

Building a midwifery profession in South Asia

Malin Bogren

Institute of Health Care Sciences at
Sahlgrenska Academy at the University of Gothenburg



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bogrenupper@gmail.com

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ABSTRACT

Midwives are key professionals in improving maternal and child health globally, but establishing a midwifery profession in low-income countries is proving to be difficult. The overall aim of this thesis was to explore the situation and building of a midwifery profession in South Asia, and to reveal how influential actors are connected to one another in the building of a profession, especially in Nepal and Bangladesh.

A mixed-methods approach was applied, combining qualitative and quantitative methods to gather and analyse data. Study I involved data collected through three questionnaires with closed- and open-ended questions, constructed by the International Confederation of Midwives (ICM) and the United Nations Population Fund (UNFPA) *Investing in Midwives Programme*, used at a regional workshop in Bangladesh. Study II comprised a review of policy documents; semi-structured interviews; and structured observations of competence and equipment at university colleges and hospital maternity departments in Nepal, building of the ICM's Global Standards, and JHPIEGO's (Johns Hopkins Program for International Education in Gynecology and Obstetrics) site assessment tool for maternal and newborn programmes. The two last studies used a Complex Adaptive Systems approach to explore how actors representing the establishment of a midwifery profession in Nepal (Study III) and Bangladesh (Study IV) connected to one another in this establishment. Data were collected through semi-structured interviews with 17 actors in Nepal (Study III) and 16 actors in Bangladesh (Study IV). The analyses were descriptive statistics and content analysis (Studies I and II), and qualitative analysis (Studies III and IV).

The results showed that none of the six countries in South Asia had obtained full jurisdiction for the midwifery profession to autonomously work within its full scope of practice (Study I). In Nepal it was feasible to establish a midwifery profession separate from the nursing profession, and the study delivered a proposed strategy to support this (Study II). The actors' connections for the establishment of a midwifery profession in Nepal can be described with a complex set of facilitators for and barriers to promoting the establishment of a midwifery profession. A driving force for collaboration was that they had a common goal to work towards reducing the country's maternal and child mortality. The main opposing factors were different political interests and priorities, competing interests from the nursing profession, and divergent academic opinions on a midwifery profession (Study III). In Bangladesh, the system actors for promoting the establishment of a midwifery profession connected through a common goal to reduce maternal and child mortality and morbidity in the country. To achieve this goal, actors contributed their unique competence, which resulted in curriculum development and faculty development plans. A main challenge the collaboration faced were the different interests and priorities influenced by individual philosophies versus organisational mandate (Study IV).

The conclusion of this thesis is that a fundamental step in establishing a midwifery profession with professional status and formal control of the profession and its work requires a comprehensive approach. It is acknowledged that focusing on education alone is not enough to establish a midwifery profession. Support for building educational infrastructure, resources, and regulation systems are also required to establish the midwife as a separate profession that can meet the needs of women and children. A prerequisite for ensuring that midwives can meet the needs of women and children is that the profession is aligned with national policies, and that midwifery strategies are in place to guide the establishment forward. Such an approach will require close connection among all involved actors in terms of their ability to collaborate and utilise each other's unique competence to achieve results.

Keywords: midwifery profession, midwife, midwifery education, midwifery strategy, South Asia, Complex Adaptive Systems, mixed-methods approach

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SAMMANFATTNING PÅ SVENSKA

Introduktion

Bland Förenta Nationernas globala millenniemål för 2015 hade ökad mödraöverlevnad lägst måluppfyllelse. Mödra-och barnhälsan är sämst i låginkomstländerna. En viktig faktor för att förbättra mödra-och barnhälsa är välutbildade barnmorskor men i många låginkomstländer finns inte barnmorskor inrättade, eller har existerande barnmorskor otillräcklig kompetens. Detta bidrar till hög andel förlossnings- och nyföddhetskomplikationer.

Syfte

Det övergripande syftet med denna avhandling var att kartlägga barnmorskesituationen och etableringen av en barnmorskeprofession i sex länder i södra Asien, samt studera hur aktörer samverkade i denna etablering, med fokus på Nepal och Bangladesh. *Studie I* gav kunskap om barnmorskesituationen i Afghanistan, Bangladesh, Butan, Indien, Nepal och Pakistan. I *Studie II* studerades om, och i så fall hur det var möjligt att etablera en barnmorskeprofession i Nepal. I *Studie III och IV* studerades hur aktörer som främjade etablering av en barnmorskeprofession samverkade med varandra, dels i Nepal (Studie III) dels i Bangladesh (Studie IV).

Metod

I *studie I* samlades data in via tre frågeformulär konstruerat av International Confederation of Midwives (ICM) och FN's befolkningsfond (UNFPA) *Investing in Midwives Programme*, vid en regional workshop i Bangladesh, 2010. Data analyserades med beskrivande statistik och kvalitativ innehållsanalys.

I *Studie II* genomfördes tre olika datainsamlingsmetoder, (1) översikt av policy dokument, (2) 21 individuella intervjuer och (3) observationer av fem lärosäten i Nepal och deras förlossningsenheter där ICM's globala standards och Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPIEGO's) verktyg för mödrahälsa och nyföddhets program användes. Data analyserades med beskrivande statistik och innehållsanalys. Analysen resulterade i en föreslagen strategi för att stödja etableringen av en kompetent barnmorskeprofession i syfte att främja mödra-och barn hälsa i Nepal.

I *Studie III och IV* användes teori om komplexa adaptiva system för att studera hur aktörer som främjar barnmorskeprofessionen i Nepal och Bangladesh samverkade med varandra i detta etablerande. Datainsamlingen genomfördes med 17 intervjuer med personer som arbetade för organisationer som främjade etableringen av barnmorskeprofessionen i Nepal (Studie III) och 17 intervjuer med personer som arbetade för organisationer som främjade etableringen av barnmorskeprofessionen i Bangladesh (Studie IV). Analysen genomfördes med kvalitativ analys.

Resultatet visar att:

- Barnmorskeprofessionen i Afghanistan, Bangladesh, Butan, Indien, Nepal och Pakistan saknade nationell lagstiftning som erkände barnmorskan som ett självständigt yrke. De viktigaste rekommendationerna som framkom för att förbättra barnmorskeutbildningen i de sex länderna var: utveckling av lagstiftning, förstärkt formell barnmorskeutbildning, stärkt professionellt värde och en bättre utbildningsmiljö vid lärosätena (publikation I).
- I Nepal fanns det inga utbildade barnmorskor men det fanns sex olika utbildningar till att bli sjuksköterska. Det var sjuksköterskorna som utförde arbetet inom barnmorskans verksamhetsområde, utan att ha den formella kompetensen. Det fanns fyra lärosäten som hade kapacitet att starta en barnmorskeutbildning men det framkom att barnmorskeprofessionen först behövde integreras i den nationella hälsopersonal policyn, innan utbildningen kunde startas. Studien levererade en föreslagen strategi för att stödja etableringen av en kompetent barnmorskeprofession i syfte att främja mödra- och barn hälsa i Nepal (publikation II).
- Aktörerna som arbetade för att främja etableringen av barnmorskeprofessionen i Nepal samarbetade på tre nivåer – den politiska, den akademiska och den professionella. En drivkraft för samverkan var att aktörerna hade ett gemensamt mål att minska mödra- och barnadödligheten i landet. Hindrande faktorer för samverkan spelade en stor roll. De viktigaste hindrande faktorer var olika politiska intressen och prioriteringar, konkurrerande intresse från sjuksköterskeprofessionen och olika åsikter om vilken akademisk nivå som barnmorskeprofessionen skulle vara på (publikation III).
- Aktörerna som arbetade för att främja etableringen av barnmorskeprofessionen i Bangladesh samverkade genom att arbeta mot ett gemensamt mål vilket var att minska mödra- och barnadödligheten i landet. För att uppnå detta mål, bidrog alla aktörer med sin unika kompetens vilket hade resulterat i utarbetade kursplaner och utbildning av barnmorskelärare. En viktig utmaning för samverkan var de olika intressen och prioriteringar som påverkades av enskilda aktörers åsikter och mandat av organisationen de arbetade för. En annan utmaning var bristen på kommunikation mellan aktörerna vilket många gånger berodde på bristande resurser t.ex. personal och elektricitet (publikation IV).

Konklusion

Barnmorskeprofessionen i de sex länderna uppfyller inte tillfullo kriterierna för en självständig profession. Inget av de sex länderna hade erhållit full behörighet att arbeta självständigt inom sitt verksamhetsområde. Avhandlingen bidrar med ökad kunskap och strategier för hur man etablerar en barnmorskeprofession vilket är nödvändigt för att förbättra och främja hälsan hos mödrar och nyfödda barn. Etableringen av barnmorskeprofessionen är beroende av ett nära och öppet samarbete och kommunikation

mellan alla inblandande aktörer. Genom att inrätta barnmorskor och därmed förbättra mödrars och nyfödda barns hälsa, behöver alla inblandade aktörers unika kompetens tas till vara och användas. Detta kräver goda relationer mellan de inblandade. Avhandlingen levererar rekommendationer till olika nivåer av beslutsfattare, civilsamhället, akademien och bi-och multilaterala organisationer för att etablera en barnmorskeprofession. Avhandlingens resultat kan främst användas i Sydasiens men kan även komma till nytta i andra länder med liknande behov av att inrätta tjänster för professionella barnmorskor med internationell vedertagen standard.

LIST OF PAPERS

This thesis is based on the following studies, referred to in the text by their Roman numerals.

- I Bogren Upper M, Wisman A, Berg M. Midwifery education, regulation and association in six South Asian countries – A descriptive report.
Sexual and Reproductive Healthcare 2012; 3: 67-72.

