

Kirstie's approach is supported by a study of women's experiences of SWI in which they expressed a preference for midwives to 'talk up' the likely pain the women might experience when receiving the injections (Lee, Kildea, & Stapleton, 2016). We could find no literature on how women in labour described the pain associated with the insertion of epidurals and know of no studies that have compared the two methods of pain relief.

The subjective nature of pain and the varying, but generally increasing, intensity of pain associated with labour, means that definitive, realistic, and individualised explanations may be elusive.

Theme iii: The analgesic effect of SWI and impact on midwifery practice

The rapid onset of pain relief following SWI provides a novel characteristic that may serve to encourage acceptance and wider use of the procedure, especially by clinicians.

When we see women and you say to them, Oh after they've had the sterile water and the intense pain goes away and they say, "when is it supposed to work"? And you say "you wait for the next contraction" and then after that contraction they smile. (Kirstie, midwife five years)

The rapid onset of analgesia following the administration of SWI was clearly articulated by other midwives:

Amazing. Quick effect like people (pregnant women) *are coming in* (to birth suite) *and they are breathing away and they're huffing and puffing and it's (pain) all in the back and* (she) *is really anxious. And sterile water and she's like, 'I'll be off (home) now'. It fixed everything. It fixed the back pain, and therefore it fixed the anxiety and the contraction pain.* (Alexandra, midwife eight years)

Anxiety may arise from a woman's sense of loss of her control and ownership over labour, which typically occurs on arrival at hospital (Carlsson, Ziegert, Sahlberg-Blom, & Nissen, 2011); this cyclical relationship of anxiety and pain has been noted for some time (Dick-Read, 1954). As illustrated by Alexandra's comment, relieving pain can address the accompanying anxiety and return a sense of individual control to women. Arianne also reflected on how a woman's positive response to the analgesic effect of SWI was related to the contribution it made to her overall sense of control and achievement, which was unrelated to her actual birth outcome:

> *She had an obstructed labour. […] She ended up with a caesarean section but she raved about the sterile water injection, how it helped her. But it doesn't matter the ways, it's just the woman feeling that they have achieved what they have set out to achieve. To be more in control during labour.* (Arianne midwife 25 years)

These quotes illustrate the observation by Lowe (2000) that control is not solely related to the type of labour and birth women experience, but to more complex factors including their involvement in decision making processes. The midwives in this study observed that women may establish personal goals that were not related to the type of labour or birth they anticipated, nor indeed experienced, but which focused on personal attainment and a sense of overall achievement. Choice of analgesia in labour, therefore, might not simply concern pain relief, but must also be congruent with, and supportive of, a woman's individual need for control. As a non-pharmacological form of analgesia, SWI is unlikely to alter women's normal physiological function or cognitive ability in the way that pharmacological methods may do; hence her sense of control is less likely to be affected.

The results of the SWITCh trial (Lee, et al., 2013) support the observations of other SWI trials which found that approximately 10% of women experience inadequate or no pain relief following SWI administration (Lytzen, Cederberg, & Moller-Nielsen, 1989; Martensson &

Wallin, 1999). Midwives recounted examples of women in their care who had not experienced pain relief following SWI:

> *I've only had three occasions where it hasn't worked. The two that delivered very quickly, well maybe it was never going to work because it (labour) was all too far gone. And one girl who it worked a little bit but not miraculous, she had an epidural half an hour later. I don't know why it didn't work for her.* (Sarah, midwife seven years)

Sarah's observation; that in one instance labour was *"too far gone"* to benefit from SWI, is supported by an early study that found that SWI was less effective in women approaching, or in, the second stage of labour (Lytzen, et al., 1989). Conversely, in a study of women's experiences of SWI use in labour (Lee, et al., 2016) multiparous women describe how the use of SWI benefited them during second stage whilst nulliparous women used SWI earlier in labour to provide a period of rest. This suggests that the timing of back pain in labour and the use of SWI may be influenced by parity

As previously described, the use of SWI was a relatively new concept and practice for the majority of midwives participating in this study. Midwives used storytelling, through the recounting of clinical care and interactions with birthing women, to convey midwifery knowledge that may be outside the accepted canon of institutional teaching, or which may serve to link theory and clinical practice (Leamon, 2009; McHugh, 1999).

