

# Improving the Standards of Midwifery Education and Practice and Extending the Role of a Midwife in Korean Women and Children's Health Care

Kyung Hye Lee, RN, PhD<sup>1</sup>

**Background.** A midwife is a medical professional who has a nursing license, and is also licensed as a midwife with one additional year of education. In this globalization era, a midwife's role is increasing in importance for women and children's health care worldwide.

**Purpose.** The primary purpose was to analyze midwifery education programs in Korea and other nations. The secondary purpose was to define strategies to improve midwifery education and practice, and to extend the role of a midwife women and children's health care in Korea.

**Methods & Results.** 1) The definition of a midwife and midwifery practice recognized internationally by World Health Organization (WHO) and International Council of Nurse Midwives (ICNM) was identified. 2) Midwifery education programs of Korea, U.S.A., Sweden, Australia, and Japan, were investigated and discussed. 3) Core competencies for the basic midwifery practice suggested by ACNM of the U.S.A. were reviewed as standard of midwifery practice. 4) As for the midwifery education system, a Masters degree program in a college of nursing is suggested. 5) The role of a midwife includes not only health care of childbirth women and newborn babies, but also a lifelong health care of women as well as her family and children.

**Conclusion.** An effort to extend the midwife's role and to improve service is imperative. The Laws/Acts related to midwives should be revised in regard to education, and practices, and the national examination for midwifery licensure needs revision to qualify for international approval. Also, midwifery curriculum and standards of practice need to be evaluated periodically, and an effective system needs to be established to renew midwife licenses.

**Key Words:** Midwife, Education, Practice, Standards, Role

## INTRODUCTION

A midwife is a health professional licensed by the government to provide health care like doctors and nurses (medical law 1:2). A midwife is an advocate for people's health and welfare by providing quality health care service, and is responsible for continually improving her competence as a health professional. Since a midwife plays an important role in childbirth, she has to have

one year of midwifery education licensure in addition to her nursing education, which means that she is more specialized than a nurse (medical law 2:6). Her role requires a higher level of ethics as well as the professional knowledge, technique and attitude. To achieve this, competence and standards of midwifery need to be improved through midwifery education systems, education programs, and continuing education. Also, it is necessary to extend the role of midwives to meet changing social needs (Oshio, Johnson & Fulleton, 2000, Fullerton,

---

1. Professor, College of Nursing Science, Ewha Woman's University  
Corresponding author: Lee, Kyung Hye, College of Nursing Science, Ewha Womans University  
11-1 Dahyundong, Seodaemun-ku, Seoul, Korea  
Tel: 82-2-3277-2883 Fax: 82-2-3277-2850 E-mail: kyung@ewha.ac.kr  
Received May 13, 2003 ; Accepted December 22, 2003

Johnson & Oshio, 2002).

In this globalization era, health professionals provide services not just within their own country, but for all mankind by sharing their knowledge and technology (Ahn, 2002). In order to internationally exchange quality midwifery services, it is necessary for us to have equivalent education programs and practice standards for midwives (Byun, Park & Moon, 2002, Lee, 2002).

It is very important to analyze and evaluate the midwifery education programs of Korea and other nations. Strategies can then be explored to extend the role and improve midwifery education and practice.

## ANALYSIS OF MIDWIFERY EDUCATION PROGRAMS AND PRACTICE

### *Definition of a midwife and midwife practice*

The World Health Organization and the International Council of Nurse-Midwives state the definition of a midwife and midwife practice as follows(<http://who.int>).

“A midwife is a person who, having been regularly admitted to a midwifery educational program, duly recognized in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery.

A Midwife must be able to give the necessary supervision, care and advice to women during pregnancy, labor and the postpartum period, to conduct deliveries on her own responsibility and to care for the newborn and the infant. This care includes preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical assistance and the execution of emergency measures in the absence of medical help. She has an important task in health counseling and education, not only for the women, but also within the family and the community. The work should involve antenatal education and preparation for parenthood and extends to certain areas of gynecology, family planning and childcare. She may practice in hospitals, clinics, and health units, domiciliary conditions or in any other service”.

Based on this internationally accepted definition, role and responsibility of a midwife, each nation has established and managed its own educational program to produce qualified midwives, who are evaluated and licensed to practice midwifery by national examination.

