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Effecting change in midwives' waterbirth practice behaviours on labour ward: An action research study

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ABSTRACT

Introduction: the use of water immersion for labour and birth has been shown to be beneficial for women in normal labour (Cluett et al, 2009). It was decided to use problem solving coordinator workshops to change in the way waterbirth practice was promoted and organised on labour ward. Findings from the first Action Research phase (Russell, 2011) led to the development of a waterbirth questionnaire to measure midwives' personal knowledge of waterbirth practice, waterbirth self-efficacy, social support and frequency of hydrotherapy and waterbirth practice. The aim of this paper is to share the questionnaire findings from an on-going action research study.

Method: prior to the first workshop 62 questionnaires were distributed to midwives (Bands 5, 6 and 7) working on labour ward. Subsequent questionnaires ($n=53$) were sent to Bands 5/6 midwives not involved in the workshops, at four (Group 2) and eight months (Group 3). N.B only Bands 5/6 midwives completed post workshop questionnaires. In total 169 questionnaires were distributed. One-way ANOVA with Tukey post-hoc test and the χ^2 test were used to determine statistical significance.

Findings: 96 questionnaires were returned (57%). Midwives' personal knowledge of waterbirth practice differed significantly between groups, ($F_{2, 85}=3.67$, $p < 0.05$) with midwives in Group 1 giving significantly higher scores ($\bar{X}=45.6$, 95% CI [43.0, 48.2]), than those in Group 3, ($\bar{X}=41.7$, 95% CI [40.0, 43.3]), $p < 0.05$. Midwives' waterbirth self-efficacy did not differ significantly between groups ($F_{2, 88}=3.15$, $p > 0.05$). However scores for social support did differ ($F_{2, 75}=4.011$, $p=0.022$), with midwives in Group 1 giving significantly lower scores ($\bar{X}=8.0$, 95% CI [6.4, 9.5]) than those in Group 3 ($\bar{X}=10.5$, 95% CI [9.4, 11.6]), $p=0.016$. Fifty-five per cent of Group 1 midwives facilitated a waterbirth in the previous three months compared with 87% in Group 3. Changes in the frequency of waterbirth for these groups were statistically significant ($\chi^2=4.369$, $p < 0.05$, $df=1$).

Conclusions: it appears that the co-ordinators were able to influence waterbirth practice because of changes in social support and frequency of waterbirth practice. Given the widespread and continued impact of the intervention, on midwives who attended workshops and those that did not, we feel it likely that a significant proportion of this change could be attributed to the introduction of problem solving waterbirth workshop. The findings from this study suggest that problem solving waterbirth workshops based on an action research format have the potential to normalise midwifery care within medically dominated hospital birthing environments.

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Introduction

The use of water immersion for labour and birth was popularised following the Changing Childbirth report (Department of Health, 1993) which recommended that all maternity units in the United Kingdom (UK) provide women with access to a birthing pool. This move led to professional organisations (RCM, 1994; UKCC, 1994) accepting water immersion as part of UK Midwifery Practice. Over the ensuing decades research has established that

water immersion enhances the physiology of childbirth (Otigbah et al., 2000; De Sylva et al., 2009), reduces the need for pharmacological analgesia (Geissbuehler and Eberhard, 2000; Eberhard et al., 2005) and supports the use of midwifery normal birth skills (Garland, 2011). Cluett et al. (2009) conclude that water immersion for low risk women is as safe as land birth. A review of maternity services in England (Healthcare Commission Report, 2008) identified that 11% of labouring women used hydrotherapy or gave birth in water and an average of seven waterbirths occurred each month, approximately 80 per year. The national birth place study (Birthplace in England Collaborative Group, 2011) found that women who gave birth in free standing midwifery units were four times more likely to achieve a waterbirth than those giving birth in an obstetric led unit. The differences in waterbirth rates by place of birth, suggest that access to obstetric led birthing pools may be limited by the number of labour ward midwives who advocate this type of care (Russell, 2011).