- II Bogren Upper M, van Teijlingen E, Berg M. Where midwives are not yet recognized: A feasibility study of professional midwives in Nepal.
Midwifery 2013; 29:1103-1109.

- III Malin Upper Bogren, Marie Berg, Lars Edgren, Edwin van Teijlingen, Helena Wigert. Shaping the midwifery profession in Nepal: A qualitative study on collaborations and struggles between actors.
Submitted

- IV Bogren Upper M, Wigert H, Edgren L, Berg M. Towards a midwifery profession in Bangladesh – a systems approach for a complex world.
BMC Pregnancy and Childbirth 2015; 15:325.

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ABBREVIATIONS

CAS	Complex Adaptive Systems
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
ICM	International Confederation of Midwives
ICPD	International Conference on Population and Development
MDG	Millennium Development Goals
MMR	Maternal Mortality Ratio
SBA	Skilled Birth Attendants
UNFPA	United Nations Population Fund
WHO	World Health Organization

PREFACE



The starting point for what has resulted in this PhD thesis can be traced back to when I was an adolescent and decided to devote my life working abroad, especially in a low-income setting. The decision to work abroad and to contribute some kind of competence guided the direction of my educational choices. I graduated as a registered nurse from Halmstad University College in 1994, worked as a nurse in Sweden, and then specialised as a registered midwife in 2000 and started working at a delivery ward in Gothenburg. After that came years of working as a midwife in England, Norway, Sri Lanka and Sweden.

My interest in South Asia and building a midwifery profession there started in 2007 when I was accepted for a SIDA-funded post at the United Nations Population Fund (UNFPA) in Dhaka, Bangladesh, as an International Technical Midwifery Specialist. My role was to support the establishment of a midwifery profession in Bangladesh, where the profession was not recognised. At the time I had no idea what this job would ultimately mean to me. Arriving in Bangladesh with my Swedish norms, standards and experience of who a midwife is, I quickly realised that what I meant when I talked about the midwife as an autonomous profession was far from what was discussed in Bangladesh, and also later during my years in Nepal and Afghanistan. There was confusion in the term midwife, and disagreement as to who a midwife is and the scope of work the profession is able to perform. For me, as a woman and a midwife, it has not always been easy to convince decision-makers of the importance of their country investing in a midwifery profession. But by building my arguments and presentations on existing evidence, I found an opening in the discussions and opened up the dialogue on the establishment of the profession. This is one of the important reasons why this thesis has come about, to present the evidence on the existing midwifery situation in South Asia and provide some evidence-based recommendations for policy implications in this establishment. But, equally important, this research and its recommendations can probably be useful in other countries with similar challenges where the midwifery profession is yet not established.

BACKGROUND

Global maternal health situation

Maternal health refers to the health of women during pregnancy, childbirth and the post-partum period, and is inextricably linked to child health outcomes. Central health care activities for promoting maternal and newborn health, and preventing maternal and newborn disability (morbidity) and death (mortality),¹ are family planning and preconception advice, as well as prenatal, childbirth and post-partum care [1].

Complications resulting from pregnancy and childbirth remain the leading cause of maternal morbidity and mortality [2]. It is estimated that 303,000 women died of such complications in 2015 [3]. The major direct causes of maternal morbidity and mortality are haemorrhage as the leading cause, followed by unsafe abortion, hypertensive disorders, infection, and obstructed labour [4]. The majority of these deaths occur in developing countries [2, 4]. There has been a decline in the global maternal mortality ratio² (MMR) from 380 maternal deaths per 100,000 live births in 1990 to 216 in 2015 [3]. This decline can be explained by the global strategies to increase the availability of family planning, safe abortion, antenatal care, and skilled attendance during pregnancy, childbirth and the post-partum period [5].

Maternal health is a human rights concern [6-8]. The recognition of maternal health and rights gained a foothold at the United Nations International Conference on Population and Development (ICPD), held in Cairo 1994. The conference brought together representatives from 180 countries, which ultimately adopted the ICPD Programme of Action, with goals for 2015, and recognised women's health as central in sustaining global development efforts. In 2000 this plan was translated into the Millennium Development Goals (MDGs), and the importance of maternal health was seen as a core element of a comprehensive reproductive health package. To improve maternal health, the fifth of the eight MDGs was set as a target to reduce MMR by 75% by 2015 [9-12]. Although substantial global efforts have been made, maternal health targets are proving to be the hardest to achieve across the developing world, and it will take many years past 2015 to reach them [4, 11, 13].

Despite the human right to health, there are major disparities in maternal and newborn health and death between wealthy and poor countries. It is well known that health specifically that of women during pregnancy and childbirth is affected by socio-economic factors such as education, household wealth, and place of residence [14]. It is also influenced by health care systems; the greatest burden of ill health among women and newborns is concentrated in places where health services are inadequate or unavailable [15].

Four key factors have been identified as determining whether a health system and its workforce provide effective coverage: availability, accessibility, acceptability, and

¹Maternal death is defined as the death of women during pregnancy or childbirth, or in the 42 days after delivery.

²Calculated as the number of maternal deaths (per 100,000 live births).

quality [15]. This means that maternal and newborn health care-related facilities must be available in the nearby community, that the health system poses no financial barrier to accessing health care, and that the health facility is of good quality with competent and enabled health professionals. This includes providing safe and high-quality care to women and the fetus/newborn during pregnancy, labour and the post-partum period, in both rural and urban areas [16-20]. Hence, women should be assisted by a skilled, competent health care professional who has the necessary competence and resources in place, to provide safe and high-quality reproductive, maternal and newborn care [16-21].

What health care professional competencies are needed to improve maternal and newborn health?

As it is evident that skilled and competent care before, during and after childbirth is needed to improve maternal and newborn health [16, 18-25], the following section will examine what this competence and these skills should comprise.

In the context of the international public health community's consensus on skilled and competent attendants to improve the health of women and newborns, midwifery competencies practiced by midwives are recognised as essential [16-20]. But who is the midwife? According to the global professional organisation for midwives, the International Confederation of Midwives (ICM): "*A midwife is a person who has successfully completed a midwifery education programme that is recognised in the country where it is located and that is based on the ICM Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery*" [26].

Although there is internationally consensus that a midwife is the preferred profession for caring for women before, during and after uncomplicated childbirth [16-20], rather than educating midwives who have fulfilled such midwifery programmes according to these international standards [27-29], the education of health care staff expected to provide skilled birth attendance varies widely from country to country. It is noted that some countries have instead focused on providing shorter training with fewer skills, and introduced these health care workers as Skilled Birth Attendants (SBA) as a separate cadre to care for women before, during and after childbirth [25, 30]. As a result, this has led to various cadres of multipurpose health care workers who lack the full set of the ICM-defined midwifery competencies [21, 25, 27, 30-34] and have a more restricted scope of practice than professionals, i.e. midwives. Such health care workers may differ between countries in terms of designation, job description and responsibilities [35].

The term "skilled birth attendant", SBA, was first defined in 2004 by WHO in collaboration with partners as a response to the need to improve maternal and newborn health. The SBA was introduced as a means to reduce maternal and newborn deaths through providing midwives, nurses and doctors with selected midwifery skills and train them to proficiency in these skills. According to WHO, an SBA is "*an accred-*

ited health professional – such as midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns” [36].

In this definition of an SBA, it is stressed that an SBA should be an accredited health professional, such as a midwife, doctor or nurse, with midwifery skills. The compulsory skills [36] here refer to essential core midwifery skills for basic midwifery practice [27, 36]. Thus, SBA is an umbrella concept for competencies essential for health care professionals to manage normal (uncomplicated/low-risk) pregnancies, childbirth and the immediate postnatal period as well as the identification, management and referral of complications of women and newborns. As these competencies are in accordance with the ICM’s Essential Competencies for Basic Midwifery Practice, they are equivalent competencies for a fully qualified midwife [34].

The problem with some countries introducing SBAs as a separate health care provider with less training and skills is that the term SBA is often used loosely and has taken on a number of different meanings, and thus increased confusion regarding who can be considered an SBA. Another problem is that in the countries that have introduced SBAs as a separate cadre there are no standardised education or regulation processes [25, 30, 37]. Thus, health care workers who have undertaken a shorter training than suggested by the international standards do not fall under the term SBA.

A health care system that relies on health cadres with insufficient midwifery competence is dangerous to the childbearing and birthing women, their children, families, and the whole community. Against this background, the international focus has shifted from talking about midwifery skills to midwifery competencies – the combination of knowledge, skills, attitude, and professional behaviour that quality midwifery care requires [38].

Professional midwives as a solution for improving maternal and newborn health

The returns of investing in professional midwives educated and regulated according to the ICM’s global standards are significant. According to a 2014 series on midwifery in *The Lancet* [16-19], midwifery care provided by midwives who are well educated, licensed and regulated could prevent over 80% of all maternal and neonatal deaths and stillbirths. To achieve these figures and ensure the provision of safe reproductive health care, maternal and newborn services, investment in high-quality midwifery care provided by midwives educated according to the ICM’s definition of a midwife is imperative [16-19].

It is well known that ensuring access to midwifery services carries significant advantages to maternal and newborn health outcomes, including effective referral to facilities in case of complication. This has been fundamental in most of the countries that have succeeded in reducing maternal mortality and morbidity. The history of midwives in Sweden is well documented and a revealing example in this respect. The country has a unique history regarding the role of midwives integrated into the health system, and the dra-

matic reduction in maternal mortality in the last century has been partly attributed to this role [39]. This has been achieved through midwives' involvement in all aspects of women's sexual and reproductive health, including the prevention of unwanted pregnancies, pre- and postnatal care, skilled delivery at birth, and health education. Swedish midwives still have a unique level of autonomy in the Swedish health system [23, 39, 40], which besides giving care in relation to the episodes of pregnancy, childbirth and postnatal care, also includes contraceptive counselling and prescription [41] and the administration of medical abortions [42].

