National survey of how acupuncture education is organised for Swedish midwives.

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Title

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Introduction

Acupuncture is a method included in Traditional Chinese Medicine (TCM) that has been used for centuries. The method entails penetration of the skin with thin needles at certain points on the body. The acupuncture points are selected individually, depending on indications for the treatment and the needles, once in place, are stimulated manually or electrically. There are two ways to administer acupuncture; in accordance with TCM or in accordance with a western medical approach. In TCM an individual's condition is diagnosed using pulse and tongue diagnostic tools and the acupuncture treatment is planned depending on the results. The western medical approach is based on possible biological explanations (Ma et al., 2005, Yelland, 2005). Since the end of the 1980s acupuncture has been used in midwifery care in Sweden (Mårtensson and Wallin, 2006) and the method is also used in other countries (Skilnand et al., 2002, West, 1997, Zeisler et al., 1998, Ziaei and Hajipour, 2006). Initially, acupuncture was mainly used for pain relief during childbirth, despite a lack of scientific evaluation of the method. Subsequently, indications for the use of acupuncture increased and it's use spread rapidly in both obstetric and gynaecological care (Mårtensson and Kvist, 2008). The focus of this article is how acupuncture education is provided for midwives who care for women during pregnancy, childbirth and the post partum period.

Swedish midwives are permitted to use this method in their clinical practice as long as its use is based on both scientific knowledge and clinically tested experience (SFS1998:531, 1984:33). However, before starting to use acupuncture, midwives are required to take a course including theoretical and practical training (Mårtensson and Wallin, 2006). As reported earlier

(Martensson et al., 2010) courses of this kind vary in length and content and are not subjected to quality assurance or control. The sole stipulation is that all treatment and care in Sweden must be based on scientific and clinical experiences as mentioned above. Midwives' use of acupuncture is not monitored nationally. In Swedish midwifery study programmes, theoretical knowledge of acupuncture is briefly referred to together with other so called complementary and alternative methods with some focus on what evidence is available for use of the methods within midwifery care. No practical training in acupuncture is given during midwifery education and therefore courses of this kind are organized as continuing professional training for midwives.

In Sweden, midwifery study programs have been provided at university level since 1977 (SFS 1977:218, 1977, SOU 1978:50, 1978) and a clear re-direction from vocational to academic studies has occurred since the 1993 reform in higher education (SFS 1992:1434). This means that there are now distinct requirements for midwifery education to have strong scientific foundations and research connections (Hermansson, 2003). A further reform of the Swedish higher education system in 2007 has meant that midwifery study programs are now university courses of 90 ECTS on the second cycle (master´s level) following a degree at bachelor in nursing bologna (Bologna Working Group on Qualifications Framework, 2005, SFS 1992:1434). The quality of all educational programs for health care professionals and post graduate education is controlled by the Swedish National Agency for Higher Education (Swedish National Agency for Higher Education, 2009). However, the agency does not govern education and training given outside of universities and colleges. Courses in complementary and alternative methods such as acupuncture are most often organized by private persons or firms and each health facility decides on the adequacy of the educational package. Therefore there is no overall summary or control of quality regarding free-standing

courses offered to midwives. The aim of this study was to survey the education given to Swedish midwives in the use of acupuncture treatment in obstetrical care.

Methods

Design

A national survey was carried out by use of a questionnaire sent to all identified acupuncture instructors in Sweden.

Sample and data collection

In an earlier postal survey (Martensson et al., 2010) to all Swedish 50 maternity units, 90 % responded and provided the names of the acupuncture instructors they employed. Seventeen organizers (18 instructors) were identified and questionnaires were sent to all of these. A total of 18 questionnaires were distributed.

The questionnaire, which was constructed for the purpose of the study, was tested before the start of the study, by two midwives who had knowledge of acupuncture education. After this test some minor revisions were carried out to clarify some of the questions. Data were collected during February and March 2008. One reminder was sent out the last week in March. The questionnaire contained 29 questions; more than half had pre-determined response alternatives some with prompts to motivate the answers and 13 questions were open-ended. It was possible for the respondents to give free comments to some questions.