The aim of this paper is to share the questionnaire findings from an on-going Action Research study, which focused on improving the availability of hydrotherapy and waterbirth on one UK labour ward. Key findings from the first research phase suggested that labour ward midwives lacked confidence (self-efficacy) in waterbirth practice and identified co-ordinators as authority figures who regulated access to the poolroom and controlled less powerful midwives' clinical practice behaviours (Russell, 2011). Following dissemination of these findings to senior midwifery managers it was decided to use problem solving waterbirth co-ordinator workshops to initiate changes in the way waterbirth practice was promoted and organised. A questionnaire was developed to measure labour ward midwives' waterbirth practice (frequency), personal knowledge of waterbirth practice, waterbirth self-efficacy and levels of social support over the three research phases during a 12 month period.

Background

The research enquiry focused on a group of clinical midwives and labour ward co-ordinators working in an English obstetric led hospital. The maternity unit had one labour ward catering for 3800 births a year and was situated within a busy district General Hospital. There was no birth centre or midwife led unit in the locality. The labour ward had one poolroom, three portable pools and a waterbirth rate of 45 per year, prior to the introduction of the workshops. This rate represents half the average number of waterbirths found by the Healthcare Commission Report (2008). The Head of Midwifery and senior managers (Band 8) were aware of the low rate and were keen to improve access to the birthing pools for women during normal labour and birth. Fifty-three clinical (Bands 5/6) and nine co-ordinating midwives (Band 7) worked on labour ward. The majority of clinical midwives rotated onto labour ward every three, six or 12 months. A small number of clinical midwives and all co-ordinators were permanently based on the labour ward.

Findings from the first research phase prompted the development of problem solving workshops with co-ordinators in an effort to influence labour ward midwives' waterbirth practice.

Methods

Problem solving waterbirth workshops

The main author and a waterbirth co-ordinator from a comparative unit (3900 births per year with no midwife led unit) where the waterbirth rate was 280 per annum facilitated the workshops.

The waterbirth co-ordinator agreed to act as an *Opinion Leader* during the workshops. *Opinion Leaders* are part of the network of influences, which can convince individuals to adopt proposed changes in their own practice (Doumit et al., 2007). In this instance the *Opinion Leader* was from outside the organisation and therefore unable to influence practitioners through role modelling or actions in the work place. It was hoped she would be able to help co-ordinators see the potential possibilities of increasing waterbirth practice in their own unit.

All nine labour ward co-ordinators were invited to take part in the problem solving waterbirth workshops which focus on the promotion of critical praxis. Critical praxis involves problem solving and deliberate action by a particular social group to change or improve their situation (Freire, 1972). According to Reason and Bradbury (2006), the promotion of critical reflection helps people focus on what ought to be, what is right and what is wrong with their current situation. The intention was to develop participants' knowledge and awareness of waterbirth and to find ways of influencing other midwives' practice behaviours.

Three two-hour workshops took place during September 2010, January and May 2011. At the beginning of each workshop, waterbirth rates and clinical midwives' perceived barriers to waterbirth practice were discussed. The co-ordinators were encouraged to develop interventions to address the identified barriers to care and find ways of supporting waterbirth practice. An average of five co-ordinators, one of whom was the labour manager, attended the workshops.

Interventions developed by the co-ordinators were:

- (1) Improve the recording and of hydrotherapy and waterbirth rates.
- (2) Publish waterbirth statistics to midwives on a monthly basis.
- (3) Include discussion of waterbirth practice in all departmental meetings.
- (4) Appoint a waterbirth champion.
- (5) Keep portable birthing pools partially inflated.
- (6) Set a target of 100 waterbirths in 12 months.