In the following section midwives discussed the generally positive impact of SWI on their clinical practice:

> *I think it's had a massive impact. Its huge because we actually can do something, do something that's not like, Oh we're going to rub you better, Oh get you in the shower. No, we have something that actually, chances are, will work 100%.* (Sarah, midwife seven years)

Those of us that are nurses have the dilemma between the need to fix and the midwife position not to fix and to watch and wait. It's really nice as an RN (registered nurse) as well as a RM (registered midwife) to be able to fix. I really enjoy that. I'm not ashamed to say that. (Alexandra, midwife eight years)

I think they see it that we are doing something for them as well, that's just not rub your back and have a hot shower and do your position, but they see us actually, Oh they are giving me something. Regardless if it's just water. (Karleen, midwife three years)

These three midwives described the positive reward they experienced in being able to provide care that relieved a woman's often intractable back pain in labour. They make a clear distinction between activities such as massage, showers and change of position, which the midwives view as passive and unlikely to affect substantial change in women's back pain, and access to procedures such as SWI, viewed as being more likely to eliminate pain.

Alexandra distinguished between her training as a nurse from that of a midwife, drawing comparisons between 'doing' and 'not doing'. The concept of 'not doing' ("doing nothing well") was highlighted by Kennedy (2000, p. 12) as an essential element of midwifery care that supports the normality of birth through unobtrusive but vigilant observation and judiciously intervening only when required. Fahy (1998) argues that midwives *"doing to"* women, reflects a problem-based approach to labour, requiring protocol driven and techno-rational responses. Although reflecting the medical dominance so widespread in maternity care, this is at odds with the concept of midwives being in partnership with women (International Confederation of Midwives (ICM), 2011) and being guardians of normal birth. The art of doing less, or seemingly nothing, may enhance the relationship between women and midwives by shifting the direction of power and trust towards the woman and her instinctive expertise in birth. However, this position could be difficult to defend against the generally accepted and more reactive approach associated with medicalised labour care

(Fahy, 1998; Leap, 2010). Fleming (1998) cautions that although midwives may view themselves as separate from the medical paradigm, women may nonetheless view them as inseparable. The assumptions, inherent in a 'doing less' approach, may also contradict women's preferences for, and expectations of, medical interventions, including epidurals. In some respects then, the tensions between doing and not doing, which might represent either an active or passive position on the part of the midwife, may be viewed in terms of what constitutes an analgesic, such as pharmacological versus non-pharmacological, and how this is defined and understood, especially by midwives.

Strengths and limitations of the study

The strengths of this study derive from midwives accounts of, and insights into, the use of SWI during the conduct of a randomised controlled trial. These accounts deepen understanding about existing tensions between causing procedural pain against the expectation of benefit (pain relief) and the impact on relationships between midwives and women in their care, especially when the anticipated benefit fails to materialise. The study provides further evidence to support the acceptability of SWI and associated therapeutic benefits. Finally, the results of this study challenge the advice provided by NICE guideline to clinicians: not to offer the option of SWI to women in labour because of the associated injection pain.

A limitation of this study is the small number of participants in the context of a qualitative approach; hence the findings are not representative of the opinions and experiences of all midwives. Participation in the study may have been more appealing to midwives with more positive experiences of SWI in practice, thus introducing a degree of bias. Furthermore, the first author worked in the same clinical area as seven of the participating midwives, which may have influenced participants to provide data that was more supportive of the research project generally, and SWI specifically.