### *Midwifery educational program*

#### Midwifery education program in US

There are CNM (certified nurse-midwifery) and CM (certified midwifery) programs in the U.S. midwifery education system. A CNM is a person with a nursing license who has to complete at least 2 years of a graduate program or master's degree program and pass the license examination given by DOA (Division of Accreditation) of ACNM (American College of Nurse-Midwifery) to practice. A CM is a person who is admitted to a midwifery education program after finishing health related majors, and in this case she has to complete basic preliminary courses. Midwifery education is provided in either medical schools or universities with a college of nursing, and there are some differences in the curriculum and the education period among institutions. However, they all have to be recognized by the DOA of ACNM. Based on core competences for the basic midwifery practice suggested by ACNM, each university has to comprise contents of curriculum. These core competences are to be revised every 5 years to meet changing social demands. Core competences for midwifery practice suggested by ACNM is as follows.

#### Core Competences for Basic Midwifery Practice

##### (1) Fundamentals

- 1) Anatomy and physiology, including fetal anatomy and physiology
- 2) Normal growth and development
- 3) Clinical genetics
- 4) Psychosocial, sexual, behavioral development
- 5) Basic epidemiology
- 6) Nutrition
- 7) Pharmacokinetics and pharmacotherapeutics
- 8) Principles of individual and group health education

##### (2) The Primary Health Care of Women

- 1) Health promotion and disease prevention
- 2) Management of Common Health Problems

##### (3) The Childbearing Family

- 1) Care of the childbearing women
- 2) Newborn Care

(Source: [www.midwife.org](http://www.midwife.org))

Core competences of a midwife suggested by ACNM include not just health care of pregnant women and newborns, but require an ability to provide lifelong health care of women to improve their health as well as

to prevent diseases, while focusing on the initial health care of healthy women.

**Midwifery education programs in Europe**

Midwifery practice in Europe is flourishing. Education systems differ by each country. In Britain, there is a CNM, a licensed midwife after completing one and a half years of a midwifery education with a nursing license, and a CM who is certified after completing a 3 year program of midwifery education. The programs are offered in colleges of nursing, medical schools, and hospitals. A CM is licensed in Germany after completing 3 years of midwifery education. In the Netherlands, universities offer 3-year midwifery education programs (Oh, 1988). In Sweden, midwifery education is established as a 4-year BS program in the university. The Curriculum of Karolinska Institutet in Sweden (former Stockholm University College of Health Science) among the European countries is as follows. (www.ki.se)

**Karolinska Institutet - Department of Woman and Child Health, Midwifery**

- (1) Elementary course 20 points
  - 1) Nursing science with emphasis on women's reproductive health (incl. scientific method 2 points) 5 points
  - 2) Medicine and natural science 5 points
  - 3) Sociology and behavioral science 10 points
- (2) Advanced course with emphasis on antenatal care and family planning 10 points
  - 1) Nursing science with emphasis on women's reproductive health 7 points
  - 2) Medicine and natural science 3 points
- (3) Advanced course with emphasis on delivery and

- family care 20 points
- 1) Clinical education 19 points
- 2) Medicine and natural science 1 point
- (4) Advanced course with emphasis on gynecological healthcare 10 points
  - 1) Nursing science with emphasis on women's reproductive health (incl. scientific method 3 points) 5 points
  - 2) Medicine and natural science 1 point
  - 3) Clinical education 4 points
- Total 60 points

The curriculum of the Swedish midwifery education programs includes broad knowledge on natural science, sociology, and behavioral sciences, which is fundamental in the understanding of the human as a whole. This program emphasizes not just health care of pregnant women, but a lifelong care of women's health. It also stresses scientific research capability and knowledge of a midwife with courses about diseases of the female reproductive system, knowledge of sexology, and scientific research methods.