Most developed countries have followed a path similar to Sweden's; as have some countries that were classified as low-income at the time of their success in reducing their maternal deaths, for example China, Cuba, Iran, and Malaysia, Sri Lanka and Thailand. These countries have all reduced their maternal mortality ratio, using strategies that in different ways include maternal health policy development, health systems improvements, and increased investment in education and deployment of midwives [43]. Through the development of regulation and the professionalising of midwives, the midwifery profession has become a respectful and attractive profession in these countries. Similarly, by emphasising a long-term plan for strengthening the health care system, supported by political will, they have succeeded in reducing their maternal and child mortality [23, 25, 43]. There are many countries that have not followed this pathway, however, instead maintaining considerable variation in the organisation of midwifery services and in the education, regulation and role of midwives. These countries show poorer maternal health outcomes [20, 25].

What comprises a profession and thus a midwifery profession?

Although midwives are recognised as a separate profession in many countries, the progress in others is slow [20, 24]. To understand what makes some countries successful and others less so in their establishment of a midwifery profession, it is of value to gain knowledge about what it is that makes a profession a profession.

According to the sociology of profession as described by Evetts [44], there appear to be three key concepts to consider in discussing any professional work: one concerns what the concept of profession is; the second professionalisation; and the third professionalism [44]. These concepts will be introduced one by one, after which they will be approached and applied to the midwifery profession.

The concept of profession

The concept of profession has been much disputed. According to Evetts [44], the reason for this is that defining special characteristics about what a profession is does not support an understanding of the power of particular professional groups. There is no universally agreed-on definition of what a profession is; however, it can be seen as an occupation that somehow reduces risk and uncertainty in our lives and looks after our wellbeing, soul and body. Synthesised research on professions suggests a number of essential characteristics for a profession. It should include: a scientific body of knowledge and trained skills; licence to practice; autonomy; and an ethical code and formal recognition by society [44-47].

The concept of professionalisation

The concept of professionalisation is understood as the process of the profession attaining status. This process is defined as a collective effort, e.g. through professional organisation. A professional organisation plays an important role of the professionalisation of a profession, due to its influence on change and innovation. The organisation defines the professional work, standardises work methods and forms professional status [48]. Similarly, the professional organisation develops and maintains the market closure of the occupational group. This improves the social standing and creates a change in the professional status position, and through a knowledge-based monopoly protection of the occupational jurisdiction, it promotes the professional power and establishment [44, 48-51].

Professional jurisdiction can be obtained in different forms and arenas. Full jurisdiction is achieved when the relevant work task becomes protected through the legal system that legitimises the profession to perform certain services but excludes others. Another arena is linked to social and cultural authority, and builds on public trust and acceptance of the profession's services. Professions advance their jurisdictional claims to guard their body of knowledge, specific work tasks and professional interests to protect the link between the profession and its work [50]. Scientific knowledge plays a key role in the professionalisation process, and consequently forms the professional identity. This means that a formal university education is a central strategy in the process of establishing and strengthening a profession. A higher professional education is based on science and academic subjects and provides scientific authority, legitimacy and confidence from the government and the public, which are thus prerequisites for maintaining a profession's jurisdiction [50, 52].

The concept of professionalism

The concept of professionalism includes the occupational value and is built on trust, competence, a strong occupational identity and collegial co-operation. Occupational value is understood as something worth maintaining, and promotes the work by and for workers. Such work is of distinct value to either the public or the interests of the state. Professional value emphasises a shared identity based on competencies and licensing. It also includes a reassessment of quality of service and of professional performance [44, 53].

According to the literature, the concept of professionalism builds on education and training for a specific specialisation and represents occupational control, commitment and regulation, which constitute an important component of civil society. Similarly, it symbolises a self-governing accountability which marks autonomous professional practice and provides an exclusive ownership within a certain area of expertise [44, 49, 51], guided through a code of conduct and an ethical code [54]. Additional aspects are autonomy in decision-making and collegial work relations, and support rather than hierarchical, competitive or managerial control [44, 51].

Midwife as a profession

Grounded on the three concepts of profession, professionalisation and professional-

ism [44], how does the midwife as an occupation globally turn itself into a grounded profession? Examining the evidence of components necessary for establishing the midwife as a profession, a summary of research has identified common characteristics [8, 34, 38, 55-60] all similar to what the research on profession asserts [44-47]. The components for the establishment of the midwifery profession should comprise: a unique body of knowledge and skills; a clear statement of ethics; a defined scope of practice; self-governing-autonomous and formal recognition by society [8, 34, 38, 55-60].

The professionalisation of midwives takes its starting point at an international organisational level. The global voice for midwives and midwifery is the ICM [26]. The ICM has the responsibility of developing midwifery as a profession and ensuring that those who use the title of midwife are appropriately qualified, i.e. they possess the competencies which enable them to provide quality midwifery care [27-29]. The ICM has defined the concept of professional midwife and professional midwifery practice as “a fully qualified midwife educated as per the international definition of a midwife” [38].

The professionalisation and professionalism of midwifery go hand in hand. The ICM speaks of three pillars for establishing/strengthening the midwifery profession, which are interlinked to provide a robust basis of what it means to be a professional midwife and likewise to maintain midwifery professionalism: education, regulation and association. Based on these pillars, the ICM has developed global standards [27-29, 61] for midwives to acquire: competencies needed to be a professional midwife in relation to essential competencies for midwifery practice, midwifery education, and regulation including founding values and principles with the support of a professional association. These global standards provide a professional framework that can be used by all involved actors, including the governments, to establish/strengthen the midwifery profession and raise the standard of midwifery practice in their jurisdiction [29].

To maintain a body of knowledge, educational standards have been developed to cover core competencies necessary for midwifery practice and the scope of midwifery practice, including the minimum expected requirements for a quality midwifery programme and competence-based education. The midwifery education standards set benchmark criteria based on global norms to prepare professional midwives to provide high-quality care for women and their families [27, 28, 58].

To build and maintain the profession, standards for regulation protect the public by ensuring that high-standard care is provided by competent and registered midwives, who work autonomously within their full scope of practice, including codes and conducts of ethics [29]. To support midwifery organisations at the country level, a framework has been developed to support the development of a strong non-profit professional midwifery organisation. Such an organisation is considered essential for protecting women’s health and rights as well as the rights of practicing midwives, and for organising the professional fields of midwifery, e.g. education, knowledge, skills, codes and conducts of ethics, certificates and disciplines. A midwifery association can contribute to a better health care system through interdisciplinary professional interaction, lobbying and awareness [62, 63].

Using a systems approach to understand the establishment of a midwifery profession

To understand how actors connect in promoting the establishment of a midwifery profession with the three pillars of education, regulation and professional association, a Complex Adaptive Systems (CAS) approach has been used. As a body of evidence, this demonstrates that a CAS approach is a powerful conceptual lens for exploring important connections within a system, for example a health system or an educational system, as well as understanding tensions and conflicts concerning governance. The CAS approach has been applied in different areas such as engineering, economics, management, education, public health [64-66] and nursing [67, 68]. The proposed benefits of this approach tend to be that it: focuses on relationships rather than linear cause-and-effect models; challenges taken-for-granted assumptions; can be applied in many contexts; provides a framework for categorising and analysing knowledge and agents/actors; and provides a fuller picture of the forces that influence change.

In CAS, the term “complex” emphasises that the necessary competence to perform a task or fulfil a mission is not owned by any one part, but comes as a result of co-operation within a system. “Adaptive” means that system change happens through successive adaptations. A CAS consists of several subsystems called agents (in this thesis, actors) which act in dependence on one another. How actors in a system connect and relate to each other is crucial for the survival of the system, so the relationships between the actors are generally seen as more important than the actors themselves when applying a CAS approach [69]. The CAS approach is based on the theory that through self-organisation, order is created out of many interactions, often governed by simple rules, and changes are triggered by feedback loops [64, 65].

Viewing the establishment of a midwifery profession through the lens of a CAS framework makes it possible to explore the connections between system actors working to promote the establishment of a midwifery profession. The framework of CAS is used in Studies III and IV to explore different actors such as governments, bilateral and multilateral organisations and international non-governmental organisations, along with professional organisations and academic institutions, in Bangladesh and Nepal.

A system will not function optimally when there are poor relationships between its actors [64, 65]. Meanwhile, some systems have stronger links while others may be more loosely coupled [64].

Through the use of the CAS approach as a means to describe and analyse data, insight will be gained into what goes on within the system and how the entire system functions, as well as how the system actors relate to one another to fulfil its mission of promoting maternal and child health and wellbeing through establishing a strong midwifery profession. Similarly, knowledge for future policy planning for human resources will be added and consequently improve the health of women and newborns by providing access to educated midwives according to international standards.

RATIONALE OF THE THESIS

As described, maternal and child health needs to be promoted. According to evidence, there is a need for competent and skilled health care professionals who have the necessary competence and resources to provide safe and high quality reproductive, maternal and newborn care [16-21]. This thesis is based on the fact that there is a need for professional midwives, i.e. those who have all the characteristics a profession must have, such as a scientific body of knowledge and trained skills; licence to practice; autonomy; an ethical code; and the formal recognition of society. Although there are many factors affecting the outcome of maternal and newborn health, such as socio-economic factors [14] and the availability of adequate health care services [15], this thesis investigates what is required to build a midwifery profession according to international standards in order to obtain jurisdiction in the legal, public and work arenas to protect the link between the profession and its work.