The instructors were asked about their age, professional status, their personal education, own acupuncture education, clinical working area, structure of their employment and participation

in research activities. Questions were posed about areas for which the instructor recommended acupuncture treatment, which philosophical and theoretical perspectives formed the courses offered to midwives and the courses' theoretical and practical content. Further questions were posed about the time given to the basic and follow-up courses, curriculum or other descriptions of the course, the purchasers' possibility to impact the extent and content of the course, what course literature was used, the instructors own clinical experience, costs of the courses and whether the instructor was involved in research or kept abreast of scientific development within acupuncture in other ways.

Analysis

Descriptive statistics, including frequencies, means and percentages were used. Information obtained from a question regarding recommendations for use of acupuncture in obstetrical care was quantified and presented in table form. Information from open ended questions and free comments was subjected to content analysis from a qualitative perspective. The qualitative analysis was conducted by reduction which allowed the results to be organized into categories according to identified themes (Krippendorff, 1980, Weber, 1985).

Findings

Of the 18 questionnaires that were distributed 16 (89 %) were completed and returned. The mean age of the respondents was 56 years and the remaining professional and personal data are shown in Table 1. The most common instructor profile was a midwife, without any academic degree, who worked in education within a private company and this was sometimes combined with employment at a maternity unit at which she also was responsible for in-service training. Of the respondents, five stated that they were engaged in research in the area

of acupuncture such as colic in children, endometriosis, pain relief during pregnancy and childbirth, pelvic girdle pain and women's health.

Insert Table 1 about here

Table 1 Professional and personal data for the study respondents, (n=16). Values are given as n.

Male/Female	2/14
Midwife	12
Physiotherapist	1
Medical Doctor	3
Academic degree	5
• PhD	2
• Master one year	2
• Bachelor	7
• None	
Own acupuncture education *	
• National	16
• International	12
• University level	5
• Combination national/international	10
• Combination national/university level	1
• Combination national/international/university level	2
Clinical working area *	
• Obstetrics	12
• Gynaecology	5
• Pain	6
• Combination gynaecology and pain	2
• Combination obstetrics, gynaecology and pain	3
• Combination obstetrics and youth centre	1

*Acupuncture education within **	
• Part of normal duties	10
• Own private company	9
• Employed by an private firm	1
• Combination of part of normal duties and own private firm	4
Own research	
• Yes	5
• No	11

*= Several answers were possible.

Extent of the courses

The length of basic training in acupuncture that was given to midwives varied between one and 25 days. In one case the midwives were given 25 days of training and the remaining had between one and six days of basic training. When the outlier was removed from the analysis the mean number of days of basic training was 3.7. Eight of the respondents reported that they provided a post-basic follow-up course. These courses took place within one year from completion of the basic course, with a variation of 45-365 days (mean 136 days). The content of the follow-up courses was reported mostly as discussions about real cases from the midwives' own clinical experiences, repetition of some facts and reporting of scientific news. Other models for follow-up were; the instructor offered "drop in" for questions (in cases where the instructor was working in the delivery ward) and advice via telephone, but this was only at the midwives' own initiative.

Most of the respondents considered that the content of the basic course they offered was enough to enable the midwife to start to use acupuncture treatment (mainly in obstetrics) but they emphasized the importance of follow-up courses because the basic course was short. Respondents reported that there was a great demand from hospitals for short and inexpensive courses because of economical cutbacks and that this meant that the courses had to be organized to meet those demands. Most of the respondents consider the courses to be too short and the possibility to influence this was reported as limited.