Design

A survey tool based on a questionnaire by Davies and Hodnett (2002) to measure Canadian obstetric nurses' labour support self-efficacy was developed. Bandura (1986) defines self-efficacy as beliefs individuals hold about their capabilities, which help determine knowledge, skills and actions. Self-efficacy beliefs are thought to help determine how much effort people will expend on an activity; how long they will persevere when confronting obstacles; and how resilient they are when faced with adverse situations (Schunk et al., 1987). In his guide to constructing self-efficacy scales Bandura (1997) advises that questions be designed in relation to the particular social behaviours or practices of the research participants. In this way a judgement about how efficacious people are in undertaking a particular behaviour in a given social context is made. Following a review of the literature the following areas were identified as being key to midwifery waterbirth practice: personal knowledge of waterbirth practice, waterbirth self-efficacy and social support. Social support is defined as the presence of social networks (belonging and homogeneity), social relationships (emotional care) in a particular social group (House and Khan, 1985). These contextual domains were used to divide the newly developed survey tool into three distinct sections.

In Section A (personal knowledge), midwives were asked to indicate if they had ever used hydrotherapy, conducted a birth, or delivered a placenta in water. If the answer was 'Yes' to any of

these items then participants were asked to indicate the number of times they had done either of these activities in the previous three months. The remaining eight items asked midwives to record their opinion on a seven point Likert type scale (strongly disagree to strongly agree) on statements about the benefits of waterbirth practice. Section B (waterbirth self-efficacy) consisted of 20 Likert-type items about waterbirth knowledge and skills. The terms *not very confident* to *very confident* were used to label the 7-point scale. The first two items in Section C (social support) asked midwives if a birthing pool had been requested by a labouring woman or encouraged by a midwifery colleague during the last week, four weeks, eight weeks or 12 weeks or to indicate if the situation had not occurred. The third item provided the same five possible responses but asked midwives the last time they had been able to offer the birthing pool to a woman in their care. This section also contained seven items designed to identify the characteristics of midwives who participated in the study: year of qualification, level of qualification (Certificate, Diploma, Degree, Masters Degree), length of service, labour ward experience, current length of time on labour ward and hours of work. To ensure anonymity it was decided not to ask participants to state their clinical grade. Midwives were also asked about attendance at waterbirth training days and if they would like to opt out of waterbirth practice (Yes or No).

The questionnaire was piloted using a 'known groups' method (Portney and Watkins, 2008). In this case the known groups were 22 first year student midwives who had not worked on labour ward and 19 waterbirth practitioners from a different maternity unit known to have high hydrotherapy and waterbirth rates. The questionnaire (Sections A, B and C) was found to have a high internal consistency (Cronbach Alpha, 0.97). The pilot indicated that the items in the subsections could be combined to form scales that were consistent with current understanding of midwifery waterbirth practice. The pilot study indicated that the psychometric properties of the questionnaire were strong.

Recruitment

Six weeks prior to the first workshop 62 unmarked questionnaires were distributed to all of the midwives (Bands 5, 6 and 7) working on labour ward at the time. All midwives were included at this point to allow for an overview of waterbirth practice to be obtained and comparisons between pre and post workshop data made. Subsequent questionnaires ($n=53$) were sent to Bands 5/6 midwives *not involved* in the workshops, at four (Group 2) and eight months (Group 3). N.B only Bands 5/6 midwives completed post workshop questionnaires. Questionnaires were distributed via the hospital's internal post system and email. The questionnaires were printed on different coloured paper to denote a different cycle of data collection. Midwives were asked to complete a questionnaire within four weeks. Email reminders were sent at two weeks and four weeks during each data collection phase. Completed questionnaires were placed in a collection box situated in the Midwives rest room on labour ward. The box was collected at the end of each cycle of data collection.

Ethical considerations

Approval to undertake the study was obtained from the regional NHS Ethics Committee and the local NHS Hospital Trusts' Research and Development unit. It was assumed that individuals had consented to take part in the study if they returned a questionnaire.

Co-ordinators were invited to attend the workshops by letter. Information about the research study was also included. To encourage attendance and ensure confidentiality, the workshops

took place in a private room away from the clinical area. Given that there was only normally one co-ordinator on a clinical shift it was anticipated that some individuals would have to attend the workshops in their own time. To support attendance it was decided to give midwives a £20 Amazon Voucher at the end of each workshop. The workshop discussions were not recorded.

