Avedisian Onanian Center for Health Services Research and Development,
Turpanjian School of Public Health American University of Armenia

with Financial Support from UNFPA Armenia Country Office

An Evaluation of Midwifery Education System in Armenia

Study Team:

Serine Sahakyan, RN, MPH
Lusine Aslanyan, BS, MPH
Saten Hovhannisyan, BS, MPH
Kristine Poghosyan, MD, MPH
Varduhi Petrosyan, MS, PhD
and
Karyn J Kaufman DrPH, LLD (hc)

January 2019

CONTENTS

ACKNOWLEDGEMENTS

The authors are grateful to Dr. Karyn Kaufman DrPH, LLD (hc) for her review and feedback on this report, and assistance as a consultant in strengthening the recommendations for improving midwifery profession and education in Armenia.

We express our gratitude to all study participants and participating nursing colleges.

EXECUTIVE SUMMARY

Competencies, knowledge and skills of health care professionals largely depend upon their education. Well-educated and competent midwives can improve women's and infants' health related outcomes. However, there is limited research on the topic of midwifery education in general.

The Avedisian Onanian Center for Health Services Research and Development (CHSR) of the Turpanjian School of Public Health (SPH), American University of Armenia with financial support from the UNFPA Armenia Country Office assessed the compliance of the current midwifery education system in Armenia with the global International Confederation of Midwives (ICM) standards. The study identified the needs and existing gaps in the current midwifery education in Armenia and developed recommendations to strengthen the existing education and midwifery profession in the country. An international expert in the field of midwifery reviewed the report and provided her feedback and set of recommendations.

The study team a) reviewed and summarized international literature on midwifery education, b) conducted a document review on the current midwifery education and practice in Armenia, c) qualitatively explored the content and curriculum design of the current midwifery education programs in Armenia using in-depth interviews and focus group discussions with different stakeholders, and d) conducted a comparative evaluation of the current midwifery education in Armenia, including curricula, textbooks, and equipment for compliance with the global ICM standards, using standardized checklists.

The study showed that most of the nursing colleges developed their curriculum following the National Criterion on Midwifery Education (National Criterion); however, the standardized module based approach established by the National Criterion was not completely implemented in all observed nursing colleges. In comparison with the ICM standards, some elements of different competencies were not specified in the National Criterion and some of them were covered partially. The document review revealed that the modules of the National Criterion did not highlight the importance of midwives' competencies in dealing with women's rights and health, domestic violence and some other topics and related outcomes required by the ICM. Moreover, some of the topics on principles of epidemiology, statistical methods of research, cultural, local and ethical beliefs, structure of the local health services, and leadership in clinical settings were completely absent from the criterion. The nursing colleges, especially the ones located in the regions, had poor and scarce resources including the state of building infrastructure, library/learning materials, equipment, and anatomical models essential for midwifery education.

The colleges mainly lacked relevant program policies on students' rights and responsibilities, their appeals and grievances. Midwifery students faced challenges in being involved in medical procedures during their practice because of several reasons; data collected from them did not demonstrate appropriate skill building procedures during their practical classes in different hospitals.

The study findings suggest that several interventions focusing on curriculum, faculty, and policy improvement should be implemented to enhance the midwifery education in Armenia and bring it closer to the ICM standards.

INTRODUCTION

Midwifery

The health care professional's competencies, knowledge and skills largely depend upon their education.[1] Well-educated and competent midwives can improve women and infants related outcomes. However, there is limited research on the above mentioned relationship and on the topic of midwife education in general.[1]

According to the International Confederation of Midwives (ICM), midwife is "a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labor and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and the infant."[2] The ICM requires that in order to be a midwife, one should be admitted and successfully graduate from a midwifery program, which is based on the "ICM Essential Competencies for Basic Midwifery Practice, recognized in the country where it is located" and that person should be "registered or legally licensed to practice as a midwife."[3]

Midwives at the international standard level should be capable to practice independently while providing care during the stages of pre-pregnancy, pregnancy, birth, post-partum and the early weeks of life. Promoting normal processes of childbearing, preventing complications and reducing unnecessary medical interventions is a key aspect in midwives' responsibilities. Midwifery care displays values of respect, communication, and care accommodated to a woman's circumstances and needs.[4]

Midwives have an essential role not only in providing care to women but also in providing health services to families and communities in promoting their knwoeldge,[2,4] including providing antenatal education and tips for parenthood preparation. The scope of midwifery practice also includes family planning, promotion of cooperation with women in terms of improving self-care practices, grassroots activities in terms of advocacy and raising women's voice, working around improving cultural practices and sensitivity, and finally targeting disease prevention strategies that enable pregnancy and child birth as routine life events.[2]

In certain countries like Afghanistan, Bangladesh, Madagascar, Morocco, Sudan, Vietnam, Yemen, where the concept of "midwife" is not yet well recognized,[4] other health care professionals (nurses and doctors) may be involved in providing the services listed above.[5] As these health care professionals are not certified midwives, they do not acquire the skills and the competencies established by international standards. Therefore, the usual duties of a nurse might be limited only to performing well-woman exams, educating about menopause, and providing contraceptive education.[5]

Study Objectives

The Avedisian Onanian Center for Health Services Research and Development (CHSR) of the Turpanjian School of Public Health (SPH), American University of Armenia with financial support from UNFPA Armenia Country Office assessed the compliance of current midwifery education system in Armenia with the global ICM standards. The study findings provided an opportunity to identify the needs and gaps of current midwifery education in Armenia and develop recommendations to strengthen the existing education, as well as midwifery profession in the country.

The specific objectives of the assessment were:

- To review and summarize international literature on midwifery education.
- To conduct a document review on the current midwifery education and practice in Armenia.
- To qualitatively explore the content and curriculum design of current midwifery education programs in Armenia using in-depth interviews and focus group discussions with different stakeholders.
- To conduct a comparative evaluation of current midwifery education in Armenia, including curricula, textbooks, and equipment for compliance with the global ICM standards, using standardized checklists.

LITERATURE REVIEW

Midwifery Education and Practice Worldwide

There are disparities regarding the duration and requirements of midwifery education programs worldwide. The duration may vary from two to five years.[6] Some countries give an importance to a university education when offering midwifery program, while in some countries it is a vocational level education. In some countries they combine both nursing and midwifery education (Yemen, Vietnam),[4] while in other countries midwifery is considered as a separate profession and not related to nursing (Australia, Canada, New Zealand, UK, US). [7,8]

In the United States (US) there are a few ways to become a midwife which includes the Certified Nurse-Midwife (CNM), Certified Midwife (CM) and Certified Professional Midwife (CPM).[9] The type and requirements of education might differ depending on what type of midwife one is seeking to become. To be able to start a CNM program a nursing background is required, usually with a baccalaureate degree or higher. A graduate degree or post-graduate certificate upon successful completion is guaranteed. As for CMs, they do not have to have nursing experience, so it could take less time to become a midwife. CPM program length can vary from one to five years after high school graduation.[9]

The extension of practice is the same for both CNMs and CMs and includes "primary health care for women from adolescence through menopause, preconception care, care during pregnancy including birth and the postpartum period, care of the newborn during the first 28 days of life, gynecology and family planning services and treatment of male partners for sexually transmitted infections. Health promotion, disease prevention, and individualized wellness education and counseling are also provided."[9] CPM practice usually narrows down to care of low-risk women and their infants throughout the childbearing year. Prescribing medications within the CPM scope of practice is determined by countries' laws and regulations.[9] CNMs are certified to practice in all 50 states and US territories, CMs are limited to practice in 5 states, and CPMs are licensed to practice in 31 states.[9]

An earlier midwifery education assessment was carried out in the US by sending survey questionnaires to newly graduated American College of Nurse-Midwives certified nurse-midwife

members.[10] The questionnaire was designed to assess the differences between "ideal" and "actual" midwifery practices. The study identified significant differences between birth centers and homebirth clinical settings. One of the biggest problems identified in the study was the "theory-practice" gap perceived by the students.[10]

The European Union (EU) legislation states that in most of the EU countries mandatory minimum duration of midwifery education is three years.[11] In some countries, for example Belgium or Switzerland, it is possible to become a midwife after three years of training of nursing and additional two years of midwifery training.[11] There is a tendency of improvement in education in terms of reaching to higher education levels as bachelors in science (BS) in Central Eastern Europe. Additionally, Poland and Slovakia have midwifery Master of Science (MSc) study program and Poland has midwifery PhD.[12] According to a study conducted in Central Eastern Europe, the teaching faculty of the midwifery educational institutions mostly consists of midwives.[12] The theoretical part of midwifery education in these countries has mostly been recognized as more dominant and stronger compared to the practical part.[12] In Central and Eastern Europe there is a legislation supporting independent management of healthy pregnancies by private midwives, however, it is not commonly practiced there, except in Poland.[12]

There are over 27,000 midwives working in England today.[13] Most of them work for the National Health Service (NHS) in hospitals, in birth units or in communities. England offers midwifery degrees after three years of study. The degree covers biological sciences, applied sociology, psychology and professional practice.[13] Study hours tend to be split equally between theory at a university and hands-on clinical practice. If one is already a qualified nurse, they can apply for a full-time, 18-month post-registration shortened midwifery course.[13,14]

British Columbia in Canada has been offering a bachelor's degree in midwifery since 2002. A midwifery evaluation was done at the University of British Columbia, Canada in 2013, and the evaluation program surveyed the first six graduated cohorts one year after their graduation to understand if the years of studying midwifery have appropriately prepared them for their first year of practice as midwives.[15] Overall, the students rated their preparation levels for clinical practice as high and appraised their clinical placements. The graduates and mentors of the program rated the clinical skills of graduates as competent.[15]

A study, conducted in Ethiopia in 2013, evaluated 484 students graduating one year post-basic midwifery training program from 25 public institutions.[16] The program has been designed for diploma-level nurses. Most of the students evaluated the learning environment as unfavorable. During the training, only six percent of the students were able to deliver more than 40 births (the global standard) and only 32% managed more than 20 births (the national standard). The average competence score for students was 51.8%.[16]

According to a study conducted in three European countries, there are two pathways for midwives to receive midwifery education in the Russian Federation.[6] For those who have completed secondary school, there is a four year midwifery training and for those who have completed high school a three year midwifery training is provided. The graduates of the midwifery training program receive an associate diploma in midwifery. Professionals with medical background are responsible for midwifery programs curricula and any external evaluation or monitoring of the curricula do not exist. To be able to enter the midwifery-training program, applicants submit applications to medical schools. The subjects undertaken for the entry can differ from year to year, for example chemistry or biology. Besides that, students are also required to undertake a Russian literacy test. Mostly obstetricians and medical clinicians are the faculty. During their practice, students in large groups observe obstetricians delivering babies, but they are not allowed to deliver babies themselves. There is no academic practice evaluation in place, no code establishing knowledge, skills, attitudes, or no clinical competency model.[6]

A study conducted in a few post-soviet countries (Azerbaijan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan), found that the requirement for starting midwifery training in terms of the minimum grade in school for three countries was grade 12 and above. In all five countries, midwifery education applicants can enter a training program with and without nursing qualifications.[8,17] They enter a three to five year midwifery degree program depending on if they have a nursing qualification or not.[17] All countries have a standardized curriculum, based on which their midwifery students practice delivering mandatory minimum number of births. The minimum number of required supervised births in the curriculum ranges from five to twenty. These countries faced the following important challenges regarding the implementation of quality education: recruitment of teaching faculty, lack of opportunities for students in terms of acquiring practical skills, lack of adequate equipment during practice. In terms of legislation, all

these countries have a recognized definition of midwife and midwifery is recognized as an autonomous profession in three countries. In all countries a government body gives an accreditation to midwifery education institutions and sets the educational standards.[17]

Global Standards for Midwifery Regulation

Several international organizations are engaged in the improvement of midwifery as a career, particularly the International Confederation of Midwives (ICM), the World Health Organization (WHO) and the United Nations Population Fund (UNFPA).[18] ICM is a non-governmental organization (NGO) with a mission to improve member associations and to strengthen midwifery profession in the world by advocating for midwives as the key caregivers for pregnant women and promoting normal birth giving as an aim to improve sexual health of women, their infants and their families.[19] By December 2016, ICM had 130 members in 112 countries in four regions: Africa, Americas, Asia Pacific and Europe with a total number of 500,000 midwives globally.[19] The ICM functions include work inclined towards improvement and assurance of safe motherhood for the families in the world with a close collaboration with WHO and United Nations (UN).[18]

With the goal of accomplishing global standards for sexual, reproductive, maternal and newborn health (SRMNH) developed by the ICM, three main components have been classified for midwifery practice and growth: 1) Education - to ensure competent, experienced personnel; 2) Regulation - to set certification requirements assuring that midwives deliver high-quality care; and 3) Association - a body of personnel involved in common professional practice, career development goals, workforce training, and other activities (ERA).[17]

The midwifery global educational standards are designed to establish quality indexes based on global prospects and to present a framework for continuous quality design, implementation and evaluation of the program.[20] They include leadership of programs, minimum length of programs, minimum entry requirements, teacher's theoretical and clinical qualifications, and competency based teaching and learning methods, learning/practice resources criteria, continuous assessment of curriculum.[20]

Education

Middle level vocational institutions called colleges (nursing schools) provide midwifery education in Armenia. There are eight state colleges or nursing schools from which two are located in Yerevan; Yerevan State Basic Medical College and Yerevan State Armenian-American Medical College Erebouni. Remaining schools are located in various marzes (Ararat, Armavir, Shirak, Syunik, Lori, Tavush, and Gegharquniq) of Armenia.[21,22] These schools are functioning under the jurisdiction of the Ministry of Education and Science of the Republic of Armenia (MOES). Among the non-state schools providing midwifery education three are located in Yerevan and four are in different marzes.[22,23]

The type of recognition given at the completion of the basic midwifery education program for all state and non-state schools is an associate diploma provided by the MOES.[22] After successful completion of a midwifery educational program graduates receive the title of midwife having a right to work at the maternity hospitals or ambulatories in villages.[22] Currently, there are no plans to start a Bachelor and/or Master Degree programs in midwifery education in Armenia.

The state standard-based curriculum for midwifery education, called National Criterion on Midwifery Education (National Criterion) throughout the paper, has been approved by the MOES in 2005 and was updated in 2013.[22] According to the approved National Criterion, theoretical and clinical instructors/teachers in the program should have at least vocational or university degree education in a related field; working experience is also preferable. Teachers with diploma in nursing and in midwifery have a right to teach in the program.[24]

The percentage of teaching didactic materials is ranging from 21-30% and the practical component is more than 60%.[22,24] Among the teaching strategies used for clinical instruction are direct supervision of clinical practice by program teachers, assignment of midwifery student to hospital staff and laboratory simulation.[22]

According to the National Criterion, the duration of midwifery education program should be three years for those who have competed high school (12 years) and four years for those who have completed basic school (nine years). The entrance to the midwifery program does not

require a prior degree in nursing. Applicants should pass biology and chemistry exams for entering to midwifery programs.[22,23]

The academic workload of students studying in midwifery programs is ranging from 4140 hours to 6 642 hours for those students who have completed high school while for the students who have completed basic school the course should be 52 weeks longer. The main obligation of the midwife includes provision of obstetric and gynecological care including primary medical care and specialized medical care.[22]

Practice

In Armenia, midwives have been among skilled health care providers who assist during delivery together with doctors, nurses and feldshers.[25] However, the percent of midwives being involved in antenatal care has been decreasing in Armenia starting from year 2000 to 2016 from 9% to 1%.[25]

The National Criterion on Midwifery Education, defines also the main scope of the activities that a midwife in Armenia is expected to do during her practical work.[24] According to this document, the "midwifery work" occupation covers obstetric and gynecological care provision. According to the document, the major responsibilities of a midwife include the following:

1. First aid provision:
   a) caring out activities aimed at early detection, registration, pre-natal control and care of pregnant women, control and examination of adolescents, pregnant women, newborns, maternity and childbirth care, family planning, reproductive health.
   b) educating women/mothers on the parent-child-related emotional-psychological preparation and physical preparation for childbirth
   c) educating community on sexual behavior, healthy eating and lifestyle, sexually transmitted infections, including human immunodeficiency virus, genital herpes, improvement of quality of life of postmenopausal women, and osteoporosis prevention
   d) providing consulting assistance to families
   e) implementing diagnostic testing, screenings and therapeutic procedures assigned by physicians
2. Specialized medical care provision
   a) caring out emergency care and care in obstetric and gynecological conditions

b) performing independent care provision during childbirth without complications or provision of care with a help of a doctor during childbirth with complications
c) performing a newborn's primary grooming and, if necessary, caring out a newborn resuscitation, during the postnatal period, monitoring mother's and child's health conditions during the postpartum period
d) preparing patients and pregnant women for surgery and caring out their postoperative care and medical appointments
e) implementing required diagnostic and therapeutic procedures

METHODS

Study design

The research team used a qualitative cross-sectional study design for evaluating the midwifery education program by using document review, in-depth-interviews (IDI) and focus group discussions (FGD) along with observational checklists.

Study population

The study population included midwifery program students (3rd and 4th year), faculty, and administrative representatives, including program directors, department heads and principles. The rationale behind selecting the listed target population was the ability to answer the questions included in the ICM assessment tools.

Study instruments

The research team developed one document review checklist, three qualitative guides (for different groups of participants), and one observation checklist based on the ICM core assessment tools.[26–28]

The document review checklist on ICM competencies was adapted from the ICM curriculum mapping tool.[28] The developed checklist contained information on seven competencies including:

- social, epidemiologic and cultural context of maternal and newborn care
- pre-pregnancy care and family planning
- provision of care during pregnancy

- provision of care during labor and birth
- provision of care for women during the postpartum period
- postnatal care of the newborn
- facilitation of abortion-related care.

The developed checklist included groups of points/items on basic knowledge, professional behavior and skills for each competency separately required by the ICM standards. (Appendix 1). The items included in the checklist were also taken from the ICM curriculum-mapping tool.

The ICM pre-service assessment tool served a basis for developing the qualitative guides including one semi-structured in-depth interview and two focus group discussion guides.[27] The instruments are designed and adapted for each group of participants separately, including midwifery program directors, faculty and students. (Appendices 2, 3 and 4). The guides contain five domains about faculty, curriculum, student's evaluation, program policies, and resources, facilities and budget.

The research team adapted the ICM standard equipment list[26] to develop an observational checklist for assessing the availability of the equipment and teaching materials in the selected schools. According to the ICM standard equipment list, 153 components divided into several sections including basic set of anatomical models, surgical and obstetric equipment, consumable medicine/injectable, learning materials, books/manuals/videos are required for provision of midwifery education and training. (Appendix 5). In addition, the research team identified the pictures of components of equipment list and designed a "descriptive album", which served as a supplement to the observational checklist. During the fieldwork the observers used the album to accurately identify each item observed. (Appendix 6). Information on socio-demographic characteristics of study participants was gathered through the short, self-administered questionnaire adapted from a previous CHSR study before starting the interviews[29] (Appendices 7, 8, and 9). All study instruments were originally developed in English and translated into Armenian, except the document review checklist. The researchers were fluent in English and conducted the review using the checklist in the original language. The research team pretested the instruments before the main data collection.

Data collection

The data collection took place from September to October 2018.

Document review

The research team conducted document review to compare and evaluate the level of compliance of the National Criterion on midwifery with the ICM competency standards. During the document review, the research team explored if the main knowledge and skills/ability related elements of each ICM competency were separately covered under different modules of the National Criterion. In addition, during the document review the research team compared if the main scope of the practical work activities (national description on job responsibility) were consistent with the modules learning outcomes.

Qualitative interviews and observations

Sampling and Participants recruitment: Purposeful and convenience sampling methods were applied to identify the study settings and prospective participants for qualitative interviews and observations. First, the research team selected the state nursing colleges providing midwifery education in Armenia, including two in Yerevan and three in different marzes, Gegharkunik, Kotayq and Tavush through purposive and convenience sampling approaches. The marzes were chosen based on their socioeconomic diversity and geographical proximity to Yerevan. The research team contacted the administrations of the selected nursing colleges to obtain permissions for data collection. The administrations of the contacted schools made announcements to their students and faculty members and those who were willing participated in the FGDs. Within each college, the team conducted observations of available equipment and IDIs with the program directors or other representatives of the administration.

IDIs and FGDs: Each FGD was conducted with four to six students. IDIs and FGDs were facilitated by trained facilitators. A note taker took notes depending on the necessity during the FGDs. The interviews and FGDs conducted with the study participants were audio-recorded. If a participant refused to be audio-recorded, notes were taken.

Overall, 54 people participated in the study through nine FGDs and six IDIs in Yerevan and three marzes (Table 1). Out of nine FGDs five were conducted with students and four with

faculty members. Five IDIs were conducted with the program directors or other representatives with high administrative positions (Table 1).

The mean age of the administrative representatives was 55.4 years ranging from 46 to 64 and four of them were women and one man. Most of them were physicians with 14.6 years of working experience on average ranging from 3 to 28 years.

The group of faculty included both theoretical and practical instructors. More than half of the instructors were physicians; a few of them were nurses and midwives. The mean years of teaching experience for faculty was 14 years ranging from 3 to 36. Among those who along with their faculty position, were also involved in clinical practice, the mean years of experience as practicing clinicians was 14.5 years with the range of 0-25 years. The majority of the participating instructors were women (13 out of 14) and the mean age was 45 years ranging from 27 to 67.

Midwifery students who participated in the study were exclusively females with mean age of 19 ranging from 16 to 39. The majority of the enrolled students were fourth-year and had chosen the 4-year program as they did not have high school education and came after the basic school of nine years.

Observations

Observations were conducted to assess the availability of teaching resources, including their quantity and quality. Trained observers conducted observations at selected nursing colleges using the observational checklist and its supplement "descriptive album" for comparing the existing anatomical models, equipment and teaching materials with the ICM standard equipment list. Such observations were conducted in five colleges; in each school mainly two types of venues were observed: the library and classrooms.

Data management and analysis

Participants had their own ID number without any personal identifiers. The data from qualitative interviews were transcribed in the original language (Armenian), coded, analyzed and findings were written in English.

The research team employed a deductive content analysis with a structured matrix.[30] This method was chosen based on the domains in the interview guides, which were based on the ICM

evaluation tools and priority to provide certain groups of findings. The research team developed a categorization matrix and coded the data according to pre-existing categories. All of the data were reviewed for content and coded for correspondence with the identified categories.

Three researchers conducted the main qualitative analysis. The researchers utilized the following procedures to assure good inter-coder reliability.[31] First, two researchers analyzed and categorized half of the data separately and had a series of discussions related to the individual coding process. Then they reviewed each other codes to synchronize their work.

The data collected through equipment observational checklist provided broad information including quantity and quality of the observed items. During the analysis this information were grouped into several categories for each group of equipment separately. The categories for anatomical models included a) items in proper condition b) old and useable items and c) old items which were difficult to use. The categories for equipment were a) items in good condition, b) old, but usable equipment and c) old/damaged and difficult to use.

The review of national criterion was carried out with a help of a scoring sheet that evaluated the presence of ICM competencies. The scoring sheet had four categories: not met, partially met, unspecified and fully met. A specific knowledge or skills related element of a competency was considered "not met" when the certain element was completely missing from the criterion. If a specific competency element was present in the criterion but not fully, meaning the information did not completely covered the idea of the element, it was considered partially met. If the certain competency element was present in the criterion but it reflected a more general idea and was unclear if the certain information or topic was included under the general idea, the competency element was marked as "unspecified". Finally, if the competency element was fully present in the criterion it went under the "fully met" category.

Rigor of the study

The research team ensured the rigor and trustworthiness of the study by using several methods. For sustaining the credibility and improving the generalizability of the study results, the interviews were conducted in different nursing colleges of Armenia including urban and rural institutions providing midwifery education. The multicenter study gave an opportunity to avoid the influence of specific local factors in one institution.[29] The review of previously conducted

research findings helped us to assess the consistency of the gained results with the existing literature and increased the credibility of the study.[32]

The triangulation allowed ensuring the trustworthiness of the study. The data was collected by using several methods including in-depth interviews, focus group discussions, observations and document review, which gave an opportunity to ensure methodological triangulation. As the data was collected from different groups of participants, we could also use triangulation of data sources.[32] The other method for increasing the credibility of the study results was the "member checks on the spot." During the IDIs and FGDs the research team checked with the participants their answers for accuracy and verification.[32]

The research team consulted an ICM expert to review the study which helped to maintain the trustworthiness of both methods and findings.[33]

Ethical considerations

The research team applied for an Institutional Review Board approval from the American University of Armenia. In addition, the research team obtained permissions from the Ministry of Education and Science of the Republic of Armenia, the Yerevan Municipality, Marz Governor's Offices' departments of Education and Science. Oral consent (Appendices 10 and 11) was obtained from all the participants.

FINDINGS

National Criterion Review

In order to compare the ICM required competencies with the Armenian ones, the study team reviewed the National Criterion on Midwifery Education. The document provides the curriculum content and each midwifery program should develop and provide the education based on these standards and clearly defined learning outcomes. The review of the document gave opportunity to answer the questions included in the ICM competency assessment tool on the type and number of elements for each competency.[28]

Competency N1: Competency in social, epidemiologic and cultural context of maternal and newborn care: This competency covers 21 basic knowledge, 10 professional behaviors, and 6

skill/ability related elements or points. It was the only competency that had a behavioral component.

Out of 21 knowledge related points the National Criterion fully met four of them, partially met four, did not meet 10, and did not specify three (Table 2). Throughout the national criterion, only healthy lifestyle as a part of community and social determinant of health was covered. Though, according to the criterion midwifes need to know the Armenian constitution, laws and policies related to health sphere in general, there was no specific requirement on reproductive health as required by the ICM. The national criterion did not include information related to local cultural beliefs and customs. Community-based primary care, health promotion, disease prevention and control fully met the competency because the national criterion widely covered the mentioned aspects in addition to all system disease modules and prevention methods (Table 2).

Regarding the professional behavior section, out of 10 professional behavior related points, the criterion fully met five, did not meet two, and did not specify three (Table 2). Universal/standard precaution/ infection prevention was fully discussed under various modules of the national curriculum, including both knowledge and skill aspects of it. The criterion did not fully describe promotion of patients informed choice, but there was some general information under the module of patient education. Standards of practice, as well as respect for cultural beliefs and customs; and unbiased behavior were not covered in the criterion.

Out of six skill/ability related points the criterion fully met four, partially met one, and did not met two (Table 2). The criterion widely discussed the health education under the patient education and communication module, hence fully met the checklist. Assembly, use and maintenance of equipment as well as leadership in clinical settings were completely absent from the national criterion.

Overall, the Armenian national criterion met the ICM required competency N1 by 48.6% (Table 2).

Competency N2. Competency in pre-pregnancy care and family planning: This competency covered 15 basic knowledge and 11 skills related points.

Out of 15 knowledge related points six fully met the ICM competency checklist, five were partially met, three were not met, and one was unspecified (Table 3). Sexual growth and development was fully covered in the national criterion under the physiology and anatomy of reproductive health module. Health education content related to sexual and reproductive health partially met the checklist because health education content regarding reproductive health was mentioned briefly in the criterion and information about health education related to sexual health was missing completely. Family planning (FP) was discussed in the criterion but there was no focus on its pharmacokinetics, surgical methods, eligibility criteria of patients, and decision-making processes. There were a few places in the criterion where it mentioned about collecting patient's health history in general, but genetic health history as required by the ICM was not specified. Throughout the national educational criterion, the concepts of cultural norms and practices were not discussed. Criterion did not include any information on community specific diseases. There were a few words about human rights in general in the criterion, but no specific focus on methods of referring the patient to a responsible body in case of domestic violence (Table 3).

Regarding the skills and/or abilities related comparison, four of the 11 ICM required points met fully, one met partially, five did not met, and one did not specify. Collecting reproductive health history, advising about side effects of FP, midwifery provision of emergency contraceptive medications fully met the checklist. Physical examination was mentioned in different parts of the criterion under different examination types. Information provision on family planning methods and commodities (in accord with legal/regulatory authority) was not specified in the criterion: the criterion claimed that midwifes need to possess information on family planning methods; however, did not specify about the specific methods of information provision as required by the ICM. Criterion did not include any relevant information on preconception counseling. The criterion discussed the responsibility of a midwife preparing patients for laboratory tests but did not mention anything about interpretation of laboratory test results. It also included information on HIV as a general idea, its management and treatment but did not include any information about counseling HIV positive or unknown status patients. Interpretation of results of laboratory tests relevant to country-specific burden of disease, as well as management of side effects of FP were not covered in the criterion.

Overall, the Armenian national criterion met the ICM required competency N2 by 53.8% (Table 3).

Competency N3. Competency in provision of care during pregnancy: This competency consisted of 29 basic knowledge and 18 skills related points.

Out of 29 knowledge related points, the national criterion fully met 18, partially met six, did not meet two, and did not specify four. Principles of dating pregnancy partially met the checklist because the criterion did not cover ultrasound or sizes of uterus as required. Indications and implications of deviations from expected fundal growth patterns did not cover oligio- and polyhydramnios in the criterion. Likewise, maternal and fetal effects of smoking and alcohol did not specify pregnancy in the criterion. The criterion did not cover information relevant to counselling or care for HIV positive women, and prevention of maternal to child transmission.