**Midwifery education programs in Australia**

There are department of nursing and department of midwifery in the college of nursing at the University of Newcastle, Australia. Each program has a bachelor's degree program, postgraduate diploma program, master's degree program, and doctoral program. To be admitted to a midwifery education program, a candidate has to be a registered nurse and to complete a bachelor's degree program or equal qualifications, and also have at least one year of clinical experience or more. The curriculum consists of 4 continuous semesters, which are 15 months of regular course work and 12 months of additional

**Table 1.** Curriculum of the University of Newcastle-Australia; Graduate Diploma in Midwifery

Course Code	Course Name	Unit	Trimester
<b>Core Courses</b>			
NURS6090	Investigative method for clinical practice	10	1
NURS6169	Midwifery practice 1	10	1,3
NURS6170	Midwifery practice 2	10	1,2
NURS6180	Midwifery practice 3	10	2,3
NURS6520	Contemporary Midwifery	10	1,3
NURS6580	Midwifery practice issues	10	1,3
NURS6590	The childbearing women's and her family	10	3
<b>Elective course (1 of the following 3)</b>			
NURS6110	Conceptual framework for clinical practice	10	2
NURS6630	Collaborative practice in maternal and child health	10	2
NURS6640	Teaching and learning in the clinical context	10	2

Source: www.newcastle.edu.au

Table 2. Curriculum of the Midwifery education program in Japan

Courses	Units	Hours		Nursing	
		first semester	second semester	required	Elective
Introduction to midwifery	3	10/30*			1
Introduction to midwifery	3	20/30*			
midwifery methodology I	3	30/60*			2
midwifery methodology I	3	18/60*			
midwifery methodology I	3	10/60*			
midwifery methodology I	3	2/60*			
midwifery methodology II	3		12/30*		1
midwifery methodology II	3		8/30		
midwifery methodology II	3		6/30		
midwifery methodology II	3		4/30		
midwifery practice	4	225			5
midwifery practice	4	225			
midwifery practice	4	225			
midwifery practice	4	225			

\* midwifery course hours/total hours

Source: Department of Nursing, Midwifery Practice, Hiroshima Prefectural College of Health and Welfare

part-time clinical practice. A total of 80 units are required. Curricula of both the diploma program and the master's degree program are the same, but the degree program requires a thesis. The curriculum of the Midwifery program is shown in table 1.

The Australian midwifery education program stresses clinical practice, and allows students to take one elective course out of theoretic, practice of maternal and child health care, and pedagogy. If a master's degree is desired, a thesis is required.

#### Midwifery education programs in Japan

Midwifery education in Japan is offered with nursing education. Students who want to be a midwife are required to take midwifery courses in the nursing curriculum. When they complete the program and pass a national examination, they receive both a nursing license and a nurse-midwife license. The curriculum of the Midwifery program is shown in table 2.

#### Midwifery education programs in Korea

According to Korean public health and medicine related law, in order to be licensed as a midwife, a person who has a nursing license has to receive one additional year of midwifery education and pass a national examination. Midwifery education is offered in medical hospitals where at least 100 deliveries are done in a month, and the program includes course work and practice for 40 hours each week. The curriculum is as follows.

(Public Health and Welfare Act, Article 4)

(1) Courses	200 hours
1) Midwifery	80
2) Managing diseases of women's reproductive system	10
3) Managing newborn care	30
4) Maternal and child health care	40
5) Population and family planning	10
6) Managing anesthesia and pain	10
7) Ethics in midwifery	10
8) Laws related to maternal and child health care	10
(2) Midwifery practice	1,720 hours
(The practice can occur at midwife clinics in addition to hospitals and public health centers. During this practice, students must participate in more than 20 actual deliveries and present their reports to the head of the medical institution where they practice.)	
(3) Total hours of courses and practice	1,920 hours
(incl. more than 20 participations in actual deliveries per person)	

As stated in the law, midwifery education in Korea has occurred in many of the medical hospitals. However, most of these programs are currently closed except in a few hospitals because of diminished opportunities as a result of decreasing numbers of deliveries, and regulations mandating the presence of a doctor during practice.

### ***Role of a midwife and midwifery practice***

Midwifery practice in Korea is stipulated by law. A midwife is to conduct delivery and childbirth and to provide health care and nursing guidance for pregnant women, women who give childbirth or who recover from childbirth, and newborns. (medical affairs law chapter 1, article 2, clause 4)

This provision is ambiguous and general defining limits of midwifery practice, and it is not clear what can be done or what cannot be done by a midwife. Meaning of words like health care and nursing guidance can be broad or narrow depending on how they are interpreted. Later according to maternal and child health care law, a midwife is able to provide contraceptive treatment as a family planning staff, and provide services for maternal and child health care (including newborns and infants) at the public health center (Kim, Kang, Kim, Kim, Park, Cha, Choi, and Lee, 2001).