Findings

A total of 169 questionnaires were distributed to labour ward midwives and 96 completed questionnaires were returned (57%). SPSS (version 19) was used to support the analysis of questionnaire data. The item scores for the individual sections were summated to give three new variables. These were called Total Personal Knowledge (Section A), Total Waterbirth Self-efficacy (Section B) and Total Social Support (Section C). Tests for normality on the distribution of scores for Total Personal Knowledge, Total Waterbirth Self-efficacy and Total Social Support (Kolmogorov-Smirnov > 0.05 , Histograms and Q-Q plots) were not significantly different from a normal distribution curve (Pallant, 2005), and therefore suitable for parametric testing. One-way ANOVA with post-hoc Tukey tests was chosen to identify statistical differences between the three groups of questionnaires. This test enables analysis of variance between three or more groups, where there is one categorical independent variable (e.g. time) (Scott and Mazhindu, 2005). The aim was to discover if the section scores for Total Personal Knowledge, Total Waterbirth Self-efficacy and Total Social Support differed significantly between the three groups.

Sample

Group 1 consisted of 29 (of 62) midwives, **Group 2** of 25 (of 53) and **Group 3** of 42 (of 53). The increase in the response rate for the third data collection phase suggests increased awareness and support for the waterbirth initiative. Midwives were educated at Certificate (10%), Diploma (13%), Degree (68%) or Masters level (3%). Thirty-three per cent of midwives had been qualified for between six and 20 years. Midwives had been working on the unit for five years (6%), 10 years (26%) and for 11–20 years (35%). Group 1 midwives had been qualified for longer ($\bar{X}=4.68(\text{years})$ CI [3.70, 5.662]) than those in Groups 2 ($\bar{X}=4.48(\text{years})$ CI [3.7, 5.1]) and 3 ($\bar{X}=4.59(\text{years})$ CI [4.0, 5.1]). The average length of time Groups 2 and 3 midwives spent on this labour ward was six months and 12 months for those in Group 1; these differences in time post qualification were not found to be statistically significant ($p \geq 0.05$). These differences may be explained by the presence of Band 7 midwives in Group 1 who were more likely to have been qualified for longer and to be permanently based on labour ward. Unfortunately it is not possible to identify how many Band 7 midwives were in Group 1, because the questionnaires did not ask participants to indicate their clinical grade and were unmarked. Three quarters (76%) of respondents had taken part in NHS waterbirth training or attended waterbirth conferences. To aid interpretation of the results the mean scale scores by Group are presented in Table 1.

Frequency of waterbirth practice

Fifty-five per cent of Group 1 midwives facilitated a waterbirth in the previous three months and 87% of midwives in Group 3. The total number of waterbirths, reported on the questionnaires by respondents, increased from 25 to 58. Hydrotherapy rates increased from 66% (Group 1) to 80% (Group 3). To discover if the changes in the frequency of waterbirth practice were statistically significant a χ^2 test

Table 1
Mean scores by total scale variables and sample group.

	Group 1: Mean scores	Group 2: Mean scores	Group 3: Mean scores
Total Personal Knowledge (Max. Poss. Score 56)	45.65	41.81	41.71
Total Waterbirth Self-efficacy (Max. Poss. Score 140)	113.72	113.79	114.05
Total Social Support (Max. Poss. Score 15)	8.00	9.26	10.55

was carried out. The χ^2 test revealed that changes in the frequency of hydrotherapy between groups were not significant, but were between Groups 1 and 3 for waterbirth ($\chi^2=4.369$, $p < 0.05$, $df=1$). These increases are confirmed by maternity data supplied by the NHS Trust concerned (Figs. 1 and 2).