Regarding the 18 skill related points, nine were fully met, three were partially met, one was not met, and three were unspecified. Conduct of an interval antenatal history by taking an initial and ongoing history each antenatal visits was unspecified in the criterion because it discusses only general history taking. Assessment of fetal growth, placental placement, and amniotic fluid volume partially met the criterion. The criterion did not cover monitoring fetal heart rate, which was the only skill under this competency that was considered not met at al.

Overall, the Armenian national criterion met the ICM required competency N3 by 72.9% (Table 3).

Competency N4: Competency in provision of care during labor and birth: This competency covers 18 basic knowledge and 38 skills related points.

Out of 18 knowledge related points the Armenian criterion fully met 11 of them, partially met one, did not specify two and did not meet four (Table 5). The criterion did not cover cultural aspects of labor and birth.

Regarding the skills/abilities section, out of 38 points, 14 fully met the ICM checklist, three were unspecified, two partially met and 19 did not meet the criterion. In the national criterion most of these elements were covered as knowledge related outcomes (Table 5), however, the same elements required also for the skills/abilities were not included in the national criterion. Pelvic examination for dilatation, effacement, descent, presenting part, position, status of membranes,

and adequacy of pelvis for vaginal birth competency, the criterion only covered the pelvic examination part as a skill. Stimulation/augmentation of labor (nonpharmacological), as well as indicators of need for emergency management were not covered in the criterion.

Competency N5: Competency in provision of care for women during the postpartum period: This competency covered 22 basic knowledge related points out of which, the national criterion fully met 10, partially met two , did not meet six, and did not specify four. Psychology and process of lactation was not discussed in the criterion but common variations were, therefore this point partially met the checklist. The criterion discussed the importance of early breastfeeding in general but did not specify the importance for mother and child separately. Likewise, maternal needs in postpartum care was discussed only in terms of general care but did not specify nutrition, rest, and activity as required by the ICM. Bleeding as a general topic was discussed in the criterion but persistent vaginal bleeding was not specified.

Out of 10 skill/ability points covered in this competency, the national criterion fully met six,. partially met two of the points, and did not meet three of the points. Provision of family emergency treatment of late postpartum hemorrhage was covered in the criterion but referral was not discussed; hence, it partially met the checklist.

Overall, the Armenian national criterion met the ICM required competency N5 by 50% (Table 6).

Competency N6: Competency in postnatal care of newborns: This competency covered 15 basic knowledge related points out of which, the national criterion fully met nine, partially met two, did not meet three, and did not specify one. Characteristics of a healthy newborn were not specified in the criterion. Elements of health promotion in newborns and infants, including daily care needs were discussed in the criterion but prevention of the disease was not covered. Principles of infant nutrition, feeding cues, and infant feeding options for babies were discussed in the criterion, but for babies born to HIV positive mothers was not covered.

Out of 15 skill/ability related points, the Armenian criterion fully met six, partially met two, and did not meet seven. Providing immediate care to the newborn, including drying, warming, ensuring that breathing is established, and cord clamping and cutting when pulsation ceases partially met the checklist. Supporting/providing instructions for breastfeeding, monitoring normal growth and development and education of parents were fully covered in the criterion.

However, providing care for the low birth weight baby, performing screening physical examination, and identify conditions incompatible with life were not covered in the criterion.

Overall, the Armenian national criterion met the ICM required competency N6 by 58.3% (Table 7).

Competency N7: Competency in facilitation of abortion-related care: The competency covered 10 basic knowledge and 8 skills related points. Only the following points completely met the ICM checklist: family planning methods appropriate for use during the post-abortion period; care, information and support that is needed during and after miscarriage or abortion under the knowledge section; and education of mothers for self-care and identification of complications under the skills section. Policies, protocols, laws and regulations related to abortion-related services, as well as seven other required points were not included in any part of the criterion (Table 8).

Overall, the Armenian criterion had the lowest compliance percentage with the ICM required competency N7: 22% (Table 8).

In addition, during the document review the research team identified several inconsistencies between the modules of the National Criterion and the main scope of the activities that a midwife in Armenia is expected to do during her practical work. According to the document on the main scope of the activities of a midwife, within the scope of primary care activities along with variety of tasks midwifes are responsible for conducting screening tests and examinations. The knowledge and skills on preparation of patients for examination tests exist in the modules of the national criterion, but there are no descriptions of skills of performing screening tests or examinations. Under the specialized care, the midwife must be able to manage the physiological labor. The modules included in National Criterion cover a lot on skills acquired by in class simulations, however, there is no precise learning outcome on whether the midwife students should be able to manage physiological labor.

The same document under the primary care provision states that the midwife is responsible for prevention of several infections and diseases. There were highlights on prevention of osteoporosis during the post-menopausal period, however there were no specific topics in the National Criterion covering anything on osteoporosis.

We summarized the document review findings based on the main strengths and weaknesses of National Criterion that were reveled during the review and comparative evaluation process.

Strengths

- The National Criterion on Midwifery Education was approved and standardized by the MOES for all nursing colleges providing midwifery education in Armenia.
- Though the national criterion did not have specifically defined competencies, as it is done in the ICM curriculum-mapping tool, most of the competency elements required by the ICM were present as specific learning outcomes under different modules of the national criterion.
- The third ICM required *competency in provision of care during pregnancy* was the most comprehensively covered in the national criterion among all seven required competencies.
- The theoretical knowledge part of *the second, fourth and fifth competencies in pre-pregnancy care and family planning; provision of the care during the labour and birth; and care for women during the postpartum period* were comprehensively covered under various modules of the national criterion.
- Throughout the national criterion, various counselling elements were extensively covered under different modules highlighting the importance of midwives' counselling skills.
- In addition, the national criterion included specific modules on communication and computer skills, which were not required in the ICM curriculum mapping tool.

Weaknesses

- The document review suggested that most of the learning outcomes defined under different modules of the national criterion focused more on theoretical knowledge rather than practical skills and abilities. The majority of the skills and abilities defining the second, fourth and fifth ICM competencies were missing from the national criterion.
- In general, a number of elements of various competencies were not specific enough in the national criterion, particularly the knowledge related ones. Moreover, some of the elements of different competencies were only partially covered.

- The weakest competency among all seven required ones, was the competency N7 in *facilitation of abortion related care*. Most of the knowledge and skills related elements were completely absent from the national criterion.
- A few important topics in the competency N1 *Social, Epidemiologic and Cultural Context of Maternal and Newborn Care*, including principles of epidemiology, statistical methods of research, cultural, local and ethical beliefs, structure of the local health services, and leadership at clinical settings, were completely absent from the national criterion.
- Topics related to women's rights and health, domestic violence, and principles of communication and support for women/families who are bereaved, victims of gender-based violence, HIV positive mothers and their babies were totally missing in the national criterion.
- Learning outcomes under the modules of the National Criterion were not completely consistent with the national scope of the midwife activities.

Findings of Qualitative Interviews and Observations

During the data collection process, the study team noticed that all of the selected nursing colleges that the research team approached were open to collaborate and participated in the study with a positive attitude. They, themselves, were interested in the study findings and future recommendations.

The study findings were grouped into seven major descriptive categories: *'The Admission Process and Policies of Midwifery Programs'* describing main admission requirements and admission transparency, as well as the study participants' perception on what program policies are and their existence or absence in nursing schools. *'Curriculum Content and Allegiance with the National Criterion'* reflecting the nursing schools' allegiance to the national curriculum, and the stakeholders' opinion about its content and relevance; *'Practice in Midwifery Education'*; a dominant category explaining opportunities and obstacles related with students' involvement in practical classes, *'Faculty Qualifications, Requirements and Trainings'* describing the midwifery programs instructors' qualifications and their perception on their continuous professional development. The next category labeled as *'Program Financial and Tangible Capacity'* represents a comprehensive group of findings mixed with qualitative interviews and

observational results. It describes the midwifery programs and nursing schools capacity, budget and unequal teaching resources among the regional and Yerevan schools. Finally, the last category *'Midwifery Profession Desirability and Growth Opportunities'* portraying on the decrease of the number of applicants in midwifery programs throughout recent years, as well as the level of presence of educational and job opportunities for midwifery program graduates.

The Admission Process and Policies of Midwifery Programs

The admission process to enter a midwifery education program was the same in all observed regional and city nursing colleges. The only entrance exam was biology oral exams established by the MOES. Both the students and instructors described the admission process highlighting the transparency during the entrance exam.

"During the entrance exam we have an opportunity to listen to other students' answers. Around five people answer and four people wait for their turn to answer. So, we listen to each other and it becomes understandable if a student can be admitted or no." ***Students, FDG 1 P4, Yerevan***

Midwifery students mentioned that during the admission exam they had an opportunity to listen and observe their peers' answers and performance. Instructors from regional and city nursing colleges told that during the admission process some representatives from the Ministry of Education and Science were present during entrance examination. Some of the nursing schools had a practice providing the applicants free advising before the entrance exam.

"Our nursing school organizes free advising meetings, one month before the entrance exam, during which students get familiar with the questions of the exam, so the student knows what to expect from the exam questionnaire" ***Administrative representative, IDI 1, Yerevan***

Do program policies exist in midwifery program?

The data collected on program policies has shown that majority of participants did not have a clear understanding of the concept. Majority of the study participants referred to ethics when asked about program policies.

"Nobody offends students' personality; nobody says bad words to students…" ***Administrative representative, IDI 1, Yerevan***

"It [program polices] means that you must be a student and respect your teacher." ***Students, FGD 5 P3, region***

In some of the nursing colleges program policies were attached on the wall, however there it was not clear whether they were functioning effectively or no. One of the program directors mentioned that the attached program policies are old and not updated:

"Yes, we have program policies and they are attached on the wall, but these policies are too old and not updated. Students can approach and read their responsibilities and rights. For the grievances we do anonymous surveys very often." ***Administrative representative, IDI 3, region***

The representatives from the other nursing schools mentioned that there were no specific policies and the question on how students were informed on their responsibilities and rights or how students presented their grievances and appeals remained unclear. However, the study participants including directors, instructors and students mentioned that students could approach the faculty members or administration with their oral appeals or grievances.

The majority of program directors and instructors that participated in the study mentioned that their nursing schools had functioning program policies while it seemed that students were not aware of existing program policies or they had a vague understanding about them. In several nursing schools, midwifery students did not even know that they had rights, and their perception on their responsibilities was related to the maintenance and management of personal hygiene and attendance of classes.

"Rights? What kind of rights? [Everybody was laughing]" ***Students, FGD 1 P8, Yerevan***

"Among our responsibilities are class attendance, clean white coats, hair in buns…" ***Students, FGD 1 P8, Yerevan***

At some nursing schools, program policies included strict criteria on attendance and unexcused absences were not tolerated:

"We are very strict about absences; no unexcused absences are tolerated. It is impossible for a student who did not attend classes to get a diploma." ***Instructors, FGD 1 P3, Yerevan***

Few of the nursing schools students had a chance to evaluate their instructors through specific evaluation sheets or to put in writing into a specific box designed for complaints or suggestions.

"Instructors are being evaluated based on their knowledge, conducted work. Every two year the students do this evaluation. At the end of the evaluation instructors receive ratings."
Administrative representative, IDI 4, Yerevan

"We receive evaluation sheets for evaluating the faculty members." ***Students, FGD 4, Yerevan***

"… We have a box where we can put our complaints and concerns anonymously." ***Students, FGD 3 P1, region***

Curriculum Content and Allegiance with the National Criterion

Allegiance with the national curriculum

Most of the nursing colleges that participated in the study developed their curriculum based the national criterion. Even though the national criterion was designed to bring a standardized module based education to the midwifery educational programs, not all of the schools followed this pattern. There was an obvious inconsistency between schools' perception of how mandatory it was to follow the criterion and how flexible they were to divert from it. It was clear that only one of the schools strictly followed the national criterion, meaning they did not make any changes to the flow of the subjects, stayed in the exact limit of the hours designated for each subject and did not change any learning objectives of a certain subject. According to the faculty, they were only allowed to update, merge, add or remove certain topics under the specific objective. Some of the schools did not integrate the structure of teaching the subjects in modules in their curriculum but they adopted teaching methodologies and curriculum content from the module-based educational model.

"We follow the national criterion. The curriculum and the schedule for the subjects is based on the national criterion." ***Administrative representative, IDI2, region***

"…the midwifery [program] does not yet follow the criterion, the modules." ***Instructors, FGD5 P1, region***

"*…if it is needed to remove, merge, add some topics, add more actual topics, we can add under a certain [learning] objective. We do not add an objective, but we add a certain topic under that objective."* ***Instructors, FGD1 P2, Yerevan***

"The criterion, in my own words, is the skeleton [sic], we can make changes to it, but the base stays the same. We constantly update it, depending on what's practical, what's old, what's new, but the base is the criterion." ***Instructors, FGD4 P1, Yerevan***

"We did not try the module based model for the midwifery program. We have the old program, the way it used to be before. However, we have the same [student] evaluation methods, the same

practical and theoretical content as in the module-based model." ***Administrative representative, IDI4, Yerevan***

Most program directors and faculty claimed that they reviewed and if needed made changes to the curriculum at least once a year, mostly in the beginning of the year.

"At the beginning of the year, it [the curriculum] is mandatorily reviewed." ***Instructors, FGD1 P2, Yerevan.***

According to one of the program director participants, the curriculum was satisfactory and they did not make changes to the curriculum because they did not have anything to compare it with to know if changes are needed or not.

"The program is completely satisfactory and there is no need to improve it. Well, to be honest, we do not have anything to compare it with to be able to tell if it is satisfactory or not." ***Administrative representative, IDI2, region.***

Another school director noticed that to get more parties involved in the curriculum review process requires certain kind of finances that they lack.

"It depends on finances, we need specific specialists to be able to review and that needs to be financed." ***Administrative representative, IDI1, Yerevan***

Students did not take part in the process of curriculum review. However, several interviews with faculty revealed that they consider students' opinion when choosing what topics to include in the course, but they do not have a formal mechanism to get students' feedback, it is mainly based on students' verbal comments.

"Sometimes we include topics about genetics, we solve genetic problems with them, which is not in the curriculum, but during these two years I noticed that they [students] like it." ***Instructor, IDI3, region***

Some colleges wanted to have a longer program; while one of the faculty noticed that she traveled to Moscow to get her degree there since the midwifery programs in Armenia were unnecessarily long, *"The education [meaning midwifery programs] is long here. I went to Moscow on purpose, because it [the program] is two years there and is completely enough."* ***Instructors, FGD2 P1, region.***

On the other hand, when discussing the curriculum content, the participants, both faculty and students, mentioned about unnecessary heavy and intensive topics required in the national criterion.

What did participants think about the curriculum content?

Most of the representatives of midwifery programs wanted a deeper concentration, prioritization and more hours for the professional subjects compared with secondary subjects taught in the curriculum. *"It's [the program] short. The professional subjects are even shorter. There are subjects that have nothing to do with the profession and are given many hours."* ***Instructors, FGD1 P1, Yerevan***

Some of the faculty pointed out that with the current curriculum students learn a lot, but only couple of things are related to their midwifery practice. *"A lot of things could be taught during the course but only three sentences be relevant for them [midwives]."* ***Instructors, FGD5 P3, region.***

Moreover, they mentioned that there were intensive topics in the curriculum, which were more relevant to higher-level health care professionals such as physicians. *"I think it can be shortened [the content of the curriculum]. Some things can be merged, not to get into details, because there are topics that are not for middle, but high circles [meaning for physicians]."* ***Instructors, FGD5 P3, region***

Most of the study participants considered the theory-practice ratio in the curriculum as optimal, but wanted to have more practice classes while holding the theory proportion the same:

"I would keep the theory as it is, but if there was a chance, I would increase practice [the hours]." ***Students, FGD4 P1, Yerevan***

"I would recommend having more practice hours." ***Administrative representative, IDI2, region***

A program director and students noted that the program had a heavy workload for the students given the duration of the program. A student mentioned, *"We would like to have longer breaks and shorter class times. We do not have time to rest. There are four subjects following each other, each 80 minutes… After 80 minutes, we have a five minutes break… the longest break is 15 minutes. We only manage to eat something during that time and during 3rd, 4th subject we are not so active anymore, we get tired, we can't absorb the materials."* ***Students, FGD2 P2, region***

Practice in Midwifery Education

Each nursing school had separated theoretical and practical classes for their midwifery students based on the national criterion. Practical classes happened in two stages, in class and in hospital practical classes. In-class practice classes included *"showing all of the manipulations, knowledge of equipment and their appropriate usage. Situational problems, describing procedures step by step, based on algorithms."* ***Instructors, FGD1 P1, Yerevan.*** Another instructor added, *"In class practice happens at the labs, you know, with the models and everything."* ***Instructors, FGD4 P2, Yerevan.***

In some of the colleges both the in-class and in-hospital practical classes were merged and happened in hospitals given that, their practice and theory teachers were working physicians in hospitals. According to them, this gave students more opportunities to be involved in midwifery healthcare delivery: *"Our students have both their in-class and in-hospital practical classes at the hospital… because their teacher is at the clinic. Additionally, based on the module-based educational model our old curriculum has been reviewed and with the suggestion of our supervisor the practical classes have been increased and had been happening in the hospital."* ***Administrative representatives, IDI4, Yerevan.***

It was obvious that at the programs, where all practical classes and even sometimes theory classes happened in hospitals the quality of practical classes were better organized than the ones that did not have this opportunity. A faculty member who was also a practicing physician mentioned that they encourage student's participation in procedures: *"We tell them, –you are not here as an audience, transfer the patient, sterilize the equipment, take blood."* ***Instructors, FGD2 P3, region.***

In one of the schools, the faculty claimed that students are not involved in any medical procedures at the hospital because in these hospitals the priority was given to medical students *"Very often, the medical students predominate our students during practical classes, they get to participate in practical operations more, and our students get left behind."* ***Administrative representative, IDI1, Yerevan.*** Alternatively, an instructor from the same school stated: *"I have a deep belief, that they [students] do not do anything [during the practice in hospitals]*.

In addition, based on the answers of some faculty members and students, it was noted that *"It is regrettable though, that very often students have the role of an audience rather than of a*

performer", as described one of the program ***Administrative representative, IDI1, Yerevan.*** The participating students' description of their own practical experience very often confirmed the same opinion: *"During the practice we go to hospitals, we have seen many times C-sections, we have seen natural births, and they explain it to us, ask questions, and we try to answer those."* ***Students, FGD5 P4, region.***

According to some of the faculty members, having the practice in a private hospital was one of the reasons students ended up with the role of an audience. *"Now hospitals are usually private, it is not beneficial for any chief physician or any chief of hospital to have our students to take participation in their business. Their patients are mostly payers [meaning paying out of their pocket money], they won't allow an unexperienced student to work with them. Hence, students are left with the role of an observer; trying to catch something with their eyes, to see something."* ***Instructors, FGD1 P3, Yerevan***

Another factor influencing students' involvement in practical procedures at hospitals was noted to depend on the certain maternity or general hospital staff: *"Whether the student will have a good practice or not depends on the approach of the maternity hospital staff, we have maternity hospitals from where students come back very satisfied…"* ***Administrative representative, IDI1, Yerevan.***

The level of patients' trust toward a practicing student played a huge role too in the level of students' participation in procedures. Many interviews with different stakeholders of the study testified about the absence of trust. *"Very often it depends on the will of the mother, no one would want to have someone unexperienced participating in their delivery."* ***Students, FGD3 P 2, region***

Often, students' ability to enhance their practical knowledge and skills depended on their own will to learn and their personal traits: *"Whoever is active, whoever is dexterous, they get to move around with nurses and see the skills, whoever is passive…[don't]."* ***Students, FGD1 P8, Yerevan***

Most of the data collected from students did not demonstrate appropriate skill building procedures during their practical classes in different hospitals. Their descriptions demonstrated that the minimal skills required from students to participate in a delivery during the practice were far from the responsibilities of a midwife described both in the international and the national

standards. The description of their practical activities were more relevant for a general nurse and not a midwife: *"We set up an IV, do injections, and we are very satisfied that we know how to do injections, they taught us very well."* ***Students, FGD1 P8, Yerevan.*** An instructor added *"Suturing, venom-puncture, setting up an IV, sterilization of equipment, filling out documentation."* ***Instructors, FGD2 P1, region.***

A few of the participants mentioned a long list of technical skills that midwife students should gain during their practice. However, none of the practical skills included active participation or assistance during a labor management or birth delivery under the direct supervision of a midwife or instructor:

"Digital examination, pelvic examination, wet prep, breast care after birth, preparation of gynecological patients for surgery, post-surgery care, knowing how to refer to the doctor during complications." ***Instructors, FGD1 P5, Yerevan.***

"We have conversations with mothers after the birth delivery; we hear their complaints and appeals." ***Students, FGD5 P3, region***

"Pelvimetry measures, fetal heartrate monitoring, blood pressure measurement, taking blood, weighing, height measurements, we do it all." ***Students, FGD3 P4, region***

Moreover, none of the study participants, without exception, believed that students would be able to manage labour or birth delivery on their own after graduating, including students themselves. *"We won't be able to do it [manage birth delivery] on our own right after [the graduation]. First, we need to gain confidence, which is a priority. We also need someone to supervise us and tell us if we are doing it right or no."* ***Students, FGD1 P4, Yerevan***

An instructor of the same school, confirmed the same saying *"They can provide care [after graduation], but delivering a birth is a complicated procedure."* ***Instructors, FGD1 P2, Yerevan***

Faculty Qualifications, Requirements and Trainings

In all of the schools where the data collection took place, each subject of the midwifery program was taught by a professional with a relevant background in the field, for example, cardiology taught by cardiologist, surgery by a surgeon. A physician-gynecologists and a midwife taught midwifery subject in the nursing schools. Regarding the midwives and nurses involvement as

faculty members, the most that had been achieved by several midwifery schools was having nurses and midwives teach practical classes only, while the physicians taught the theory.

"In the midwifery program specifically, the lecturer for the midwifery and gynecology subjects is a doctor with a high education. The practical part is taught by us, the midwives with vocational level education." ***Instructors, FGD5 P 3, region***

"[Nurses or midwives can] only teach practice, a nurse cannot teach theory." ***Instructors, FGD1 P2, Yerevan***

According to the participants from one of the schools, because the WHO requires midwives to teach midwifery students and in the country there was no university level education for midwives to be hired as a faculty they selected their best students and trained them to cover at least the practical part of the classes. *"We used to get judged a lot, but we were probably the first to have invested in having nurses [or midwives] teach nurses."* ***Instructors, FGD4 P1, Yerevan***

In most of the focus group discussions students demonstrated high appreciation of their instructors. One of the factors associated with students' satisfaction with the faculty was that they provided them with more knowledge than they were required to.

"They provide us with more knowledge than needed [meaning more than required by the curriculum]." ***Students, FGD2 P 2, region***

It was obvious that all groups of participants valued having practicing physicians teaching professional subjects compared with non-practicing physicians.

Most of the school directors and faculty did not provide clear answers on what were the specific requirements to hire the faculty, except high education. Even though the study participants did not mention about absence of hiring policy, their answers and research team observations demonstrated that an official policy with specific requirements to hire the faculty did not exist. *"I honestly didn't go through it [specific requirements to be hired as faculty]… I was selected randomly…"* ***Instructor, IDI3, region***

Throughout the interviews only one of the faculty member participants mentioned good teaching and communication skills as specific requirements to hire the faculty. *"Well the requirements [to hire the faculty] of course are having a high education related to their profession, that is the*

main guideline…after that comes the ability to teach, good communication skills" ***Instructors, FGD5 P3, region***

Another problem that we identified according to the program directors' interviews is low salaries as a major reason for not wanting to apply for the faculty job. *"There are mostly no special requirements [to hire the faculty], because most of the time physicians do not want to work with such low salaries."* ***Administrative representatives, IDI2, region***. Another program director said: *"Unfortunately, we have a need for specialists. There are specialists in our region, but the problem is they don't want it [the job] because of low salaries."* ***Administrative representatives, IDI3, region*** Even the currently working faculty mentioned, *"We do not have a significant something [profit] from this job, we are not doing it for the salaries, because it is very little…"* ***Instructors, FGD2 P 2, region***

According to study participants from most of the participated schools, the instructors' ratio was optimal to students' ratio and number of faculty members could be subject to change based on the increase/decrease of the number of students. Particularly, they pointed out that because of the decrease in students' number in recent years the ratio is optimal.

"Given that the number of students is low, teacher-student ratio is optimal. Of course, the number of teachers will change if the number of students increases." ***Administrative representatives, IDI2, region***

However, in one of the nursing schools the interviewee pointed out that though in the curriculum it is recommended to have small groups of students to have more effective practical classes; they cannot have this because of financial resources, which does not allow hiring more faculty.

"It is written in the curriculum exactly like this: if you have appropriate finances, subgroups can be created with eight participants and be sent to practice classes. But of course we do not have means like that." ***Administrative representatives, IDI4, Yerevan***

In addition, the research team found out that in some regional schools, the shortage of faculties and other factors resulted in having same teachers for theory and practice. *"Our theory and practice teachers are mostly the same"* ***Administrative representatives, IDI2, region***

Faculty trainings

Program participants were asked about the importance of the faculty updating their knowledge continuously by trainings. Module based teaching methodology trainings did happen in several schools organized by Ministry of Education and Science, after implementation of module based curriculum. *"All of our faculty went through that training, and got the certificates that were ensuring they can provide module-based education."* ***Administrative representatives, IDI1, Yerevan***

However, it was noted that some of the faculty members gave less importance to teaching methodology-skills related. The faculty member participants were confident that being a physician was good enough to know how to teach the certain subject *"…in the field of medicine it is hard to differentiate between doctors and lecturers… all of them are first a doctor, then a lecturer…"* said a faculty member. ***Instructors, FGD1 P3, Yerevan.*** During one of the focus group discussions when the students were asked if being a doctor was good enough for someone to teach a subject, they justified by saying *"well, they have many years of experience [meaning clinical working experience]."* ***Students, FGD 3 P1, region.***

In contrast to this, one faculty member mentioned that she has not been trained for teaching methods and had concerns about the effectiveness of her teaching methods. She pointed out that completion of a course or training might be useful for her:

"Since I do not have a pedagogical education, I would like to have a short training…maybe I am doing something wrong [regarding teaching methods], maybe I am not informed. I do it the way I know it, based on self-trainings." ***Instructor, IDI3, region***

Trainings based on medical specialization were the ones midwifery program faculties and directors noted to have a big need of and the ones they were most excited about.

"…but there are no medical specialization related trainings which we would very much like." ***Administrative representatives, IDI2, region*** However, some of the school faculty and directors mentioned that trainings in their medical specialization for school faculty are very costly and not affordable. *"The money needed to get trained is approximately three times my salary."* ***Instructor, FGD1 P 2, Yerevan***

While discussing the need of continues professional development, the study participants highlighted also the importance of self-trainings. Some of the faculty relied merely on self-trainings given the limited opportunities to be trained by other professionals or because they considered self-trainings the most effective way to continuously update their knowledge on daily basis.

"Well, something needs to be done by self-trainings, because I don't think the institution will have that kind of finances to send their specialists to get trained." ***Instructors, FGD5 P3, region***

"I, myself, have this much experience, but I read every day…even the daily communication with a colleague, seeing a certain surgery [helps them grow]…" ***Instructors, FGD4 P1, Yerevan***

Teaching Approach

Methodology

The data collected on teaching methodologies of the midwifery program has shown similarities among the observed five nursing schools. According to the instructors of midwifery programs methodologists working at nursing schools have developed the teaching methods. In addition, the specific trainings on module based curriculum-teaching methodology, handbooks or Ministry of Education and Science provided materials to the instructors. However, the instructors were free to make changes in teaching methodology based on their own experience.

"The main sources [of teaching methodology] are handbooks, methodological manuals, MKUZAK provides some methodological manuals for several subjects, the program, and national educational criterion is always available for us." ***Administrative representatives, IDI 5, region***

The most common teaching methodology mentioned throughout the data collection was interactive teaching by using several methods such as role-plays, interactive questioning, situational problems, group works and individual works.

"The teaching is interactive; it includes patient examination, watching videos, solving situational problems, organizing open classes." ***Students, FGD 1 P8, Yerevan***

The data collected from the instructors was triangulated with the data collected from the students. Both instructors and students highlighted the importance and effectiveness of interactive teaching. The individual works included literature reviews on some topics and group

works were related to the practical learning. Instructors emphasized the helpfulness of group works by mentioning that students are very supportive and they teach each other easily.

"… I see their [students] efforts in teaching each other, how they empathize and support weak students." ***Instructor, IDI 3, region***

The instructors of a Yerevan nursing school mentioned about more advanced teaching tactics including snowball, brainstorming and prism used during their classes.

"The instructors are certified [on some teaching methods] … snowballing, brainstorming, these are new methods that have been used during the classes." ***Instructors, FGD 4 P3, Yerevan***

Although, students were mostly satisfied by the teaching methods available at their schools, some of the students expressed the wish of having electronic blackboards and power point lectures:

"We would like make our classes more interesting, for instance to have lectures by slides, to have white-board, to watch videos during the classes to make everything more impressive." ***Students, FGD 1 P8, Yerevan***

Materials and sources

The materials used in the curriculum to teach the midwifery subject were midwifery related guides, materials from unspecified internet sources and books. Not all schools had books for teaching and, even if they did, most of study participants described as old and with a big need to be updated.

