

Full Length Research Papers

An evaluation of the roles and responsibilities of expert midwives involved in teaching staff from midwifery students to senior consultants/physicians

*Karl S. Myhre, Kjartan O. Hoie and Olav E. Begge

Department of Gynecology and Obstetrics Nursing, Faculty of Health Science, University of Bergen, Bergen, Norway.

Accepted 25 August, 2015

This descriptive study explored the roles and responsibilities of expert midwives involved in teaching staff from midwifery students to senior consultants/physicians. We have earlier conducted an intervention project, aimed at decreasing the number of anal sphincter tears. During this intervention a local core team of expert midwives was established. These experts continued the training of colleagues after the midwife instructor had fulfilled the active training period. Eighteen expert midwives from the four Norwegian hospitals which took part in this training program were recruited. To explore the views and experiences of these expert midwives, a questionnaire was completed, and the results were analyzed qualitatively. Before starting the program 24% of the midwives, working at the delivery ward were negative towards the supervision and project, while 46% were positive. One year after the program's start 92% were positive. Negative feedback at the beginning of the intervention came mostly from the media and professional midwifery organizations. The expert midwives felt that doctors were the most challenging to teach. The response from pregnant women was ultimately positive. Eighteen well motivated midwives became highly appreciated experts after an intensive training program and deemed themselves better and more successful professionals than before.

Key words: Delivery, anal sphincter rupture, prevention, qualitative research, interdisciplinary education.

INTRODUCTION

The incidence of caesarean section is on the increase, accounting for 29% of all deliveries in the United States (National Center for Health Statistics, 2006). In Europe, more than one out of three deliveries is caesarean section in Malta, Portugal (34%) and in Italy (37%) (WHO Regional Office for Europe, 2008). One major cause for the increment is women's own request for caesarean delivery which is accepted more and more by physicians (National Institutes of Health, 2006). A woman's wish to have a caesarean is quite often based on a fear of vaginal delivery (Gamble and Greedy, 2000), and includes

includes women choosing caesareans following anal sphincter injury in a previous delivery. A survey of female obstetric consultants in the UK, found 31% of obstetricians chose elective caesarean mainly for fear of anal sphincter injury (Al-Mufti et al., 1996).

Between one-third and two-thirds of women who sustain a recognized third-degree tear during delivery suffer subsequent faecal incontinence (Sultan et al., 1994; Samuelsson et al., 2000; Andrews et al., 2006; Dudding et al., 2008). Obstetric anal sphincter injury has a significant impact on a women's physical and emotional health. This includes the development of anxiety and depression, with a reluctance to consider future pregnancies as well as delay in woman's resumption of sexual intercourse (Williams et al., 2005; Rådestad et al., 2008). Utmost attention should therefore be focused on

*Corresponding author. E-mail: myhre.karl62@uib.no

improving obstetric practice, to minimise the number of severe anal sphincter lacerations, to make the vaginal delivery safer and more attractive for pregnant women.

In Norway, the Norwegian Board of Health (Helsetilsynet) reviewed all the Norwegian delivery data in 2004. In 1969, the frequency of anal sphincter tears (ASR) in Norway was 1%, but by 2004 it was found to have steadily risen to 4.3%. The agency felt this level of increment was unacceptable, and after consultation with the Department of Health and Social Affairs, a National Advisory Committee for Childbirth (Nasjonalt råd for fødselsomsorg) was established to develop a national plan to reduce the number of anal sphincter ruptures. There are several potential reasons for the increment of anal sphincter rupture. Our earlier retrospective study published in 1998 found a marked difference in the frequency of anal sphincter rupture between Finland and Sweden (Pirhonen et al., 1998).

Our study showed that it was obvious that the traditional methods for helping the newborn through the last stage of delivery, which are still taught and practiced in Finland, protected the pregnant woman from severe perineal damage (Pirhonen et al., 1998). The traditional manual support technique involves the birth assistant pressing the head of the neonate to control the speed of crowning, while supporting the perineum with the other hand. Then, when the neonate's chin can be grasped, the head is slowly eased through the vaginal introitus until the perineal ring can finally be pushed under the neonate's chin.