Content of the courses

All acupuncture courses offered to midwives were divided into two parts; theoretical and practical. The theoretical part included historical accounts of acupuncture as Traditional Chinese Medicine (TCM) and also acupuncture as applied to the western medical approach. Anatomy and physiology were taught, with special focus on pain, the physiology of

acupuncture and in some cases also electro-acupuncture. Principles and regulations for treatment with acupuncture were explained and also contra-indications. Discussion of scientific articles related to obstetrics and gynaecology was also mentioned. Three of the respondents described a more comprehensive focus on the theoretical part compared to the other respondents. All three of them had a PhD and conducted acupuncture research. The practical part of the course focused on general principles for treatment, knowledge about needling i.e. meridians, suitable points for the treatment of obstetric and the gynaecological conditions different stimulation techniques and hygiene. Some of the courses were described in more detail but attainment goals and expected learning outcomes were poorly described or missing. The theoretical and practical parts of the courses were divided 50/50.

Philosophical and theoretical perspectives

Twelve of the respondents stated that their teaching was based on a western medical approach, i.e. based on possible biological explanations and the remaining four stated that their teaching was based on both the western medical approach and TCM. The latter refers to pulse and tongue diagnostics. Some of the respondents also mentioned a holistic view and a practical midwifery perspective. Pertaining to the respondents own clinical practice, one respondent based the treatment on TCM, eleven on the western medical approach and three on both perspectives. Fourteen of the respondents used some kind of literature in the course, Table 2.

Insert Table 2 about here

Table 2 Use of course literature, (n=16). Values are given as n.

Literature	No of users	Compulsory	Reference
*Carlsson, C. & Anckers, L. (1997). Akupunktur och TENS inom obstetriken (Acupuncture and TENS in obstetrics)	11	8	3
*Landgren, K (2004) Öronakupunktur (Ear acupuncture)			2
*Carlsson, C (1992) Grundläggande akupunktur vid smärtbehandling (Basic acupuncture for the treatment of pain)			1
Carlsson, C. (2000) Long-term effects of acupuncture (Dissertation)			1
*Werner, M & Strang, P. Smärta och smärtbehandling (Pain and its treatment)			1
Maciocia, G. (1997) Obstetrics and Gynecology in Chinese Medicine			1
Maciocia, G. (1994) The Practice of Chinese Medicine			1
West, Z. (2001) Acupuncture in pregnancy and childbirth			1
Cheng, X. & Deng, L. (1999) Chinese Acupuncture and Moxibustion			3

Compendium constructed by the instructors	9
Scientific articles	4

* Swedish textbooks

Indications for the use of acupuncture

Table 3 shows the indications for use of acupuncture that were taught in the courses. The basis for these recommendations was given as "scientific results" by seven of the respondents and eight respondents referred to their own and others clinical experiences. The courses also gave recommendations for use of acupuncture in gynaecology and for menopausal problems but since this was not the focus in this study those recommendations are not reported here.

Continuing education for instructors

The respondents reported that their own knowledge up-date in the area of obstetrical acupuncture took place mostly through membership in associations and networks, but also through courses, reading scientific reports, participation in scientific meetings and own research. Those with a doctoral or master (one year) degree were more likely to acquire knowledge from scientific literature than those with a bachelor degree or no academic degree at all.

Insert Table 3 about here

Table 3 The instructors' recommendations for use of acupuncture for different kinds of obstetrical problems, (n=16). Values are given as n (%).

Indications for treatment by acupuncture	Number (%) of instructors who recommend acupuncture treatment for these indications.
Relaxation during the latent phase of labour	14 (88)
Pain relief during the latent phase of labour	13 (81)
Retained placenta	13 (81)
Pain relief during the active phase of labour	12 (75)
Relaxation during the active phase of labour	12 (75)
Inefficient uterine contraction	11 (69)
After pains	11 (69)
Increasing milk production	11 (69)
Urine retention after labour	10 (63)
Urine retention during labour	6 (38)
Mastitis	6 (38)
Pelvic girdle pain	5 (31)
Hyper emesis gravidarum	4 (25)
Induction of labour	3 (19)
Carpal tunnel syndrome	2 (13)
Micturition problems	2 (13)
Haemorrhoids	1 (6.2)
Make labour easier and prevent complications	1 (6.2)
Nausea	1 (6.2)
Pain relief after episiotomy	1 (6.2)
Pain relief during suturering	1 (6.2)
Reduce use of other pain relief methods	1 (6.2)

Breast engorgement	1 (6.2)

Six respondents answered the question about costs for their acupuncture courses. The charge was between 6 125 SEK (£505) for four days to 10 000 SEK (£825) for five days with a mean of 6 436 SEK (£530) for four days of basic education, including a follow-up course if that was part of the concept. If the course was given within in-service training by a midwife employed at the hospital, there was no charge. (The monetary conversion was carried out on 6 April 2009 and was according to the Swedish Forex exchange).