"We do not have a book for gynecology, whatever we have is a mixture of other books, or materials from internet, materials from the years of my studies." ***Instructors, FGD5 P 1, region***

"…we have a need of teaching materials." ***Instructor, IDI3, region***

While discussing the sources to develop their teaching materials, the research team found out that most of the study participants, including faculty and program directors did not have a clear understanding of what evidence-based source was. Only one of the program director participants noticed that the choice of the material is left up to the instructor and they do not control if the faculty uses evidence based source or literature to teach the material. *"We cannot control how*

evidence based are the materials used by the instructor. They usually teach based on their practice, they usually teach whatever they know." ***Administrative representatives, IDI2, region***

'Programs Financial and Tangible Capacities'

Budget and Supporters

In general, the money provided by the government and students tuition fees has formed the budgets of nursing schools. According to the program directors, the allocated budget was not enough for covering all necessary expenses, including the costs of needed resources and paying the faculty salary. The budget of the nursing schools was scarce especially in regions where the number of students is decreasing over the time, as they stated:

"We do not have a separate budget; our budget is formed by the money provided from government and from the tuition fees of students. Of course that budget is not enough to give salaries or improve the existing resources." ***Administrative representatives, IDI 2, region***

In some of the nursing school's participants mentioned that sometimes, the faculty allocates some money for acquiring some "needed resources." For instance, in one of the regional nursing schools the faculty member spent money on obtaining some materials for preparation of handmade models, some of the instructors mentioned that they printed some pictures related to the learning materials from their personal pocket:

"When I started to work here I was buying drawing papers, pictures and all my salary I spent on that… you do not have to spend your own resources to make something." ***Instructors, FGD5 P1, region***

The majority of observed nursing schools did not have any permanent supporter; however, directors some of the observed nursing schools mentioned about the support of MoH, MES MKUZAK, World Vision, NOVA and USAID in the past. Study participants did not provided details on previous collaboration.

"USAID supported us in the past, but in recent years there is no support. Since 2013 we are under the supervision of MES, but we do not receive any help from them [MES] it is just documentation." ***Administrative representatives, IDI 4, Yerevan***

"The USAID gave some equipment and models in the scope of family nursing training" ***Administrative representatives, IDI 4, Yerevan***

All directors of nursing schools participated in a study highlighted the importance of having supporters; however, they did not describe their vision on collaboration with supporters.

Resources

Based on the conduced observations and interviews by the research team, the condition of facility/ buildings as well as the availability of overall teaching resources varied between the regional and city nursing schools. In general, the nursing schools located in regions and their midwifery programs were in poor condition and had scarce resources and equipment then schools located in the capital city.

"As you saw the state of the building is not adequate, this room is the best one in the building. We do not have much equipment, models and whatever we have of, the quantity is limited." ***Students, FGD 5 P2, region***

"These conditions disturb us; it is so difficult to concentrate on the class when it is so cold." ***Instructors, FGD 5 P1, region***

"…the available materials for teaching are this old pelvic model and this old doll and some other materials, videos related to the topic that are taken from the internet, but I think this is not enough for teaching…" ***Instructor, IDI 3, region***

The lack of resources limited students' opportunities to do simulations. The majority of the observed equipment was handmade by the teachers and students.

"We do not have a simulation center or a simulation room, we have only some models, two dolls and two pelvic models and some surgical instruments." ***Administrative representatives, IDI 2, region***

"Maybe you have already observed the saturation of the room; there are mainly handmade posters here and old models that have been found from somewhere…" ***Instructors, FGD 5 P1, region***

"Every year during the group works we create everything [models, posters]. It would be preferable to receive some models from the officials or people who are responsible for that, this [availability of models] would improve the quality of the class" ***Instructors, FGD 5 P1, region***

"There are students who are willing to make models by themselves… They [students] help, they renovate models, posters or draw pictures…" ***Instructors, FGD1 P1, Yerevan***

Moreover, one of the observed regional nursing schools was so deprived of necessary equipment and teaching resources that students were taking their classes mainly at a maternity hospital, *"We have a center for future mothers [at the hospital], where we have some models, posters, CDs, videos with the help of which we are educating future mothers, our students spend their classes there."* ***Instructors, IDI 2 P1, region***

The two nursing schools in Yerevan; however, were comparatively in a better condition, in terms of facility, equipment and other teaching resources. During the interviews, the participants were describing their resources more often as "sufficient." Especially, one of the Yerevan nursing schools was the most equipped among the all observed schools. It was highly equipped and had almost all-necessary equipment, models and instruments required by the ICM standards. During the interviews, instructors and students were satisfied with the conditions of their program and overall school resources. They mentioned about the vast availability of the equipment and anatomical models.

"Books from our library… the state of the building, the models, everything is great" ***Students, FGD 4 P7, Yerevan***

"…we cannot say that we have an immediate need of some specific item the absence of which can distract the class." ***Instructors, FGD 1 P1, Yerevan***

"We have everything, we asked from other places, by entering different programs, by collaborating with them… we got some items from the US, some of the equipment and models we got on our own. We have posters for family planning and we use internet frequently." ***Administrative representatives, IDI 4, region***

The results from the observations on each group of equipment and detailed summaries are presented below by schools.

Table 9 presents the quantitative description of anatomical models in the observed schools. In regard to the Zoe or Mama Natalie models (which consists of three components: non-pregnant model, pregnant simulator and pelvic model) at least one component of the model was available in four out of five schools (Table 9) and only one of the observed regional schools did not have

none of the components of Zoe or Mama Natalie model (Table 9). However, the pregnant simulator was missing in four out of five schools. Some anatomical models such as condom, IUD, pregnant abdomen and breastfeeding models, and foetal skull, were available in two Yerevan nursing schools and almost missing in most of the regional schools (Table 9). Out of five observed schools, only one located in Yerevan had a childbirth simulator. The observation has shown that several models, including models for injections and bony pelvis existed at all observed schools. However, all schools stated that the quantity of bony pelvis models was not enough; - students need more examples of bony pelvis models.

Also in some of the schools, these models were very old and difficult to use (Table 9). The foetal baby and uterus-placenta models were available at most of the schools; - only one of the regional schools did not have these two models. Four out of the five schools were lacking the cervical dilatation model and perineum-cutting simulator. The model small ball (cricket, baseball, tennis) & socks for assessing dilatation of cervix was absent in all observed schools.

However, throughout the qualitative interviews we found out that even in those schools where conditions were comparatively good, the quantity, especially for anatomical models and instruments that students should widely use during the practical classes in order to obtain necessary professional skills, were not enough to a given students ratio. Moreover, the quality sometimes was not satisfying.

"We have anatomical models, pelvic models and other necessary equipment… however, we have only one example from each item and if two groups are studying the same topic simultaneously, teachers are switching the models from one group to the other…" ***Administrative representatives, IDI 1, Yerevan***

"We have some instruments that we can see but we cannot use it, that [usage of equipment] is not allowed, there are some models, but we are not allowed to do experiments on these models."

Students, FGD P2, region

"*Do you see those blue, red tailored clothes over there? We have self-made placentas, self-made placenta defects. I tailored them myself so that the student will be able to picture it. For example, this is the organ that stick to placenta, and this is the foetal surface [pointing and explaining at the same time]. I put tape on this side so that they can understand that this side is*

supposed to be flat and shiny. The other side is curvy, I drew the defect there. I made it myself…we are starting to learn tailoring too [she was laughing]." ***Instructors, FDG 5 P1, region***

The observation of the equipment in the selected nursing schools provided not a big diversity between the regional and Yerevan schools (Table 10). In general, the observation demonstrated that either an observed equipment was completely absent in all schools or was available in almost all five schools. For instance, all observed nursing schools missed some specific types of equipment, such as manual vacuum aspirator, transport incubator and doptone, while various sizes of vaginal speculums, microscope and supplies, and equipment cart with wheels were available at all nursing schools. The implant insertion/removal kit (Table 10) which included a bunch of different instruments was mainly available in both regional and Yerevan schools. Only in one of the regional schools, the kit was incomplete. Another kit required by the ICM was the IUD insertion kit that was available both Yerevan schools and incomplete in all regional schools, - the components such as uterine sound, ring forceps and IUD drive tube were mostly missing. The usable adult weighing scale was available only in one of the nursing schools located in Yerevan, while the child weighing scale was available in four out of five observed schools. The device for measuring blood pressure for adults with a stethoscope was available in all observed schools, except one regional school where the device was damaged and not usable. As to the device for measuring newborn's blood pressure with its stethoscope was missing in all observed schools. The reflex hummer was available in two regional and one Yerevan schools presented by one example. Among all observed nursing schools, only one city school had a pen light. Tongue depressors and thermometers were mainly available in both Yerevan and regional nursing schools.

The receiving bowls (various sizes, for solutions and for collection of specimens) and graduated measuring jug were available only in one city and one nursing school. As to the IV administration stand/pole and tourniquet, we have observed that this equipment was largely available in all observed settings. Curved mayo and large straight scissors were available at all observed colleges but specifically cord scissor was available only in one city school. All kinds of forceps mentioned in observational checklist were available at regional and city schools, while dissenting forceps and needle extenders were absent in one regional and one city school. The large hemostate artery forceps and suturing set were available in all observed settings; however,

the set of dilators was missing in a regional school and in one of the Yerevan schools, the set was very old. The episiotomy kit was incomplete in two schools; they had only the scissor for episiotomy. Delivery kits were existent in city nursing schools only and in one of the city schools, the delivery kit was incomplete. As to the delivery bad, we observed that in two regional schools, the bed was missing and in one of the city schools, the bed was too old and not usable. Strainer for tissue inspection and clear containers or basin/plastic buckets (for decontamination) were available in some schools only. In all observed schools, a sterilization kit or an autoclave were available as required by the ICM. Hemoglobinometer and vacuum extractor, which were optional items according to the ICM standard equipment checklist, were available in one Yerevan and one regional school.

The observation checklist also included information on learning materials and highlighted central topics in midwifery curriculum (Table 11). The required topics were observed at three regional and two city nursing schools libraries. The observation indicated that majority of the observed topics were available for students to they study via various forms of learning materials (books, chapters, subchapters, handouts, etc.). However, some of the ICM required materials were not available in some of the schools. The libraries of two regional nursing schools missed a learning material on male reproductive system. The same schools also missed charts and vides on infection prevention. The topics on prenatal discomfort, newborn resuscitation protocol, partograph, aortic compression, midwives' code of conduct and global handbook on family planning were not available in the library in one of the regional schools, while the adult resuscitation protocol was missing in three out of five observed schools. Any type of learning material on Balanced Counselling Strategy Cue cards HIV, STIs, and FP flipchart were not found in two schools one in Yerevan and one in region. One of the Yerevan schools did not have any kind of documents on maternal health record. The topic on shoulder dystopia was available in all observed settings, except one of the schools. The observation demonstrated that topics related to women's rights or cultural aspects were not widely covered under the Armenian midwifery curriculum. The national protocol on family planning was available only in one out of the five observed schools.

In addition, the research team observed that the majority of the books available for midwifery education had old editions published before 2007. In addition, most of the topics required by the ICM were covered not in separate books but under small chapters or even subchapters of a book.

The findings of our qualitative interviews demonstrated the same issue related to the availability of up-to-dated literature. This problem was highlighted particularly in the regional nursing schools.

The students almost in all schools highlighted the importance of having updated books and reading materials. The students were describing that the information provided them is not updated according to the modern medical literature. One of the nursing schools expressed a wish to have opportunities of the electronic library for enhancing the quality of the learning materials.

"Books are very old and there are a lot of updates in a real practice which are not synced with our books and learning materials, like names of medications and so on." ***Students, FGD 2 P1, region***

"The literature is enough [in quantity], but sometimes physicians [meaning faculty] complain from the [quality of] the content of books…." ***Students, FGD 3 P 1***

"Books need to be updated, they are really old, and methodologies are changed now…" ***Instructor, IDI3, region***

"We have some books at the library, but the majority of these books are too old. We do need [new] books." ***Students, FGD 5 P2, region***

"There is a need to update this book [indicating the teaching book on the table], it is too old, and the modern approaches are not presented here." ***Instructor, IDI 3, region***

The faculty who participated in our interviews were complaining that the books are not designed specifically for midwives, which creates additional difficulties, both instructors and students during the study process:

"Our books are originally designed for the physicians and after giving the material to the students from the book, I am orally directing the students towards the material on midwifery practice specifically... If we had literature specifically for midwifery education, it would make the work easier." Instructors, ***FGD 5 P3, region***

"Now when we teach we correct out whatever is not relevant any longer in the books." ***Instructor, IDI 3, region***

Moreover, during the analysis the research team found some patterns between the unspecified points in the national curriculum and the absence of specialized books for midwifery education. These patterns might be linked to each other influencing the quality of midwifery education and midwives' performance overall. Unspecified points/topics in the curriculum do not direct the instructors in their teaching process and it is left on them what specifically to cover under the certain topic. The books that were very general and provided a broad information, which might be relevant for all types of health care providers.

"If you explore our books, you will see that they prepare 50% physicians, 50% midwives. But we need to prepare exactly midwives…so that when they enter the hospital, they won't get confused whether to touch something or not what if it is not their job. It is hard for them to differentiate." ***Instructors, FGD5 P1, region***

"We study in general and someone who comes to evaluate our open classes, as an advice says that, for example that is not midwives' responsibility, so there is no clear separation what is the midwives' responsibility and what is the physicians' responsibility. Books describe the information in general not specifically for midwives, in general it says auscultation of foetal heart rate, but whose responsibility is this?" ***Instructors, FGD5 P1, region***

"When it comes to the book, our main issue is related with separating theoretical and practical knowledge of doctors and midwives." ***Instructors, FGD5 P2, region***

"Mainly the most available literature is from the medical university materials. It could be shorter, more adapted to the main functions of a midwife…it is extensive now, it enters the domain of a doctor…" ***Instructors, FGD5 P4, region***

Midwifery Profession Desirability and Growth Opportunity

The collected data suggested that the number of midwifery students was decreasing over time and this trend was more obvious in regions. The same trend but with lower magnitudes was observed at Yerevan nursing schools as well. The only possible reason for the decrease in prospective applicants mentioned by the study participants was connected with the change in the constitution in the number of years required to graduate high school. *"This year we have only 6 graduating students. Last year we had almost 7, in recent years the picture is the same, maybe that is connected with 12-year education [meaning the recent (2018) change from 11 to 12 years*

of high school education]…" ***Administrative representative, IDI5, region*****.** However, based on the interviews, the research team noticed a continuous decrease in the number of applicants not only during the last admission season but also during the last couple of years.

"Two years ago the number of graduates was 100, but last year we had only 60 students…" ***Administrative representative, IDI1, Yerevan***

"Last year we had 13 graduates, in previous years we had almost 30 graduates, this year we have 10 graduates." ***Administrative representative, IDI 2, region***

Most of the student participants showed enthusiasm towards their profession and willingness to search for jobs after graduation. However, limited job opportunities was a barrier on students' professional growth path*: "Nevertheless, the willingness is huge, but the job openings are less, we are not sure how possible it will be to work by our profession."* ***Student, FGD3 P1, region***

"I think it's a bit of a problem, regarding number of job openings. You can graduate with good skills, you can even manifest your practical working skills, but not have these job opportunities." ***Students, FGD1 P3, Yerevan***

"…maybe around 20-30% of graduates work" ***Administrative representative, IDI3, region***

In few of the schools, it was mentioned that most of their graduates work in the hospitals linked to the school: *"The workers at our Hrazdan maternity hospital are mostly our graduates."* ***Administrative representative, IDI2, region*** *"90% get a job right away, the demand is big."* ***Instructor, FGD4 P1, Yerevan***

The interviews and focus group discussions reviled that students want to continue their education at higher-level education institutions after graduating the midwifery program. This of course would change their field of midwifery as in Armenia there is no university level education for midwives.

"There are students who do not want to work, they want to continue their education after graduating from here." ***Students, FGD1 P7, Yerevan***

"[Students would like] to have an opportunity to deepen our professional knowledge, to have an opportunity to continue [the education after graduation]." ***Students, FGD3 P1, region***

"We could have a contract with Heratsi [medical university], to be able to continue our education there." ***Students, FGD1 P8, Yerevan***

CONCLUSION

Summary of Main Findings

Curriculum related

- Most of the nursing schools mainly developed their curriculum based on the national criterion but there were obvious inconsistencies between schools' perception on how mandatory it was to follow or divert from the criterion. Moreover, the standardized module based curriculum was not completely implemented in all observed nursing schools. Some of them did not entirely follow the module-based approach established by national criterion.
- According to the participants, the obstacles related to curriculum review processes were the absence of standards for comparison and update and absence of finances to involve more parties in the process.
- Midwifery programs highly used interactive teaching methodology in their teaching practice.
- In some cases, midwifery program curriculum was described as intensive with unnecessarily heavy workload. Additionally, the document review revealed that most of the learning outcomes defined in modules of the national criterion focused more on theoretical knowledge rather than practical skills and abilities.
- Even though the national criterion did not have specific competencies in comparison with the ICM curriculum-mapping tool, most of the competency elements required by the ICM were present under different modules as specific learning outcomes.
- In comparison with the ICM standards some elements of different competencies were not enough specified and some of them were covered partially.
- Some topics and related outcomes required by the ICM, such as epidemiology, statistical methods of research; cultural, local and ethical beliefs; structure of the local health services; and leadership at clinical settings were completely absent from the criterion.

- Moreover, the modules of national criterion did not highlight the importance of midwives competencies on dealing with women's rights and health, domestic violence, as well as, competency in communication and support for women/families who are bereaved, victims of gender-based violence, HIV+ mothers and their babies.

Resources

- The nursing schools, especially the ones located in regions had poor and scarce resources including the state of the building, library/learning materials, equipment, and anatomical models essential for midwifery education. Moreover, the midwifery programs in Armenia missed specific textbooks to teach midwives.

Practice classes

- Midwifery students faced challenges in being involved in medical procedures during their practice because of medical students getting priority over them, private hospitals not trusting their patients with inexperienced interns, or the absence of trust by the patients themselves.
- The minimal skills required by students to deliver during practice were far from the responsibilities of a midwife required by not only the international but also the national standards. Moreover, none of the study participants, believed that students would be able to manage labour or birth delivery on their own after graduating, including students themselves.

Policy

- The schools mainly lack the relevant established program policies on students' rights and responsibilities, their appeals and grievances.
- In none of the schools, students took official part in the curriculum review processes.
- The budget of nursing schools was mentioned to be not enough for covering all necessary expanses of the program. The decrease in the number of midwifery students over time, worsen this situation particularly in regions.
- All directors of nursing schools highlighted the importance of having program supporters; however, they did not describe their vision on collaboration with supporters.

- Despite the students' enthusiasm towards their profession and willingness to search for jobs after graduation, limited job opportunities was a barrier on students' professional growth path.

Faculty

- Midwifery subject was taught by a physician-gynecologists and a midwife. Regarding the midwives and nurses involvement as instructors; however, the most that had been achieved by several midwifery schools was having nurses and midwives teach practical classes only, while the physicians taught the theory.
- Module-based teaching methodology trainings for the faculty were the ones most frequently mentioned by the study participants; however, trainings based on medical specialization were the most valued and desirable trainings by the faculty.
- Study participants highlighted the importance of using computer resources for making the teaching methods more illustrative such as slide show presentations and videos.

RECOMMENDATIONS

The SPH CHSR in collaboration with UNFPA should:

- Initiate a broad discussion series that bring stakeholders together prior to conduct a comprehensive review of the role, scope of practice and competencies of midwives in Armenia and the alignment of education programs with the role.
- If the goal is to meet international standards, a long-term plan and a sustained commitment by an array of government, institutional, and public stakeholders will be required to make necessary changes.

Ministry of Education and Science should:

- Conduct a revision of the national criterion:
    - Make it competency based

    - Improve the alignment of the role and modules of the national criterion. More specifically, address inconsistencies between midwife job responsibility description and the learning objectives in each module
    - Narrow it down to more midwifery specific topics to direct the instructors in their teaching process
    - Experts in areas such as social behavioral sciences and epidemiologic research should be identified and recruited to be a part of developing and teaching a broader midwifery curriculum
- Ensure improvement of library resources and provide students and teachers with up-to-date books/handbooks/manuals specifically designed for midwifery education. This can be done through translation and adaptation of international evidence based literature including midwifery education textbooks and manuals.
- Ensure provision of equity based distribution of finances and tangible resources between Yerevan and regional nursing colleges
- Ensure presence of essential models including anatomical models, equipment and instruments for in-class practice in every college
- Ensure proper facility environment in regional colleges meeting the basic needs

School and program administration should:

- Initiate development and continuous implementation of official written program policies and strategic planning documents, which addresses subjects such as: Admission criteria for acceptance, midwifery program decision making processes, job descriptions, faculty workload and recognized models for program quality evaluation.
- Ensure students policies include statements about students' rights and responsibilities and an established process for addressing student appeals and/or grievances.
- Ensure students official involvement in evaluation of the program, curriculum and faculty.
    - Students should routinely contribute to evaluations of course content, instructors' teaching abilities and clinical mentoring. Their views and suggestions should be included in discussions about program improvements.

- Enhance students' experience in their practical classes bringing practice to more individual level, i.e. giving each student an opportunity to be attached to and learn from a senior midwife.
- Have trainings for program directors on effective identification, communication and collaboration with
    - Present and potential program supporters and donors
    - Potential host institutions (hospitals, clinical sites) where students can have productive practical classes
- Along with policy makers develop clinical teaching sites where students learning is an important responsibility of the onsite staff.
    - Establish contractual obligations between midwifery programs and clinical sites that outline mutual responsibilities for teaching and supervision of students.
    - Organize training sessions to help staff members (clinical sites) become mentors who support, guide and provide feedback to facilitate learning.
- Conduct a revision of exam types used in the student evaluation methodology not to have oral exams as the main prioritized exam type and give students a chance to demonstrate their knowledge and skills through a multi-comprehensive evaluation scheme.

<u>Faculty level</u>

- Recruit and develop faculty consisting of midwives with high-level education or formal preparation in midwifery not only to teach at the practice but theory level. Particularly:
    - To identify motivated, enthusiastic young teachers who are willing to be change agents
        - Search for funds to support them to undertake English language training in order to benefit from an array of online courses/programs about teaching and learning
- Have a database including faculty's CVs, employment contracts, performance reviews, subject and number of hours taught, and hours spent supervising students in practical sites.

- As a short term improvement, organize existing faculty trainings on midwifery teaching methodology based on the national criterion and internationally well-recognized standards (ICM, WHO):
    - Make awareness raising about the international practice, understand the essential competencies and models of practice and introduce competency-based learning and assessment.

EXPERT REVIEW AND FEEDBACK OF THE RESEARCH STUDY

Submitted by

Karyn J Kaufman DrPH, LLD (hc)
Professor Emerita
Faculty of Health Sciences
Midwifery Education Program
McMaster University
Hamilton, Ontario
Canada

January 19, 2019

Introduction

This report is submitted in response to a request to review and provide feedback about An Evaluation of Midwifery Education System in Armenia, a study conducted by Serine Sahakyan, et al. of the Turpanjian School of Public Health, American University of Armenia. The research team is to be commended for conducting this research and focusing attention on midwifery in Armenia. A 2014 publication, The State of the World's Midwifery,[1] contains descriptive data about midwifery in 73 countries, but Armenia is not among them. This study adds to the descriptive data about international midwifery but beyond being informative, it systematically evaluates the present system, and makes recommendations for improving midwifery education and the profession overall.

The study compared the curriculum criteria for midwifery programs set by the Armenian Ministry of Education and Science to key documents about education and practice from the International Confederation of Midwives (ICM). Schools were visited; the facilities and resources were audited and compared with the ICM list of resources deemed desirable for midwifery education programs. Interviews were done with students and teachers to gather further information about the curriculum, teacher qualifications and students' assessments of their theoretical and clinical preparation, and their participation in operational aspects of the program.

The methods are well described and are suited to the investigation of education programs. There was attention to gathering and reporting in detail the data gathered. The validity of the observations/ findings is enhanced by the multiple methods that were employed.

Background Information Related to ICM

As outlined by the research team, ICM is a voluntary organization whose members are midwifery associations. ICM promotes the midwifery profession; it issues statements, develops standards and resource materials to advance the education and practice of midwives globally. In addition to the Global Standards for Midwifery Education [2] and the Essential Competencies for Basic Midwifery Practice that were used in this study, the ICM definition of a midwife is foundational to an education program. It sets the expectation that midwives "practise within a professional framework of autonomy, partnership, ethics and accountability."[3] Midwifery is

further described as "an approach to care of women and their newborn infants whereby midwives:

- optimise the normal biological, psychological, social and cultural processes of childbirth and early life of the newborn;
- work in partnership with women, respecting the individual circumstances and views of each woman
- promote women's personal capabilities to care for themselves and their families
- collaborate with midwives and other health professionals as necessary to provide holistic care that meets each woman's individual needs."[3]

Several other ICM documents are highly relevant to the curriculum of midwifery education programs. The International Code of Ethics [4] and the Philosophy and Model of Practice [5] describe the values and principles upon which education standards are based. The Position Statements:[6] Midwives, Women and Human Rights and Partnership between Women and Midwives convey the importance of the supportive midwife-woman relationship.

ICM will be releasing soon a new version of the Essential Competencies for Midwifery Practice that will update and reinforce these aspects of midwifery practice. Also, ICM is in the early stages of establishing an accreditation process for midwifery education programs [7] who choose to be evaluated in relation to meeting ICM Global Midwifery Education Standards. These recent developments are intended to support change and foster the development globally of high-quality midwifery education programs.

ICM works closely with other international organizations, agencies, and governments in developing and disseminating information and recommendations relevant to midwifery education. Publications from WHO are highly useful, e.g. The Strengthening Midwifery Toolkit[8], particularly module 5 of the Toolkit,[9] and the description of core competencies for midwifery educators.[10,11]

Findings from the Comparative Assessment of Armenian Criteria and ICM Documents

While all the background documents cited above were not used in the assessment of the midwifery education system in Armenia, the systematic comparison of the Ministry's criteria compared with the Essential Competencies for Basic Midwifery Practice demonstrates significant gaps. **My conclusion is that midwifery education criteria in Armenia do not reflect ICM's fundamental philosophy and values, do not meet the Global Midwifery Education Standards in any category, and graduates do not attain the essential competencies.**

Recommendations Arising from the Comparative Assessment

The research team sets out recommendations to the Ministry of Education and Science, and to School and Program administrators. My comments and additions for consideration by the investigators are in the following sections.

Policy Formulation

The research report recommends the Ministry of Education and Science conduct a review of the national criteria for midwifery education programs. I suggest a more fundamental process be undertaken. A broad discussion needs to be convened that brings stakeholders together prior to any revision of criteria. There needs to be a comprehensive review of the role, scope of practice and competencies of midwives in Armenia and the alignment of education programs with the role. If the goal is to meet international standards, a long-term plan and a sustained commitment by an array of government, institutional, and public stakeholders will be required to make necessary changes. Such a process could be spearheaded by the School of Public Health and is a logical extension of the study.

There is ample justification for improving midwifery education. Midwives who are qualified to the international standard are competent to provide care on their own responsibility across the continuum of pre-pregnancy, pregnancy, birth, post partum and the early weeks of life. Midwifery care includes family planning and the provision of reproductive health services. There is an underlying philosophy of promoting normal processes of childbearing, preventing complications and reducing unnecessary interventions. Further, midwifery care exhibits values of respect, communication, community knowledge and care tailored to a woman's circumstances

and needs. The evidence of benefit from midwifery care is comprehensively described by Renfrew, et al.[12] As noted in the Comment by The Lancet editors,[13] care by midwives who are educated, regulated and integrated into the health care system has a positive impact on maternal and perinatal health. Midwives in Armenia can have such an impact, but support for quality education is a necessary prerequisite.

Curriculum Revision

Curriculum revision is essential. A competency-based curriculum ensures that graduates acquire the essential competencies by completion of the program. As graduates they must be prepared to assume responsibility and accountability for their practice. A competency-based curriculum integrates theoretical knowledge with the development of behavioural and psychomotor skills. Learning within clinical sites cannot be left to chance or confined to watching others but must be organized and mentored to assure that students progressively develop essential cognitive and technical skills.

Deficiencies in attaining competence

Despite the finding in the report that more than 60% of the time is spent in practical learning, there is a serious lack of quality clinical learning opportunities. The hospital experience is unstructured, and students are characterized as "audience, not performers." The authors note, *"none of the study participants, without exception, believed that students would be able to manage labour or a birth on their own after graduating, including students themselves."* (page 29 of the research report) It is very clear that students do not have enough "hands on" experience to be competent in intrapartum care.

The researchers state that only 1% of midwives are involved in prenatal care. Students cannot become competent in providing prenatal care without adequate role models and an explicit expectation that midwifery care includes pregnancy care. As well, there are notable gaps in the competency indicators for abortion related care and no evidence of participation in abortion counseling or post abortion care.

There is an apparent lack of clinical learning experiences in community settings. It appears students do not have opportunities to establish relationships with pregnant women during prenatal care and/or childbirth preparation and be part of their ongoing care through the birth and postnatal period. Students with such experiences are better able to understand the preferences and needs of individuals; they gain a longitudinal view from the woman's perspective of the childbearing experience. Building a partnership with women is a key factor in engendering trusting relationships that can enable women to learn for themselves and actively participate in making decisions about their care. This can be a transformative experience for women and strengthen their own capabilities.