Background

There are very few studies aimed at decreasing anal sphincter tears. Parnell et al. (2001) showed that easing of the perineum will decrease the number of tears in non-instrumental deliveries. Further, it has been shown that inexperienced birth attendants will increase the perineal damage rate (Jander and Lyranäs, 2001). Changing obstetric practice by recommending the use of vacuum extraction instead of forceps, mediolateral instead of medial episiotomy, instructing the mother to push with less effort while the fetal head crowns has shown to decrease anal sphincter tears (Hirsch et al., 2008). Most of these results have been based on clinical observation, and no systematic approach with midwives as main educators has been applied so far. In 2005 at the general hospital in Fredrikstad, Norway, an intervention project was conducted with the aim of decreasing the number of anal sphincter tears (Laine et al., 2008). The purpose of this project was to teach the traditional method for helping the baby out to both midwives and doctors. Results of the project were positive and encouraging; this project was adopted by four other clinics in Norway.

The results of this multicenter intervention program were recently published and showed a highly significant decrease in obstetric anal sphincter injuries (Hals et al., 2010).

In Scandinavia, collaboration between midwives and obstetricians in teaching hospitals has a long and fruitful tradition. Midwives have always been an important part of the practical education of normal labor and childbirth, not only for midwifery students but also for medical students and even residents. In the USA by the late 90s, 64% of midwives were identified as participating in medical education and reported teaching medical students and residents; 75% percent taught obstetrician/ gynecologist residents, and 66% taught family medicine residents (Harman et al., 1998). More recently, McConaughy and Howard (2009) reported that academic midwifery practices taught multiple trainees including obstetrics and gynecology residents (80%), family practice residents (60%), medical students in their core curriculum (93%), and midwifery students (83%).

The aim of the present study was to explore the views and experiences of midwives who participated in an individual training program aimed at reducing ASR incidence. Further, we wanted to study the midwives' views of reactions and reflections among staff and patients during and after the intervention.

METHODS

The clinics participating in the present study come from geographically different parts of Norway. The general hospital at Lillehammer is located close to the capital of Norway, Oslo, whereas the university hospital of Tromsø is the most northerly situated university hospital in the world. The city of Ålesund is in the north-western part of Norway, and Stavanger is in the far south. Three of these clinics are relatively small with 1000 to 1500 deliveries/year, while Stavanger has about 4500 deliveries/year. In Norway, midwives' care for all normal vaginal deliveries and doctors are called in where there are cases of suspected pathology.

The most important goal during the intervention was to establish a local core team of experts who would continue the training after the midwife instructor had completed the active training period. These midwives were exposed to more deliveries than their colleagues, until they were of sufficiently high competence to receive the certification to teach. Each unit chose two to five midwives, who had a special interest in reducing ASRs and who possessed the ability to carry on teaching the traditional technique after the intensive training period had ended. Everyone participated in an individual training program with a personal supervisor with extensive experience in midwifery and different delivery techniques. The demographic data of the expert midwives taking part in the present study are presented in Table 1.

As a first step, they practiced on a pelvic model several times. After managing the fundamentals of the hands on technique, they were allowed to practice under supervision "hand on hand". This was carefully repeated several times in the second stage of delivery. After the skills of the expert midwife were assessed and confirmed by the supervisor, she was allowed to act independently, without the supervisor's involvement. In addition, these expert

Table 1. The experts' profile (n=18, mean, range).

RN (years)	18.0(2-27)
Delivery ward experience(years)	14.3(2-27)
Percentage work contract (100% =full time)	93.1 (75-100)
Deliveries under supervision before Certification	4.8(4-6)

Table 2. Type of manual assistance and episiotomy used by the 18 experts before the training program.