Decreased use of acupuncture

The respondents were asked if they had noticed in their clinical practice the trend towards decreased use of acupuncture in the obstetrical area as reported in the Birth Register. Slightly more than half of the respondents had noticed the same trend. However, some of the instructors combined the role of instructor with clinical midwifery practice in maternity units answered in a contrary way and stated that acupuncture treatment had increased. The reasons for changes in the use of acupuncture treatment could be categorized into three different themes: economy and education, acupuncture technique and support and women's choice of pain relief. The themes and categories are described below:

- Economy and education
    - Lack of economical resources for acupuncture education
    - Lack of interest from employers
    - Acupuncture education is not a part of midwifery study programmes
    - Clear demand for acupuncture education

- Acupuncture technique and support
    - The method is time-consuming
    - Difficult to learn acupuncture techniques
    - The method demands continuity

- Lack of support to develop and maintain competencies

- Women's choice of pain relief
  - Women afraid of needles
  - Women prefer other pain relief such as epidural analgesia
  - Pregnant women prefer acupuncture to pills

Discussion

The results from this survey show that acupuncture courses offered to Swedish midwives were similar regarding extent and content. However, there was a big difference between courses regarding the length and extent to which they were research-based. The latter was probably due to the relatively low academic level that most of the instructors had themselves reached. Half of the respondents stated that they based their recommendations for the use of acupuncture on their own or others clinical experiences. Some of the instructors had a doctoral degree and it was seen in the answers that their educational programs to a greater extent fulfilled the requirements for scientific knowledge and clinically tested experiences specified by the Higher Education Act (SFS 1992:1434). Most of the instructors reported that they had long experience of the clinical application of acupuncture.

The courses were all quite short. The respondents stated that this short education should suffice for pain relief and relaxation in the obstetrical area. This is not in accordance with the answers given in an earlier survey (Martensson et al., 2010) n which we asked midwives at all maternity units in Sweden what kind of conditions they used acupuncture treatment for. The results from that study showed that acupuncture was used for other problems than pain relief and relaxation, many of which lacked any scientific evidence regarding effects or possible negative side effects. On the other hand instructors in the present study and midwives in that

earlier study (Martensson et al., 2010) were in agreement regarding the length of the courses and lack of support from colleagues more skilled in acupuncture. In the present study the results also indicate that midwives who combined an educational role with midwifery practice stimulated interest in acupuncture treatment and acted as coaches. This kind of dual role may result in an increased use of acupuncture and may stimulate the midwives to reflect and discuss various aspects of the method. These findings are in agreement with a study from the UK (Tee et al., 2009) in which it was found that clinical supervision enhances the learning in the clinical context.

The cost of a four to five day course could be up to 10 000 SEK (£825) per person. This can be considered in comparison to university education which in Sweden is free except for time to participate and the cost of literature. The respondents stated that their possibilities to impact on the extent and length of the course were limited. This is probably due to the economical situation in Swedish hospitals, the purchaser wants this education for the staff but it has to be short and cheap. It is relevant to question whether it would be more rational to organize these courses at the universities, as post graduate education for midwives. If this was the case, the courses would be exposed to quality controls of the extent and content of the courses and also of learning outcomes. This process strives to guarantee the standard of courses in the higher educational system and is standard praxis at Swedish universities (Swedish Higher Agency for Higher Education, 2007). Considering that midwifery study programmes and many courses in health care sciences are at postgraduate level, it seems remarkable that courses in acupuncture are exempt to this rule and therefore have not been subjected to quality control which is a requisite for patient safety. An added benefit would be the combination of academic studies, clinical work in hospital and continuous supervision by clinical academic

coaches. An organization of this kind may help to stimulate students to develop their abilities to be more reflective and to have a more critical attitude (Tee et al., 2009).