Community experience is also necessary for developing competence in a broad range of health promotion activities beyond prenatal care. Community health programs such as sexual health and family planning, abortion counseling and post abortion care, pre-pregnancy preparation, maternal and infant nutrition, growth and development of infants and children should include midwives as key participants. Their advocacy for respectful and woman-centered care is essential to these services. The necessary knowledge base for students includes social and cultural influences on health, epidemiologic concepts and community health needs in addition to the specific subject matter of the activity. Well developed communication skills for individual and group situations are vital to the range of community programs.

Deficiencies in content areas

The interview data indicate the curriculum often includes materials not written for midwives. Midwifery care is about more than the biology and pathophysiology of pregnancy and childbirth. A broader focus that incorporates sociocultural, environmental and political determinants of women's health is needed. In addition, students need to learn how to appraise the source and validity of information. There is an ever-expanding amount of internet content related to childbearing; today's students (and teachers) require analytic skills based on an understanding of research methods to discern the scientific basis and relevance of that content. Experts in areas such as social behavioural sciences and epidemiologic research should be part of developing and teaching a broader midwifery curriculum.

Program Resources

Sites for clinical teaching

The research study recommends improved resources to support the education programs. As indicated above, clinical teaching sites are a crucial resource and programs must have access to both community and hospital sites where student learning is an important responsibility of the onsite staff. The lack of such resources is a barrier to students' abilities to attain the essential competencies.

Policy makers along with administrative staff of schools and facilities need to address this issue. Is it possible to establish contractual obligations between midwifery programs and clinical sites that outline mutual responsibilities for teaching and supervision of students? Are training sessions needed to help staff members become mentors who support, guide and provide feedback to facilitate learning? Can patient information materials be provided that describe the role of students in a clinical site, the quality of their supervision and the importance of student participation in providing care?

Teaching resources

An important need is accessing current, relevant and valid information about maternal and infant care, and more specifically about midwifery practice. I would argue against acquiring printed textbooks since they become rapidly out of date. Investing in increased online access and translating key resources is more worthwhile. There are new electronic versions of midwifery texts (see Appendix) that can be more easily updated and modified. Access to online sources that evaluate the evidence about aspects of care, such as the pregnancy and childbirth section of the Cochrane Library,[14] journal articles, and reference materials like those previously mentioned from ICM, WHO, UNFPA, etc. are essential to students and teachers. I recognize there are language barriers that limit the ease of use of many resources, but translation of key materials is warranted.

The authors document a need for resources such as anatomic models and technical equipment to assist students in acquiring communication and psychomotor skills. These resources are helpful, most often to beginning level students, for building confidence and developing "hands-on" skills

(e.g. physical examination, delivery of infant, use of instruments). They are also very useful to teachers for assessing whether students are demonstrating increasing competence as they progress in the program. The highly sophisticated models of pregnancy and birth have an allure but do not offer a marked advantage over low cost models, including some that can be hand made. Models can complement actual clinical experience, but they are not a substitute.

Simulated situations are a useful resource for student learning. Women with an interest in midwifery can contribute to student learning. Women (pregnant or not) from the community could be recruited to be enthusiastic "pretend" patients for students to practice their skills in interviewing, history taking, counseling, teaching about childbirth. The women can act from a script rather than relying on their personal circumstances. This is an innovative and mutually beneficial experience. Women become valuable teachers by providing feedback and suggestions to improve students' interpersonal skills.

Developing Qualified Midwifery Teachers

I fully concur with the study authors' recommendation for recruiting and developing qualified midwifery faculty. The Global Standards for Midwifery Education state that a midwifery faculty includes predominantly midwives (teachers and clinical preceptors/clinical teachers) who work with experts from other disciplines as needed. The study findings indicate more than half of the instructors are physicians. While medical faculty should contribute to content about reproductive physiology, pathologic conditions and their treatment, it is essential that midwives teach the scope of midwifery care and assess the development of competence of students. In the Armenian schools, midwives are not viewed as qualified to teach theoretical material but may provide practical teaching. However, it seems students are not mentored by senior midwives, even in clinical settings.

The development of midwifery faculty with advanced education requires a long-term plan but should be initiated as an early step in program improvements. Is it possible to identify motivated, enthusiastic young teachers who are willing to be change agents? Can they be supported to undertake English language training in order to benefit from an array of online courses/programs about teaching and learning? Can funds be sought to support faculty development opportunities with a university that has a record of international development? An

example can be seen in the transformation of midwifery in Bangladesh in association with Dalarna University in Sweden.[15]

In the shorter term, in-service programs should be organized for existing midwifery teachers to raise awareness of international standards of midwifery education and practice, understand the essential competencies and models of practice, and introduce competency-based learning and assessment. The latter seems to be an acute need based on the finding that oral exams are the dominant form of assessing learning. As mentioned earlier, documents from WHO and ICM can be helpful in designing such programs.

Students Involvement

The research team found a notable lack of policies about students and an absence of student participation in program operation. Midwifery students are being prepared for professional roles as graduates, roles which have inherent responsibilities. Part of their learning is to assume responsibility while being a student. Students should become active learners, not passive recipients of facts to be recalled for an exam. They should engage in reflection and evaluation of their own performance and formulate with teachers their individual learning plan for developing their skills and knowledge. Students should routinely contribute to evaluations of course content, instructors' teaching abilities and clinical mentoring. Their views and suggestions should be included in discussions about program improvements. When teachers partner with students in the learning process it becomes a model for how midwives partner with women in the provision of care.

Conclusion

I support the recommendations of the study team and encourage them to take active steps to implement them with the parties involved. The comments in the preceding paragraphs are intended to extend and amplify their recommendations, most especially to work at establishing clearly the vision for midwifery in the country. Without a clear consensus on the role and scope of midwives the other recommendations will have limited relevance.

I extend thanks to the investigators for the opportunity to review their findings and to learn about the status of midwifery in Armenia. In my experience the education and practice of female

dominated professions, such as midwifery, reflect in large measure the overall status of women in a society. Influencing change for midwives can lead to changes in other aspects of women's health care. A study such as this one provides a lens through which the large social issues that affect women's overall health can be examined. It is my hope that this study can have such an impact.

Cited References

1. UNFPA. The State of the World's Midwifery 2014: A Universal Pathway. A Woman's Right to Health. https://www.unfpa.org/sowmy
2. ICM. Global Standards for Midwifery Education. 2011, amended 2013. https://www.internationalmidwives.org/assets/files/education-files/2018/04/icm-standards-guidelines_ammended2013.pdf
3. ICM. Definition of Midwifery. https://www.internationalmidwives.org/assets/files/definitions-files/2018/06/eng-definition_midwifery.pdf
4. ICM. International Code of Ethics. https://www.internationalmidwives.org/assets/files/definitions-files/2018/06/eng-international-code-of-ethics-for-midwives.pdf
5. ICM. Philosophy and Model of Midwifery Care. https://www.internationalmidwives.org/assets/files/definitions-files/2018/06/eng-philosophy-and-model-of-midwifery-care.pdf
6. ICM. Position Statements: Midwives, Women and Human Rights; Partnership between Women and Midwives; https://www.internationalmidwives.org/our-work/policy-and-practice/icm-position-statements/
7. Andrea Nove, Sally Pairman, Leah F. Bohle, Shantanu Garg, Nester T. Moyo, Michaela Michel-Schuldt. The development of a global Midwifery Education Accreditation Programme. Published online 2018-01. https://doi.org/10.1080/16549716.2018.1489604
8. WHO (2011) The Strengthening Midwifery Toolkit http://www.who.int/maternal_child_adolescent/documents/strenthening_midwifery_toolkit/en/
9. WHO (2011) Developing a midwifery curriculum for safe motherhood: guidelines for midwifery education programs http://apps.who.int/iris/bitstream/10665/44645/5/9789241501965_module5_eng.pdf
10. WHO (2014) Midwifery Educator Core Competencies http://www.who.int/hrh/nursing_midwifery/midwifery_educator_core_competencies.pdf?ua=1
11. WHO Midwifery Educator Core Competencies Adaptation Tool (2016) https://www.who.int/hrh/nursing_midwifery/midwifery_educator_core_compt_adapt_tool.pdf
12. Renfrew MJ, McFadden A, Bastos MH, Campbell J, Channon AA, Cheung NF, et al. Midwifery and quality care: Findings from a new evidence-informed framework for maternal and newborn care. Lancet. 2014;384(9948):1129–45. Accessed Jan 2019. DOI:https://doi.org/10.1016/S0140-6736(14)60789-3
13. Horton R, Astudillo O. The power of midwifery. Lancet. 2014 http://dx.doi.org/10.1016/SO140-6736(14)60855-2
14. Cochrane Library www.cochranelibrary.org

15. Bogren, M, Begum, F, & Erlandsson, K. The Historical Development of the Midwifery Profession in Bangladesh. Journal of Asian Midwives. 2017;4(1):65–74. Accessed Jan 2019. https://ecommons.aku.edu/cgi/viewcontent.cgi?article=1050&context=jam

REFERENCES

1. WHO. *Midwifery Educator Core Competencies*.; 2014.
2. International Confideration of Midwives. International definition of the midwife. http://internationalmidwives.org/who-we-are/policy-and-practice/icm-international-definition-of-the-midwife/. Accessed July 4, 2018.
3. Emons JK, Luiten MIJ. *Midwifery in Europe:An Inventory in Fifteen EU-Member States*.; 2001.
4. WHO. *The State of the World's Midwifery 2011: Delivering Health, Saving Lives*.; 2011.
5. International Confideration of Midwives. *Definition of Midwifery*.; 2017.
6. World Health Organization Regional Office for Europe. *Pathways to Strengthening Midwifery in Europe*.; 2015.
7. AHPRA. *English Language Skills*.; 2016.
8. Benoit C, Davis-Floyd R, Van Teijlingen E, Sandall J, Miller J. Designing midwives: a comparison of educational models. *Birth by Des Pregnancy,Materity Care, Midwifery North Am Eur*. 2001:139-165.
9. Marzalik PR, Feltham KJ, Jefferson K, Pekin K. Midwifery education in the U.S. - certified nurse-midwife, certified midwife and certified professional midwife. *Midwifery*. 2018;60(January):9-12.
10. Lange G, Kennedy HP. Student perceptions of ideal and actual midwifery practice. *J Midwifery Women's Heal*. 2006:71-77.
11. Europian Union. Access to European Union law. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32013L0055. Accessed July 4, 2018.
12. Mivšek P, Baškova M, Wilhelmova R. Midwifery education in Central-Eastern Europe. *Midwifery*. 2016.
13. BabyCentre UK. How to become a midwife. https://www.babycentre.co.uk/a1037429/how-to-become-a-midwife. Accessed July 4, 2018.
14. Nursing and Midwifery Council. *Standards for Pre-Registration Midwifery Education*.; 2015.
15. Ellis C. Assessment of the midwifery educatio program at the University of British Columbia – a survey of graduates and midwife mentors. *Can J Midwifery Res Pract*.

2013;12:8-18.

16. Yigzaw T, Ayalew F, Kim YM, et al. How well does pre-service education prepare midwives for practice: Competence assessment of midwifery students at the point of graduation in Ethiopia. *BMC Med Educ*. 2015.
17. Castro Lopes S, Nove A, ten Hoope-Bender P, et al. A descriptive analysis of midwifery education, regulation and association in 73 countries: The baseline for a post-2015 pathway. *Hum Resour Health*. 2016.
18. International Confideration of Midwives. *Essential Competencies for Basic Midwifery Practice 2010: Revised 2013 PREFACE*.; 2010.
19. International Confideration of Midwives. *The Hague, The Netherlands Annual Report 2016*.; 2017.
20. International Confideration of Midwives. *Global Standards for Midwifery Regulation (2011)*.; 2011.
21. Ministry of Education and Science. Profession. https://www.dasaran.am/apps/admissioncollege/profession-item/id/1. Accessed July 17, 2018.
22. Yerevan State College of Humanities. *The Secondary Education in Armenia*. Yerevan
23. Ministry of Justice. *Legal Information Center*.; 2005.
24. Ministry of Education and Science. Educational curriculum and module based program for "Midwifery" vacaional education. mkuzak.am.
25. National Statistics Service, Ministry of Health, The DHS Program. *Armenia Demographic Health Survey*. Yerevan; 2016.
26. International Confideration of Midwives. *ICM Standard Equipment List for Competency-Based Skills Training in Midwifery Schools*.; 2012.
27. International Confideration of Midwives. *Monitoring Midwifery Competencies Self-Sssessment Tool*.; 2013.
28. International Confideration of Midwives. *Curriculum Mapping Tool: Essential Competencies for Basic Midwifery Practice*.; 2013.
29. Akopyan K, Kagan S, Melkom-Melkomian D, Petrosyan V, Sahakyan S, Simonyan M. *National Assessment of Nursing Education, Practice, and Policy in Armenia: A Mixed-Method Study*.; 2015.

30. Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol*. 2013;13(1):117. doi:10.1186/1471-2288-13-117
31. Bradley EH, Curry LA, Devers KJ. Qualitative data analysis for health services research: developing taxonomy, themes, and theory. *Health Serv Res*. 2007;42(4):1758-1772. doi:10.1111/j.1475-6773.2006.00684.x
32. Shenton AK. Strategies for ensuring trustworthiness in qualitative research projects. *Educ Inf*. 2004;22:63-75.
33. Creswell JW, Miller DL. Determining Validity in Qualitative Inquiry. *Theory Pract*. 2000;39(3):124-130. doi:10.1207/s15430421tip3903_2

Tables

Participants Demographics

Table 1: Number of IDIs, FGDs and study participants by occupation

Participants	Type of Interview	Number of Interviews	Number of Participants
Instructors	FGD/IDI	4/1	14
Students	FGD	5	34
Administrative representatives	IDI	5	6
Total		**15**	**54**

Document review tables based on ICM required competencies

Table 2. Existence of ICM required 1st competency elements in the National Criterion for Midwifery Education

ICM Required Points	Not met 0	Partially met 0.5	Unspecified 0.5	Completely met 1
Basic knowledge				
1. Community and social determinants of health		**x**		
2. Community-based primary care, health promotion, disease prevention and control				**x**
3. Community causes of maternal and neonatal mortality and morbidity	**x**			
4. How to conduct maternal/neonatal morbidity and mortality audits	**x**			
5. Principles of epidemiology	**x**			
6. Infection prevention: method				**x**
7. Fundamentals of statistics and research; how to review evidence-based practice literature	**x**			
8. Advocacy for evidence-based midwifery practice to advance MCH public health policy	**x**			
9. Quality indicators for health services	**x**			
10. Health education: methods				**x**
11. Structure of local health services	**x**			
12. National health services for maternal/newborn health				**x**
13. Referral: communication and resources		**x**		
14. Legal and regulatory framework of reproductive health (laws, policies, guidelines)			**x**	
15. Human rights; women's rights			**x**	
16. Advocacy and empowerment strategies for women so their voices are heard	**x**			
17. Advocacy for normal physiologic labor & birth to enhance best outcomes for mothers and infants		**x**		
18. Local cultural beliefs and customs	**x**			
19. Traditional and modern health practices in the community (beneficial and harmful)		**x**		
20. Community birth settings – benefits and risks	**x**			

21. Communication and advocacy strategies for women		**x**	
			7.5 out of 21
Professional behavior			
1. Responsibility and accountability		**x**	
2. Professional ethics, values, support of human rights			**x**
3. Standards of practice	**x**		
4. Continuing professional development			**x**
5. Universal/standard precautions/infection prevention			**x**
6. Culturally and professionally appropriate behavior and communication style			**x**
7. Respect for cultural beliefs and customs; unbiased behavior	**x**		
8. Confidentiality of client information		**x**	
9. Promotion of informed choice		**x**	
10. Collaboration and interdisciplinary teamwork			**x**
			6.5 out of 10
Skills and/or abilities			
1. Engaging in health education discussions			x
2. Communication and listening			x
3. Assembly, use and maintenance of equipment	x		
4. Recording of findings			x
5. Registration of births and deaths			x
6. Leadership in clinical settings	x		
			4 out of 6
			Total 48.6%

Table 3. Existence of ICM required 2nd competency elements in the National Criterion for Midwifery Education

	Not met 0	Partially met 0.5	Unspecified 0.5	Completely met 1
Basic knowledge				
1. Sexual growth and development				x
2. Male and female reproductive anatomy and physiology				x
3. Cultural norms and practices related to sexuality	x			
4. Components of health, family and genetic history-taking			x	
5. Physical examination and laboratory investigations				x
6. Health education content related to sexual and reproductive health		x		
7. Pharmacokinetics of family planning commodities		x		
8. Natural family planning methods				x
9. Modern medical and surgical methods of family planning		x		
10. Medical eligibility criteria for use of modern FP methods		x		
11. Elements of decision-making related to FP		x		
12. Signs and symptoms of reproductive tract infections				x
13. Community-specific diseases that affect reproductive health	x			
14. Referral methods and resources relating to women's rights and health (e.g., domestic violence)	x			
15. Cervical cancer screening methods				x
				9 out of 15
Skills				
1. Conducting a reproductive health history				x
2. Preconception counselling	x			
3. Conducting a physical examination				x
4. Interpretation of results of laboratory tests common to reproductive health	x			
5. Interpretation of results of laboratory tests relevant to country-specific burden of disease	x			
6. Counselling women who are HIV positive, or status is unknown	x			
7. Midwifery provision of family planning methods and commodities (in accord with legal/regulatory authority)			x	
8. Advising about side effects of FP				x
9. Management of side effects of FP	x			
10. Midwifery provision of emergency contraceptive medications				x

11. Conduct of (or referral for) cervical cytology test	x	
		5 out of 11
		Total 53.8%(14/26)

Table 4. Existence of ICM required 3rd competency elements in the National Criterion for Midwifery Education

	Not met 0	Partially met 0.5	Unspecified 0.5	Completely met 1
Basic Knowledge				
1.Human anatomy and physiology				x
2. Biology of human reproduction				x
3. Signs and symptoms of pregnancy				x
4. Tests for confirmation of pregnancy				x
5. Diagnosis of ectopic pregnancy				x
6. Principles and methods for dating pregnancy		x		
7. Components of a focused antenatal history and physical examination				x
8. Signs of female genital cutting and its effects of reproductive health	x			
9. Normal limits of results from community-relevant laboratory tests commonly performed in pregnancy				x
10. Normal changes related to progression of pregnancy				x
11. Indications and implications of deviations from expected fundal growth patterns		x		
12. Fetal risk factors requiring transfer of women to higher levels of care during the antenatal period				x
13. Assessment of fetal well-being (heart tones, activity)				x
14. Non-pharmacological measures for relief of common discomforts of pregnancy		x		
15. Nutritional needs during pregnancy	x			x
16. Health education topics relevant during pregnancy				x
17. Principles of pharmacokinetics of drugs commonly taken during pregnancy			x	
18. Maternal and fetal effects of prescribed and illicit drugs taken during pregnancy			x	
19. Maternal and fetal effects of smoking and alcohol during pregnancy			x	
20. Topics important to birth planning		x		
21. Topics important to preparation of home for the newborn	x			
22. Signs and symptoms of the onset of labor				x
23. Relaxation and pain relief methods for use during labor				x
24. Signs and symptoms of conditions that are life-threatening to woman or fetus during pregnancy				x

25. Information relevant to counselling or care of the HIV+ women, and prevention of maternal to child transmission		x		
26. Signs and symptoms and indication for referral for complications that arise during pregnancy (included but not limited to diabetes, cardiac conditions, mal-presentations/abnormal lies, placental disorders, pre-term labor)				x
27. Preparation for breastfeeding				x
28. Principles of malaria prevention and control *(optional)*				x
29. Pharmacology of de-worming in pregnancy (*optional)*		x		
				23 out of 29
Skills				
1. Conduct of an interval antenatal history			x	
2. Physical examination				x
3. Assessment of maternal vital signs				x
4. Assessment of and provision of advice about maternal				x
5. Nutrition				
6. Abdominal assessment				x
7. Fetal growth assessment (manual)				x
8. Assessment of fetal growth, placental placement, and amniotic fluid volume		x		
9. Assessment of fetal heart rate and activity				x
10. Monitoring fetal heart rate (ultrasound) optional	x			
11. Pelvic examination, including uterine sizing				x
12. Clinical pelvimetry				x
13. Calculation of the estimated date of delivery				x
14. Counselling and health education about pregnancy progression and danger signs				
15. Teaching/demonstrating methods to decrease common discomforts for pregnancy			x	
16. Providing guidance for preparation for labor, birth and parenting				
17. Identification of variations from normal pregnancy; independent or collaborative management of (low or inadequate maternal nutrition, inadequate of excessive uterine growth, signs and symptoms indicating onset of pre-eclampsia, vaginal bleeding, multiple gestation and/or abnormal lie, intrauterine fetal death, rupture of membranes prior to term, HIV+ status and/or AIDS, Hepatitis B and/or C +)		x		

18. Midwifery provision of selected, life-saving drugs (in accord with legal/regulatory authority)		x	
19. Identification of deviations from normal pregnancy progression and how to implement referral	x		
			12 out of 19
			Total 72.9%

Table 5. Existence of ICM required 4th competency elements in the National Criterion for Midwifery Education

	Not met 0	Partially met 0.5	Unspecified 0.5	Completely met 1
Basic knowledge				
1. Physiology of first, second, and third stages of labour				x
2. Anatomy of the foetal skull, diameters and landmarks				x
3. Psychological and cultural aspects of labour and birth		x		
4. Indicators of latent phase and onset of active labour				x
5. Indications for stimulation and augmentation of labour	x			
6. Normal progression of labour				x
7. How to use the partograph				x
8. Measures to assess foetal well-being in labour	x			
9. Mechanisms of labour and foetal descent				x
10. Comfort measures in first and second stages of labour				x
11. Pharmacological measures for control of labour pain, including risks and benefits (bleeding, arrest of labour, mal-presentation, pre-eclampsia/eclampsia, maternal and/or foetal distress, infection, prolapsed cord)				x
12. Principles of prevention of pelvic and perineal floor damage			x	
13. Indications for performing an episiotomy				x
14. Principles of expectant (physiologic) management of 3rd stage of labour			x	
15. Principles of active management of 3rd stage of labour				x
16. Principles underpinning technique for repair of perineal tears and episiotomy	x			
17. Indicators of need for emergency management, referral or transfer for obstetric complications	x			
18. Indicators of need for operative deliveries, vacuum extraction, use of forceps or symphisotomy				x
				13 out of 18
Skills and/or abilities				
1.Taking an interval history and maternal vital signs in labour	x			

2.Performing a focused physical examination in labour				x
3.Abdominal assessment for foetal position and descent				x
4.Timing and assessing the effectiveness of uterine contractions				x
5.Pelvic examination for dilatation, effacement, descent, presenting part, position, status of membranes, and adequacy of pelvis for vaginal birth			x	
6.Monitoring progress of labour using partograph or similar tool	x			
7.Providing physical and psychological support during labour				x
8.Facilitating presence of a support person during labour and birth				x
9.Provision of hydration, nutrition and non-pharmacological comfort measures		x		
10. Midwifery provision of pharmacologic therapies during labour and birth (in appropriate settings)				x
11. Bladder care	x			
12. Identification of abnormal labour patterns; mechanisms for consultation and/or referral		x		
13. Stimulation/augmentation of labour (non-pharmacologic)	x			
14. Simulate or augment uterine contractility, using pharmacologic agents (in appropriate birth settings)	x			
15. Administration of local anaesthetics to perineum			x	
16. Performing an episiotomy	x			
17. Hand manoeuvres for vertex birth	x			
18. Hand manoeuvres for face and breech deliveries				x
19. Clamping and cutting the umbilical cord	x			
20. Performing live-saving interventions in obstetric emergencies (including but not limited to (prolapsed cord, mal-presentation, shoulder dystopia, foetal distress)	x			
21. Management of cord around the baby's neck	x			
22. Support of physiologic management of 3rd stage of labour	x			
23. Conduct active management of 3rd stage of labour following most current evidence-based protocols (administration of uterotonic drugs, appropriate handling of cord, performing uterine massage after delivery of placenta)	x			
24. Inspection of placenta and membranes	x			
25. Fundal massage in immediate postpartum period	x			

26. Facilitation of mother/infant bonding				x
27. Estimation and recording of blood loss	x			
28. Inspection of vagina and cervix for lacerations				x
29. Episiotomy repair	x			
30. Repair of 1st and 2nd degree perineal or vaginal lacerations			x	
31. Management of postpartum bleeding and haemorrhage				x
32. Midwifery provision of life-saving drugs (in accord with legal/regulatory authority)	x			
33. Manual removal of placenta				x
34. Bimanual compression of uterus				x
35. Aortic compression	x			
36. Identification and management of shock				x
37. Mechanisms for referral and transfer in emergency situations	x			
38. Adult cardio-pulmonary resuscitation				x
				16.5 out of 38
				Total 52%

Table 6. Existence of ICM required 5th competency elements in the National Criterion for Midwifery Education

	Not met 0	Partially met 0.5	Unspecified 0.5	Completely met 1
Basic knowledge				
1. Physical and emotional changes that follow childbirth		x		
2. Physiology and process of lactation; common variations		x		
3. Importance of early breastfeeding for mother & child			x	
4. Maternal needs in postpartum (nutrition, rest, activity)			x	
5. Principles of parent/infant bonding and attachment				
6. Indicators of sub-involution			x	
7. Indicators of breastfeeding problems/complications				x
8. Signs and symptoms of life threatening postpartum conditions (persistent vaginal bleeding, embolism, pre-eclampsia/eclampsia, mental depression)		x		
9. Signs and symptoms of postnatal complications (including but not limited to haematoma, thrombophlebitis, obstetric fistula)		x		
10. Principles of provision of support for women/families who are bereaved	x			
11. Principles of support for adolescents, and victims of gender-based violence	x			
12. Principles of manual vacuum extraction to remove retained products of conception				x
13. Principles of prevention of (maternal to child transmission of HIV, tuberculosis, Hepatitis B and C)		x		
14. Methods of family planning appropriate for use in the immediate postpartum period				x
15. How/where to access community-based postpartum services	x			
				7 out of 15
Skills				
1. Taking a selective postpartum history	x			
2. Performing a focused physical examination of mother				x
3. Provision of information and support for families who are bereaved	x			
4. Assessment of uterine involution and healing of lacerations and/or repairs	x			
5. Initiate and support early breastfeeding (within the first hour)				x
6. Expression and storage of breast milk				x
7. Maternal self-assessment and self-care in postpartum				x

8. Provision of family planning services in the postpartum period		
9. First-line treatment for postpartum complications		x
10. Provision of emergency treatment/referral of late postpartum haemorrhage	X	
		5.5 out of 10
		Total 50%(12.5/25)

Table 7. Existence of ICM required 6th competency elements in the National Criterion for Midwifery Education

	Not met 0	Partially met 0.5	Unspecified 0.5	Completely met 1
Basic knowledge				
1. Elements of assessment of immediate & subsequent condition of newborn (including APGAR scoring system, or other method of assessment of breathing and heart rate)				x
2. Principles of newborn adaptation				x
3. Basic needs of newborn: established breathing, warmth, nutrition, attachment (bonding)				x
4. Advantages of various methods of newborn warming (including skin-to-skin)				x
5. Methods and means of assessment of gestational age	x			
6. Characteristics of low birth weight infants and their special needs				x
7. Characteristics of the healthy newborn			x	
8. Normal growth and development of the preterm infant				x
9. Normal newborn and infant growth and development				x
10. Common variations in the normal newborn				x
11. Elements of health promotion and prevention of disease in newborns and infants, including daily care needs		x		
12. Immunization schedules, risks, benefits				x
13. Traditional or cultural practices related to the newborn	x			
14. Principles of infant nutrition, feeding cues, and infant feeding options for babies (including those born to HIV+ mothers)		x		
15. Signs, symptoms, & indication for referral or transfer for selected newborn complications (jaundice, hypoglycaemia, infection, newborn syphilis)	x			
				10.5 out of 15
Skill				
1. Provide immediate care to the newborn, including drying, warming, ensuring that breathing is established, cord clamping and cutting when pulsation ceases		x		
2. Assess the immediate condition of newborn (e.g., APGAR scoring or other assessment method of breathing and heart rate)				x
3. Use methods to maintain newborn body temperature				x

4. Begin emergency measures for respiratory distress (newborn resuscitation, suctioning in case of airway obstruction, hypothermia, hypoglycaemia)				x
5. Provide care for the low birth weight baby				x
6. Perform screening physical examination; identify conditions of newborn incompatible with life	x			
7. Perform gestational age assessment	x			
8. Provide routine care of the newborn; compliance with local guidelines (included but not limited to eye care, medication/immunization, screening tests, birth registration)		x		
9. Support/provide instructions for breastfeeding				x
10. Recognize indications of need, stabilize & transfer at-risk newborn to emergency care facility when available	x			
11. Identification of newborn danger signs; education of parents regarding same	x			
12. Monitoring normal growth and development; education of parents regarding same				x
13. Methods of support for parents during transport/transfer/separation from infant	x			
14. Methods of support for parents of multiple births	x			
15. Methods of support for babies born to HIV+ mothers	x			
				7 out of 15
				Total 58.3%