Such knowledge is important in future strategies addressing human resources that effectively promote and improve maternal and newborn health. This knowledge will have an extensive impact on the sexual, reproductive and perinatal health agenda, and in the long term may contribute to poverty reduction and gender equality.

AIM

Overall aim

The overall aim was to explore the situation and building of a midwifery profession in South Asia, and to reveal how influential actors connect to one another in the building of a profession, especially in Nepal and Bangladesh.

Specific aims

- Study I* Explore the situation of midwifery education, regulation and association in six South Asian countries (Paper I)
- Study II* Explore the feasibility of establishing a professional midwifery cadre in Nepal that meets the global standards of competencies, and define a strategy for achieving this (Paper II)
- Study III* Explore how actors connect in a system aiming at promoting the establishment of a midwifery profession in Nepal (Paper III)
- Study IV* Explore how actors connect in a system aiming at promoting the establishment of a midwifery profession in Bangladesh (Paper IV)

METHODS

Design

This thesis can be seen as having two parts: firstly, there was a focus on exploring the midwifery situation in six South Asian countries (Study I) with a focus on Nepal (Study II); and secondly, there was a focus on exploring how influential actors are connected to one another in this profession-building in Nepal (Study III) and Bangladesh (Study IV). This required an approach of combined-methods research through the use of a mixed-methods design [70].

A mixed-methods explorative design was used to get a comprehensive description and understanding of the study area as a whole [70]. Qualitative methodologies were used to gain deeper understandings and explanations about the content and meaning of the data, while quantitative methods made it possible to describe the results through descriptive statistics [71]. An overview of the research designs is presented in Table 1.

Table 1. An overview of the design of the studies in the thesis

Studies	Designs	Data	Analysis
I	Explorative, descriptive and comparative	Questionnaires with closed- and open-ended questions	Descriptive statistics and content analysis
II	Explorative and descriptive	Review of policy documents; semi-structured interviews; structured observations of competence and equipment of university colleges and hospital maternity departments	Descriptive statistics and content analysis
III-IV	Explorative and descriptive	Semi-structured interviews	Qualitative analysis

Settings

Six South Asian countries are in focus in this thesis – Afghanistan, Bangladesh, Bhutan, India, Nepal, and Pakistan (Figure 1) (Study I) – with special focus on Bangladesh and Nepal in Studies II, III and IV. From a global perspective, South Asia has the highest maternal and child mortality ratio after the countries in sub-Saharan Africa [2, 4, 72]. Despite progress in most life-threatening pregnancy indicators, the statistics indicate that MDG 5, with a target year of 2015, will not be achieved in South Asia [4]. In order to provide an understanding of the maternal and child health situation in the six studied South Asian countries, below is a brief overview based on the latest demographic health surveys in the respective countries. Table 2 shows a compiled overview of maternal and child health indicators in the region.



Figure 1. Map of South Asia.

Afghanistan: With a population of 28 million [73], Afghanistan has experienced complex challenges after nearly three decades of continuous conflict. At the end of the Taliban regime in 2001, the country's health system was destroyed. Afghanistan is one of the poorest countries in the world, and has some of the most alarming maternal and child health indicators [74-76]. According to the Afghanistan Mortality Survey from 2010, the maternal mortality ratio had decreased from 1,600 per 100,000 live births in 2000 to 327, and 71 in 1,000 children died before reaching their fifth birthday [77]. As of 2010 the total fertility rate was 5.1 children born per woman, 16% of all pregnant women received four antenatal care visits by a skilled provider, and 32% of all births took place at a health facility. The overall level of deliveries attended by skilled birth attendants (midwives, nurses, doctors) remained low, at 34%, varying from 71% in urban areas to 26% in rural areas [77].

Bangladesh: In 2011 Bangladesh was characterised by a population estimated at 165 million, and was the most densely populated among the least developed countries in the world. Bangladesh has seen a 40% decline in maternal mortality ratio over a period of nine years [78]. Despite this progress, 176 women die for every 100,000 live births [3], and one in 46 children dies before reaching their fifth birthday [79]. According to the latest Bangladesh Demographic Health Survey [79], the total fertility rate fell from 3.2 to 2.3 children per woman in the course of nine years, 31% of all pregnant women received four or more antenatal care visits, and 37% of all births were delivered at a health facility. The country is characterised by a weak health sys-

tem and limited access to health services. Pronounced disparities in delivery assistance exist between poor and rich population groups [80]. The overall level of skilled attendance at birth remains low, at 42%, and varies from 60, 5% in urban areas to 35, 6% in rural areas [79].

Bhutan: A small, mountainous landlocked country in the Himalayas with a population of 726,000 [81], Bhutan has made significant progress over the past two decades in maternal health outcomes, resulting in its achievement of MDG 5 (reducing maternal deaths). The maternal mortality ratio declined from 900 deaths per 100,000 live births in 1990 to 148 in 2015 [3], with 69 in 1,000 children dying before reaching their fifth birthday. By 2010 the total fertility rate had fallen from 5.6 to 2.4 children per woman, 77% of all pregnant women received four or more antenatal care visits by skilled providers, and 65% were delivered by a skilled birth attendant (63% of this figure being delivered at a health facility). Variation is observed across the country, and attendance at birth by a skilled provider is higher in urban (90%) than rural areas (54%) [81].

India: In 2013 India was characterised by a population of around 1.2 billion [82], and is the second-most populated countries in the world. The country is challenged by social inequities and disparities in the health system [83]. Of India's 29 states [82], it is predicted that only four will reach the international targets for improved maternal and child health [84]. However, the country has made significant progress in improving maternal and child health outcomes, seeing a substantial decline in maternal and child mortality since 1990. Despite this decline, 174 women die for every 100,000 live births [3] and around 50 out of 1,000 children die before reaching their fifth birthday [72]. According to the latest National Family Health Survey [82], the country's total fertility rate had declined from 3.4 in 1998-99 to 2.7 in 2005-06 children per woman, 37% of all pregnant women received four or more antenatal visits, and around 40% of births were delivered at a health facility. The overall level of deliveries attended by skilled attendants was 46%, varying from 73.5% in urban areas to 37.5% in rural areas.

Nepal: With a population of nearly 30 million, Nepal is a landlocked country in the Himalayas with three ecological zones: mountain, hill and terai. There are significant disparities in the access to and utilisation of maternal and child health services between Nepal's 126 multi-ethnic groups, and between people living in different regions [85]. The country has made progress in improving maternal and child health outcomes, seeing a significant decline in maternal and child mortality ratio since 1991 [85, 86]. Despite this progress, 258 women die for every 100,000 live births [3], and 54 out of 1,000 children die before reaching their fifth birthday. According to the latest Nepal Demographic Health Survey [87], the total fertility rate had declined from 5.3 to 2.6 children per woman, 50% of all pregnant women received four or more antenatal visits, and around 35% of births were delivered at a health facility. The overall level of deliveries attended by skilled attendants was 36%, varying from 73% in the urban areas to 32% in the rural areas.

Pakistan: In 2013 Pakistan's estimated population was 184.5 million [88], with inequalities in the access to and utilisation of maternal health services among the popu-

lation [89]. According to the latest Pakistan Demographic Health Survey [88], 120 women die for every 100,000 live births, and 89 of 1,000 children die before reaching their fifth birthday. As of the 2013 figures, the total fertility rate had declined from 4.1 to 3.8 children per woman in the last five years, around 36% of all pregnant women received four or more antenatal visits and 48% of births took place at a health facility. The overall level of deliveries attended by skilled birth attendants was at 50%, with more than two-thirds (68%) of births in urban areas, compared to 40% in rural areas [88]. Below are a compilation of country-specific characteristics of maternal and under-five mortality rate from each of the six South Asian countries.

Table 2. Country-specific characteristics related to maternal health and under-five mortality rate*

Country	Maternal mortality Ratio	Under-five mortality Rate	Total fertility Rate	% of women received four or more antenatal care visits	% of births delivered at a health facility	% of births attended by skilled attendants
<i>Afghanistan</i>	327	71	5.1	16	32	34
<i>Bangladesh</i>	176	46	2.3	31	37	42
<i>Bhutan</i>	148	69	2.4	77	65	63
<i>India</i>	174	50	2.7	37	40	46
<i>Nepal</i>	258	54	2.6	50	35	36
<i>Pakistan</i>	120	89	3.8	36	48	50

*Source: Compiled data from each of the six South Asian countries' latest National Demographic Health Surveys and WHO's *Trends in maternal mortality*, 2015

Data collection

Study I (South Asia: Afghanistan, Bangladesh, Bhutan, India, Nepal and Pakistan)

Data were collected in March 2010, through three questionnaires consisting of a total of 134 questions developed by the ICM-UNFPA Investing in Midwives Programme. To capture and allow a comparison of midwifery education, regulation and association across the region, closed- and open-ended questions were included. The education questionnaire consisted of 23 questions, the regulation questionnaire 34 questions, and the questionnaire related to association 77 questions. All questionnaires were in English. The structured questions included answers such as 'Yes', 'No' and 'Don't know'. The education questionnaire included two open-ended questions concerning perceived challenges and recommendations in relation to pre-service midwifery education.

Participants were strategically selected based on their agreement to attend a regional midwifery workshop in Bangladesh, organised by the ICM-UNFPA. Eighteen persons representing six South Asian countries – Afghanistan, Bangladesh, Bhutan, India, Nepal and Pakistan – were invited via email and agreed to participate in the study. The three questionnaires were sent by email to the respective educator, regulator and

representative of the midwifery association in each of the six countries. The participants were asked to complete the questionnaires within a week and return them by email or fax. There were three representatives from each country – one educator, one regulator and one association representative – who were thus involved in and part of the three pillars of the development and establishment of the midwifery profession: education, regulation and the professional association in each country. All participants (n=18) were female. The participants' professional backgrounds included midwife (n=3), nurse-midwife (n=6) and nurse (n=9). No age information is available for the participants.