Since concrete rules and range of midwifery practice are not clearly documented, whenever a medical accident happens during a midwife's practice, her role is diminished, and the particular midwife gets criticized severely and restricted by doctors. Other negative influences to a midwife's role is malpractice by a few midwives, which results in a decrease of midwifery practice. The general public tends to put more trust in doctors than midwives, and deliveries done by midwives are decreasing, which now make up only 0.3% of all deliveries (www.nso.go.kr).

There are several points that can explain the decreasing number of deliveries by midwives: 1) the overall birthrate is down (1.17, Korea national statistical office, 2002); 2) the number of Caesarean operations has increased (39.2%, WHO recommend 5 - 15%, National health insurance corporation, 2002); 3) the profit from health insurance has diminished; 4) there are no incentives for midwives to work at hospitals; 5) hospital midwifery education programs are closed due to the declining number of deliveries at the hospital; and 6) decrease in number of midwifery clinics due to aging midwives (Kim, 2002).

For these reasons, the number of midwifery education hospitals and practicing midwives are decreasing in Korea currently, and fewer midwives are trained. Additionally, midwives who work in hospitals function as nurses rather than midwives, while the deliveries are done by doctors (Lee, 2001).

Starting from year 2000, there have been more

women who understand the value of normal delivery, while criticism against hospital delivery is rising. In hospital delivery, unnecessary examinations and mechanical treatment, and excessive number of Caesarean sections have raised questions. In 2000, the number of pregnant women seeking a midwife or a midwifery clinic is increasing. The number remains small, but more people, especially among women with higher education and economic ability, seek midwifery practice and receive greater satisfaction in the childbirth experience (Kim, 2002).

Since these changes are a very encouraging phenomena, midwives need to respond with sensitivity. They need to offer information to their patients, so that women themselves can select the location and method of delivery, and then provide a safe and satisfactory childbirth experience in a women-oriented and family-oriented setting respecting the women's decision. A midwife needs to act as a health professional who can fulfill various health care needs for all women, not just pregnant women. Also, they need to have an interest in socio-cultural problems, which can harmful women's health, and to play a role in counseling, education and support. WHO mentioned that midwife has an important task in health counselling and education, not only for women, but also within the community (www.who.int).

The demand to extend the range of midwifery practice is great in Korea. However, higher standards of midwifery practice and extended practice range of a midwife's role are yet to be actualized in our country.

### ***Strategies to improve the standards of midwifery education and to extend the role of a midwife in Korea.***

Childbirth has been with us from the start of human history, and the experience is about the same in any country or culture. A midwife provides health care to women who renew mankind for future society, and to children who are going to be major players in future. Childbirth is women's own privilege and a most creative role. Women can internalize their own values by childbirth and childcare experiences, and have an identity as a mother. A midwife has the opportunity to give these women and children valuable help (Lee, 2002).

Since midwifery is practiced 100% only by women, a midwife can provide health care to women from a female perspective in a male-oriented society. Delivery is not done by an obstetrician, but by women themselves,

which is a family affair. The whole procedure of childbirth has to be a family's own special experience, in which family members (especially husbands) participate. In this sense, a midwife has a right and responsibility to support and protect pregnant women as well as to educate and care for them using professional knowledge.

In this global society, information on midwifery education and practice has to be shared for the welfare of all mankind, and efforts are needed to improve the practice. Worldwide, women who go through delivery with a midwife can be classified into the two type of such as advanced country and underdeveloped country. In advanced countries, women with better economic conditions and a higher level of education want a midwife in order to have their own special experience of childbirth in a home-like surrounding. In underdeveloped countries, people who cannot afford hospital expenses seek a midwife to deliver their babies at a low cost (Kim, 2002; Lee, 2000; The International Nursing Foundation of Japan, 1999).

As Korea is becoming a more advanced nation, Korean women's awareness is awakened, and they are obtaining enough strength to make decisions about their health problems and to solve problems by themselves. Little by little, there are more women from upper middle class who desire to deliver their babies at a midwifery clinic. These people, who have doubts about the impersonal environment of a hospital, want to have a wonderful childbirth experience with their family in comfortable and casual surroundings offered at a midwifery clinic (Kim, 2002,). They introduce their own satisfactory experience to others through the internet (<http://www.blessbirth.com>). As an effort to meet these new needs, midwives have developed new ways of delivery such as underwater delivery, aroma delivery, and Kyongrak delivery (delivery using special massage techniques (<http://www.blessbirth.com>)).