Table 8. Existence of ICM required 7th competency elements in the National Criterion for Midwifery Education

	Not met 0	Partially met 0.5	Unspecified 0.5	Completely met 1
1. Policies, protocols, laws and regulations related to abortion-related services	x			
2. Factors involved in decisions relating to unintended or mistimed pregnancies	x			
3. Family planning methods appropriate for use during the post-abortion period				x
4. Medical eligibility criteria for all available abortion methods	x			
5. Care, information and support that is needed during and after miscarriage or abortion; community resources				x
6. Normal process of involution, physical and emotional healing following miscarriage or abortion	x			
7. Signs and symptoms of sub-involution and/or incomplete abortion	x			
8. Signs and symptoms of abortion complications and life threatening conditions	x			
9. Pharmacotherapeutic basics of drugs recommended for use in medication abortion	x			
10. Principles of uterine evacuation via manual vacuum aspiration	x			
				2 out of 10
Skills				
1. Assessment of gestational age of foetus/pregnancy gestation		x		
2. Counselling women about available services related to abortion decision-making	x			
3. Conducting clinical and social history to identify contraindications to medication or aspiration abortion	x			
4. Counselling regarding sexuality and family planning post-abortion		x		
5. Providing family planning services concurrent with abortion services	x			
6. Assessment of uterine involution	x			
7. Education of mother for self-care and identification of complications				x
8. Identification of indicators of abortion-related complications; emergency management and referral resources	x			
				2 out of 8
				Total 22%

Resource Observation Tables

Table 9. The Availability of the Anatomical models: the number of observed items in five participating nursing schools

Observational items	School 1 (Yerevan)	School 2 (Region)	School 3 (Region)	School 4 (Yerevan)	School 5 (Region)
1. Zoe or Mama Natalie Models:					
a. *Non Pregnant*	1	1	0	1	1
b. Pregnant (1st, 2nd, 3rd trimesters simulator)	0	0	0	1	0
c. Pelvic Model	1	0	0	1	6*
2. Childbirth Simulator / Maternal and neonatal birth simulator	0	0	0	1	0
3. Condom model on base	0	0	0	1	1
4. IUD hand held model	3	0	0	1	1
5. Anatomic models for injections in arm, buttock and thigh) (May use soft doll or small piece of fruit)	1	1	2	3	2
6. Pregnant abdomen model (for palpation – if Zoe model is not available)	1	0	0	2	0
7. Breast (and breastfeeding) model	1	0	0	1	0
8. Bony pelvis (hard: landmarks identified)	3*	1	1	4	6
9. Foetal skull (landmarks identified)	5†	0	0	1	0
10. Foetal baby, umbilical cord and placenta for vacuum delivery	1	1	0	1	2
11. Uterus and placenta models	1	1	0	1	0
12. Cervical replicas (for IUD insertion)	1	1	0	1	0
13. Cervical dilation model (plastic)	0	1	0	0	0
14. Adult resuscitation doll/model	0	1	2	2	0
15. Newborn resuscitation doll/model	0	0	4	2	0
16. Foetus	3	0	1	1	0
17. Perineum cutting and suturing training simulator (or 6-inch sponge blocks)	0	0	0	1	0
18. Small ball (cricket, baseball, tennis) & socks for assessing dilatation of cervix	0	0	0	0	0
Total	**22**	**8**	**10**	**26**	**19**

** | School 1 – 2 items were old and difficult to use*
† | School 1 – 3 items were old, but useable
** | School 5 – 5 items were old and difficult to use*

Table 10. The availability of surgical and obstetric equipment: the number of observed items in five participating nursing schools

Observational items	School 1 (Yerevan)	School 2 (Region)	School 3 (Region)	School 4 (Yerevan)	School 5 (Region)
1. Implant Insertion/removal kit					
a. Trocar and cannulae	1	1	0	1	1
b. Scalpel and holder	1	1	0	1	1
c. Blade	1	1	0	1	0
d. Mosquito artery forceps (curved and straight)	1	1	0	1	1
e. Tweezers	1	1	1	1	1
2. IUD insertion kit					
a. Tenaculum (atraumatic and/or single tooth)	2	1	2	2	1
b. Uterine Sound	1	0	0	1	0
c. Bi-valve vaginal speculum	1	1	2	1	2
d. Ring forceps	1	1	0	1	1
e. IUD drive tube	0	0	0	1	0
3. Adult weighing scale	0	0	0	1	1*
4. Infant weighing scale	1	1	0	2	1
5. Adult blood pressure apparatus (including stethoscope)	2	1*	2	3	1
6. Newborn blood pressure apparatus (optional)/stethoscope	0	0	0	0	0
7. Reflex hammer	0	1	0	1	1
8. Pen light/small flashlight	0	0	0	1	0
9. Measuring tape	1	1	0	6	1
10. Tongue depressors	1	1	2	3	1
11. Thermometer	1	1	0	1	1
12. Vaginal speculums – various sizes	1	1	1	3	1
13. Receiving bowls (various sizes, for solutions and for collection of specimens)	0	0	0	1	1
14. Graduated measuring jug	0	0	0	1	1
15. IV administration stand/pole	1	0	2†	3	1
16. Tourniquet	1	1	2	1	1
17. Foetoscope (foetal stethoscope)	0	1	1*	1	1
18. Doptone	0	0	0	0	0
19. Cord scissors	0	0	0	1	0
20. Curved mayo scissors (5.5 in. or 14 cm.)	1	1	0	1	0
21. Large straight scissors	1	0	1	1	1
22. Ring forceps 9.5 in. or 24.2 cm. (sponge holding forceps-straight)	1	1	7	1	1
23. Kocher 140 mm. straight (for amniotomy) and/or amniotomy hook	1	1	1	1	1
24. Long dressing forceps	1	1	1	1	1

25. Needle holding forceps	2	1	0	1	1
26. Needle extender	0	1	0	1	1
27. Dissecting forceps/pickups (plain and rat-toothed)	0	1	0	1	1
28. Large haemostat (7 inch artery forceps)	1	1	1	1	1
29. Episiotomy kit (stainless steel container with some of the items on this list)	1‡	1‡	0	1	0
30. Delivery Kit (box/bag containing some of the items on this list)	1*	0	0	1	0
31. Transport incubator (or box fitted as simulation)	0	0	0	0	0
32. Ambu bag (adult and paediatric) with masks	0	0	4	1	0
33. Suturing set (box/bag containing some of the items on this list)	1	1	1	1	1
34. Manual Vacuum Aspirator (MVA Plus)	0	0	0	0	0
35. Set of dilators (tapered dilators, such as Pratt or Denniston, are best)	1*	1	0	1	0
36. Strainer for tissue inspection	1*	1	0	0	0
37. Clear containers or basin/plastic buckets (for decontamination)	1	0	0	1	0
38. Delivery bed (patient bed, or delivery table, with privacy screens)	1*	1	0	1	0
39. Equipment cart with wheels	1*	1	1	1	1
40. Sterilization kit or autoclave	1	1	1	1	1
41. Microscope and supplies (optional)	1	1	1	1	1
42. Haemoglobinometer (optional)	1*	0	0	0	1
43. Vacuum extractor (optional)	1	0	0	0	3
Total	**39**	**33**	**34**	**59**	**37**

† | old, but useable

** | old/damaged and difficult to use*

Table 11: The availability of learning materials for midwifery education in five participating nursing schools

Observational items	School 1 (Yerevan)	School 2 (Region)	School 3 (Region)	School 4 (Yerevan)	School 5 (Region)
	Yes	***Yes***	***Yes***	***Yes***	***Yes***
1. Learning material/handbook/handout on female reproductive anatomy	✓	✓	✓	✓	✓
2. Learning material/handbook/handout on male reproductive anatomy	✓	–	✓	✓	–
3. Learning material/handbook/handout on normal changes of pregnancy	✓	✓	✓	✓	✓
4. Learning material/handbook/handout on prenatal discomforts	✓	✓	✓	✓	–
5. Learning material/handbook/handout on foetal development	✓	✓	✓	✓	✓
6. Learning material/handbook/handout on stages of labour	✓	✓	✓	✓	✓
7. Learning material/handbook/handout on cervical dilation and foetal descent	✓	✓	✓	✓	✓
8. Learning material/handbook/handout on mechanisms of birth (vertex & breech)	✓	✓	✓	✓	✓
9. Learning material/handbook/handout on malpresentations	✓	✓	✓	✓	✓
10. Learning material/handbook/handout on episiotomy	✓	✓	✓	✓	✓
a. How to perform an episiotomy					
b. How to anaesthetize the perineum for episiotomy and repair of tears					
c. Different types of episiotomy					
11. Learning material/handbook/handout on perineal and cervical tears (technique for repair)	✓	✓	✓	✓	✓
12. Learning material/handbook/handout on adolescent growth and development (e.g., Tanner stages)	✓	✓	✓	✓	✓
13. Learning material/handbook/handout on newborn resuscitation protocol	✓	✓	✓	✓	–
14. Learning material/handbook/handout on adult resuscitation protocol	–	–	✓	✓	–
15. Charts or video on infection prevention procedures	✓	–	✓	✓	–
16. Learning material/handbook/handout on midwives' code of conduct	✓	✓	–	✓	✓
17. Learning material/handbook/handout on women's rights (society and health care system responsibilities)	–	✓	–	✓	–

18. Learning material/handbook/handout on contraceptive methods (e.g., FP Global Handbook/handout for Providers USAID/WHO/Johns Hopkins University)	✓	✓	✓	✓	✓
19. Family planning flip chart	✓	✓	-	-	✓
20. Learning material/handbook/handout on lactational Amenorrhoea Method (LAM)	✓	✓	✓	✓	✓
Observational items	**School 1 (Yerevan)**	**School 2 (Region)**	**School 3 (Region)**	**School 4 (Yerevan)**	**School 5 (Region)**
	Yes	***Yes***	***Yes***	***Yes***	***Yes***
21. Learning material/handbook/handout on standard days method beads	✓	✓	✓	✓	✓
22. Learning material/handbook/handout on gestational age calculator (pregnancy wheel)	✓	✓	✓	✓	✓
23. Learning material/handbook/handout on Maternal health records book/antenatal card/file (consistent with local practice)	_	✓	✓	✓	✓
24. Learning material/handbook/handout on partograph (WHO: Need for country decision on version of partograph to use)	✓	✓	✓	✓	_
25. Country based client records/forms a. Antenatal records b. Intra-partum care records c. Family planning client forms/folder/cards d. Resuscitation record forms	✓	✓	✓	✓	_
25. Learning material/handbook/handout on manual removal of placenta	✓	✓	✓	✓	✓
26. Learning material/handbook/handout on management of shoulder dystocia	-	✓	✓	✓	✓
27. Learning material/handbook/handout on bimanual compression of the uterus	✓	✓	✓	✓	✓
28. Learning material/handbook/handout on aortic compression	✓	✓	✓	✓	_
29. Learning material/handbook/handout on breastfeeding/latching on	✓	✓	✓	✓	✓
30. Learning material/handbook/handout on national FP protocol (local production)	_	_	_	✓	_
31. Global Handbook on FP	✓	✓	✓	✓	_
32. Balanced Counselling Strategy Cue cards HIV and STIs (Population Council/Frontiers)	_	✓	_	✓	✓
33. CDs or documentary on local cultures and tradition (WHO/World Education)	✓	_	_	✓	-

34. WHO IMPAC materials- WHO | Documents on Integrated Management of Pregnancy & Childbirth	✓	✓	✓	✓	✓
35. Learning material/handbook/handout on woman Centered Abortion Care (W-CAC) and/or Woman Centered Post Abortion Care (W-PAC) manual (Contact Ipas)	✓	✓	✓	✓	✓
36. Learning material/handbook/handout on medical Abortion Training Curricula and IEC resources for providers and women (Contact Ipas) (optional/additional)	✓	✓	✓	✓	✓

Appendices: Appendix 1 – Document review checklist

State approved midwifery curriculum standards/competency review

COMPETENCY IN SOCIAL, EPIDEMIOLOGIC AND CULTURAL CONTEXT OF MATERNAL AND NEWBORN CARE					
Basic knowledge	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Community and social determinants of health					
Community-based primary care, health promotion, disease prevention and control					
Community causes of maternal and neonatal mortality and morbidity					
How to conduct maternal/neonatal morbidity and mortality audits					
Principles of epidemiology					
Infection prevention: method					
Fundamentals of statistics and research; how to review evidence-based practice literature					
Advocacy for evidence-based midwifery practice to advance MCH public health policy					
Quality indicators for health services					
Health education: methods					
Structure of local health services					
National health services for maternal/newborn health					
Referral: communication and resources					
Legal and regulatory framework of reproductive health (laws, policies, guidelines)					
Human rights; women's rights					

Advocacy and empowerment strategies for women so their voices are heard					
Advocacy for normal physiologic labor & birth to enhance best outcomes for mothers and infants					
Local cultural beliefs and customs					
Traditional and modern health practices in the community (beneficial and harmful)					
Community birth settings – benefits and risks					
Communication and advocacy strategies for women					
Professional behavior	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Responsibility and accountability					
Professional ethics, values, support of human rights					
Standards of practice					
Continuing professional development					
Universal/standard precautions/infection prevention					
Culturally and professionally appropriate behavior and communication style					
Respect for cultural beliefs and customs; unbiased behavior					
Confidentiality of client information					
Promotion of informed choice					
Collaboration and interdisciplinary teamwork					
Skills and/or abilities	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Engaging in health education discussions					

Communication and listening					
Assembly, use and maintenance of equipment					
Recording of findings					
Registration of births and deaths					
Leadership in clinical settings					
1. COMPETENCY IN PRE-PREGNANCY CARE AND FAMILY PLANNING					
Basic Knowledge	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Sexual growth and development					
Male and female reproductive anatomy and physiology					
Cultural norms and practices related to sexuality					
Components of health, family and genetic history-taking					
Physical examination and laboratory investigations					
Health education content related to sexual and reproductive health					
Pharmacokinetics of family planning commodities					
Natural family planning methods					
Modern medical and surgical methods of family planning					
Medical eligibility criteria for use of modern FP methods					
Elements of decision-making related to FP					
Signs and symptoms of reproductive tract infections					
Community-specific diseases that affect reproductive health					
Referral methods and resources relating to women's rights and health (e.g., domestic violence)					
Cervical cancer screening methods					
Skills	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Conducting a reproductive health history					
Preconception counselling					

Conducting a physical examination					
Interpretation of results of laboratory tests common to reproductive health					
Interpretation of results of laboratory tests relevant to country-specific burden of disease					
Counselling women who are HIV positive, or status is unknown					
Midwifery provision of family planning methods and commodities (in accord with legal/regulatory authority)					
Advising about side effects of FP					
Management of side effects of FP					
Midwifery provision of emergency contraceptive medications					
Conduct of (or referral for) cervical cytology test					
2. COMPETENCY IN PROVISION OF CARE DURING PREGNANCY					
Basic knowledge	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Human anatomy and physiology					
Biology of human reproduction					
Signs and symptoms of pregnancy					
Tests for confirmation of pregnancy					
Diagnosis of ectopic pregnancy					
Principles and methods for dating pregnancy					
Components of a focused antenatal history and physical examination					
Signs of female genital cutting and its effects of reproductive health					
Normal limits of results from community-relevant laboratory tests commonly performed in pregnancy					
Normal changes related to progression of pregnancy					
Indications and implications of deviations from expected fundal growth patterns					
Fetal risk factors requiring transfer of women to higher levels of care during the antenatal period					
Assessment of foetal well-being (heart tones, activity)					

Non-pharmacological measures for relief of common discomforts of pregnancy					
Nutritional needs during pregnancy					
Health education topics relevant during pregnancy					
Principles of pharmacokinetics of drugs commonly taken during pregnancy					
Maternal and foetal effects of prescribed and illicit drugs taken during pregnancy					
Maternal and foetal effects of smoking and alcohol during pregnancy					
Topics important to birth planning					
Topics important to preparation of home for the newborn					
Signs and symptoms of the onset of labour					
Relaxation and pain relief methods for use during labour					
Signs and symptoms of conditions that are life-threatening to woman or foetus during pregnancy					
Information relevant to counselling or care of the HIV+ woman, and prevention of maternal to child transmission					
Signs and symptoms and indications for referral for complications that arise during pregnancy (including but not limited to					
• Diabetes					
• Cardiac conditions					
• Mal-presentations/abnormal lies					
• Placental disorders					
• Pre-term labour					
Principles of malaria prevention and control *(optional)*					
Pharmacology of de-worming in pregnancy (*optional)*					
Preparation for breastfeeding					
Skills	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Conduct of an interval antenatal history					
Physical examination					
Assessment of maternal vital signs					
Assessment of and provision of advice about maternal Nutrition					

Abdominal assessment					
Foetal growth assessment (manual)					
Assessment of foetal growth, placental placement, and amniotic fluid volume (ultrasound) *optional)*					
Assessment of foetal heart rate and activity					
Monitoring of foetal heart rate (ultrasound) *optional*					
Pelvic examination, including uterine sizing					
Clinical pelvimetry					
Calculation of the estimated date of delivery					
Counselling and health education about pregnancy progression and danger signs					
Teaching/demonstrating methods to decrease common discomforts of pregnancy					
Providing guidance for preparation for labour, birth and parenting					
Identification of variations from normal pregnancy; independent or collaborative management of					
• Low or inadequate maternal nutrition					
• Inadequate of excessive uterine growth					
• Signs and symptoms indicating onset of pre-eclampsia					
• Vaginal bleeding					
• Multiple gestation and/or abnormal lie					
• Intrauterine foetal death					
• Rupture of membranes prior to term					
• HIV positive status and/or AIDS					
• Hepatitis B and/or C positive					
Midwifery provision of selected, life-saving drugs (in accord with legal/regulatory authority)					
Identification of deviations from normal pregnancy progression and how to implement referral					
3. COMPETENCY IN PROVISION OF CARE DURING LABOUR AND BIRTH					
Basic knowledge	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**

Physiology of first, second, and third stages of labour					
Anatomy of the foetal skull, diameters and landmarks					
Psychological and cultural aspects of labour and birth					
Indicators of latent phase and onset of active labour					
Indications for stimulation and augmentation of labour					
Normal progression of labour					
How to use the partograph (i.e., complete the record; interpret information to determine timely & appropriate labour management)					
Measures to assess foetal well-being in labour					
Mechanisms of labour and foetal descent					
Comfort measures in first and second stages of labour					
Pharmacological measures for control of labour pain, including risks and benefits					
Signs and symptoms of labour complications (including but not limited to)					
• Bleeding					
• Arrest of labour					
• Mal-presentation					
• Pre-eclampsia/eclampsia					
• Maternal and/or foetal distress					
• Infection					
• Prolapsed cord					
Principles of prevention of pelvic and perineal floor damage					
Indications for performing an episiotomy					
Principles of expectant (physiologic) management of 3rd stage of labour					
Principles of active management of 3rd stage of labour					
Principles underpinning technique for repair of perineal tears and episiotomy					
Indicators of need for emergency management, referral or transfer for obstetric complications					

Indicators of need for operative deliveries, vacuum extraction, use of forceps or symphisotomy					
Skills and/or abilities	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Taking an interval history and maternal vital signs in labour					
Performing a focused physical examination in labour					
Abdominal assessment for foetal position and descent					
Timing and assessing the effectiveness of uterine contractions					
Pelvic examination for dilatation, effacement, descent, presenting part, position, status of membranes, and adequacy of pelvis for vaginal birth					
Monitoring progress of labour using partograph or similar tool					
Providing physical and psychological support during labour					
Facilitating presence of a support person during labour and birth					
Provision of hydration, nutrition and non-pharmacological comfort measures					
Midwifery provision of pharmacologic therapies during labour and birth (in appropriate settings)					
Bladder care					
Identification of abnormal labour patterns; mechanisms for consultation and/or referral					
Stimulation/augmentation of labour (nonpharmacologic)					
Simulate or augment uterine contractility, using pharmacologic agents (in appropriate birth settings)					
Administration of local anaesthetics to perineum					
Performing an episiotomy					
Hand manoeuvres for vertex birth					
Hand manoeuvres for face and breech deliveries					
Clamping and cutting the umbilical cord					
Performing life-saving interventions in obstetric emergencies (including but not limited to)					
• Prolapsed cord					
• Malpresentation					
• Shoulder dystocia					
• Foetal distress					

Management of cord around the baby's neck					
Support of physiologic management of 3rd stage of labour					
Conduct active management of 3rd stage of labour following most current evidence-based protocol					
• Administration of uterotonic drugs					
• Appropriate handling of cord					
• Performing uterine massage after delivery of placenta					
Inspection of placenta and membranes					
Fundal massage in immediate postpartum period					
Facilitation of mother/infant bonding					
Estimation and recording of blood loss					
Inspection of vagina and cervix for lacerations					
Episiotomy repair					
Repair of 1st and 2nd degree perineal or vaginal lacerations					
Management of postpartum bleeding and haemorrhage					
Midwifery provision of life-saving drugs (in accord with legal/regulatory authority)					
Manual removal of placenta					
Bimanual compression of uterus					
Aortic compression					
Identification and management of shock					
Mechanisms for referral and transfer in emergency situations					
Adult cardio-pulmonary resuscitation					
5. COMPETENCY IN PROVISION OF CARE FOR WOMEN DURING THE POSTPARTUM PERIOD					
Basic Knowledge	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Physical and emotional changes that follow childbirth					
Physiology and process of lactation; common variations					
Importance of early breastfeeding for mother & child					
Maternal needs in postpartum (nutrition, rest, activity)					
Principles of parent/infant bonding and attachment					
Indicators of sub-involution					

Indicators of breastfeeding problems/complications					
Signs and symptoms of life threatening postpartum conditions (including but not limited to)					
• Persistent vaginal bleeding					
• Embolism					
• Pre-eclampsia/eclampsia					
• Mental depression (severe)					
Signs and symptoms of postnatal complications (including but not limited to)					
• Haematoma					
• Thrombophlebitis					
• Obstetric fistula					
Principles of provision of support for women/families who are bereaved					
Principles of support for adolescents, and victims of gender-based violence					
Principles of manual vacuum extraction to remove retained products of conception					
Principles of prevention of …					
• Maternal to child transmission of HIV					
• Tuberculosis					
• Hepatitis B and C					
Methods of family planning appropriate for use in the immediate postpartum period					
How/where to access community-based postpartum services					
Skills	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Taking a selective postpartum history					
Performing a focused physical examination of mother					
Provision of information and support for families who are bereaved					

Assessment of uterine involution and healing of lacerations and/or repairs					
Initiate and support early breastfeeding (within the first hour)					
Expression and storage of breast milk					
Maternal self-assessment and self-care in postpartum					
Provision of family planning services in the postpartum period					
First-line treatment for postpartum complications					
Provision of emergency treatment/referral of late postpartum haemorrhage					
6. COMPETENCY IN POSTNATAL CARE OF THE NEWBORN					
Basic Knowledge	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Elements of assessment of immediate & subsequent condition of newborn (including APGAR scoring system, or other method of assessment of breathing and heart rate)					
Principles of newborn adaptation					
Basic needs of newborn: established breathing, warmth, nutrition, attachment (bonding)					
Advantages of various methods of newborn warming (including skin-to-skin)					
Methods and means of assessment of gestational age					
Characteristics of low birth weight infants and their special needs					
Characteristics of the healthy newborn					
Normal growth and development of the preterm infant					
Normal newborn and infant growth and development					
Common variations in the normal newborn					
Elements of health promotion and prevention of disease in newborns and infants, including daily care needs					
Immunization schedules, risks, benefits					
Traditional or cultural practices related to the newborn					
Principles of infant nutrition, feeding cues, and infant feeding options for babies (including those born to HIV+ mothers)					
Signs, symptoms & indications for referral or transfer for selected newborn complications (including, but not limited to)					

• Jaundice					
• Hypoglycaemia					
• Infection					
• Newborn syphilis					
Skill	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Provide immediate care to the newborn, including drying, warming, ensuring that breathing is established, cord clamping and cutting when pulsation ceases.					
Assess the immediate condition of newborn (e.g., APGAR scoring or other assessment method of breathing and heart rate)					
Use methods to maintain newborn body temperature					
Begin emergency measures for respiratory distress (newborn resuscitation, suctioning in case of airway obstruction, hypothermia, hypoglycaemia)					
Provide care for the low birth weight baby Perform screening physical examination; identify conditions incompatible with life					
Perform gestational age assessment					
Provide routine care of the newborn; compliance with local guidelines (including but not limited to)					
• Eye care					
• Medication/immunization					
• Screening tests					
• Birth registration					
Support/provide instructions for breastfeeding					
Recognize indications of need, stabilize & transfer at-risk newborn to emergency care facility when available					
Identification of newborn danger signs; education of parents regarding same					
Monitoring normal growth and development; education of parents regarding same					
Methods of support for parents during transport/transfer/separation from infant					
Methods of support for parents of multiple births					

Methods of support for babies born to HIV+ mothers					
7. COMPETENCY IN FACILITATION OF ABORTION-RELATED CARE					
Basic Knowledge	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Policies, protocols, laws and regulations related to abortion-related services					
Factors involved in decisions relating to unintended or mistimed pregnancies					
Family planning methods appropriate for use during the post-abortion period					
Medical eligibility criteria for all available abortion methods					
Care, information and support that is needed during and after miscarriage or abortion; community resources					
Normal process of involution, physical and emotional healing following miscarriage or abortion					
Signs and symptoms of sub-involution and/or incomplete abortion					
Signs and symptoms of abortion complications and life threatening conditions					
Pharmacotherapeutic basics of drugs recommended for use in medication abortion					
Principles of uterine evacuation via manual vacuum aspiration					
Skills	**Not met**	**Partially met**	**Unspecified**	**Fully met**	**Comments**
Assessment of gestational age of foetus/pregnancy gestation					
Counselling women about available services related to abortion decision-making					
Conducting clinical and social history to identify contraindications to medication or aspiration abortion					
Counselling regarding sexuality and family planning post-abortion					
Providing family planning services concurrent with abortion services					
Assessment of uterine involution					

Education of mother for self-care and identification of complications					
Identification of indicators of abortion-related complications; emergency management and referral resources					

Appendix 2 – Administrative Representatives Interview Guide

In-depth interview guide for midwifery education administrative representatives

Place _____

Date _____

Time _____

Moderator _____

Note Taker _____

Welcoming and introduction of research team

Introduce yourselves. Welcome participants, present oral consent form and thank them for agreeing to participate.

Confidentiality and Voluntariness

I would like again highlight that all the information given by you will stay confidential. My notes and the recording will be stored without any information that will identify you and they will be destroyed at the end of the entire project. Only the summary of the data from all interviews will be presented in the final report. Your name and position will not appear in reports and presentations. We will take notes throughout the session. Upon your permission we will audio record the discussion to make sure that no idea remains out of our attention. Can we proceed with recording?

Review of the program and participation

As I mentioned in the consent form the aim of this study is to assess the curriculum of midwifery program in Armenia. Being working program director you may provide useful information on this field. I would like to ask you to answer some questions, and share your experience and opinion to help us to understand the situation of midwifery education in Armenia.

I would like to start by asking you to fill a few questions about you. (Distribute demographic forms)

1. Could you, please, describe the admission policies for potential applicants (What are the entry requirements, criteria for acceptance, prior learning?) How do you ensure the transparency of admission process?

2. What is the average number of graduates for midwifery education each year? Do you know how many of them practice midwifery after finishing the program on average?

Faculty of the program

3. What type of professionals are involved as faculty members in your midwifery program? (Physicians, practicing midwives and/or nurses)? Are there any special requirements for hiring the faculty or program directors? Please describe.

4. What do you think about the qualifications, competencies of the staff (director-management/administration, faculty (clinical and theoretical), experts from other discipline) at your institutions? What can you tell about continues education/trainings of your faculty before or during teaching? (Do they get trained and how often? What type of trainings and by whom?) What would you suggest for increasing opportunities for the faculty to enhance their professional knowledge?

5. Could you please describe the process of evaluating students' practical learning? What do you think about the importance of collaboration of clinical and theoretical teachers? How much is it important in supporting, observing and evaluating student's practical learning process? What would you improve in these collaborations?

Program policies

6. Do you have general policies and guidelines in your program or school? (Policy on students' rights and responsibilities, established process of addressing students' appeals and grievances, mechanisms for the student's active participation in program governance and committees, students' opportunity to provide feedback on curriculum, faculty and program). If no, how do you address the above mentioned problems? If yes, *ask them to share the text with us* (review the policies after the interview).

Curriculum

7. Do you follow any standards (local, international) for your curriculum development? If yes, what are those standards?

8. What is your opinion about the content of the midwifery curriculum? Do you think that there is a need for program or regulatory changes for improving the content? If yes, please indicate the changes you would like to suggest.

9. Could you please describe how do you conduct the regular review of the curriculum? (Is that a part of quality improvement? Who are the people who have input in the review of curriculum? (students, graduates, practitioners)).

10. How would you describe the methods of teaching in midwifery education program? What type of teaching strategy do you use in your curriculum? (Active, passive teaching, individual or team based, competency based or other teaching strategy?) What are the sources of information that are used for developing teaching methods? (In your opinion does your program use evidence-based approaches for teaching?)