Study II (Nepal)

The study was carried out from November 2011 to February 2012 through three steps, using a mixed-methods design entailing a) desk review, b) interviews, and c) structured observations of the competence and equipment of university colleges and hospital maternity departments, and assessed the feasibility of establishing a separate cadre of professional midwives in Nepal.

The first step consisted of a desk review of available health policy and education documents, workshop reports and skilled birth attendance evaluation reports, to benchmark the existing situation of health care professionals providing maternity care in Nepal. These documents were mapped against the ICM's global standards [59].

The second step was carried out at 13 Kathmandu-based organisations involved in promoting the skilled birth attendance programme for auxiliary nurse-midwives and nurses in Nepal. The organisations consisted of different departments within the government, professional organisations, non-governmental organisations and bi- and multilateral organisations. The inclusion criteria for participation were people in a leading role, with policy influence in their respective organisation, and able to speak and understand English. All those who met the criteria were invited to participate in the study (n=21). Fifteen women and six men represented the 13 organisations. All the respondents who were invited (n=21) chose to participate. Their professional backgrounds included nurse-midwife (n=2), nurse (n=7), medical doctor (n=7) and unknown (n=5). No age information is available for the respondents. The aim of the interview was explained to the respondents, who were encouraged to speak freely about the existing midwifery situation in Nepal and what they felt was necessary for establishing midwives as a separate cadre. All interviews were conducted at the respondents' workplace by the PhD student in English, with an average time of 50 minutes, and were recorded using field notes.

The third step entailed structured observations of competence and equipment at five higher education institutes and their affiliated hospital maternity departments in the Mid-West, Central and East regions of Nepal. The structured observations were built on an assessment tool divided into two parts: *A* for the higher education institutes and *B* for the hospital maternity departments. The higher education institutes were selected purposively after consolidation with Nepal Nursing Council. The inclusion criteria included a) education institutes already offering higher education for nurses and/or physicians; b) recognised teaching institutes; c) affiliation with a referral hospital

comprising a maternity department; and d) willing to start a midwifery programme. One week prior to the assessment, a letter was sent to the heads of the higher education institutions and to the heads of the hospitals, explaining the background and objectives of the study. The letters were followed up with phone calls to obtain consent. Part A of the assessment tool was built on the structure of the ICM Global Standards for Basic Midwifery Education, with the purpose of reviewing the institutes and their ability to start a midwifery education programme. All educational institutes were assessed based on the following standards: organisation and administration, midwifery faculty, available written policies and standards for teaching human resources, facilities and services. Additional criteria based on the SBA programme in Nepal were included: availability of a separate midwifery skills lab, adequate space for practical sessions, and availability of selected drugs. For Part B, JHPIEGO's site assessment tool for maternal health and newborn programmes [90] was used and additional criteria based on the minimum number of deliveries and allowable number of students, as well as equipment for suturing, were added. The assessment tool A+B was modified to fit the context of Nepal. The tool was critically reviewed and approved by senior officials within the Nepal Nursing Council, Midwifery Society of Nepal (MIDSON), the Nepal Nursing Association and the United Nations Population Fund.

Study III (Nepal)

The study was carried out at eight Kathmandu-based organisations (actors) involved in promoting the midwifery profession in Nepal. The actors consisted of different departments within the government, academia, professional organisations, and multi-lateral agencies. The inclusion criteria for participation were people in a leading role, with policy influence in their respective organisation, and able to speak and understand English. All those who met the criteria were invited to participate in the study (n=17). Thirteen females and four males represented the eight organisations. All the respondents who were invited (n=17) chose to participate. Their professional backgrounds included nurse-midwife (n=3), nurse (n=8) medical doctor (n=5) and other (n=1). Median age was 55 years for female respondents and 53 for males.

Data were collected in Nepal in April 2014 through individual semi-structured interviews, using an interview guide including four key areas: (1) organisation and its resources, (2) collaboration, (3) communication channels, and (4) future plans. All interviews were digitally audio-recorded and conducted by the PhD student in English (average time 50 minutes). The respondents were encouraged to speak freely, and probing questions were asked when necessary. The interviews took place at the respondents' workplace.

Study IV (Bangladesh)

The study was carried out at nine Dhaka-based organisations (actors) involved in promoting the midwifery profession in Bangladesh. The actors consisted of different departments within the government, academia, professional organisations, non-governmental organisations, and bi- and multilateral agencies. The inclusion criteria for participation were people in a leading role, with policy influence in their respective

organisation, and able to speak and understand English. All those who met the criteria were invited to participate in the study (n=16). Fourteen females and two males were represented the nine actors (organisations). All the respondents who were invited (n=16) chose to participate. Their professional background included nurse-midwife (n=9), nurse (n=1), medical doctor (n=5) and other (n=1). Median age was 48 years.

Data were collected in Bangladesh during April-May 2013 through individual semi-structured interviews, using an interview guide including four key areas: (1) organisation and its resources, (2) collaboration, (3) communication channels, and (4) future plans. All interviews were digitally audio-recorded and conducted by the PhD student in English (average time 50 minutes). The respondents were encouraged to speak freely, and probing questions were asked when necessary. The interviews took place at the respondents' workplace or at a social centre of their choosing.

Data analysis

Study I (Afghanistan, Bangladesh, Bhutan, India, Nepal, and Pakistan)

For the purpose of this study 55 of the 134 questions were selected for analysis across the three questionnaires. Questions were excluded when the response data were duplicated, or when the question related to literature used in teaching or institutional names, or to the education, regulation and association of medical doctors. Of the 55 chosen questions, 53 were closed-ended. The data were analysed using the Statistical Package for Social Science (SPSS) version 18.0 and were described, summarised and presented through descriptive statistics [91].

Data were analysed using descriptive statistics and manifest qualitative content analysis, aiming to capture and allow comparisons of midwifery education, regulation and professional association in Afghanistan, Bangladesh, Bhutan, India, Nepal and Pakistan. The two open-ended questions linking to challenges and recommendations in relation to midwifery education were analysed using manifest content analysis inspired by Graneheim and Lundman [92]. Content analysis has been defined as a method that is used to understand the underlying meaning and concepts of a text.

The analysis was performed in the following steps: (1) Written texts were read and re-read to obtain an understanding of, and acquire a sense of, the text about the situation of midwifery education; (2) Meaning units (sentences) corresponding to the content areas were selected for (a) recommendations and (b) challenges in relation to midwifery education; (3) Each meaning unit was condensed into a description of challenges and recommendations; and (4) These were then merged into 18 sub-categories, and categories were identified and clustered into (a) three categories in relation to challenges such as (i) lack of professional recognition, (ii) inadequate formal midwifery education, and (iii) insufficient midwifery legislation development, and (b) four categories in relation to recommendations such as (i) developing midwifery legislation (ii) strengthening formal midwifery education (iii) strengthening the professional value, and (iv) improving the learning environment. The phase of coding was not applied in this modified way of working.

Study II (Nepal)

The data analysis consisted of four steps: desk review, interviews, observations of competence and equipment of university colleges and hospital maternity departments, and the identification of strategic objectives.

The qualitative and quantitative data were analysed separately but in parallel, led by the research questions below:

- (1) What are the existing cadres (nursing) providing midwifery care, what is their education level, and how are they regulated?
- (2) Is there a professional association representing staff providing midwifery care, and how is it organised?
- (3) Are there university colleges offering higher education for nurses and doctors that can offer education for professional midwives according to the ICM's global standards, and how are they organised?
- (4) What strategic objectives are required for a national strategy to ensure that competent midwives provide high standards of midwifery care in Nepal?

Findings from the qualitative and quantitative data were integrated to form an understanding of whether it was feasible to establish midwives as a separate profession in Nepal. This type of analysis is appropriate within a study design in which an understanding of the whole needs to be achieved. This process allowed the two databases to form an entire picture of the feasibility of establishing midwives as a separate profession in Nepal.

The documents from the desk review and the written narratives from the interviews were analysed using deductive qualitative content analysis inspired by Elo and Kyngas [93]. Texts from both documents and narratives from interviews were read to obtain a first impression of the existing midwifery situation. The manifest analysis addressed questions related to the research questions and the ICM's global standards. The analysis was performed in the following steps: (1) The documents were summarised for their content and significance from the desk review, and were reviewed against the ICM's global standards to acquire an understanding of the midwifery situation; (2) The narratives from the interviews were read and re-read to obtain an understanding about the existing midwifery situation; (3) The quantitative data from the observations of competence and equipment of university colleges and hospital maternity departments were registered, documented and analysed manually site by site. The data were analysed to create descriptive statistics. The statistics included cadres providing midwifery care, education level, entry level, length of programme, hours of midwifery in the curriculum, overview of existing resources, facilities and services of the five assessed institutions, including number of births and human resources; and (4) Based on the analysis of the qualitative and quantitative data, the final part of the analysis was to identify strategic objectives and interventions for ensuring high standards of midwifery care in Nepal. A categorisation matrix corresponding to the content area (*How does the existing midwifery situation stand against the central components for ensuring high standards of midwifery care?*) was developed: (a) legislation and regu-

lation, (b) training and education, (c) deployment and utilisation, and (d) professional associations) (Table 3). The suggested strategy was built on four central components identified by UNFPA et al. [94], which is illustrated in Table 3.