Hands-on-technique	Number
Classic technique	1
Two hands technique	14
One hand on perineum	2
One hand on baby's head	1
Water births	2
Type of episiotomy	
Mediolateral	9
Lateral	8
Medial	0
Not known	1

midwives were advised to communicate closely with the mother while she pushed, to use such delivery positions at the end of pushing that allowed manual support of perineum, and use episiotomy where indicated, and if done, to use the lateral episiotomy instead of mediolateral or medial episiotomy. On receiving her certificate, she was allowed to teach the method to other members of staff, in practice, a system with active involvement in the deliveries was created by the leaders of the unit. Progress and statistics became one of the most important parts of their responsibility helping to keep focus on the issue and educate new members of staff and doctors generally. Previous techniques for manual support and for episiotomy are presented in Table 2.

The research was conducted using a questionnaire which was developed by the authors and led by the corresponding author. Demographic information was collected for descriptive purposes. The questionnaire for demographic data contained five questions on the background of the experts, two multiple choice questions and the question "why did you want to be an expert?" The rest of the questionnaire contained a total of 47 questions based on a review of the pertinent literature. The format consisted of closed-ended and several open-ended questions that required qualitative responses. Of these questions, 24 were multiple choice questions, nine descriptive estimation in percent, nine qualitative questions in a scale from 1 (very easy) to 5 (very difficult), and five questions asking experts' opinions directly. Most of the questions allowed for comments. An expert in epidemiology and statistics examined the relevance of the questions and format of the questionnaire. Further, the questionnaire was pretested on four experienced midwives. The questionnaires were sent to all eighteen midwives in the four clinics one year after starting the intervention. Participation of this study was completely voluntary and to ensure confidentiality, the respondents were not asked to identify themselves.

The main aim was to assess the problems and difficulties during the process and to explore the reflections and feelings of this group.

We wanted to study the atmosphere in the delivery unit before, during and after the project. Women's feelings and opinions were assessed too, as well as the impact of midwifery students, clinic leaders and the media. We analysed the results of the questionnaire for all participants (N=18) and by clinic (N=4). Responses were further investigated by length of career, experience at delivery ward and type of contract (full-time/part-time). The distributions were calculated for all variables, as well as means, medians, standard deviations, and ranges, where appropriate. Observed differences were not tested statistically due to small sample size. Text responses to open-ended questions were categorized by the authors using content analysis followed by frequency counts of responses. The present study is part of a national program aimed at reducing the number of anal sphincter ruptures in Norway. The National Advisory Committee for Childbirth and the Directorate for Health and Social Affairs have approved the study. All participants gave a written informed consent.

RESULTS

In all, 18 expert midwives took part in the training program from the four hospitals. Everyone completed the questionnaire. Based on the answers from the questionnaire, all the experts were well motivated towards the training. They expressed their main reasons for wanting to be an expert as follows:

"I felt the study interesting and exciting."

"The study was essential because of the high frequency of anal sphincter tears at my clinic."

"This study gave me a great opportunity to practically help my patients to avoid ASR."

"I felt the study as a necessity. We had to do something to decrease the rising trend of ASR."

"At the beginning I was skeptical toward the study, because I thought we must cut an episiotomy in every delivery (which turned out to be wrong). I wanted to learn more about that."

The supervision period varied from six to twelve weeks. Fourteen of the experts felt the teaching period were suitably long, three said it was too short and one felt it too long. Each felt herself well prepared and ready for the task. Attitudes toward the project changed profoundly. Before starting the project 24% of midwives working at the delivery ward were negative toward the supervision and the project. 46% were positive and 30% had a neutral attitude (Table 3). After the supervision period,

Table 3. Changes in Labour ward staff attitudes (percentiles) throughout the intervention.

Attitude	Negative (%)	Neutral (%)	Positive (%)
Before intervention	24	30	46
Under intervention	17	15	68
After intervention	12	12	76
> 1 year after intervention	8	0	92

12% were negative and 76% positive while the neutral group was 12%. A remarkable progress in opinions was noted during the whole process, and one year after the program was started 92% of the staff were positive (Table 3). One midwife commented:

"It is provocative when an outsider comes here, to tell us how we are supposed to do our job."