11. How would you describe your students' practical experiences in a variety of settings? How would you grade their practical experiences? Do your students practice primarily under the supervision of a midwife or midwifery clinical preceptor/clinical teacher? How much do your students participate in the provision of midwifery care?

12. What do you think is there a need to implement changes in practical learning, if yes why and what would be the changes, that you suggest?

13. Could you please describe the ratio of practical and theoretical knowledge in midwifery education? In your opinion is this ratio optimal? What can you tell about student teacher ratio? Is it possible that the number of teachers teaching certain subject can be changed depending on the number of students? Do you have any suggestion to improve practical or theoretical knowledge?

14. Could you please describe the minimum competencies that the graduate midwife is expected to demonstrate after successful completion of the program? What can you tell about your program graduates' competencies? (Probes: Are you satisfied, do you see need for improvement)?

Resources, facilities and budget

15. How would you describe teaching resources (state of building, equipment, labs, library, and facilities) in your school? In your opinion do they meet the needs of the program? Do you think that there is a need for program or regulatory changes for improving teaching resources? If yes, please indicate the changes you would like to suggest.

16. Does the program have a skills' lab or access to a skills' lab to teach midwifery skills to students? (Stimulation room, - a room where students implement real practice with models to develop necessary skills). What about access to emergency equipment, facilities?

17. Could you please describe how the financial budget for the midwifery education program is formed? Is the budget enough to meet the program requirements or making innovations? If no, what would you suggest?

18. Could you please tell about the supporters of midwifery education at your institution (Ministry of Education and Science, Ministry of Health, donors). Are there any other supporters that I did not mention? What do you think about the importance, usefulness of the role of these supporters in your program? In your opinion is there a need to have more supporters for the program and what would you suggest for increasing the number of new supporters?

Concluding questions

19. In comparison with international practice, how would you describe/evaluate the competencies/skills of midwives practicing in Armenia?

20. From your perspective what are the main challenges that you face while providing midwifery education in Armenia? Are there any additional suggestions you may have for the improvement of midwifery education in Armenia?

21. Is there anything else you would like me to know about midwifery education in Armenia?

Thank you for your participation!

Խորացված անհատական հարցազրույցի ուղեցույց մանկաբարձական ծրագրի ղեկավարների համար

Վայր _____

Ամսաթիվ _____

Ժամ _____

Հարցազրուցավար _____

Նշումներ կատարող _____

Ներկայանալ: Ողջունել մասնակցին, շնորհակալություն հայտնել մասնակցության համար և ներկայացնել համաձայնության ձևը:

<u>Գաղտնիության ապահովում և կամավոր մասնակցություն</u>

Կցանկանայի մեկ անգամ ևս նշել, որ ձեր կողմից տրամադրված ինֆորմացիան ամբողջովին կմնա գաղտնի: Մեր վերցրած գրառումները և ձայնագրությունը չեն պարունակի որևէ ինֆորմացիա, որը կբացահայտի ձեր անձը և կոչնչացվեն ծրագրի ավարտից հետո: Ձեր անունը կամ պաշտոնը չի նշվի ոչ մի զեկույցում: Ձեր համաձայնությամբ ես կձայնագրեմ մեր հարցազրույցը կամ գրառումներ կվերցնեմ հարցազրույցի ընթացքում՝ Ձեր կողմից տրամադրված որևէ ինֆորմացիա բաց չթողնելու նպատակով: Դուք համաձա՞յ ն եք, որ ես միացնեմ ձայնագրիչը: Եթե Դուք պատրաստ եք մենք կարող ենք սկսել:

<u>Ծրագրի ծանոթացում</u>

Ինչպես արդեն նշեցի համաձայնության ձևի մեջ, այս ծրագրի նպատակն է գնահատել մանկաբարձական կրթությունը Հայաստանում: Լինելով մանկաբարձական ծրագրի ղեկավար, դուք կարող եք մեզ տրամադրել այդ ոլորտի վերաբերյալ կարևոր ինֆորմացիա: Ես կխնդրեի ձեզ պատասխանել որոշ հարցերի և կիսել մեզ հետ ձեր փորձը և կարծիքը, որը կօգնի մեզ հասկանալ, թե ինչպիսին է մանկաբարձական կրթության վիճակը Հայաստանում:

Մինչ բուն հարցազրույցը սկսելը, կխնդրեի լրացնել հետևյալ հարցերը ձեր մասին: (Տրամադրել դեմոգրաֆիկ ձևը):

Բուն հարցազրույց

1. Նկարագրեք խնդրեմ մանկաբարձական ծրագրի ընդունելության պահանջները: (Որո՞նք են, օրինակ, ընդունվելու չափանիշները, քննություններ կամ նախորդող կրթությունը): Ինչպե՞ս եք ապահովում ընդունելության թափանցիկությունը:

2. Տարեկան միջինում քանի՞ շրջանավարտ է ունենում ձեր մանկաբարձական ծրագիրը: Դուք տեղյա՞կ եք, թե միջինում նրանցից քանիսն են աշխատում այդ մասնագիտությամբ:

Ծրագրի դասախոսական կազմը

3. Ինչպիսի՞ մասնագետներ են ընդգրկված մանկաբարձական ծրագրում, որպես դասախոսներ (բժիշկներ, աշխատող մանկաբարձուհիներ և/կամ բուժքույրեր): Կան արդյո՞ք հատուկ պահանջներ մակաբարձական ծրագրում դասախոս կամ ծրագրի ղեկավար աշխատելու համար: Կնկարագրե՞ք:

4. Ինչպիսի՞ կարծիք ունեք ձեր քոլեջի անձնակազմի որակավորման և հմտությունների մասին (Տնօրեն - կազմակերպիչ, դասախոսական կազմ (կլինիկական և տեսական), այլ ոլորտների մասնագետներ)): Ձեր կարծիքով դասախոսական կազմը կարիք ունի՞ շարունակաբար հարստացնել իր մասնագիտական գիտելիքները: Ի՞նչ կարող եք ասել շարունակական կրթության/վերապատրաստումների մասին: (Դասախոսական կազմը մասնակցու՞մ է վերապատրաստումների և որքա՞ն հաճախ է մասնակցում: Ինչպիսի՞ վերապատրասումներ են դրանք և ո՞վ է կազմակերպում:) Ձեր կարծիքով, ի՞նչ կարող է արվել, որպեսզի դասախոսներն ունենան ավելի շատ հնարավորություններ գիտելիքների հարստացման համար:

5. Կնկարագրե՞ք խնդրում եմ ուսանողների պրակտիկ ուսուցումը գնահատելու մեթոդը և գործընթացը: Ի՞նչ կարծիք ունեք գործնական և տեսական առարկաների դասախոսների համագործակցության կարևորության մասին: Որքանո՞վ է այն կարևոր պրակտիկ ուսուցմանն աջակցելու, դիտարկելու և գնահատելու համար: Ի՞նչ կառաջարկեիք այդ համագործակցությունները բարելավելու համար:

Ծրագրային կանոնակարգեր

6. Դուք ունե՞ք մանկաբարձական ծրագրում կամ ձեր քոլեջում մշակված որևէ կանոնակարգ: (Կանոնակարգեր որոնք կնկարագրեն ուսանողների իրավունքների և պարտականությունների մասին, ուսանողների դիմումներին և բողոքներին պատասխանելու սահմանված կարգ, ծրագրային գործունեության մեջ ուսանողների ներգրավվածությունն ապահովելու մեխանիզմներ և ուսանողների կողմից կրթական ծրագիրը, դասախոսական կազմը գնահատելու հնարավորությունները): Եթե ոչ, ապա ինչպե՞ս եք լուծում վերոնշյալ խնդիրները: Եթե այո, ապա կարո՞ղ ենք տեսնել այդ կանոնակարգը *(նայել փաստաթուղթը հարցազրույցի վերջում)*:

Կրթական ծրագիրը

7. Կրթական ծրագիրը մշակելիս հետևու՞մ եք պետական կամ միջազգային որևէ ստանդարտների, եթե այո, ապա որո՞նք են այդ ստանդարտները:

8. Ի՞նչ կարծիք ունեք մանկաբարձական կրթական ծրագրի բովանդակության մասին: Ըստ Ձեզ կրթական ծրագրի բովանդակությունը բարելավելու համար կա արդյո՞ք կանոնակարգային կամ ծրագրային փոփոխությունների կարիք: Եթե այո, ապա խնդրում եմ նշեք թե ի՞նչ փոփոխություն եք առաջարկում:

9. Կազմակերպու՞մ եք արդյոք կրթական ծրագրի պարբերական վերանայումներ: Եթե այո, կնկարագրեք խնդրեմ ընթացքը (Ովքե՞ր են մասնակցում կրթական ծրագրի պարբերական վերանայումներին/ թարմացումներին (ուսանողներ, շրջանավարտներ, պրակտիկ բուժաշխատողներ), այն հանդիսանու՞մ է որակի ապահովման բաղկացուցիչ մաս):

10. Կնկարագրե՞ք խնդրեմ մանկաբարձական ծրագրի ուսուցման մեթոդները. ինչպիսի՞ ուսուցման մեթոդներ են կիրառվում (պասի՞վ, թե՞ ինտերակտիվ, ուսանողի կողմից ինքնուրու՞յն ուսումնական գործունեություն, թե՞ թիմային, հմտությունների վրա հիմնվա՞ծ, թե՞ այլ): Ի՞նչ աղբյուրներից են օգտվում ուսումնական մեթոդների մշակման համար (արդյո՞ք ուսուցման մեթոդները ապացույցների վրա հիմնված են):

11. Ինչպե՞ս կնկարագրեիք Ձեր ուսանողների պրակտիկ/գործնական փորձառությունները տարբեր բաժիններում: Ինչպե՞ս կգնահատեիք նրանց պրակտիկ փորձառությունը: Ձեր ուսանողները մանկաբարձի կամ

մանկաբարձ/դասախոսի անմիջական հսկողության ներքո պրակտիկա անցու՞մ են: Իսկ որքանո՞վ են կարողանում մասնակցել/ներգրավված լինել մանկաբարձական խնամքի տրամադրմանը:

12. Ձեր կարծիքով կարիք կա՞ փոփոխություններ կատարել գործնական/պրակտիկ ուսուցման մեջ, եթե այո, ապա որո՞նք են այն փոփոխությունները, որ կցանկայիք տեսնել:

13. Կնկարագրե՞ք խնդրեմ մանկաբարձական կրթակական ծրագրում տեսական և գործնական գիտելիքների հարաբերակցությունը: Ձեր կարծիքով արդյո՞ք այդ հարաբերակցությունը օպտիմալ է: Իսկ դասախոս և ուսանող թվի հարաբերակցությունն ինչպիսի՞նն է, արդյոք տվյալ առարկան դասավանդող դասախոսների թիվը կարող է փոխվել ուսանողների թվից կախված: Դուք ունե՞ք որևէ առաջարկ տեսական և/կամ գործնական գիտելիքները բարելավելու համար:

14. Կնկարագրե՞ք խնդրեմ այն նվազագույն հմտությունները որոնք ակնկալվում են մանկաբարձական գործ ծրագրի շրջանավարտներից ծրագիրը բարեհաջող ավարտելու դեպքում: Ի՞նչ կարող եք պատմել ծրագրի շրջանավարտների հմտությունների մասին (Ձեզ բավարարում են նրանց հմտությունները, թե՞ կարիք կա հմտությունների բարելավման):

<u>Ռեսուրսներ, հարմարություններ, բյուջե</u>

15. Ինչպե՞ս կնկարագրեիք ուսուցման համար անհրաժեշտ ռեսուրսները (շենքային պայմանները, սարքավորումները, գրադարանը) Ձեր ծրագրում: Ձեր կարծիքով այս ռեսուրսները բավարա՞ր են ծրագրի համար: Ըստ Ձեզ՝ դրանք բարելավելու համար ի՞նչ փոփոխություններ են անհրաժեշտ:

16. Ծրագիրն ունի՞ ստիմուլյացիոն կենտրոն կամ որևէ ստիմուլյացիոն կենտրոն հասանելի՞ է նրանց մանկաբարձական հմտություններ ուսուցանելու համար: (ստիմուլյացիոն սենյակ – սենյակ, որտեղ ուսանողները մոդելների, մուլյաժների միջոցով իրականացնում են իրական պրակտիկ գործողություններ՝ անհրաժեշտ հմտություններ ձեռք բերելու համար): Ի՞նչ կասեք շտապօգնության սարքավորումների և հարմարությունների հասանելիության մասին:

17. Կնկարագրե՞ք խնդրեմ, թե ինչպես է ձևավորվում մանկաբարաձական գործ ծրագրի բյուջեն: Ծրագրի բյուջեն բավարա՞ր է ծրագրի պահանջները

բավարարելու կամ ծրագրում նորարություններ ներդնելու համար, եթե ոչ, ապա ի՞նչ կառաջարկեիք:

18. Կպատմե՞ք մեզ ծրագրի աջակիցների մասին (Կրթության և գիտության նախարարություն, Առողջապահության նախարարություն, դոնոր կազմակերպություններ): Կան արդյո՞ք այլ աջակիցներ, որոնց մասին ես չնշեցի: Ինչպիսի՞ կարծիք ունեք աջակիցների դերի կարևորության և օգտակարության մասին: Ձեր կարծիքով կարիք կա՞ ունենալ ավելի շատ աջակիցներ ծրագրի համար և ի՞նչ կառաջարկեիք նոր աջակիցներ ձեռք բերելու համար:

Ամփոփիչ հարցեր

19. Եթե համեմատենք միջազգային գործելակերպի հետ, ինչպե՞ս կգնահատեիք մեր երկրում մանկաբարձների ունակությունները/հմտությունները մանկաբարձական խնամք/ծառայություն իրականացնելիս:

20. Որո՞նք են այն հիմնական մարտահրավերները, որոնց հետ բախվում եք Հայաստանում մանկաբարձական կրթություն տրամադրելիս: Կան արդյո՞ք լրացուցիչ առաջարկություններ, որ կցանակայիք ներկայացնել Հայաստանում մանկաբարձական կրթության բարելավման նպատակով:

21. Կա արդյո՞ք որևէ բան, որ կցանկանայիք ավելացնել մանկաբարձական կրթության մասին Հայաստանում, բայց մենք չնշեցինք:

Շնորհակալություն մասնակցության համար

Appendix 2 – Student Interview Guide

Focus Group Discussion Guide for students

Place _____

Date _____

Time _____

Moderator _____

Note Taker _____

Welcoming and introduction of research team

Introduce yourselves. Welcome participants, present oral consent form and thank them for agreeing to participate.

Confidentiality and Voluntariness

I would like again highlight that all the information given by you will stay confidential. My notes and the recording will be stored without any information that will identify you and they will be destroyed at the end of the entire project. Only the summary of the data from all interviews will be presented in the final report. Your name and position will not appear in reports and presentations. We will take notes throughout the session. Upon your permission we will audio record the discussion to make sure that no idea remains out of our attention. Can we proceed with recording?

Review of the program and participation

As I mentioned in the consent form the aim of this study is to assess the curriculum of midwifery program in Armenia. Being a midwifery student you may provide useful information on this field. I would like to ask you to answer some questions, and share your experience and opinion to help us to understand the situation of midwifery education in Armenia.

I would like to start by asking you to fill a few questions about you. (Distribute demographic forms)

1. Could you, please, describe the admission processes in your school? (What are the entry requirements, criteria for acceptance, and prior learning) What was your experience? How transparent was the admission process for you.

2. What is your prospective to find a midwifery job after graduation? (Do you think that having completed the midwifery program in your college will make it possible for you to find a good job? How?**)**

Faculty of the program

3. What type of professionals are involved as faculty members in your midwifery program? (Physicians, practicing midwives and/or nurses)? What can you tell about the qualification/background of the faculty that teaches you? In your opinion does the faculty have the need to update their knowledge continuously? What can you tell about continuous education/trainings of your faculty before or during teaching? Do you see need for a change and what type of change?

Program policies

4. Are you familiar with any policies or guidelines in your midwifery program or school? (Policy on students' rights and responsibilities, established process of addressing students' appeals and grievances, students' opportunity to provide feedback on curriculum, faculty and program). Do you know whether these kinds of program policies exist at your institution or no? If no, do you know your rights and responsibilities? How are you presenting your appeals and grievances? Do you have opportunity to provide feedback on curriculum, faculty and program?

Curriculum

5. What is your opinion about the content of the midwifery curriculum? Do you think that there is a need for program or regulatory changes for improving the content of the curriculum? For example, changes in hours allocated for subjects or the sequence of subjects. If yes, please indicate the changes you would like to suggest.

6. How would you describe the methods of teaching in midwifery education program? (Interactive or passive teaching? individual or team based?) In your opinion are they efficient

and useful for you as a student? Do these methods need to be improved? If you had a chance how would you improve them?

7. How would you describe your practical experiences in a variety of settings? Do your practice primarily under the supervision of a midwife or midwifery clinical preceptor/clinical teacher? How much do you participate in the provision of midwifery care?

8. What do you think, is there a need to implement changes in practical learning, if yes why and what would be the changes, that you suggest?

9. Could you please describe the ratio of practical and theoretical knowledge in midwifery education? In your opinion is this ratio optimal? For example, you found theoretical classes longer than needed, and practical shorter? Or the vice versus. Do you have any suggestion to improve practical or theoretical knowledge?

10. In your opinion after successfully completion of the program can you provide midwifery care without supervision? Could you elaborate more, why do you think so?

Resources and facilities

11. How would you describe teaching resources (state of building, equipment, labs, library, and facilities) in your program? In your opinion do they meet the needs of the program? Do you think that there is a need for changes for improving resources for teaching? If yes, please indicate the changes you would like to suggest.

12. Does your program have a skills' lab? If yes, do you have an access to a skills' lab (stimulation room, - a room where you implement real practice with models to develop necessary skills) to study midwifery skills? In your opinion how important and useful is having skills' lab at your institution? What about access to emergency equipment, facilities?

Students Evaluation

13. Could you please describe the evaluation methods measuring your performance and progress? In your opinion are the evaluation methods clearly reflecting your abilities? What do you think whether the methods are comprehensive enough to assess your knowledge, behaviors, practical skills, critical thinking, and decision-making and interpersonal relationships/communication skills? If you had a chance how would you improve the evaluation methods?
14. What is the process of evaluating your practical learning? Could you please describe? What do you think about the importance of collaboration of clinical and theoretical faculty? How

much is it important for supporting, observing and evaluating students' practical learning process? What would you improve in these collaborations.

15. From your perspective what are the main challenges that you face in receiving midwifery education in Armenia? Are there any additional suggestions you may have for the improvement of midwifery education in Armenia?

16. Is there anything else you would like me to know about midwifery education in Armenia? Have I missed something?

Thank you for your participation!

Խմբակային հարցազրույցի ուղեցույց ուսանողների համար

Վայր _____

Ամսաթիվ _____

Ժամ _____

Հարցազրուցավար _____

Նշումներ անող _____

<u>Ողջունել և ներկայացնել հետազոտական թիմի անդամներին</u>

Ներկայանալ: Ողջունել մասնակիցներին, ներկայացնել համաձայնության ձևը և շնորհակալություն հայտնել մասնակցության համար:

<u>Գաղտնիության ապահովում և կամավոր մասնակցություն</u>

Կցանկանայի մեկ անգամ ևս նշել, որ ձեր կողմից տրամադրված ինֆորմացիան ամբողջովին կմնա գաղտնի: Մեր վերցրած գրառումները և ձայնագրությունը կպահվեն չպարունակելով որևէ ինֆորմացիա, որը կբացահայտի ձեր անձը և կոչնչացվի ծրագրի ավարտից հետո: Ձեր անունը կամ պաշտոնը չի նշվի ոչ մի զեկույցում: Ձեր համաձայնությամբ ես կձայնագրեմ մեր հարցազրույցը կամ գրառումներ կվերցնեմ հարցազրույցի ընթացքում՝ Ձեր կողմից տրամադրված որևէ ինֆորմացիա բաց չթողնելու նպատակով: Դուք համաձա՞յ ն եք, որ ես միացնեմ ձայնագրիչը: Խնդրում եմ ասել ԱՅՈ կամ ՈՉ: Եթե Դուք պատրաստ եք մենք կարող ենք սկսել:

<u>Ծրագրի ծանոթացում</u>

Ինչպես արդեն նշեցի համաձայնության ձևի մեջ, այս ծրագրի նպատակն է մանկաբարձական կրթությունը Հայաստանում: Հանդիսանալով մանկաբարձական ծրագրում սովորող ուսանողներ, դուք կարող եք մեզ տրամադրել այդ ոլորտի վերաբերյալ կարևոր ինֆորմացիա: Ես կխնդրեի ձեզ պատասխանել որոշ հարցերի և կիսել մեզ հետ ձեր փորձը և կարծիքը, որը կօգնի մեզ հասկանալ, թե ինչպիսին է մանկաբարձական կրթության վիճակը Հայաստանում: Մինչ բուն հարցազրույցը սկսելը, կխնդրեի լրացնել հետևյալ հարցերը ձեր մասին: (Բաժանել դեմոգրաֆիկ ձևերը):

Բուն հարցազրույց

1. Նկարագրեք խնդրեմ ձեր մանկաբարձական ծրագրի ընդունելության պահանջները: (Որո՞նք են, օրինակ, ընդունվելու չափանիշները, քննությունները

կամ նախորդող պահանջված կրթությունը): Կպատմե՞ք ձեր փորձը: Որքանո՞վ էր թափանցիկ ձեզ համար ընդունելության գործընթացը:

2. Ի՞նչ եք կարծում ուսումն ավարտելուց հետո կկարողանա՞ք աշխատանք գտնել: (Ձեր կարծիքով մանկաբարձական գործ ծրագիրը ավարտելը հնարավորություն կտա՞ գտնելու լավ աշխատանք և ինչպե՞ս:)

Ծրագրի դասախոսական կազմը

3. Ինչպիսի՞ մասնագետներ են ընդգրկված մանկաբարձական գործ ծրագրում որպես դասախոսներ: (Բժիշկներ, աշխատող մանկաբարձուհիներ և/կամ բուժքույրեր): Ի՞նչ կասեք ձեզ ուսուցանող դասախոսների որակավորման և կրթության վերաբերյալ: Ի՞նչ կասեք նրանց վերապատրաստումների մասին: Ձեր կարծիքով փոփոխությունների կարիք կա՞, եթե այո, ապա ինչպիսի՞ փոփոխություններ կառաջարկեք:

Ծրագրային կանոնակարգեր

4. Դուք ծանո՞թ եք ձեր մանկաբարձական ծրագրում կամ քոլեջում գործող կանոնակարգերի: (Կանոնակարգեր որոնք կնկարագրեն ուսանողների իրավունքների և պարտականությունների մասին, ուսանողների դիմումներին և բողոքներին պատասխանելու սահմանված կարգ, և ծրագրային գործունեության մեջ ուսանողների ներգրավվածությունն ապահովելու մեխանիզմներ ու, ուսանողների կողմից կրթական ծրագիրը, դասախոսական կազմը գնահատելու հնարավորությունները): Արդյո՞ք կան սահմանված այդպիսի ծրագրային կանոնակարգեր: Օրինակ՝ դուք գիտե՞ք Ձեր իրավունքներն ու պարտականությունները, ինչպե՞ս եք ներկայացնում Ձեր դիմումներն ու բողոքները: Դուք ունե՞ք հնարավորություն մանկաբարձական կրթական ծրագրիրը կամ դասախոսական կազմին գնահատելու:

Կրթական ծրագիր

5. Ինչպիսի՞ կարծիք ունեք մանկաբարձական կրթական ծրագրի բովանդակության մասին: Ըստ Ձեզ՝ փոփոխություններ անելու կարիք կա՞ այն բարելավելու համար: Օրինակ՝ առարկաների, դրանց տրամադրվող ժամաքանակի կամ հերթականության մեջ: Եթե այո, նշեք խնդրեմ այն փոփոխությունները, որոնք կցանկանայիք տեսնել:

6. Ինչպե՞ս կնարագրեք մանկաբարձական գործ ծրագրի ուսուցման մեթոդները: (Պասի՞վ, թե՞ ինտերակտիվ մեթոդներ են, ուսանողի կողմից ինքնուրու՞յն ուսումնական գործունեություն, թե՞ թիմային): Ձեզ համար, որպես ուսանողի, ով սովորում է ծրագրում, արդյո՞ք ուսուցման մեթոդները բավարար օգտակար և արդյունավետ են: Ըստ Ձեզ ուսուցման մեթոդները կարիք ունե՞ն բարելավվելու, եթե ունենայիք հնարավորություն, ապա ինչպե՞ս կբարելավեիք դրանք:

7. Ինչպե՞ս կնկարագրեք Ձեր պրակտիկ փորձառությունները տարբեր բաժիններում: Դուք մանկաբարձի կամ մանկաբարձ/դասախոսի անմիջական հսկողության ներքո պրակտիկա անցու՞մ եք: Իսկ որքանո՞վ եք կարողանում մասնակցել/ներգրավված լինել մանկաբարձական խնամքի տրամադրմանը:

8. Ըստ Ձեզ կարիք կա՞ կատարել փոփոխություններ պրակտիկ կրթությունը բարելավելու համար, եթե այո, ապա ինչո՞ւ և որո՞նք են այն փոփոխությունները, որոնք կցանկանաք տեսնել:

9. Կնարագրե՞ք խնդրեմ տեսական և պրակտիկ գիտելիքների հարաբերակցությունը ծրագրում: Ձեր կարծիքով այս հարաբերակցությունը օպտիմա՞լ է: Օրինակ՝ ձեր կարծիքով տեսական դասերը գերակշռու՞մ են պրակտիկ դասերին կամ հակառակը: Ունե՞ք որևէ առաջարկություն բարելավելու տեսական և պրակտիկ գիտելիքները:

10. Ձեր կարծիքով մանկաբարձական գործ ծրագիրը հաջողությամբ ավարտելուց հետո կկարողանա՞ք ինքնուրույն տրամադրել մանկաբարձական խնամք, առանց հսկողության: Կմանրամասնե՞ք ինչու եք այդպես կարծում:

<u>Ռեսուրսներ, հարմարություններ</u>

11. Ինչպե՞ս կնկարագրեիք ուսուցման համար անհրաժեշտ ռեսուրսները (շենքային պայմանները, սարքավորումները, գրադարանը, հաստատությունները) Ձեր ծրագրում: Ձեր կարծիքով այս ռեսուրսները բավարա՞ր են ծրագրի համար: Կարծում եք փոփոխությունների կարի՞ք կա այդ ռեսուրսները բարելավելու համար: Ինչպիսի՞ փոփոխություններ կառաջարկեիք:

12. Ձեր ծրագիրն ունի՞ ստիմուլյացիոն կենտրոն, եթե այո, ապա այն հասանելի՞ է Ձեզ: (ստիմուլյացիոն սենյակ – սենյակ, որտեղ իրականացվում է իրական պրակտիկ

բժշկական գործողություններ մոդելների, մուլյաժների միջոցով անհրաժեշտ հմտություններ ձեռք բերելու համար): Ձեր կարծիքով որքանո՞վ է կարևոր և օգտակար ստիմուլյացիոն սենյակների առկայությունը ծրագրում: Իսկ ի՞նչ կասեք շտապօգնության սարքավորումների ու հարմարությունների հասանելիության մասին:

<u>Ուսանողի գնահատում</u>

13. Կնկարագրեք խնդրեմ, թե ի՞նչ մեթոդներով են գնահատվում ձեր գիտելիքները և մասնագիտական աճը: Ձեր կարծիքով գնահատման այդ մեթոդները ճշգրտորեն արտացոլու՞մ են ձեր ընդունակությունները: Օրինակ, այդ մեթոդները բավարար համապարփա՞կ են գնահատելու համար ձեր գիտելիքները, վարքագիծը, պրակտիկ հմտությունները, քննադատական մտածողությունը, որոշում կայացնելը, ներանձնային հարաբերությունների/ հաղորդակցման հմտությունները: Գնահատման մեթոդները կարիք ունե՞ն բարելավումների, եթե այո, ապա որո՞նք են:

14. Կնկարագրե՞ք խնդրում եմ ձեր պրակտիկ ուսուցումը գնահատելու մեթոդը և գործընթացը: Ինչպե՞ս է դա տեղի ունենում: Ի՞նչ կարծիք ունեք գործնական և տեսական առարկաների դասախոսների համագործակցության կարևորության մասին: Որքանո՞վ է այն կարևոր պրակտիկ ուսուցմանն աջակցելու, դիտարկելու և գնահատելու համար: Ի՞նչ կառաջարկեիք այդ համագործակցությունները բարելավելու համար:
15. Որո՞նք են այն հիմնական բարդությունները, որոնց հետ բախվում եք Հայաստանում մանկաբարձական կրթություն ստանալիս: Կան արդյո՞ք լրացուցիչ առաջարկություններ, որ կցանակայիք ներկայացնել Հայաստանում մանկաբարձական կրթության բարելավման նպատակով:
16. Կա արդյո՞ք որևէ բան, որ կցանկանայիք ավելացնել մանկաբարձական կրթության մասին, սակայն մենք չհարցրեցինք:

Շնորհակալություն մասնակցության համար

Appendix 4 - Instructor Interview Guide

Focus group discussion guide for midwifery education program instructors

Place _____

Date _____

Time _____

Moderator _____

Note Taker _____

Welcoming and introduction of research team

Introduce yourselves. Welcome participants, present oral consent form and thank them for agreeing to participate.