Table 3. Data analysis Study II: example of data coding to the categorisation matrix

	Legislation and regulation	Training and education	Deployment and utilisation	Professional associations
How does the existing midwifery situation stand against the central components for ensuring high standards of midwifery care?	No legislation in place to practice midwifery according to the ICM's definition of midwife	No formal preparation to become a professional midwife	The title of midwife does not exist in Nepal's national human resource policy	No strategic planning
	No registration or career advancement for staff providing midwifery care	No education strategy for developing professional midwives	No specific job description for providing midwifery care	Fragile collaboration between the association and other actors in the field

Studies III and IV (Nepal, Bangladesh)

Qualitative analysis was selected due to the explorative nature of the studies. Using this analysis method inspired by the work of Miles et al. [95] and based on CAS theory [69], data provided insight into real-life situations and described a phenomenon in this thesis: how system actors connected to promote the establishment of a midwifery profession in Nepal and Bangladesh. Through the lens of CAS, the actors promoting the midwifery profession in Nepal and Bangladesh were viewed as components of a system. Hence, CAS was used to describe and analyse how the actors in each country connected to each other within the system to promote the establishment of a midwifery profession.

All interviews were transcribed verbatim, and the transcripts were analysed using manifest qualitative analysis in a concurrent flow of activities, as described by Miles et al. [95]. The transcripts were read several times in order to get a sense of the content regarding how actors connect in a system aiming at promoting the establishment of a midwifery profession. The analysis was performed in the following concurrent flows: (1) *data condensation* – the transcripts were condensed and, with the aim of the study constantly in mind, data from each individual respondents were labelled separately with a combined total of 352 codes for Nepal and 273 codes for Bangladesh; (2) *data display* – the codes corresponded to how actors connected in a system aiming at promoting the establishment of a midwifery profession were organised and imported into a designed matrix where rows and columns represented each of the respondents; and (3) *conclusion drawing and verification* – codes were clustered into emerging categories such as “having a common goal”, “desire to collaborate” and “different political interests and priorities” in order to test the meaning of the data. Final conclusions were reached after the first and last authors made separate analyses, which were discussed and further analysed by all authors until consensus was reached.

ETHICAL CONSIDERATIONS

Within the framework of internationally accepted principles of ethical research involving humans, the overall objective is to protect the individual and ensure that human values are respected [96]. The risk entailed by participating in the four studies in this thesis is considered low. According to Swedish rules and guidelines for research [97], no ethical approval was necessary since no patients were involved; nor were health care staff, in relation to service provision. Written and verbal information were given to all respondents reflecting the research objectives, in line with the four principal requirements of the Declaration of Helsinki – autonomy, beneficence, non-maleficance and justice [96] – which aim to balance the need for research and respect for the integrity of the individual.

In all studies (I-IV) the participants gave consent to participate, and were aware of their right to withdraw at any time without explanation and that their answers would be kept confidential. Ethical guidelines for human and social research have been considered throughout the study [97].

In Study I, the voluntary completion and return of the questionnaires was equivalent to written informed consent to participate. Permission to conduct Study II was obtained by the Family Health Division under the Ministry of Health and Population in Nepal, the Nepal Nursing Council, and concerned authorities at the higher education institutes and the hospital maternity departments. For Studies III and IV, permission to conduct the studies was given by the manager of each organisation (governments, universities, professional association, NGOs and donors) participating in the study. To protect and respect the anonymity of these organisations and the individual participants, no details are mentioned. All respondents gave written informed consent.

RESULTS

Study I (Afghanistan, Bangladesh, Bhutan, India, Nepal, and Pakistan)

The results describe the situation of midwifery education, regulation and association in six South Asian countries: Afghanistan, Bangladesh, Bhutan, India, Nepal, and Pakistan. Findings showed that there was a variation in midwifery education across South Asia, in terms of entry level, competencies and requirements for teachers. None of the countries had national legislation that recognised midwifery as an autonomous profession. Four of the countries (Afghanistan, India, Nepal and Pakistan) had a midwifery association. Two (Afghanistan and Bangladesh) had a curriculum based on the ICM's essential competencies for basic midwifery practice. The main recommendations for improving formal midwifery education across the countries were the development of legislation, strengthened formal midwifery education, strengthened professional value, and an improved learning environment.

Study II (Nepal)

The study showed that it was feasible to establish midwives as a separate cadre that meets the global standards of midwifery competencies in Nepal, and also delivered a proposed strategy for the effective management of the midwifery workforce in order to enhance midwives' contribution in maternity care. The strategy suggested four strategic objectives related to midwifery legislation and regulation: training and education; deployment and utilisation; professional association; and interventions for ensuring a high standard of midwifery care. The findings identified six levels of education for nurse staff providing midwifery care, all of which were regulated under the Nepal Nursing Council. While midwifery was not recognised by law in Nepal as an autonomous profession, a post-basic midwifery programme on first-cycle bachelor level was under development. A well-organised midwifery association was established, consisting of nurses providing maternal health care. Four university colleges offering higher education for nurses and physicians could run a midwifery programme, and the fifth had a genuine interest in starting a midwifery programme at bachelor level.

Study III (Nepal)

The study showed that the actors' connections can be described by a complex set of facilitators and barriers to promote the establishment of a midwifery profession in Nepal. The facilitators concentrated on the common goal of working towards reducing the maternal and child mortality in their country. While this common goal was seen as a desire to collaborate, many actors saw barriers to it. Key barriers entailed underlying different political interests and priorities, competing professional interests, and different views within society in general and academia in particular. One wider barrier was that Nepalese society cannot distinguish between nursing and midwifery, resulting in minimal public support for an independent midwifery profession. At the same time there was insufficient communication between the actors, who were simultaneously competing for financial and technical support.

Study IV (Bangladesh)

This study showed that intense interactions and relationships had been taking place between involved actors promoting the midwifery system in Bangladesh. The actors were intertwined, and were driving towards a common goal: to save lives through educating midwives. The unique knowledge contributions of everyone involved gave the system the strength and power to perform. Regarding collaboration, it was regarded that more could be achieved compared to what an individual organisation could do. Significant results of this were that two midwifery curricula and faculty developments had been produced. Although collaboration was mostly seen as something positive to move the system forward, the approach to reaching the set goal varied with different interests, priorities and concerns, on both the individual organisational level and the system level. Frequent struggles of individual philosophies versus organisational mandates were regarded as competing interests for advancing the national priorities. It would appear that newcomers with innovative ideas were denied access on the same terms as other actors.

DISCUSSION

Reflections on the findings

The research in this thesis reveals that the establishment of a midwifery profession in the South Asia region has made some progress towards a grounded profession, but much remains before it is fully established. Apart from Afghanistan and Bangladesh, midwifery education was combined with nursing with curricula lacking the ICM's basic competencies for midwifery education. None of the countries in the region reported having fully established a regulatory framework for midwives; consequently, there were no countries with an officially recognised definition of the midwife, and being a midwife was not recognised as an autonomous profession.

Midwife as a profession in South Asia

To build a deeper understanding of where midwifery stands in South Asia in its attempt to establish itself as a profession, the following section builds on the three concepts of profession, professionalisation and professionalism, and interprets how the midwifery profession in South Asia, especially Nepal and Bangladesh, stands concerning these aspects.

In the South Asian context, definitions and concepts related to the midwifery profession have not been fully applied to the characteristics of being a profession. Drawing on the evidence essential for establishing a midwifery profession, the research identified a number of missing characteristics necessary for the establishment of a profession. Examples of such missing characteristics were: a unique body of knowledge and skills (except for Afghanistan and Bangladesh); a clear statement of ethics; a defined scope of practice; self-governing-autonomous; and formal recognition by society (Studies I, II, III, and IV).

As described by Halldorsdottir and Karlsdottir, the hallmark of a profession is its ability to regulate itself [60]. Most of the countries in the thesis research (Studies I, II and III) are lacking in this ability. For example, as shown in Studies I, II and III, Nepal had no regulatory mechanism protecting midwives and midwifery care to ensure that midwives are educated according to international standards, no access to professional development, and no regulated scope of practice. Bangladesh, on the other hand (Studies I and IV), had followed international standards on midwifery education and competencies, and thus achieved scientific knowledge and trained skills, through in-service and pre-service education, regulated by a regulatory body.

Professionalisation and jurisdictional work of the midwifery profession in South Asia

In the theory of profession, professionalisation is defined as the process of gaining professional status, and developing and maintaining market closure of the professional group [50]. The theory highlights that professional associations play a key role in preserving and promoting the work of the profession, contribute to change and innovation, and influence how members think and act [48].

From the perspective of these theoretical standpoints, and based on the findings in all studies (I, II, III and IV), the professionalisation of midwives in South Asia took place in the context of membership in professional midwifery associations in which the midwives operated in their profession as a professional group. Examples of this could be dealing with challenges such as the lack of professional recognition, inadequate formal midwifery education, and insufficient midwifery legislation. Such challenges do not seem to be unique to South Asia. As described by Lopez et al., this also appeared to be a challenge across ICM member associations, regardless of a country's level of income [98].

Studies I and IV show that Bangladesh had organised midwifery into a professional association, and it was formally recognised. However, it was yet not recognised as an autonomous profession with a protected title or a deployment as midwives (Studies I and IV). This is in congruence with what has been described by Lopes et al. [98]: that the midwifery profession in many countries, especially low-income ones, is not fully recognised by the government. Therefore, there is a lack of workforce and policy planning involving the profession [98].

In Nepal, on the other hand, Studies II and III show there was a professional association for midwives that had gained formal recognition by the government. However, the association had not fully convinced the government to establish a midwifery profession separate from the nursing profession. Thus, the move of midwifery from an occupation to a profession was accompanied by a series of barriers such as different political interests and priorities, divergent academic opinions on a midwifery profession, and poor communication among the involved actors promoting the establishment of a midwifery profession in the country.