Acupuncture is a method from TMC with a very long tradition which has been combined with a western medical approach (MacPherson et al., 2007). It might be relevant to question if it is possible to learn this method during four days or sometimes even less. It is questionable as to whether the organization of acupuncture education gives the method a real chance. There is a risk that midwives do not learn the method well enough which can possibly have negative effects on the treatment. For example, in a Swedish study comparing acupuncture and injections of sterile water for pain relief during labour (Mårtensson et al., 2008), very low pain relief was reported in the acupuncture group. The authors discussed the results in relation to a Norwegian study (Skilnand et al., 2002) in which it was found that an acupuncture group had better pain relief compared to a placebo group. The two studies were similar to each other, regarding the acupuncture treatment, except for the number of midwives giving acupuncture to the women. In the Norwegian study (Skilnand et al., 2002) there were six well trained midwives with longer acupuncture education compared to 40 midwives with shorter education in the Swedish study (Mårtensson et al., 2008). In the present study it was found that only three of the instructors based their courses on both scientific knowledge and clinically tested experience. These facts might indicate that length and content of education, as well as the instructors' academic degree, competence and skills may influence the effects of the acupuncture treatment given in clinical practice.

It is the authors' opinion that midwives all over the world have a responsibility for the development, or at least the support of development of new methods within midwifery care. Swedish midwives have, with great enthusiasm, actively taken part in implementation of

acupuncture as an alternative treatment for several conditions (Martensson et al., 2010). It is a sad fact that it took more than ten years from the entry of acupuncture into the sphere of Swedish midwifery care before the first peer-reviewed article based on a trial of acupuncture in a Swedish delivery ward was published by a midwife (Ramnero et al., 2002). During this period the number of indications for the use of acupuncture in midwifery care increased rapidly (personal communication Lilleba Anckers April 21st 2009). This is not in line with the requirements for education in evidence-based care that has developed in Swedish midwifery study programmes and postgraduate education for midwives during the last three decades. However, responsibility for the implementation into clinical practice of evidence-based midwifery care must be placed at the feet of hospital managers, in this case maternity unit managers. They have a great and important responsibility to create an environment that values scientific knowledge and encourages systematic evaluation and research as an every day, normal activity.

This survey shows that the most common instructor profile is a midwife, without any academic degree and that connections to evidence based knowledge are weak. These conditions do not stimulate midwives to incorporate evidence into their clinical practice nor to adopt an attitude of critical appraisal. It is a problem that most of these courses are organized outside the universities without any assessment of quality. It has been reported in the literature earlier, that there is a disparity between research and midwives clinical practice (Bogdan-Lovis and Sousa, 2006, Sleep, 1992) and that is in fact something we have to change. However, the present organization of acupuncture education in Sweden does not help in making such change. Private initiatives to educate midwives in the use of acupuncture are not necessarily a bad thing but there is concern about the level of some of the alternatives we have described in this survey. Some of the instructors meet high standards since their courses

are based on both scientific knowledge and clinically tested experiences and the instructors themselves have a high academic degrees but unfortunately the majority do not. Providers and purchasers of this kind of educational program have a responsibility to reduce the disparity between research and clinical practice so that midwives can offer evidence-based care.

Conclusion

This study shows that acupuncture education is usually organized outside universities and colleges without any quality control. The results of this study are therefore of great significance for health care providers who are responsible for maternity care and also for institutions that organize acupuncture education. The courses are most often short, without follow-up and are quite expensive. Moreover, the content in the courses is poorly described and is mostly not evidence based. The most common instructor profile is a midwife, without any academic degree and the courses' association to evidence-based knowledge is weak. Continuing professional education for midwives should be given at least at the same academic level as the midwifery study programme. Given the prognosis that the number of practicing acupuncturists is expected to quadruple before 2015, (Kaptchuk, 2002) it would be of interest to elucidate acupuncture education in midwifery care in a international perspective.

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