Confidentiality and Voluntariness

I would like again highlight that all the information given by you will stay confidential. My notes and the recording will be stored without any information that will identify you and they will be destroyed at the end of the entire project. Only the summary of the data from all interviews will be presented in the final report. Your name and position will not appear in reports and presentations. We will take notes throughout the session. Upon your permission we will audio record the discussion to make sure that no idea remains out of our attention. Can we proceed with recording?

Review of the program and participation

As I mentioned in the consent form the aim of this study is to assess the curriculum of midwifery program in Armenia. Being working faculty with midwifery students you may provide useful information on this field. I would like to ask you to answer some questions, and share your experience and opinion to help us to understand the situation of midwifery education in Armenia. I would like to start by asking you to fill a few questions about you. (Distribute demographic forms)

Faculty of the program

1. What types of professionals are involved as faculty members in your midwifery program? (Physicians, practicing midwives and/or nurses)? Are there any special requirements for hiring the faculty? Please describe your experience.

2. In your opinion does the faculty have the need to update their knowledge continuously? What can you tell about continues education/trainings of the faculty before or during teaching? (Do you get trained and how often? What type of trainings and by whom?) What would you suggest for increasing opportunities for the faculty to enhance their professional knowledge?

3. What do you think about the qualifications, competencies of the staff (director-management/administration, faculty (clinical and theoretical, experts from other discipline) at your institutions? How much do their qualifications and competencies meet the nationally accepted criterion or the international standards? Do you see need for a change and what type of change?

Curriculum

4. What is your opinion about the content of the midwifery curriculum? Do you think that there is a need for program or regulatory changes for improving the content of the curriculum? If yes, please indicate the changes you would like to suggest.

5. Does your institution conduct a review of midwifery education curriculum and how often? Do the faculty in your program participate in the curriculum development or regular review? If yes, how? Who else have input in the review of the curriculum? (Students, graduates, practitioners, midwives).

6. Could you please, tell us if you have the right to make changes to the learning outcomes of the state standard curriculum? How flexible are you to make changes and have you ever done it? Please, provide an example. (Add a learning outcome, make it more specific).

7. Do you follow any standards (local, international) for your developing teaching materials? If yes, what are those standards?

8. Could you please describe the methods of teaching in midwifery education program? What type of teaching strategy do you use to teach your subject? (Active, passive teaching, individual or team based, competency based or other teaching strategy?) What are the sources of information that you use for developing teaching methods? In your opinion does the midwifery program use evidence-based approaches for teaching?

9. How would you describe your students' practical experiences in a variety of settings? How would you grade their practical experiences? Do your students practice primarily under the supervision of a midwife or midwifery clinical preceptor/clinical teacher? How much do your students participate in midwifery care?

10. What do you think is there a need to implement changes in practical learning, if yes why and what would be the changes, that you suggest?

11. Could you please describe the ratio of practical and theoretical knowledge in midwifery education? In your opinion is this ratio optimal? What can you tell about student teacher ratio? Is it possible that the number of teachers teaching certain subject can be changed depending on the number of students? Do you have any suggestion to improve practical or theoretical knowledge?

12. Could you please describe the minimum competencies that the graduate midwife is expected to demonstrate after successful completion of the program? What can you tell about your program graduates' competencies? (Are you satisfied, do you see need for improvement)?

Student Evaluation

13. Could you please describe the evaluation methods that you use to measure students' performance and progress? In your opinion are these methods clearly reflecting students' abilities? What do you think whether the methods are comprehensive enough to assess students' knowledge, behaviors, practice skills, critical thinking, decision-making and interpersonal relationships/communication skills? Do they need any improvements? If yes, how?
14. Could you please describe the process of evaluating students' practical learning? What do you think about the importance of collaboration of clinical and theoretical teachers? How much is it important in supporting, observing and evaluating student's practical learning process? What would you improve in these collaborations?

Resources and facilities

15. How would you describe teaching resources in your program? (For example: state of building, equipment, labs, and library). In your opinion do they meet the needs of the program? Do you think that there is a need for program or regulatory changes for improving resources for teaching? If yes, please indicate the changes you would like to suggest.

16. Does the program have a skills' lab or access to a skills' lab to teach midwifery skills to students? (Stimulation room, - a room where students implement real practice with models to develop necessary skills). What about access to emergency equipment, facilities?

Concluding questions

17. In comparison with international practice, how would you describe/evaluate the competencies/skills of midwives practicing in Armenia?

18. From your perspective what are the main challenges that you face in a provision of midwifery education in Armenia? Are there any additional suggestions you may have for the improvement of midwifery education in Armenia?

19. Is there anything else you would like me to know about midwifery education in Armenia?

Thank you for your participation!

Խմբակային հարցազրույցի ուղեցույց մանկաբարձական ծրագրի դասախոսների համար

Վայր _____

Ամսաթիվ _____

Ժամ _____

Հարցազրուցավար _____

Նշումներ կատարող _____

<u>Ողջունել և ներկայացնել հետազոտական թիմի անդամներին</u>

Ներկայանալ: Ողջունել մասնակիցներին, ներկայացնել համաձայնության ձևը և շնորհակալություն հայտնել մասնակցության համար:

<u>Գաղտնիության ապահովում և կամավոր մասնակցություն</u>

Կցանկանայի մեկ անգամ ևս նշել, որ ձեր կողմից տրամադրված ինֆորմացիան ամբողջովին կմնա գաղտնի: Մեր վերցրած գրառումները և ձայնագրությունը կպահվեն չպարունակելով որևէ ինֆորմացիա, որը կբացահայտի ձեր անձը և կոչնչացվի ծրագրի ավարտից հետո: Ձեր անունը կամ պաշտոնը չի նշվի ոչ մի զեկույցում: Ձեր համաձայնությամբ ես կձայնագրեմ մեր հարցազրույցը կամ գրառումներ կվերցնեմ հարցազրույցի ընթացքում՝ Ձեր կողմից տրամադրված որևէ ինֆորմացիա բաց չթողնելու նպատակով: Դուք համաձա՞յ ն եք, որ ես միացնեմ ձայնագրիչը: Խնդրում եմ ասել ԱՅՈ կամ ՈՉ: Եթե Դուք պատրաստ եք մենք կարող ենք սկսել:

<u>Ծրագրի ծանոթացում</u>

Ինչպես արդեն նշեցի համաձայնության ձևի մեջ, այս ծրագրի նպատակն է գնահատել բուժքույրերի գործունեությունը Հայաստանում: Աշխատելով մանկաբարձական ծրագրում որպես դասախոս, դուք կարող եք մեզ տրամադրել այդ ոլորտի վերաբերյալ կարևոր ինֆորմացիա: Ես կխնդրեի ձեզ պատասխանել որոշ հարցերի և կիսել մեզ հետ ձեր փորձը և կարծիքը, որը կօգնի մեզ հասկանալ, թե ինչպիսին է մանկաբարձական կրթության վիճակը Հայաստանում:
Մինչ բուն հարցազրույցը սկսելը, կխնդրեի լրացնել հետևյալ հարցերը ձեր մասին: (Բաժանել դեմոգրաֆիկ ձևերը):

Բուն հարցազրույց

Ծրագրի դասախոսական կազմը

1. Ինչպիսի՞ մասնագետներ են ընդգրկված մանկաբարձական գործ ծրագրում որպես դասախոսներ (բժիշկներ, աշխատող մանկաբարձուհիներ և/կամ բուժքույրեր): Կան արդյո՞ք հատուկ պահանջներ մակաբարձական ծրագրում դասախոս աշխատելու համար: Կնկարագրե՞ք ձեր փորձառությունը:

2. Ձեր կարծիքով դասախոսական կազմը կարիք ունի՞ շարունակաբար հարստացնել իր մասնագիտական գիտելիքները: Ի՞նչ կարող եք պատմել ուսուցման ծրագիրը սկսելուց առաջ կամ ուսուցման ընթացքում ձեր շարունակական կրթության/վերապատրաստումների մասին: (Դուք մասնակացու՞մ եք վերապատրաստումների և որքա՞ն հաճախ եք մասնակցում: Ինչպիսի՞ վերապատրասումներ են դրանք): Ձեր կարծիքով, ի՞նչ կարող է արվել, որպեսզի դասախոսներն ունենան ավելի շատ հնարավորություններ գիտելիքների հարստացման համար:

3. Ինչպիսի՞ կարծիք ունեք ձեր քոլեջի անձնակազմի որակավորման և հմտությունների մասին: (Տնօրեն- կառավարիչ/կազմակերպիչ, դասախոսական կազմ (գործնական և տեսական), այլ ոլորտների մասնագետներ): Որքանո՞վ է նրանց որակավորումը համապատասխանում ընդունված ազգային կամ միջազգային կրթական ստանդարտներին: Ձեր կարծիքով կարիք կա՞ փոփոխությունների, եթե այո, ապա ի՞նչ կառաջարկեիք:

Կրթական ծրագիր

4. Ինչպիսի՞ կարծիք ունեք մանկաբարձական կրթական ծրագրի բովանդակության մասին: Ըստ Ձեզ կրթական ծրագրի բովանդակությունը բարելավելու համար կա արդյո՞ք կանոնակարգային կամ ծրագրային փոփոխությունների կարիք: Եթե այո, նշեք խնդրեմ այն փոփոխությունները, որոնք կցանկանայիք տեսնել:

5. Ձեր հաստատությունում մանկաբարձական կրթական ծրագրի վերանայում իրականացվու՞մ է, ի՞նչ հաճախականությամբ: Դասախոսական կազմը մասնակցու՞մ է կրթական ծրագրի պարբերական վերանայմանը, եթե այո, ապա

ինչպե՞ս: Ձեզանից բացի ովքե՞ր են ներգրավված այդ գործընթացում (ուսանողներ, շրջանավարտներ, բուժաշխատողներ/մանկաբարձներ):

6. Կասե՞ք խնդրեմ, դուք իրավունք ունե՞ք մանկաբարձական կրթական ծրագրում դասընթացի նպատակները փոփոխելու: (Օրինակ՝ որևէ ուսուցման արդյուք կամ կատարման չափանիշ ավելացնել կամ պակասեցնել): Որքանո՞վ եք ազատ այդիպիսի փոփոխություններ կատարելու և երբևէ կատարել եք նման փոփոխություններ: Կբերե՞ք օրինակ:

7. Կրթական նյութերը մշակելիս հետևու՞մ եք որևէ տեղական կամ միջազգային ստանդարտների, եթե այո, ապա որո՞նք են այդ ստանդարտները:

8. Կնկարագրե՞ք խնդրեմ մանկաբարձական ծրագրի ուսուցման մեթոդները: Ինչպիսի՞ ուսուցման մեթոդներ եք կիրառում Ձեր առարկան դասավանդելիս: (պասի՞վ, թե՞ ինտերակտիվ, ուսանողի կողմից ինքնուրու՞յն ուսումնական գործունեություն, թե՞ թիմային, հմտությունների վրա հիմնվա՞ծ, թե՞ այլ): Ի՞նչ աղբյուրներից եք օգտվում ուսումնական մեթոդների մշակման համար: Ձեր կարծիքով մանկաբարձական ծրագիրը ուսուցման մեթոդները ապացույցի վրա հիմնվա՞ծ են:
9. Ինչպե՞ս կնկարագրեիք Ձեր ուսանողների գործնական/պրակտիկ փորձառությունները տարբեր բաժիններում: Ինչպե՞ս կգնահատեիք նրանց գործնական փորձառությունները: Ձեր ուսանողները մանկաբարձի կամ մանկաբարձ/դասախոսի անմիջական հսկողության ներքո պրակտիկա անցու՞մ են: Իսկ որքանո՞վ են կարողանում մասնակցել/ներգրավված լինել մանկաբարձական խնամքի տրամադրմանը:

10. Ձեր կարծիքով կարիք կա՞ փոփոխություններ կատարել գործնական/պրակտիկ ուսուցման մեջ, եթե այո, ապա որո՞նք են այն փոփոխությունները, որ կցանկայիք տեսնել:

11. Կնկարագրե՞ք խնդրեմ մանկաբարձական կրթական ծրագրում տեսական և գործնական գիտելիքների հարաբերակցությունը: Ձեր կարծիքով արդյո՞ք այդ հարաբերակցությունը օպտիմալ է: Իսկ դասախոս և ուսանող թվի հարաբերակցությունն ինչպիսի՞նն է, արդյոք տվյալ առարկան դասավանդող

դասախոսների թիվը կարող է փոխվել ուսանողների թվից կախված: Դուք ունե՞ք որևէ առաջարկ տեսական և/կամ գործնական գիտելիքները բարելավելու համար:

12. Կնկարագրե՞ք խնդրեմ այն նվազագույն հմտությունները որոնք ակնկալվում են մանկաբարձական գործ ծրագրի շրջանավարտներից ծրագիրը բարեհաջող ավարտելու դեպքում: Ի՞նչ կարող եք պատմել ծրագրի շրջանավարտների հմտությունների մասին (Ձեզ բավարարում են նրանց հմտությունները, թե՞ կարիք կա հմտությունների բարելավման):

Ուսանողի գիտելիքների գնահատում

13. Կնկարագրե՞ք խնդրեմ, թե ի՞նչ մեթոդներով եք գնահատում ուսանողների գիտելիքները և աճը: Ձեր կարծիքով գնահատման այդ մեթոդները ճշգրտորեն արտացոլու՞մ են ուսանողների ընդունակությունները. ուսանողների գիտելիքները, վարքագիծը, պրակտիկ հմտությունները, քննադատական մտածողությունը, որոշում կայացնելու, ներանձնային հարաբերությունների/ հաղորդակցման հմտությունները գնահատելու համար բավարար համապարփա՞կ են: Գնահատման մեթոդները կարիք ունե՞ն բարելավումների, եթե այո, ապա ինչպե՞ս:

14. Կնկարագրե՞ք խնդրում եմ ուսանողների պրակտիկ ուսուցումը գնահատելու մեթոդը և գործընթացը: Ի՞նչ կարծիք ունեք գործնական/կլինիկական և տեսական առարկաներ դասավանդող դասախոսների համագործակցության կարևորության մասին: Որքանո՞վ է այն կարևոր պրակտիկ ուսուցմանն աջակցելու, դիտարկելու և գնահատելու համար: Ի՞նչ կառաջարկեիք այդ համագործակցությունները բարելավելու համար:

Ռեսուրսներ և հարմարություններ

15. Ինչպե՞ս կնկարագրեիք ուսուցման համար անհրաժեշտ ռեսուրսները Ձեր ծրագրում: (Օրինակ՝ շենքային պայմանները, սարքավորումները, գրադարանը, հաստատությունները): Ձեր կարծիքով այս ռեսուրսները բավարա՞ր են ծրագրի համար: Կարծում եք, այդ ռեսուրսները բարելավելու համար հնարավո՞ր ծրագրային փոփոխություններ իրականացնել: Եթե այո, ապա ի՞նչ փոփոխություն կառաջարկեիք:

16. Ծրագիրն ունի՞ ստիմուլյացիոն կենտրոն կամ որևէ ստիմուլյացիոն կենտրոն հասանելի՞ է նրանց մանկաբարձական հմտություններ ուսուցանելու համար: (ստիմուլյացիոն սենյակ – սենյակ, որտեղ ուսանողները մոդելների, մուլյաժների միջոցով իրականացնում են իրական պրակտիկ գործողություններ՝ անհրաժեշտ հմտություններ ձեռք բերելու համար): Ի՞նչ կասեք շտապօգնության սարքավորումների և հարմարությունների հասանելիության մասին:

Ամփոփիչ հարցեր

17. Եթե համեմատենք միջազգային գործելակերպի հետ, ինչպե՞ս կգնահատեիք մեր երկրում մանկաբարձների ունակությունները/հմտությունները մանկաբարձական խնամք/ծառայություն իրականացնելիս:

18. Որո՞նք են այն հիմնական մարտահրավերները, որոնց հետ բախվում եք Հայաստանում մանկաբարձական կրթություն տրամադրելիս: Կան արդյո՞ք լրացուցիչ առաջարկություններ, որ կցանակայիք ներկայացնել Հայաստանում մանկաբարձական կրթության բարելավման նպատակով:

19. Կա արդյո՞ք որևէ բան, որ կցանկանայիք ավելացնել մանկաբարձական կրթության մասին Հայաստանում, սակայն մենք չխոսեցինք այդ մասին:

Շնորհակալություն մասնակցության համար

Appendix 5 - Equipment observational checklist

According to the ICM, the following equipment list was created to facilitate the path of achievement of Millennium Development Goal 5 (MDG). Using this equipment tool, it is suggested that midwives will gain their standard competencies.

Composite Essential Teaching-Learning Materials

Table 1-List 1 **Anatomical Models**

N	**Names**	**No**	**Yes**	**<u>If yes, comments on</u>** • **Quantity** • **Quality** • **Availability for students use**
1.	Zoe or Mama Natalie Models			
	a. Non Pregnant			
	b. Pregnant (1st, 2nd, 3rd trimesters simulator)			
	c. Pelvic Model			
2.	Childbirth Simulator / Maternal and neonatal birth simulator			
3.	Condom model on base			
4.	IUD hand held model			
5.	Anatomic models for injections in arm, buttock and thigh) (May use soft doll or small piece of fruit)			
6.	Pregnant abdomen model (for palpation – if Zoe model is not available)			
7.	Breast (and breastfeeding) model			
8.	Bony pelvis (hard: landmarks identified)			
9.	Foetal skull (landmarks identified)			
10	Foetal baby, umbilical cord and placenta for vacuum delivery			

11	Uterus and placenta models			
12	Cervical replicas (for IUD insertion)			
13	Cervical dilation model (plastic)			
14	Adult resuscitation doll/model			
15	Newborn resuscitation doll/model			
16	Foetus			
17	Perineum cutting and suturing training simulator (or 6-inch sponge blocks)			
18	Small ball (cricket, baseball, tennis) & socks for assessing dilatation of cervix			

Table 1 - **List 2 Equipment**

N	**Names**	**No**	**Yes**	**<u>If yes, comments on</u>** • **Quantity** • **Quality** • **Availability for students use**
19	Implant Insertion/removal kit			
	a. Trocar and cannulae			
	b. Scalpel and holder			
	c. Blade			
	d. Mosquito artery forceps (curved and straight)			
	e. Tweezers			
20	IUD insertion kit			
	a. Tenaculum (atraumatic and/or single tooth)			
	b. Uterine Sound			

	c. Bi-valve vaginal speculum			
	d. Ring forceps			
	e. IUD drive tube			
21	Light source (examination light or well lit room)			
22	Adult weighing scale			
23	Infant weighing scale			
24	Adult blood pressure apparatus (including stethoscope)			
25	Newborn blood pressure apparatus (optional)/stethoscope			
26	Wall clock to reflect seconds			
27	Reflex hammer			
28	Pen light/small flashlight			
29	Measuring tape			
30	Tongue depressors			
31	Thermometer			
32	Vaginal speculums – various sizes			
33	Receiving bowls (various sizes, for solutions and for collection of specimens)			
34	Graduated measuring jug			
35	IV administration stand/pole			
36	Tourniquet			
37	Foetoscope (foetal stethoscope)			
38	Doptone			
39	Cord scissors			

40	Curved mayo scissors (5.5 in. or 14 cm.)			
41	Large straight scissors			
42	Ring forceps 9.5 in. or 24.2 cm. (sponge holding forceps-straight)			
43	Kocher 140 mm. straight (for amniotomy) and/or amniotomy hook			
44	Long dressing forceps			
45	Needle holding forceps			
46	Needle extender			
47	Dissecting forceps/pickups (plain and rat-toothed)			
48	Large haemostat (7 inch artery forceps)			
49	Episiotomy kit (stainless steel container with some of the items on this list)			
50	Delivery Kit (box/bag containing some of the items on this list)			
51	Transport incubator (or box fitted as simulation)			
52	Ambu bag (adult and paediatric) with masks			
53	Suturing set (box/bag containing some of the items on this list)			
54	Manual Vacuum Aspirator (MVA Plus)			
55	Set of dilators (tapered dilators, such as Pratt or Denniston, are best)			
56	Strainer for tissue inspection			
57	Clear containers or basin/plastic buckets (for decontamination)			
58	Bedpan with cover			

59	Delivery bed (patient bed, or delivery table, with privacy screens)			
60	Examination table with stirrups			
61	Examination stool (adjustable height)			
62	Equipment cart with wheels			
63	Two chairs and tables			
64	Running water and sink			
65	Sterilization kit or autoclave			
66	Dustbin			
67	Microscope and supplies (optional)			
68	Haemoglobinometer (optional)			
69	Vacuum extractor (optional)			

Table 1- List 3 **Learning Materials**

N	**Name**	**No**	**Yes**	**<u>Comments</u>** • **Information on type of material (handbook/book/handout/ learning material/video/poster)** • **Number of books/manuals containing the topic of interest** **Year of publication of the learning material**
70	Female reproductive anatomy			
71	Male reproductive anatomy			
72	Normal changes of pregnancy			
73	Prenatal discomforts			
74	Foetal development			
75	Stages of labour			
76	Cervical dilation and foetal descent			

77	Mechanisms of birth (vertex & breech)			
78	Malpresentations			
79	Episiotomy			
	a. How to perform an episiotomy			
	b. How to anaesthetize the perineum for episiotomy and repair of tears			
	c. Different types of episiotomy			
80	Perineal and cervical tears (technique for repair)			
81	Adolescent growth and development (e.g., Tanner stages)			
82	Newborn resuscitation protocol			
83	Adult resuscitation protocol			
84	Charts or video on infection prevention procedures			
85	Charts/posters on national referral systems and appropriate referral form (local)			
86	Midwives code of conduct			
87	Women's rights (society and health care system responsibilities)			
88	Contraceptive methods (e.g., FP Global Handbook for Providers USAID/WHO/Johns Hopkins University)			
89	Family planning flip chart			
90	Lactational Amenorrhoea Method (LAM)			
91	Standard days method beads			

92	Gestational age calculator (pregnancy wheel)			
93	Maternal health records book/antenatal card/file (consistent with local practice)			
94	Partograph (WHO: Need for country decision on version of partograph to use)			
95	Country based client records/forms			
	a. Antenatal records			
	b. Intra-partum care records			
	c. Family planning client forms/folder/cards			
	d. Resuscitation record forms			

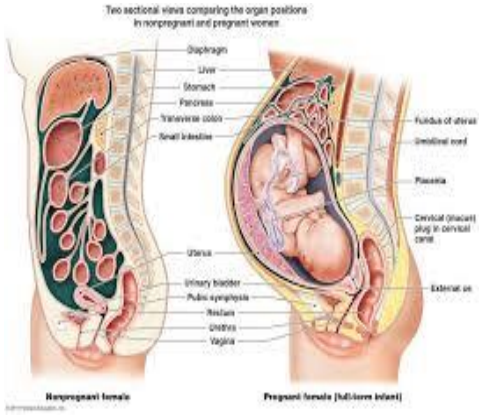
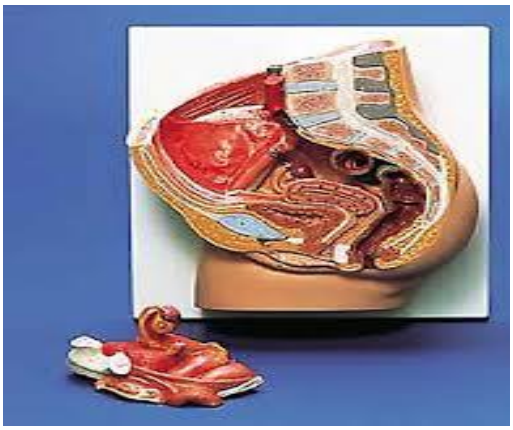
Table 1-List 6 **Books/Manuals/Videos**

N	Name	Yes	No	Comments • Information on type of material (handbook/book/handout/ learning material/video/poster) • Number of books/manuals containing the topic of interest • Year of publication of the learning material
96	National FP protocol (local production)			
97	Global Handbook on FP			
98	Balanced Counselling Strategy Cue cards (Population Council/Frontiers)			
99	CDs or documentary on local cultures and tradition (WHO/World Education)			

100	Job aides on alarm and transport for emergency care			
101	Country-based algorithm depicting how to access emergency transport			
102	Country-based algorithm on direct and indirect causes of maternal and neonatal mortality and morbidity			
103	WHO IMPAC materials- WHO | Documents on Integrated Management of Pregnancy & Childbirth			
104	Manual removal of placenta			
105	Management of shoulder dystocia			
106	Bimanual compression of the uterus			
107	Aortic compression			
108	Breastfeeding/latching on			
109	Woman Centered Abortion Care (W-CAC) and/or Woman Centered Post Abortion Care (W-PAC) manual (Contact Ipas)			
110	Medical Abortion Training Curricula and IEC resources for providers and women (Contact Ipas) (optional/additional)			

Appendix 6 – Equipment observational checklist album

Table 1 – List 1 **Anatomical models**

1.a.b 	**1.c** 
1.c.1 	**2** 
3 	**4** 

5

5.1

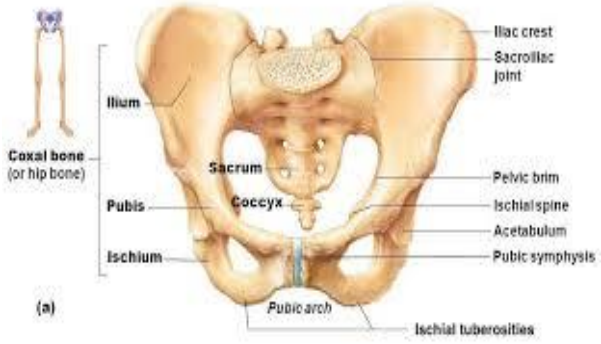
5.2

6

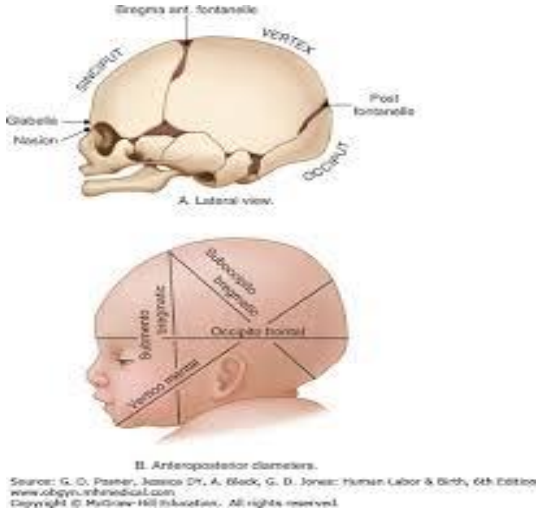

Copyright Buyamag Inc.