For a profession to gain status and formal control over itself and its work, jurisdiction must be obtained in several arenas, such as the legal and public arenas as well as the workplace. Obtaining jurisdiction in the legal arena legitimises the profession in performing certain services, but excludes others [50]. When midwives' work is regulated to support them in working autonomously within their full scope of practice [17, 29, 38], jurisdictional claims are made to encourage the state to protect the profession's work [50].

Legal arena: Studies I, II and III showed that the midwifery profession in Nepal is still struggling to gain jurisdictional claims within the legal arena. The profession is seeking status and recognition for the importance of the midwifery work. With no standardised education or training, jurisdictional claims will likely remain low [44]. In order for the midwifery profession to achieve full jurisdiction in Nepal, midwifery services and education need to be protected through legislation and public regulation, including licensing rules. This is true also for Bangladesh (Studies I and IV). Although Bangladesh had a regulatory body that accredited the midwifery programmes, there was no official recognised definition of the midwife, midwives were not recognised as an autonomous profession, and the profession did not hold a protected title. Applying the published global standards [27-29, 61] as a legal framework could, in the future, support the midwifery profession in claiming its jurisdiction in the legal arena in Nepal and Bangladesh.

Public arenas: These arenas are related to social and cultural norms, and consist of the general public's confidence in and acceptance of the profession's services [50]. The public's perception of a profession is derived in part from how the professionals demonstrate their competence [99], and the public's perception of the professional midwife is no exception. The research found that there was a lack of social acceptance in Nepal (Study III), which may be related to there being no demand to have the midwifery profession separated from nursing. In the Nepali context, obtaining jurisdiction in the public arenas would therefore require the midwife to demonstrate competence according to international standards and thus contribute to improving outcomes for women and newborns. However, the prerequisite for the profession to perform such competencies would require, as described by Fullerton et al., applied competencies and standards for midwifery education and practice based on a regulating framework [29, 58, 59]. Applied standards for education, as well as regulation including licensing, would therefore benefit the midwifery profession in Nepal (Studies I, II and III), to secure the public's trust in and acceptance of the services the profession provides to women and children. By creating a demand explicit to midwifery services provided by professional midwives, the work towards closing the market for specific work tasks performed by midwives could be a step closer to this, and thus to improving maternal and child health outcomes. Equally important for pursuing public jurisdiction is through negotiations and collaborations with other stakeholders. This could include bargaining about work task boundaries with other professionals, collaborations with universities, and co-operation with other local actors.

Work arena: Pursuing jurisdiction at the workplace level indicates that there are written job descriptions, employment and professional development [44, 50]. By bringing professionals together, defining professional work and standardising work methods, professional associations play a pivotal role in the protection of midwifery jurisdiction at the workplace level [48]. Support in protecting professional workplace jurisdiction was provided in different ways in Bangladesh (Studies I and III) and Nepal (Studies I, II and III). In Bangladesh, it can be described as having national strategies grounded in the government's commitment to educate 3,000 midwives and similarly create positions for them (Studies I and III). Meanwhile, in Nepal there was a commitment from the government, but no supporting policy or strategy documents to promote further approaches towards establishment (Studies I, II and III).

As described in the sociological literature, a key aspect in attaining professionalism is to have a clear role definition, as this provides a sense of identity [45]. A conclusion based on findings in Studies I, II, III and IV is that the midwifery associations in Nepal and Bangladesh, in collaboration with involved actors including the nursing profession, propose a specific job description for the existing service providers providing midwifery care. This would promote the ability to perform professional work and offer excellent services to childbearing women.

Connected actors in the establishment of a midwifery profession in Nepal and Bangladesh

The research from Studies III and IV revealed both system facilitators and barriers that affected the connections between the actors, and thus also the entire system's

ability to promote the establishment of a midwifery profession. Table 4 illustrates a summary of the results from these studies, which is where the following section takes it standpoint.

Table 4. Summary of the discussion based on Studies III and IV

How actors connect in a system aiming at promoting the establishment of a midwifery profession	
Nepal (Study III)	Bangladesh (Study IV)
A common goal	Having a common goal
Desire to collaborate	Contribute with different competencies
Different political interests and priorities	Move forward through collaboration <i>Challenges to collaborating</i>
Competing interests from nursing profession and societal views	Create communication channels for visibility <i>Challenges to communicating</i>
Divergent academic opinions on a midwifery profession	Being dependent on financial and technical support
Insufficient communication	
Competition for financial and technical support	

The systems for promoting the establishing a midwifery profession in Nepal (Study III) and Bangladesh (Study IV) were connected through a set of identified facilitators. For example, having a common goal was found to be an important dimension; similarly, a joint desire to collaborate to move this common goal forward was another important finding. Having a common goal or following simple rules was found to be essential for the systems' survival.

The ability to take advantage of the unique competence of each of the actors forming the system in Bangladesh was found to be crucial in utilising each other's competence, which supported the actors in getting closer to reaching results. The competencies identified in Study IV encompassed a broad range within a chain of change, from advocacy to policy change, in order to make final policy decisions in the establishment of a midwifery profession. The contribution of joint competencies identified in Study IV is in line with CAS, discussed by Edgren and Barnard [64, 100], illustrating that actors' unique competence is necessary for carrying out a complex task, and that they need to work together to solve it. In the context of Bangladesh the joint contribution of necessary competencies gave the system the strength and power to perform, and created a dynamic, thriving system in which the actors were interdependent on each other's resources in order to deliver. This echoes the finding by Weichhart that it is important that involved actors come together to tackle a common task in order to understand how the development is progressing in different contexts [101].

In Nepal, on the other hand, findings showed that rather than utilising each other's competence to advance the establishment of the midwifery profession, there were competing interests from the nursing profession to have midwifery separated from

nursing, and the establishment turned into political territory. Limited progress was made in the establishment of professional midwives in Nepal, which may be a result of not utilising each other's expertise and competence (Study III).

Although the results noted that both countries in Studies III and IV had a strong desire to achieve the common goal of reducing the high maternal and child mortality through the establishment of professional midwives, this was often in combination with barriers. In Nepal (Study III) these barriers involved, for example, different political interests and priorities among the actors, competition over financial and technical support, divergent academic opinions on a midwifery profession, and insufficient communication. The barriers identified in Study III fall within a well-documented problem: silo behaviour, i.e. working in isolation, which results in fragmentation [65, 66]. The data suggest that one possible explanation for the lack of the system's ability to establish the midwifery profession in Nepal is that barriers may be associated with a lack of feedback loops about the progress made so far in the establishment; a lack of effective interaction between the universities, government, professional association and donors; and inadequate guidance and plans to support Nepal in establishing professional midwives.

In a CAS, change cannot be forced. Attempts to control a system are often seen as counterproductive [102]; instead, a CAS requires direction without directives [103]. In the context of Nepal, to achieve the establishment of midwives as a separate profession, it is of value that an environment be created that fosters connectivity among the system actors. For example, as described by Begun et al., new ways of organising will emerge based on collective insight and learning through ongoing interactions, solutions, and an open system with a welcoming attitude towards newcomers [102]. Collaboration and communication are manifestations of connections between system actors [64]. Barriers involved in Bangladesh's system for promoting the establishment of a midwifery profession were mostly related to challenges to collaborating and communicating. Findings from Study IV showed that the level of collaboration varied depending on interest, priorities, and individual philosophies versus organisational mandates. Similarly, opportunities to communicate on an equal level varied. In earlier research, collaboration has been defined through five underlying concepts: sharing, partnership, power, interdependency and process [104]. One component of successful collaboration has been described as effective and clear communication [105, 106].

Communication between professional groups is identified as difficult, as professional power and status in a health system influence communication in a negative way [105]. Drawing upon this evidence, the poor communication and collaboration in Bangladesh (Study IV) may be influenced by the individual actor's professional or organisational status and power. However, viewing the establishment of a midwifery profession as a CAS suggests that given the right conditions, for example the midwifery system can, as described by Plsek and Greenhalgh [107], self-organise into meaningful partnerships using its competencies, which are all necessary to perform a task that is not owned by any actor but is rather an outcome of interactions among the system actors. Against this background, professional status plays a less important role and all actors are equally important.

Methodological considerations

Exploring the situation and building of a midwifery profession in South Asia and revealing how influential actors are connected to one another in the building of a profession required a mixed-methods research approach. The strongest argument for using a mixed-methods approach for this thesis was that such a method was required to answer the aim of each study. The identified weakness of using a mixed-methods approach was that it was time-consuming to collect and analyse both quantitative and qualitative data. On the other hand, using both quantitative and qualitative data encouraged the use of multiple paradigms rather than those typically used in qualitative research and others in quantitative research. The following section will provide some qualitative perspectives in relation to the four studies.

Quality in qualitative research

Quality in qualitative research can be described in trustworthiness, which refers to four closely related criteria: credibility/internal validity, dependability, transferability/external validity, and confirmability [108].

Credibility/internal validity refers to the confidence of truth of data and its interpretation, which is seen as the overall goal of qualitative research. Credibility involves two aspects: conducting the study in a way that enhances the credibility of the findings, and taking necessary steps to demonstrate this [108]. Credibility was established and strengthened by the use of multiple data sources and a multidisciplinary team of researchers to interpret data. To enhance the credibility during interviews (Studies II, III and IV), the enrolled participants were both men and women, representing different organisations and professionals. To further strengthen the credibility, interviews were followed up with probing questions to verify statements, which generated richness from the data. The interview data were rich and contained satisfying data. The content was analysed according to Graneheim and Lundman [92] (Study I), Elo and Kyngäs [93] (Study II) and Miles, Huberman and Saldana (Studies III and IV). The choice to use three different content analysis methods was based on the experience within the research group for each study, and to increase the PhD student's learning opportunities.