Conclusions and implications for practice

This study addresses an identified gap in the research surrounding the use of SWI by midwives providing care for women in labour. The pain associated with SWI use has been cited as factor in maternal (dis)satisfaction but not previously considered from the perspectives of midwives. Midwives in this study described a complex relationship between the injection pain, the reliability of SWI and the dilemma some faced inflicting pain within the context of a therapeutic relationship. The results suggested that midwives acknowledged that injection pain was a concern and attempted to incorporate relevant information into their discussions with women. Most struggled, however, to find a balance between emphasising the intensity, but brevity, of the sensation against the likelihood of effective analgesia and other benefits such as retaining full mobility. SWI was seen as a midwifery initiated analgesic strategy with benefits for labouring women with significant back pain. However, barriers in terms of acceptability may affect SWI use, placing midwives in difficult professional situations when the procedure is requested by women birthing in maternity units where policies or guidelines are not in place to support its use.

Recommendations for practice and future research

This study supports the need for undergraduate and ongoing professional education, particularly for midwives, about the use of SWI for women in labour with back pain. Such an approach would enable consistent information to be provided to women regarding the benefits and limitations of the procedure, and assist in addressing the acceptability of the procedure for midwives. The study also raises questions regarding midwives' interpretation and definition of an intervention compared with other midwifery strategies, and variations to current SWI techniques that may reduce the injection pain. Both are suitable areas for future research.

Ethical Statement

Conflict of interest: The authors declare no conflict of interest (statements provided)

Ethical approval

Committee name	Reference number	Date of approval
Mater Health Services Human Research Ethics Committee	1595M	30th September 2010
Australian Catholic University Human Research Ethics Committee	Q2010 51	15th October 2010
Royal Brisbane and Women's Hospital Human Research Ethics Committee	HREC/10/QRBW/406	11th October 2010

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Table 1: Guides for focus group interviews

Domain	Guiding prompts
Supporting women in labour	Thoughts and ideas about what it is to be the midwife supporting women in labour What (non-pharmacological) strategies etc. would you use to help women cope with pain in labour? For women specifically wanting to have a normal birth (drug free)?
Applying Sterile water Injections in practice	First time you used it (expectations, feelings etc.) An example of when it worked well An example of when it did not work well, (coping with analgesic failure) How do women respond to the injections?
Injection pain	Inflicting pain on women (pain vs effect) Influences and considerations in offering women SWI

Changing practice	Has using SWI changed the way you practice (management of back pain)? Have you experienced resistance to the use of SWI? Likelihood to recommend the practice to other midwives and women, why or why not?

Table 2: Participant description and demographics

Gender	Females n=11 Males n=0
Clinical experience in years	3 - 30
Age range in years	25 - 55
Mode of midwifery qualification	Hospital trained n=6 Post Graduate Degree n=2 Bachelor of Midwifery (direct entry) n=3

Table 3: Examples of coding process

Focus group transcribed data	NVivo Nodes (codes)	Theme / subtheme
"Well you feel pretty bad about torturing somebody if it (SWI) doesn't work. I don't think we would love it as much if it doesn't work so miraculously. We wouldn't be willing to cause that intensity of pain […]."(Sarah, midwife seven years) "It has to be that level of goodness to inflict pain on people, definitely. We aren't really good on tough love." (Alexandra, midwife eight years)	2.2 Observations of women receiving SWI with regards to injection pain, reflections on observations and inflicting clinical pain.	Theme ii : Tough Love – causing pain to relieve pain
"When we see women and you say to them, Oh after they've had the sterile water and the intense pain goes away and they say, "when is it supposed to work"? And you say "you wait for the next contraction" and then after that contraction they smile." (Kirstie, midwife five years) "I think it's had a massive impact. Its huge because we actually can do something, do something that's not like, Oh we're going to rub you better, Oh get you in the shower. No, we have something that actually, chances are, will work 100%." (Sarah, midwife seven years)	3.1 Analgesia: Observations and reflections of analgesic effect specifically from the perspective of the midwife	Theme iii: The analgesic effect of SWI and impact on midwifery practice

Highlights

- Midwives viewed SWI as having benefits for pain relief and supporting normal birth
- SWI does present midwives with the dilemma of causing pain to relieve pain
- Institutional barriers contribute to conflict for midwives when women request SWI