Midwives personal knowledge and waterbirth self-efficacy

Midwives personal knowledge of waterbirth practice differed significantly between groups, ($F_{2, 85}=3.67$, $p < 0.05$). Tukey post-hoc comparisons identified, unexpectedly, that midwives in Group 1 gave significantly higher scores ($\bar{X}=45.6$, 95% CI [43.0, 48.2]) than those in Group 3 ($\bar{X}=41.7$, 95% CI [40.0, 43.3]) $p < 0.05$. Comparisons with Group 2 ($\bar{X}=41.8$, 95% CI [38.5, 45.0]) were not significantly different, $p \geq 0.05$. Surprisingly midwives' waterbirth self-efficacy did not differ significantly between groups, ($F_{2, 88}=3.15$, $p > 0.05$).

Social support for waterbirth practice

The scores for social support (Section C) differed significantly between groups ($F_{2, 75}=4.011$, $p=0.022$). Tukey post-hoc comparisons identified that midwives in Group 1 gave significantly lower scores ($\bar{X}=8.0$, 95% CI [6.4, 9.5]) than those in Group 3 ($\bar{X}=10.5$, 95% CI [9.4, 11.6]) $p=0.016$. Comparisons with Group 2 ($\bar{X}=9.2$, 95% CI [7.9, 10.6]) were not significantly different, $p \geq 0.05$.

Discussion

The most significant change that can be attributed to the intervention is the increase in the levels of social support between Group 1 and Group 3 midwives. The levels of personal waterbirth knowledge, as measured by the questionnaire, decreased slightly. This decrease was not entirely unpredicted as Group 1 was the only group to contain labour ward co-ordinators. Higher personal knowledge scores for this group may indicate that co-ordinating midwives possessed sufficient understanding of waterbirth practice to encourage and support others in its use. Unexpectedly however, the mean self-efficacy scores for labour ward midwives were relatively stable, and there was little or no variation between groups (Table 1). The respondents from all groups were confident in their own abilities to provide care in water during labour and birth. This result is at odds with the basis of many development engagements that recognise self-efficacy as the most significant barrier to the development and adoption of new behaviours (Bandura, 1997; Ajzen, 2002). According to Bandura (1986) high personal self-efficacy is sufficient for individuals to take steps to behave in a particular way, but for others, self-efficacy needs to strengthen through the acquisition of 'cognitive, behavioural, and self-regulatory tools' (Bandura, 1997, p. 3). It could be argued that the knowledge and skills necessary for the facilitation of waterbirth practice are similar to those used by midwives in normal childbirth (Cluett et al., 2004) i.e. observational, interpersonal

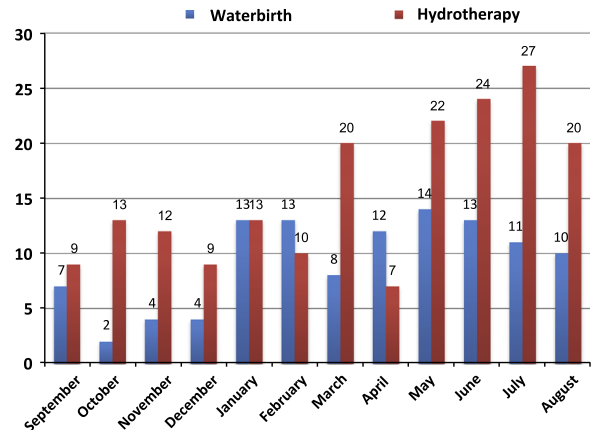


Fig. 1. Monthly waterbirth and hydrotherapy rates supplied by NHS Trust.