Another said: *"Many of my colleagues were positive, they really wanted to do something concrete to improve women's health. But they felt pressed into doing things without being able to make the decisions by themselves."*

The colleagues who were most negative considered the scientific articles false and unreliable. These midwives' felt their autonomy was threatened by the project and they were concerned with not being able to make their own decisions. Some midwives were skeptical with regard to the ASR statistics. Some expressed a negative opinion on the benefits of the hands on technique as well. Some of the experts felt uncomfortable marketing themselves as an expert and supervisor. One said:

"I haven't been active enough. It is difficult to invite yourself into another's deliveries."

Another said:

"I was relatively passive because I didn't feel welcome. At the same time I felt very satisfied with myself and my mission."

Fourteen of eighteen felt the support from the clinical leaders was sufficient. Three experts had already been used as consultants in delivery wards outside of their primary hospital. In general, the experts did not feel any difficulties in teaching the different parts of the educational program. Using a scale from one (very easy) to five (very difficult), teaching manual support scored 1.71, episiotomy 2.23, focusing on delivery position 1.88, and tolerating criticism 1.88, respectively. All the experts agreed that the discussion meeting following sphincter

damage was necessary, informative and useful: both for the midwife/doctor and the expert.

The experts felt that the occasionally very negative feedback in the beginning of the intervention came mostly from two sources: 1) media and 2) professional midwifery organizations. However, when the results were found to be strongly positive, attitudes changed, more so in the media but also somewhat in the midwifery organizations, making the work of the experts easier.

"Some midwives felt themselves pressured and wished not to be confronted. Everybody became more positive after seeing our results with decreasing ASR statistics." "The positivity of the experienced midwives having a high status in the delivery unit made my job easier."

The experts felt students and recently qualified midwives were easy to teach, whereas older colleagues as well as locums were more challenging (Table 4). The experts took responsibility for teaching doctors, which they found rather difficult (Table 4). However, when requesting cooperation between experts and different teaching groups, 16 out of 18 experts felt no excessive problems with doctors as compared with other professions. To supervise the locums was occasionally a problem and sometimes unpleasant, because of the attitudes of the locum staff. Seven out of eighteen felt the cooperation with locums was pretty hard, and eleven never had problems. This group were most negative and reluctant towards the presence of a supervisor in their deliveries. One said:

"It seems to me that they want to have us (supervisors) in there as little as possible." And further "Some sabotaged the project, and didn't want any supervision", and "Occasionally it was frustrating to defend myself because I was active in the project."

At the same time another said:

"Many are positive."

Eight out of the 18 experts said the overall atmosphere in their respective clinics turned to the better during the project when compared to the situation before start; whereas nine did not notice any difference and one felt the situation worsened. All experts agreed that the response from the pregnant women was ultimately positive both before and after the intervention. Not surprisingly, 17 out of 18 judged themselves to be a more complete midwife after going through the project. Despite great differences in many parameters between the four clinics, there were no statistically significant differences in measured outcome parameters between the clinics or by midwife background.

Table 4. Subjective experience of the experts in teaching of the different professionals. Mean (range). Old midwife = > 10 years at delivery ward. Scale 1 – 5 (1 very easy to 5 very difficult).

Group	Response
Midwife student	1.27 (1-3)
New midwife	1.15 (1-2)
Old midwife	2.31 (1-4)
Locum midwife	2.23 (1-5)
MD	3.80 (2-5)

DISCUSSION

The increase in the number of caesarean sections has been dramatic during the last few decades. This in turn decreases the amount of normal and in most cases midwife led deliveries. One reason behind this increase in caesareans has been the fear of damage to the anal sphincter. Therefore, a goal in trying to have a real alternative for caesareans should be the utmost focus on decreasing ASRs. Based on our previous retrospective study (Pirhonen et al., 1998), it remains obvious that the use of traditional birth assistance instead of newer techniques including the so called "hands off" techniques could decrease the number of anal sphincter tears. The method is described in many educational books from the 1960s and 1970s and before. However, after the 1980s, manual assistance was thought to be less important, and so has been increasingly forgotten.