The following strategies have been identified to improve the standards of midwifery education and practice, as well as to extend the role of a midwife in Korea.

First, midwifery education is to be offered in a nursing college as a master degree program or diploma program. Midwifery education has to be done in a master's degree program or more in a graduate school to meet various social demands and meet the international trend. With current midwifery education systems, which center around medical hospitals, high quality education is hard

to achieve, because it is difficult to offer a variety of courses, and there is shortages of teaching staff. Therefore, universities and nursing colleges have to be connected to produce professionals and leaders who can conduct education, research, and practice.

The establishment of a diploma midwifery program which is a graduate nursing program and prepares midwives for licensure and produces practice-oriented specialists is also suggested. A graduate of this program becomes an expert in practice even without a degree. If anyone among these diploma program midwives desires a master's degree, she can be admitted to the master's program.

Secondly, the target of midwifery practice and curriculum of midwifery education needs to include the health care of pregnant women and newborns, and be extended to include primary health care management for a woman's lifetime and children.

It is inevitable to extend the target and range of midwifery practice, because their services are needed in hospitals or midwifery clinics, local community health centers, postpartum care centers, women's health care centers, and newborn and infant care centers, not to mention their role as a family nurse. A midwife can be the most appropriate health professional to provide primary care for a family, because they make home visits while providing care of a maternity client and her children. Therefore, it is a global trend recommended by WHO that a midwife provides primary health care of women and their families.

Thirdly, courses such as natural science, behavioral sciences, sociology, and methodology have to be included in the curriculum.

A midwife is not a technician who just delivers babies, but a health professional provides care of women's health, in general. Therefore, it is necessary to have knowledge on natural science, behavioral sciences, and sociology, in addition to insight into social problems that can damage women's health. Since lack of research staff is a deterrence in improving midwifery education, its practice, and research, methodology has to be taught so that evidence based practice can be done by research workers.

Fourth, social issues that may gender discrimination in women's health have to be included in the curriculum as

well as the major practice areas.

A midwife has to provide health care not just to pregnant women, but to all women for health problems that occur during their lifetime, from puberty to menopause. She needs to offer information and support for women with teen pregnancies, a social problem by itself, unmarried single mothers, women with aids and sexually transmitted diseases, women victimized by domestic violence and sexual abuse, and empower these women to become problem-solvers for themselves. One third of female victims of domestic violence are pregnant. As a result, unfortunate cases of miscarriages, premature births, stillbirths, and underweight newborns occur. A midwife is in prim position to help these women and to educate them about ways to prevent and overcome problems. They can provide medical care and treatment, and make a request to preserve evidence. Thus, they can be a provider, an advocator, a counselor, and a health coordinator for these women.

Fifth, midwifery practice related law needs to be revised. Rights and responsibilities of health professionals including midwives are stipulated in medical affairs law as well as education systems and curricula. For international exchanges of midwifery education and practice, the present medical affairs law needs great revision to accommodate midwifery education systems, curricula and practice as suggested above. The midwifery practice portion of the medical affairs law needs to be revised in a way that defines the range of midwifery clearly, so that a midwife and her practice are legally protected and supported.

Sixth, core competence for a midwife for basic practice and standards and ethical principles of practice should be established and publicized, and then the education and practice should be implemented based on them.

All midwives in Korea are responsible to provide basic midwifery practice safely to anyone, anywhere. Therefore, the Korea Midwives Association(KMA) has to establish core competences, standards and guidelines to be followed in basic midwifery practice for Korean midwives and foreign midwives working in Korea. This is essential in evaluating foreign midwives and international exchanges. Ethical practice of professionals is more important than any other aspect of practice. A sense of morality best prevents medical accidents in midwifery practice. Based on ethical understanding and philosophy,

principles need to be established to protect each midwife and her patients.

Finally, an evaluation center of midwifery education has to be established to examine midwifery education programs and to renew midwifery licenses.

The midwifery practice task analysis is conducted at regular 5-year intervals to develop the core competencies of midwifery practice, and a midwifery education institution has to establish curriculum to achieve these competences. The evaluation center examines midwife education programs at each university and encourages attainment of higher quality education. National examination for midwife licensure has to properly test competencies of midwifery practice. Renewal of a midwife license requires continuing education and reevaluation.