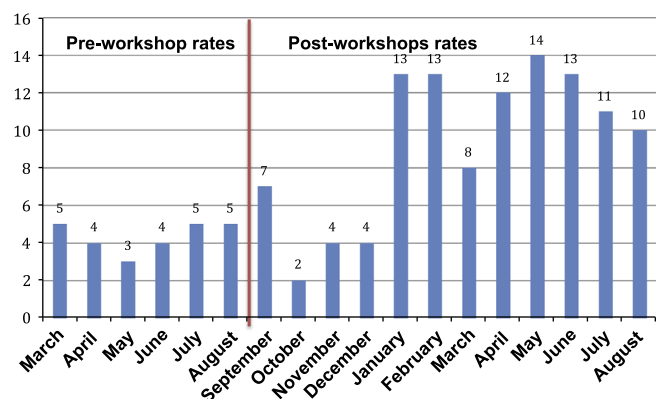


Fig. 2. Monthly waterbirth rates pre and post workshops supplied by NHS Trust.

skills to monitor labour progress and non-pharmacological methods of analgesia (such as water) to ease labour pain (Mander, 2001). This is why we propose that the consistently high levels of waterbirth self-efficacy amongst participants were in part, due to *mastery experiences* of normal birth care on land i.e. successful performance of an action which can be attributed to a person's own efforts and abilities (Bandura, 1977). This, along with changes to social support for waterbirth practice generated by the intervention, gave rise to changes to self-regulation (Bandura, 1995). In other words, with support and modelling by co-ordinators, the practice of waterbirth became normalised, an accepted part of labour ward midwives' working lives.

It is important to recognise that those whom organisations receive as leaders may be initially as inhibited as those they are trying to lead. The introduction of problem solving workshops appeared to enhance co-ordinators ability to take action to promote waterbirth practice. The intervention and changes in leadership subtly nudged the behavioural norms of the labour ward in favour of waterbirth practice. The importance of clinically based leadership where practitioners are supported to develop clinical competencies and skills is highlighted in the Francis report (Francis, 2013). The report emphasises the need for leaders to ensure their health care systems promote value-based patient centred care. The co-ordinators and senior midwifery managers provided strong clinical leadership during the course of the study. The Head of Midwifery and her senior management teams' support for the research appears to have sent a clear message to midwives that waterbirth practice was a desirable activity. According to Grol et al. (2000) when practitioners are supported by their peers and managers to try new ways of working, change is more likely to occur and to become integrated into existing routines.

Ajzen (1991) in his Theory of Planned Behaviour (TPB) argues that a person's perception of whether people important to them think a particular behaviour should or should not be performed is key to changing individual behaviour and realising organisational change. The findings presented here support these positions and indicates the importance, when seeking to generate change to clinical practice, of recognising the organisational drivers such as leadership and resources which may at times be more important than internal factors (e.g. personal waterbirth knowledge and self-efficacy).

Organisational factors and the influence of 'place' may reduce hospital midwives ability to normalise midwifery care, because of loyalty to institutionalised practice and adherence to a medical ideology (Locke and Gibb, 2003). Lipsky (1980) describes how the bureaucratic nature of organisations, similar to the National Health Service (NHS), make it impossible for workers, within the time allocated, to achieve a way of working that is true to their own values and beliefs. Initial study findings attributed midwives' limited use of the birthing pools to co-ordinators' negative attitudes to water immersion and limited institutional support for this type of care (Russell, 2011). Green (2005) found that labour ward midwives' clinical practice was heavily influenced by medical philosophy and that co-ordinators encouraged conformity to expected hospital norms and routines. Russell (2007) argues that many hospital-based midwives have limited clinical autonomy and are unable to support women in normal labour because of the way care is organised. Davies et al. (2002) found that nurse-midwives' perceived level of confidence in continuous labour support did not match their observed behaviour. The authors put this discrepancy down to a failure, on their part, to address organisational factors such as poor staffing levels, which affected nurse-midwives' ability to offer continuous labour support. The marked variation in the use of water immersion between free-standing midwifery units and obstetric led labour wards (Birthplace in England Collaborative Group, 2011) re-enforces the view that the care environment directly impacts on midwives' ability to promote normal childbirth choices. Within a hospital environment waterbirth practice may be seen as an alternative type of care at odds with the organisational imperatives of efficiency and productivity (Walsh, 2006). Social support for midwifery knowledge and skills along with pride in normal birth outcomes has been shown to reduce the impact of dominant medical ideologies and improve choice for childbearing women (Ontario Women's Health Council, 2000). It appears that educating co-ordinators using a series of workshops helped the group to find ways of supporting and encouraging less powerful midwives to adopt a 'with woman' philosophy of care within existing organisational structures.