Transferability/external validity refers to the extent to which findings can be applied to other settings or groups [92, 109]. To facilitate transferability, which is determined by the reader, the context, sample, process, participants, data collection and analysis were described. For example, themes were exemplified with illustrative quotations from the respondents in order for the reader to be able to estimate the quality of the findings (Studies III and IV). Some of the findings in each of the four studies could probably be applied in contexts where countries are in an early phase of establishing midwifery as a separate profession.

Confirmability refers to objectivity and congruence between two or more independent people concerning accuracy of the data and their relevance and meaning. To achieve confirmability, the findings need to reflect the respondents' voices [70]. Confirmability was established through the respondents receiving the same instructions and the use

of a semi-structured interview guide (Studies III and IV). It can be argued that the PhD student's previous understanding influenced the direction of the development of the interview guide, but this was done in close collaboration among a multidisciplinary team of researchers. The use of a multidisciplinary team of researchers also reduces the subjectivity in the analysis process, and thus enhances trustworthiness. According to Malterud [109], the collaboration of multiple researchers contributes to a strengthened study design through supplementing and challenging each other's statements. All interviews (Studies II, III and IV) were conducted by the same interviewer (the PhD student) in an environment selected by the respondents. This was seen as an asset, as it allowed the respondents to feel comfortable while sharing their narratives. To enhance confirmability, an ongoing collaborative participation of the authors took place in all the research steps.

Quality in quantitative research

Quality in quantitative research focuses on mainly two criteria: validity and reliability [70].

Validity refers to the degree to which an instrument measures what it is intended to measure. Relevant forms of validity in Studies I and II are: *face validity*, referring to whether the instrument appears to measure what it claims to measure; and *content validity*, referring to whether the instrument has an appropriate sample of items to be measured and the extent to which the instrument covers the specific domain of interest [70]. Regarding the exploration of the situation of midwifery education, regulation and association in six South Asian countries, Study I used the ICM-UNFPA questionnaires, which had not previously been used. The face and content validity resulted in a reduction from 134 to 55 questions. Questions were excluded when response data were duplicated, or when the questions were related to teaching literature, institutional names, or doctors.

The main argument for using the ICM-UNFPA questionnaires in Study I is that they were regarded as easy-to-complete self-administrated questionnaires capturing rich data concerning midwifery education, regulation and association. The two open-ended questions made it possible to gather qualitative aspects in relation to midwifery challenges and recommendations in the South Asia region. The use of self-administrated questionnaires allowed collecting the same data through e-mail, and reaching respondents from six different countries with no cost application. The disadvantages of the ICM-UNFPA questionnaires were the large number of questions. It is therefore recommended to consider a reduction in the total number of questions and only focus on those related to the midwifery profession.

For Study II, two well established instruments were used: the ICM's global standards and the JHPIEGO site assessment tool for maternal health and newborn programmes. Both validity and reliability have been tested in other studies for the ICM's global standards [32, 59] and the JHPIEGO site assessment tool for maternal health and newborn programmes [90], and the instruments have been used internationally. To enhance the face and content validity, the ICM's global standards were adapted to the Nepali context and items were added such as equipment for skill labs, accommodation

for students, and level of willingness to start a midwifery programme; and to JHPIE-GO's site assessment tool we added criteria such as minimum number of childbirths, number of students, and equipment for suturing. The instruments were reviewed and approved by the Nepal Nursing Council, the Midwifery Society of Nepal, the Nepal Nursing Association and the UNFPA country office in Nepal.

Reliability is the consistency with which an instrument measures attribute and accuracy [70]. The measurement scale used in Study I compared the six countries according to the study's aim, which provided rich descriptive quantitative data on the existing midwifery situation in the region. One limitation was that some respondents/countries had chosen not to answer the questions that did not apply to their country, while others answered no to these questions. As a result, the response rate was 14 questionnaires of a possible 18, which appears lower than the actual situation. To ensure reliability in Study II, data were collected through observations at all five university colleges and hospital maternity departments by the same person (the PhD student). Similarly, to enhance both the viability and reliability of the summarised data, all heads of the five university colleges and hospital maternity departments were asked to review the summary and provide feedback.

Usefulness of a CAS approach

Viewing the establishment of a midwifery profession with the help of a CAS approach [69] made it possible to examine the overall system function and each actor's contribution in connection to the establishment of a midwifery profession in Nepal (Study III) and Bangladesh (Study IV). CAS was used as a framework for describing and analysing the empirical findings. This was found to be an innovative choice, since it gave an understanding about the complexity around the establishment of a midwifery profession in the studied context. This was done by drawing attention to interactions and relationships in the system and the participation of several actors, in order to manifest the collective competence needed to deal with the system's complex task, rather than parts working in isolation. The main strength lies in the application of CAS and its contribution to how principles of CAS can be applied in empirical research. By using CAS, this thesis adds knowledge regarding applying certain fundamentals relating to CAS in the field of empirical research on the establishment of a midwifery profession, and is thus the first of its kind. A reported weakness of the CAS approach is that it offers no recommendations as to how the actors should behave as part of a CAS [64]. In Studies III and IV this was not considered a problem, as the purpose was to explore and reveal how actors connected to promote the establishment of a midwifery profession.

CONCLUSIONS

The research in this thesis shows that:

- In the South Asian region, the midwifery profession had not sufficiently applied the characteristics of a profession.
- None of the six countries in South Asia had obtained full jurisdiction for the midwifery profession to autonomously work within its entire scope of practice.
- In Nepal it was feasible to establish a midwifery profession separate from the nursing profession, but the midwifery profession first needs to be included in national policies to claim its jurisdiction. Four strategic objectives along with proposed interventions have been identified to guide the establishment of the profession forward. These four strategic objectives and interventions need to be in place for the profession to be established.
- In Nepal, system actors for promoting the establishment of a midwifery profession connected on three levels: political, academisation and professionalisation. A driving force for collaboration was that they had a common goal of working towards reducing the maternal and child mortality in the country. Factors opposing collaboration were taking the upper hand, however. The main opposing factors were different political interests and priorities, competing interests from the nursing profession, and divergent academic opinions on a midwifery profession.
- In Bangladesh, the system actors for promoting the establishment of a midwifery profession connected through their common goal of reducing maternal and child mortality and morbidity in the country. To achieve this goal, actors contributed their unique competencies, which had resulted in curriculum development and faculty development plans. A main challenge the collaboration faced were the different interests and priorities, influenced by individual philosophies versus organisational mandate. Another challenge was the lack of communication between the actors, due to a scarcity of manpower and a shortage of electricity.

FUTURE PERSPECTIVES

Policy implications

This research in South Asia contributes increased knowledge about and strategies for how to build a professional midwife workforce, which is essential for improving and promoting the health of mothers and newborns. Establishing a midwifery profession is highly dependent on close, transparent collaboration and communication among all involved actors. In this establishment, and thus in improving health for mothers and newborns, involved actors' unique competencies need to be used, which requires good relationships between all involved actors. This thesis shows that there are important activities at all system levels. While the thesis focuses on South Asia, the following recommendations can likely be useful in other countries with similar challenges where the midwifery profession is not yet established:

Policy-makers

- Incorporate midwives as a profession (according to the international definition of a midwife) in the national strategy for human resources for health.
- Based on the current situation in the country, in partnership with all involved actors develop a national midwifery strategy, including an action plan to guide its operations.
- To obtain full jurisdiction for the midwifery profession to autonomously work within its full scope of practice, the midwifery strategy needs to respond to actions in relation to the characteristics of a profession, such as: a scientific body of academic knowledge and skills for midwives, licence and registration for autonomous midwifery practice, an ethical code for midwives, and interventions for receiving formal recognition by society at large.
- Develop a highest level of regulation which controls the legislative framework of the profession.

Civil society (professional associations, NGOs)

- In collaboration with all actors, take the lead in developing and maintaining policies and standards for the midwifery profession in terms of a scientific body of academic knowledge and skills, self-regulated scope of practice and ethical code, and create formal recognition by society.
- Improve the population's awareness of and knowledge about maternal and newborn health and its relation to human rights.
- Educate the wider public about the role and responsibility of the midwife, and how the midwifery profession differs from that of other health workers, to gain societal support for the establishment of midwifery as an independent profession.
- Involve media in the production of public debates on the need for professional midwives to improve the health outcome for mothers and newborns.

Academia

- In partnership with all involved actors, identify areas in midwifery education that need to be strengthened based on international standards.
- Identify the necessary human, financial and material resources for initiating the midwifery programme.
- In collaboration with all involved actors, develop a midwifery curriculum based on international standards adapted to the country context.
- Develop a faculty development plan to ensure formal competence to start the midwifery programme.
- Submit the curriculum to the approving body.

Donors (bilateral and multilateral organisations)

- Gather all involved actors for joint planning to consolidate growth by engendering better resource flows and enhanced co-ordination of the establishment of the midwifery profession.
- Support the policy-makers in their planning by gathering all actors to conduct a situation analysis involving multiple data resources such as desk review, interviews and observations, and identify key strengths and gaps in relation to international standards and priorities that need to be addressed in order to establish professional midwives.
- Provide assistance in developing an action plan to guide and monitor progress for the implementation of the establishment of the midwifery profession.
- Ensure that all competence within the group of actors is fully utilised, to ensure better outcomes in the establishment of the midwifery profession.
- Support capacity strengthening to ensure professional midwives are available for service delivery.

Implications for future research

This research has identified facilitators and barriers in the connectedness among actors promoting the establishment of a midwifery profession in Nepal and Bangladesh. However, the research has not studied necessary interventions that might streamline the interactions and make the establishment of the midwifery profession more efficient. Such a study could be designed as an intervention study between midwifery systems in different countries, and could add valuable knowledge regarding how to improve collaboration and communication in order to establish a midwifery profession.

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