In contrast, however, Finland has continued to teach these traditional methods and they still form the main approach in most clinics. The main challenge for the experts was to teach midwives and doctors this traditional way to assist the final part of the delivery. This includes manual support of perineum, close contact between patient and accoucheur, correct indication and technique when performing episiotomy, and the delivery position. In Norway, at least one – possibly two - generations of delivery staff have been taught to use a different approach, which in part has led to an increase of ASR from 1% to over 4% in 30 years (Laine et al., 2009). All the experts had extensive experience of working as midwives on delivery wards, and were most likely more self-confident than an average midwife. Further, they seemed to know quite well their own colleagues as well as the atmosphere at the clinic where they worked. It is possible that this experience helped them over the hardest period at the start, in particular with the criticism from the various interest groups. The experts were quite comfortable in their role as a supervisor even in the beginning of the project.

In general, they were enthusiastic and keen to learn

something new which could make them better professionals. Based on the questionnaire this aspiration was really realised one year after the intervention started. The four clinics which took part in the study come from different parts of Norway with great demographic and geographical differences. There were different routines in the clinical work and different size in delivery units. However, no major differences in any outcome parameters between the four clinics were observed. The change in ASR practice and attitude did not come easily. As soon as staff realised how their own management had such profound effects on the incidence of anal sphincter rupture the experts, as well as the vast majority of healthcare workers, were positive towards the practice and this in turn helped the work of the experts. A critical point for this change was the period after completion of the intensive training period; when local staff, led by the local experts, took full responsibility for the continuing practical performance of the project. The experts saw differences in training the different grades of professionals. Perhaps young colleagues and students are more open-minded and flexible to new ideas than older midwives set in their ways. Not surprisingly, the most difficult teaching obstacle was supervising the doctors. In spite of this, the experts did not define the doctors as a problem. Cooperating with doctors was usually neutral, and in the course of time even the doctors accepted the midwife as a trainer.

However, such education is not without its challenges. Doctors, senior consultants in particular may be resistant to involving non-physician providers in medical education. On the other hand, midwives may feel a conflict between teaching future obstetricians and adhering to midwifery philosophy. The institutional or departmental organization may also present obstacles to an interdisciplinary program. Clinical experience and the teaching expertise of midwives are valued in medical education. Expert midwives with special skills can have a positive impact on how obstetrics is taught to other midwives and physicians and therefore how obstetric care is practiced. Positive relationships with physicians in their training will create mutual respect and appreciation of midwifery management and philosophy and may help in future relationships. Such an approach provides care that brings together the strengths of each professional, decreases medical errors, and is more efficient. Of utmost importance, the ultimate beneficiary is the woman who is jointly served by midwives and physicians.

Reactions from midwifery students were only positive. They did not feel any impairment or problems from the midwifery schools, most of which had different policies on teaching manual support. It seems that positive publicity and attention from media made their goal easier. The support from clinic leaders was very important in order to fulfill the project. Without the enthusiasm and support of the pregnant

pregnant women, being an expert would have been an impossible task. However, a constant criticism from a part of midwifery organization and from some clinics not participating in the project was a challenge. The questionnaire was conducted just once, one year after the interventions started. This may limit the gathering of continuous information during the whole process. However, when the expert midwives had achieved the level of self confidence and sufficiency required, their opinions seemed to change only marginally.

Another limitation in our study and for using similar programs in future projects in medicine might be the experts themselves. They were a select group of well-motivated professional midwives who could stand by their opinions even at the start of this project when resistance to their work was at its highest. Finally, our goal was to study women's reactions and feelings to the process and this study has shown that their opinion and feedback was just as positive and stable from the beginning. They felt the study was interesting and they wanted to participate. Some of the expert midwives practiced antenatal visits before delivery, and thus had a great opportunity to prepare and inform the women about the project.