A major finding of this study was the significant change in midwives perceived levels of social support for waterbirth practice which was generated through a prolonged educational engagement with a clinical area focussed particularly on using senior practitioners as active change agents. That is, the co-ordinators were not just permission givers or recipients of education, but actively took part in educating others and promoting waterbirth practice. Given that midwives possessed good levels of waterbirth knowledge and self-efficacy, prior to the intervention, it is perhaps surprising that it required the use of action research to generate practice change. It is argued that the dissemination of findings from the first research phase (Russell, 2011) raised awareness of the 'problem' and that the workshops enabled those in a position of authority to influence the practice of others by changing the way waterbirth practice was promoted and organised. We suggest that the problem solving workshops with labour ward co-ordinators contributed to improvements in support for waterbirth practice. The role of the midwife educator/researcher during the workshops was to facilitate discussion and to act as a change agent, influencing individual's readiness for organisational change

through critical thinking and reflection (Freire, 1972). Other studies have also reported change in both practitioners' behavioural intention and behaviour following attendance at interactive educational workshops (Bower et al., 1997; Den Ouden, 1998). O'Brien et al. (2002) found that attendance at interactive workshops which include problem solving and goal setting changed professional practice behaviours and choice for clients. According to Freire (1972), problem posing enables individuals to become 'consciously critical', more able to confront problems, and take action to improve their own situation.

The use of problem solving workshops provided co-ordinators with regular opportunities to critically reflect and a remit to work as a group to implement change and influence the delivery of waterbirth care.

Limitations to the study

Before individuals act on this study, it is important to recognise its limitations. We acknowledge that this study is focused on one group of midwives in one hospital setting; we invite readers to consider how the findings could be applied to similar contexts and other hospital based midwifery services, but recognise that our findings would not apply to all midwifery clinical areas. Action research often needs to be a compromise between the reality of day to day working situations and the needs of research, ideally we would have liked to be able to follow the same group of midwives throughout the study, however owing to the turn-over of staff this was not possible. Thus although some midwives were participants in more than one group, the groups in the study are largely composed of differing midwives. The fact that we used three separate groups meant that we had to use statistical tests with lower statistical power (Scott and Mazhindu, 2005), with the result that the statistical tests are conservative. Whilst attributing the findings within this study to the intervention, it is important to also consider the potential of what has been measured (i.e. the increase in waterbirths) is the result of the Hawthorne effect. The Hawthorne effect describes how a participant's behaviour changes simply because they are taking part in a study (French, 1950). However, due to the increase in waterbirth rates on the labour ward concerned following the conclusion of the study – 200 waterbirths took place between 2011 and 2012 (data supplied by the NHS Trust), we are confident that waterbirth practice is now embedded within organisational practices and routines, and that the changes in midwifery practice are unlikely to be due to the Hawthorne effect.

The psychometric properties of the survey tool are strong but the validity of a newly designed questionnaire is difficult to confirm on the findings of a single study, further studies in different context are required to determine full reliability. Research into the value of educational workshops in the promotion of hospital waterbirth practice needs to be undertaken to establish if this method is an effective way of embedding change within organisational routines and procedures.

Conclusion

The results from the questionnaire and the reported data on waterbirth rates suggest that the action research intervention may have influenced midwives' behaviours and changed organisational practices on labour ward. By encouraging co-ordinators to develop other colleagues, a process of support can be generated which drives changes in clinical practice forward. Given the widespread and continued impact of the intervention, on midwives who attended workshops and those that did not, we feel it likely that

a significant proportion of this organisational change could be attributed to the introduction of problem solving waterbirth workshops. The findings from this study suggest that problem solving waterbirth workshops based on an action research format have the potential to normalise midwifery care within medically dominated hospital birthing environments.

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