## CONCLUSION

Midwife education programs for several countries were analyzed, and the core competencies of basic midwife practice and standards are discussed. Strategies are identified to improve standards of midwife education and practice as well as to extend the role of midwives in Korea.

The health care of women and children cannot be emphasized enough for the welfare of mankind. A midwife is a health professional who can be the most available and appropriate agent in managing the health care of women and children, and it is imperative for them to continually improve their knowledge base and extend their role based on social needs and global tendency.

Midwifery education needs to be upgraded to a master's program, and the range of practice has to be extended from health care of pregnant women to a lifelong health care of women. Midwives need to serve as primary health professionals caring for children and families, and be sensitive to social issues, which can be harmful to women's health. To accomplish all this, legal protection for a midwife and her practice is necessary.

A midwife is a health professional, who has received one year of education and passed a national examination for licensure as a registered nurse. However, this license cannot last for a lifetime. Midwifery education programs and practice need to be evaluated periodically in order to improve standards and practice, and a more intense system to renew licenses must be established so that a midwife can update her knowledge and consider

trends, which would make international exchanges possible. Clear boundaries have to be set among the role of doctors, midwives, and nurses, and there needs to be opportunities available for a midwife to carry out the health care of healthy women. There also has to be a reward equivalent to her educational investment and her role as a professional established. This may result in more student interest in midwifery education programs, and midwives feeling a sense of satisfaction and achievement, so that they can realize their own potential as midwives by combining occupation and personality.

## References

- Ahn, D. S. (2002). Strategies on medical manpower according to public health services negotiation by WTO/DDA, *Report on Korean Midwives Association*.
- Byun, S. J., Park, Y. S., Moon, K. N. (2002). A task analysis of Korean nurse-midwife practice, *Report of National Health Personnel Examination Board*.
- Fullerton, J. T, Johnson, P. & Oshio, S. (2000). The 1999 ACC task analysis of nurse-midwifery/midwifery practice Phase I: The instrument development study, *J of Midwifery & Women's health*, 45(2),150-156
- Kim, D. S., Kang, I. H., Kim, Y. H., Park, Y. J., Cha, K. M., Choi, Y. A., Lee, S. E. (2001). *Public health and Medical Law and Acts*, Seoul: SooMoonSA.
- Kim, S. O. (1992). *A study on the role awareness and practical problems among self-employed midwives*, Unpublished theses of Master Degree in Graduated school of Administration, Han Young University
- Kim, H. S. (2002). *The comparison of perception of birth experience to women who had traditional hospital delivery and those who selected their type of delivery*, Unpublished theses of Master Degree in Graduated school, Ewha Womans University.
- Oh, S. J. (1998). *Comparison of midwifery system in international*, Unpublished theses of Master degree in Graduate school of Public health, Seoul National University.
- Oshio, Sachiko, Johnson, Peter & Fullerton, Judith (2002). The 1999-2000 Task analysis of American nurse-midwifery/ midwifery practice, *J Midwifery & Women's Health*, 47(1), 35-41
- Lee, K. H. (2000). Midwife's role for mother and Infant wellbeing, *Korean Parent-Child Health J*, 3(2),67-80.
- Lee, K. H. (2000). Midwife's role for Natural Childbirth, *J Korean Midwives Assoc*, 10, 7-15.
- Lee, K. H. (2002). The study for international standards of midwife education and improvement of level of the National examination, *Korean Parent-Child Health J*, 5(2), 145-160
- The International Nursing Foundation of Japan (1999). Family health and Quality of life (QOL) in Nursing; The Elderly, Women and Children, *Proceeding of the 25th Senior Nurses International Workshop*, Tokyo, Japan
- Curriculum of Hiroshima Prefectural College of Health and Welfare, Japan
- Curriculum of Karolinska Institutet, Department of Women and Child Health, Stockholm, Sweden
- <http://www.nso.go.kr>
- <http://www.nhic.or.kr>
- <http://www.ki.se>
- <http://www.midwife.org>
- <http://www.internationalmidwives.org>
- <http://www.ccdb.newcastle.edu.au>
- <http://www.who.int>
- <http://www.blessbirth.com>