Implications in the future

The present study clearly shows the potential in midwifery led local educational programs. Well-motivated professionals who have the special skills needed to teach colleagues, as well as doctors are able to manage a tough process. We hope that our unique experience will encourage midwives and nurses to plan and participate in comparable projects in medicine in the future.

REFERENCES

- Al-Mufti R, McCarthy A, Fisk NM (1996). Obstetricians' personal choice and mode of delivery. *Lancet*, 347: 544.
- Andrews V, Sultan AH, Thakar R, Jones PW (2006). Risk factors for obstetric anal sphincter injury: A prospective study. *Birth*, 33: 117-122.
- Dudding TC, Vaizey CJ, Kamm MA (2008). Obstetric anal sphincter injury: Incidence, risk factors, and management. *Ann. Surg.*, 247: 224-237.
- Gamble J, Creedy D (2000). Women's request for caesarean section: A critique of the literature. *Birth*, 27: 256-263.
- Hals E, Øian P, Pirhonen T (2010). A Multicenter interventional program to reduce the incidence of anal sphincter tears. *Obstet. Gynecol.*, 116: 901-908.
- Harman P, Summers L, King T, Harman T (1998). A survey of CNM participation in medical education in the United States. *J. Nurse. Midwifery*, 43: 27-37.
- Hirsch E, Haney EI, Gordon TE, Silver RK (2008). Reducing high order perineal laceration during operative vaginal delivery. *Am. J. Obstet. Gynecol.*, 198(1-5): 668.
- Jander C, Lyranäs S (2001). Third and fourth degree perineal tears. Predictor factors in referral hospital. *Acta. Obstet. Gynecol. Scand.*, 80: 229-234.
- Laine K, Gissler M, Pirhonen J (2009). Changing incidence of anal sphincter tears in four Nordic countries through the last decades. *Eur. J. Obstet. Gynecol. Rep. Biol.*, 146: 71-75.
- Laine K, Pirhonen T, Rolland R, Pirhonen J (2008). Decreasing the incidence of anal sphincter tears during delivery. *Obstet. Gynecol.*, 11: 1053-1057.
- McConaughy E, Howard E (2009). Midwives as Educators of Medical Students and Residents: Results of A National Survey. *J. Midwifery Women's Health*, 4: 268-274.
- National Center for Health Statistics (2006). Available at: <http://www.cdc.gov/nchs>
- National Institutes of Health (2006). State-of-the-Science Conference, March 27-29, Cesarean Delivery on Maternal Request: Final Statement. *Obstet Gynecol* 2006;107:1386-97. Available at http://consensus.nih.gov/2006/Cesareanstatement_final053106.pdf; accessed, December 2.
- Parnell C, Langhoff-Roos J, Møller H (2001). Conduct of labor and rupture of the sphincter ani. *Acta. Obstet. Gynecol. Scand.*, 80: 256-261.
- Pirhonen JP, Grenman SE, Haadem K (1998). Frequency of anal sphincter rupture at delivery in Sweden and Finland - result of difference in manual help to the baby's head. *Acta Obstet. Gynecol. Scand.*, 77: 974-977.
- Rådestad I, Olsson A, Nissen E, Rubertsson C (2008). Tears in the vagina, perineum, sphincter ani, and rectum and first sexual intercourse after childbirth: A nationwide follow-up. *Birth.*, 35: 98-106.
- Samuelsson E, Ladfors L, Wennerholm UB, Gåreberg B, Nyberg K, Hagberg H (2000). Anal sphincter tears: prospective study of obstetric risk factors. *BJOG.*, 107: 926-931.
- Sultan AH, Kamm MA, Hudson CN, Bartram CI (1994). Third degree obstetric anal sphincter tears: Risk factors and outcome of primary repair. *BMJ.*, 308: 887-891.
- WHO Regional Office for Europe. Health for all databases (2008). <http://data.euro.who.int/hfad/>
- Williams A, Lavender T, Richmond DH (2005). Women's experiences after third-degree obstetric anal sphincter tear: A qualitative study. *Birth*, 32: 129-136.