7

8

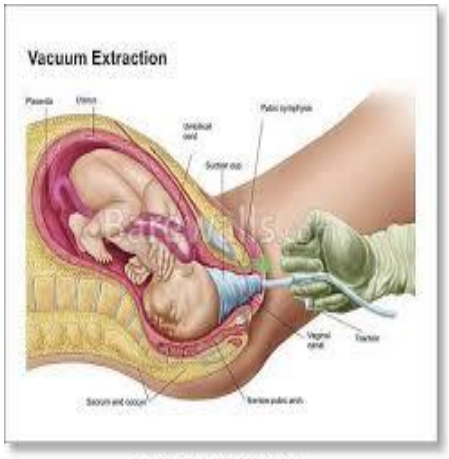

Iliac crest
Sacroiliac joint
Ilium
Coxal bone (or hip bone)
Sacrum
Coccyx
Pubis
Ischium
Pelvic brim
Ischial spine
Acetabulum
Pubic symphysis
(a)
Pubic arch
Ischial tuberosities

9



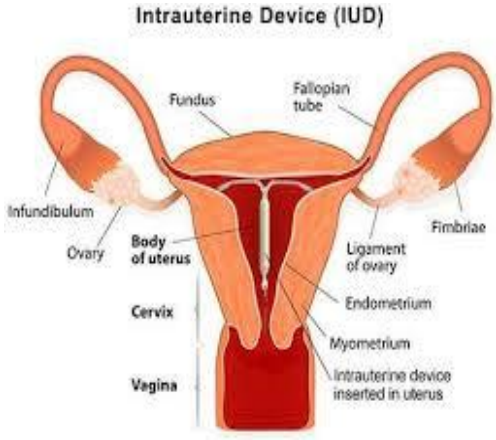
10

10.1



11

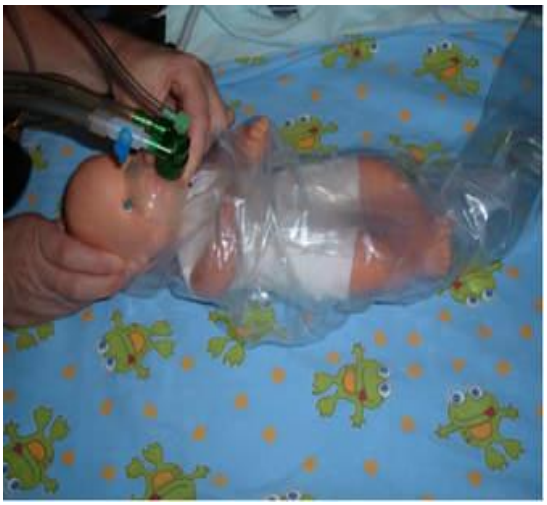
12



13

14

15



15.1

16

17

18

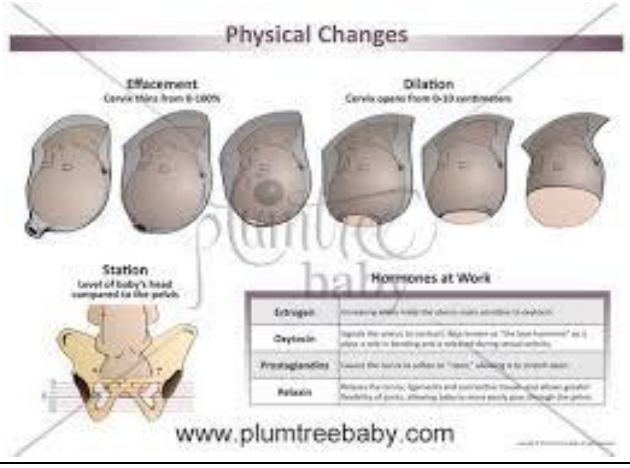
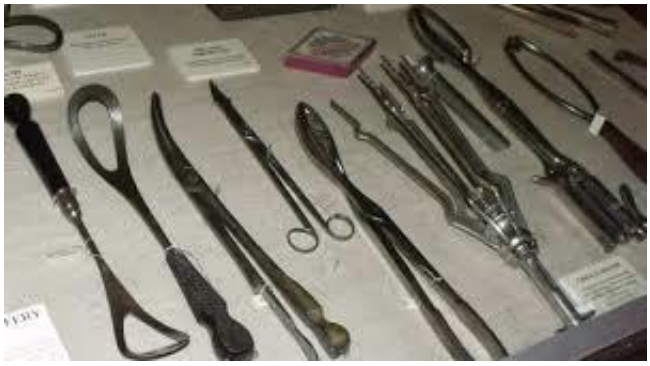
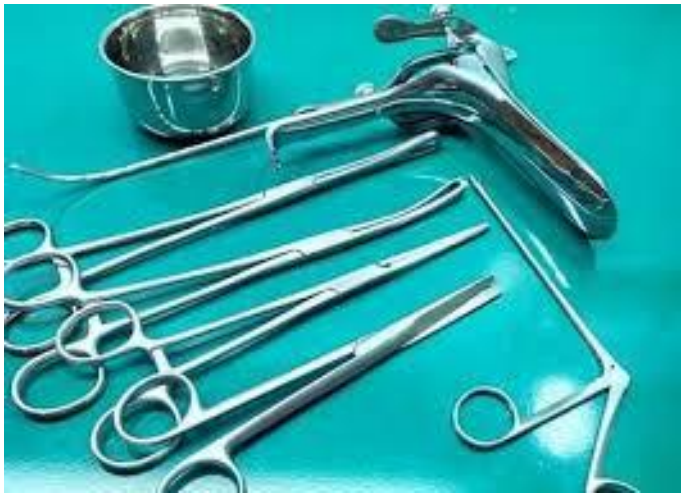
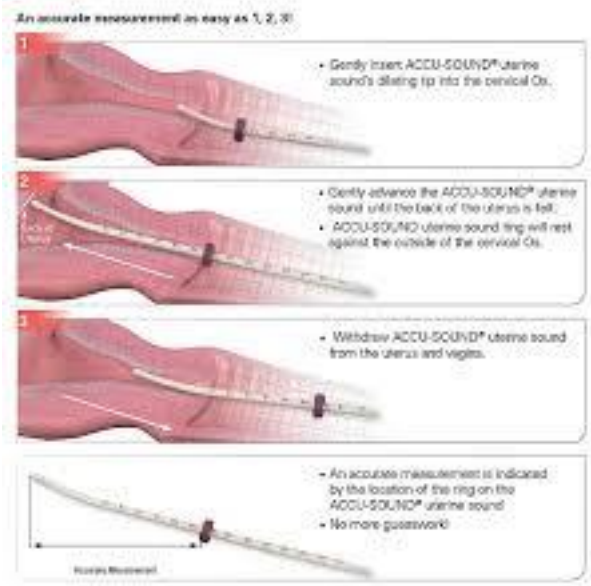


Table 1 – List 2 **Equipment**

19 	**19.a** 
19.b 	**19.c** 
19.d 	**20** 

20.b



32

38

39

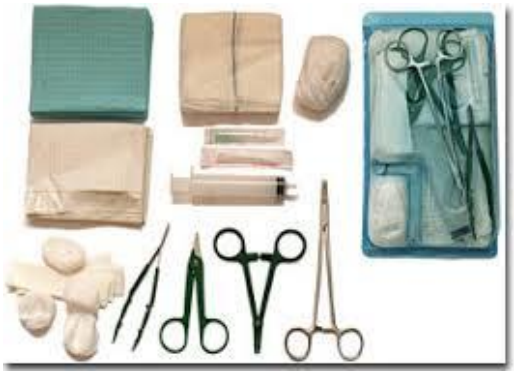
40

41

42 	**43** 
44 	**45** 
46 	**47** 

48

49

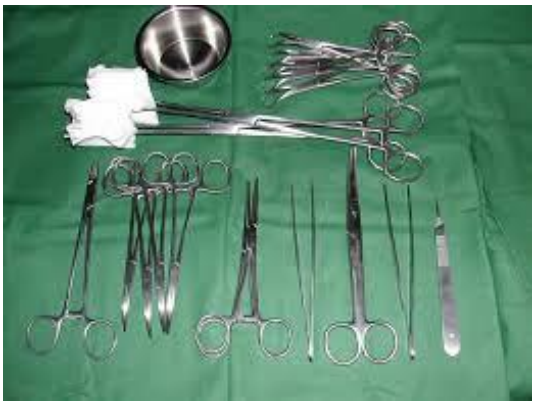


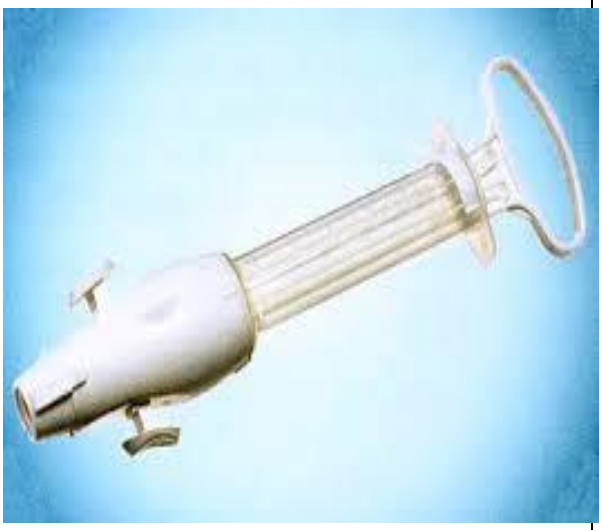
50

51

52

53



54 	**55** 
56 	**57** 
58 	**59** 

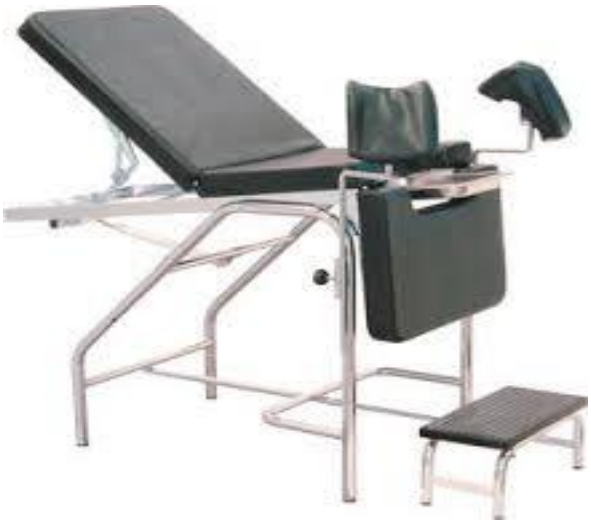
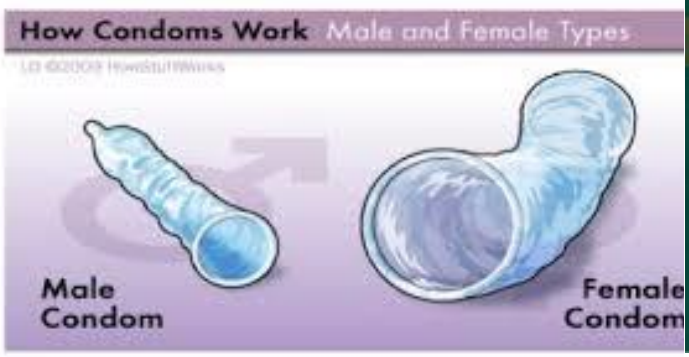
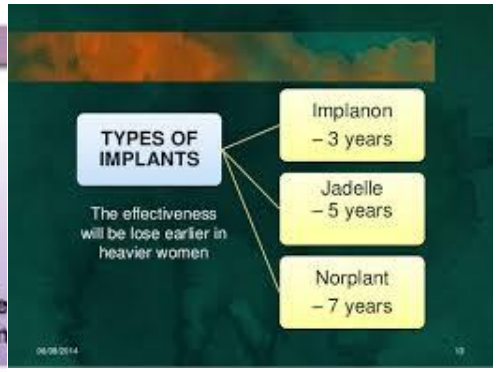
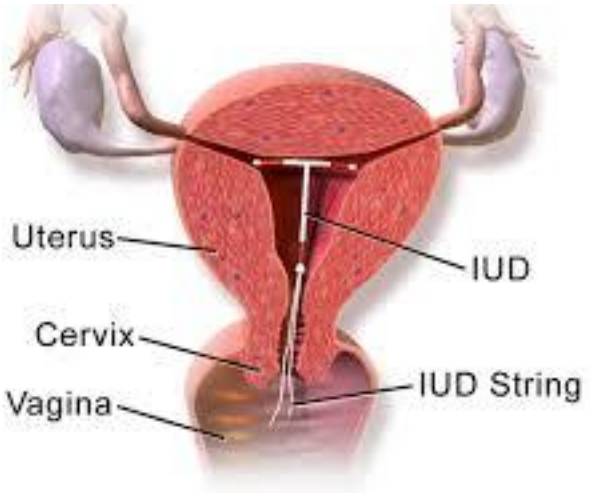
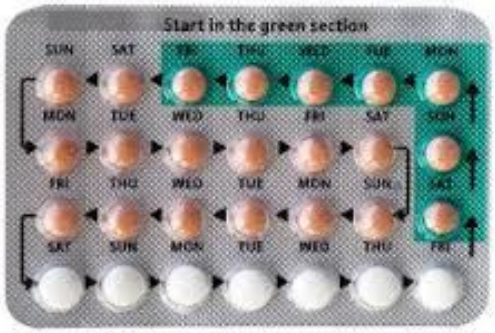
60 	**61** 
62 	**69** 

Table 1 – List 3 **Consumables**

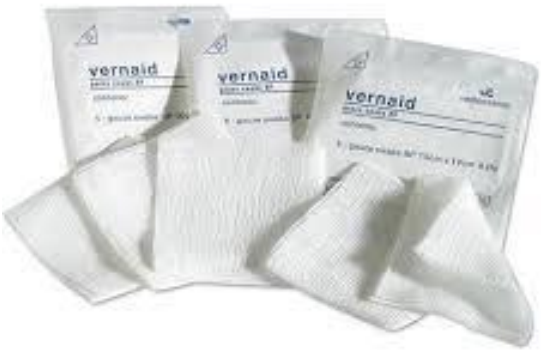
70.a 	**70.b** 
70.b.1 	**70.c** 
70.d 	**70.e** 

71.a

72

74.a

74.b



74.c

78

79

80

82

83.a.b.c.d

84

85

85.1

87

88

89

90

91

93

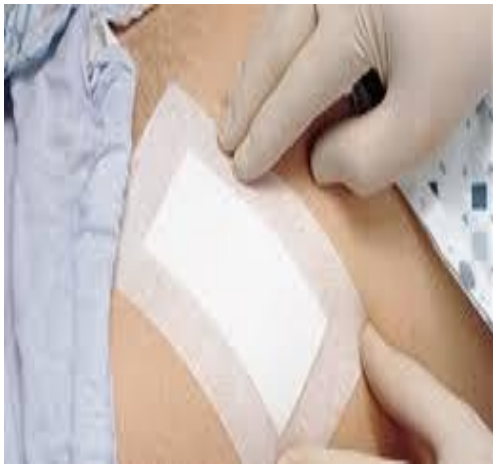
96

97.a

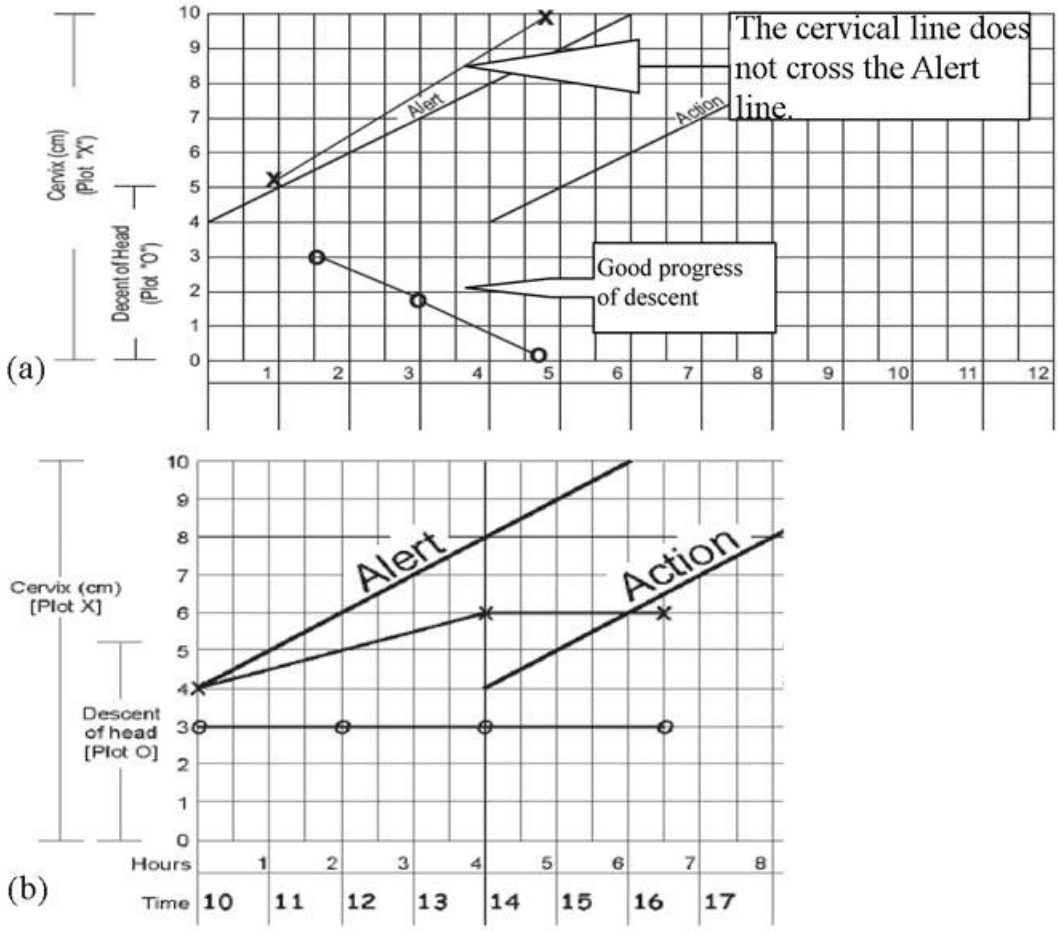
97.b

98

99



137


(a)
Cervix (cm) (Plot "X")
Decent of Head (Plot "O")
Alert
Action
The cervical line does not cross the Alert line.
Good progress of descent
(b)
Cervix (cm) [Plot X]
Descent of head [Plot O]
Alert
Action
Hours
Time
10
11
12
13
14
15
16
17

Appendix 7 – Demographic forms

Administrative representatives

Please respond to the following questions by writing on the provided line or circling the correct answer

1. Your age (completed years) _____
2. What is your gender?
   1) Male
   2) Female
3. What is your qualification?
   1) Midwife
   2) Nurse
   3) Physician
   4) Other, please specify
   _____
4. How many years of experience do you have as a director of midwifery program?
   _____

Ծրագրի ղեկավար

Խնդրում ենք պատասխանել հետևյալ հարցերին գրելով նշված տողում կամ օղակի մեջ առնելով ճիշտ պատասխանը.

1. Ձեր տարիքը (լրացրած տարիներ թիվը) _____
2. Ձեր սեռը.
   1) Արական
   2) Իգական
3. Ի՞նչ մասնագիտություն ունեք
   1) Մանկաբարձ
   2) Բուժքույր
   3) Բժիշկ
   4) Այլ, խնդրում ենք նշել
   _____
4. Քանի՞ տարվա մանկաբարձական կրթական ծրագրի ղեկավարի փորձ ունեք
   _____

Program instructors

Please respond to the following questions by writing on the provided line or circling the correct answer

1. Your age (completed years) _____
2. What is your gender?
   1) Male
   2) Female
3. What is your qualification?
   1) Midwife
   2) Nurse
   3) Physician
   4) Other, please specify
   _____
4. How many years of experience do you have as a member of a midwifery program teaching staff? _____
5. How many years of experience do you have as a practicing midwife/nurse/physician? _____

Ծրագրի դասախոս

Խնդրում ենք պատասխանել հետևյալ հարցերին կամ գրելով նշված տողում կամ օղակի մեջ առնելով ճիշտ պատասխանը.

1. Ձեր տարիքը (լրացրած տարիներ թիվը) _____
2. Ձեր սեռը.
   1) Արական
   2) Իգական
3. Ո՞րն է Ձեր մասնագիտությունը.
   1) Մանկաբարձ
   2) Բուժքույր
   3) Բժիշկ
   4) Այլ, խնդրում ենք նշել
   _____
4. Քանի՞ տարվա մանկաբարձական ծրագրում ուսուցման փորձ ունեք _____
5. Դուք քանի՞ տարվա փորձ ունեք որպես աշխատող բժիշկ / մանկաբարձ/բուժքույր/ (որպես դասախոս աշխատանքային փորձը չներառած) _____

Students

Please respond to the following questions by writing on the provided line or circling the correct answer

1. Your age (completed years) _____

2. What is your gender?
   1) Male
   2) Female

3. Which midwifery program were you involved in?
   1) 3 year program at the basis of 12 grade school
   2) 4 year program at the basis of 9 grade school

4. What is your course year in midwifery program?
   1) Third year
   2) Fourth year

Ուսանող

Խնդրում ենք պատասխանել հետևյալ հարցերին գրելով նշված տողում կամ օղակի մեջ առնելով ճիշտ պատասխանը.

1. Ձեր տարիքը (լրացրած տարիներ թիվը) _____

2. Ձեր սեռը.
   1) Արական
   2) Իգական

3. Դուք ո՞ր մանկաբարձական ծրագրում էիք ներգրավված.

   1) Եռամյա ծրագրում տասներկուամյա դպրոցի հիման վրա
   2) Քառամյա ծրագրում իննամյա դպրոցի հիման վրա

4. Դուք ո՞ր կուրսի ուսանող եք.
   1) Երրորդ
   2) Չորրորդ

Appendix 8 – Student consent form

American University of Armenia

Institutional Review Board #1

Consent Form Midwifery Students

Assessment of Midwifery Education in Armenia

Hello, my name is ..... . I am working for the Center for Health Services Research and Development of American University of Armenia. Currently our research center with the support of the UNFPA Armenia Country Office is conducting an assessment of midwifery education in Armenia.

I am inviting you to participate in a discussion for this project because you are current students at a midwifery program and have an experience and opinion on the topic that we are studying. If you do not mind we would like you to share your experience with us and to hear your opinion on midwifery education.Your participation in this study is limited to this single discussion. During the discussion I will ask you questions on your opinion about midwifery education in Armenia. Please be informed that there are no right and wrong answers.

You will be one of approximately 60 people who participate in this project. The study also includes students, faculty members and directors from other medical schools in Yerevan and regions.

Please be informed that your name will not be mentioned anywhere. All the information given by you will stay confidential and will be used only for research purposes. Only the research team will have access to the information provided by you. The summary of the data from all interviews will be presented in the final report. With your permission, I will use audio-recording and/or note taking to make sure that we do not miss any important information you provide us with.

Your participation in this study is voluntary and includes only this discussion, which will take no longer than 90 minutes. You may refuse to answer any question in the interview or stop the interview at any time. There will not be any negative consequences if you decline to take part in this project on your education. There is no financial compensation or other personal benefits and there are no known risks to you resulting from your participation in the study. It is possible that the information obtained from you will help to improve the midwifery education in Armenia.

If you have any questions regarding this study you can call the program coordinator Serine Sahakyan at (374-60) 61 25 61. If you feel you have not been treated fairly or think you have been hurt by joining the study you should contact Varduhi Hayrumyan (374-60) 61 25 61, the Human Protections Administrator of the American University of Armenia.

Do you agree to participate? Do you agree to the recording? Please answer Yes or No? If you are ready, we can start.

Հայաստանի ամերիկյան Համալսարան

Գիտական էթիկայի թիվ մեկ հանձնաժողով

Իրազեկ համաձայնության ձև

Մանկաբարձական գործի ուսանող

Հայաստանում մանկաբարձական կրթության գնահատում

Բարև Ձեզ, իմ անունը …… է: Ես աշխատում եմ Հայաստանի ամերիկյան համալսարանի առողջապահական ծառայությունների հետազոտման և զարգացման կենտրոնում: Մեր հետազոտական կենտրոնը, ՄԱԿ-ի բնակչության հիմնադրամի աջակցությամբ իրականացնում է ծրագիր, որի նպատակն է գնահատել մանկաբարձական կրթական ծրագիրը Հայաստանում:

Դուք հրավիրված եք մասնակցելու այս քննարկմանը, քանի որ հանդիսանում եք մանկաբարձական կրթական ծրագրի ուսանող, և ունեք որոշակի փորձ և կարծիք այդ թեմայի վերաբերյալ: Եթե դեմ չեք մենք կցանկանայինք որպեսզի դուք կիսվեիք մեզ հետ ծրագրի վերաբերյալ ձեր ունեցած փորձով և կարծիքով: Ձեր մասնակցությունն այս հետազոտությանը սահմանափակվում է միայն այս քննարկմամբ, որի ժամանակ ես կուղղեմ Ձեզ հարցեր Հայաստանում մանկաբարձական կրթության վերաբերյալ Ձեր կարծիքի մասին: Կցանկանայի տեղեկացնել, որ չկան ճիշտ կամ սխալ պատասխաններ:

Դուք հանդիսանում եք մոտավորապես 60 մասնակիցներից մեկը, ով ընտրվել է մասնակցելու է այս ծրագրին: Ծրագրում ընդգրկված են նաև մանկաբարձ ուսանողներ, մանկաբարձական ծրագրի դասախոսներ և ղեկավարներ Երևանի և մարզային այլ քոլեջներից: Ցանկանում եմ տեղեկացնել, որ Ձեր կողմից տրամադրված տեղեկությունները գաղտնի են պահվելու, որևէ փաստաթղթի մեջ Ձեր անունը չի նշվելու, Ձեր կողմից տրամադրված տեղեկությունները պետք է օգտագործվեն միայն հետազոտական նպատակներով: Միայն հետազոտող թիմն է ունենալու հասանելիություն Ձեր կողմից տրամադրված տեղեկություններին և միայն ընդհանրացված տեղեկություններն են ներկայացվելու վերջնական զեկույցում: Ձեր համաձայնությամբ ես կձայնագրեմ մեր հարցազրույցը և/կամ գրառումներ կվերցնեմ հարցազրույցի ընթացքում, որպեսզի բաց չթողնեմ որևէ կարևոր տեղեկություն: Ձեր մասնակցությունն այս հետազոտությանը կամավոր է և ներառում է միայն այս քննարկումը, որը կտևի մոտավորապես 90 րոպե: Դուք իրավունք ունեք բաց թողնել այն բոլոր հարցերը, որոնց չեք ցանկանա պատասխանել, նաև հրաժարվել շարունակելու հարցազրույցը ցանկացած պահի: Ձեզ ոչինչ չի սպառնում, եթե Դուք

հրաժարվեք մասնակցել այս հետազոտությանը: Ձեր մասնակցությունը այս հետազոտությանը չի ներառում որևէ ֆինանսական խրախուսում, որևէ անմիջական ռիսկ կամ օգուտ և որևէ վտանգ չի ներկայացնում Ձեր հետագա ուսմանը: Հնարավոր է, որ Ձեր կողմից տրամադրված տեղեկությունները կնպաստեն մանկաբարձական կրթության որակի բարձրացմանը Հայաստանում:

Այս հետազոտության վերաբերյալ հարցեր ունենալու դեպքում կարող եք զանգահարել ծրագրի ղեկավար Սերինե Սահակյանին (+374-60) 61 25 61 հեռախոսահամարով: Եթե կարծում եք, որ այս հետազոտության շրջանակներում Ձեզ հետ ճիշտ չեն վարվել կամ որևէ կերպ վիրավորել են հարցազրույցի մասնակցության ընթացքում, Դուք կարող եք դիմել Հայաստանի ամերիկյան համալսարանի գիտական էթիկայի հանձնաժողովի համակարգող Վարդուհի Հայրումյանին՝ հետևյալ հեռախոսահամարով (+374-60) 61 25 61:

Դուք համաձա՞յն եք մասնակցել հետազոտությանը: Թույլ կտա՞ք միացնել ձայնագրիչը: Խնդրում եմ ասել ԱՅՈ կամ ՈՉ: Եթե պատրաստ եք, կարող ենք սկսել:

Appendix 9 – Instructor/program director consent form

American University of Armenia

Institutional Review Board #1

Consent Form Midwifery Education Program Teachers/Directors

Assessment of Midwifery Education in Armenia

Hello, my name is ..... . I am working for the Center for Health Services Research and Development of American University of Armenia.
Currently our research center with the support of the UNFPA Armenia Country Office is conducting an assessment of midwifery education in Armenia.
I am inviting you to participate in a discussion for this project because you are a current teacher/director at/of a midwifery program and have an experience on the topic we study. If you do not mind we would like you to share your experience with us and to hear your opinion on midwifery education. Your participation in this study is limited to this single interview. During the interview I will ask you questions on your opinion about midwifery education in Armenia. Please be informed that there are no right and wrong answers.
You will be one of approximately 60 people who participate in this project. The study also includes students, faculty members and directors from other medical schools in Yerevan and regions.
Please be informed that your name will not be mentioned anywhere. All the information given by you will stay confidential and will be used only for research purposes. Only the research team will have access to the information provided by you. The summary of the data from all interviews will be presented in the final report. With your permission, I will use audio-recording and/or note taking to make sure that we do not miss any important information you provide us with.
Your participation in this study is voluntary and includes only this discussion, which will take no longer than 90 minutes. You may refuse to answer any question in the interview or stop the interview at any time. There will not be any negative consequences if you decline to take part in this project on your education. There is no financial compensation or other personal benefits and there are no known risks to you resulting from your participation in the study. It is possible that the information obtained from you will help to improve the midwifery education in Armenia.
If you have any questions regarding this study you can call the project coordinator Serine Sahakyan at (374-60) 61 25 61. If you feel you have not been treated fairly or think you have been hurt by joining the study you should contact Varduhi Hayrumyan (374-60) 61 26 17, the Human Subject Protection Administrator of the American University of Armenia.
Do you agree to participate? Do you agree to the recording? Please answer Yes or No? If you are ready, we can start.

Հայաստանի ամերիկյան Համալսարան

Գիտական էթիկայի թիվ մեկ հանձնաժողով

Իրազեկ համաձայնության ձև Մանկաբարձական գործ ծրագրի դասախոս/ղեկավար

Հայաստանում մանկաբարձական կրթության գնահատում

Բարև Ձեզ, իմ անունը …… է: Ես աշխատում եմ Հայաստանի ամերիկյան համալսարանի առողջապահական ծառայությունների հետազոտման և զարգացման կենտրոնում: Մեր հետազոտական կենտրոնը, ՄԱԿ-ի բնակչության հիմնադրամի աջակցությամբ իրականացնում է ծրագիր, որի նպատակն է գնահատել մանկաբարձական կրթական ծրագիրը Հայաստանում:

Դուք հրավիրված եք մասնակցելու այս հարցազրույցին, քանի որ հանդիսանում եք մանկաբարձական կրթական ծրագրի դասախոս/ղեկավար, և և ունեք որոշակի փորձ և կարծիք այդ թեմայի վերաբերյալ: Եթե դեմ չեք մենք կցանկանայինք որպեսզի դուք կիսվեիք մեզ հետ ծրագրի վերաբերյալ ձեր ունեցած փորձով և կարծիքով: Ձեր մասնակցությունն այս հետազոտությանը սահմանափակվում է միայն այս հարցազրույցով, որի ժամանակ ես կուղղեմ Ձեզ հարցեր Հայաստանում մանկաբարձական կրթության վերաբերյալ Ձեր կարծիքի մասին: Կցանկանայի տեղեկացնել, որ չկան ճիշտ կամ սխալ պատասխաններ:

Դուք հանդիսանում եք մոտավորապես 60 մասնակիցներից մեկը ով ընտրվել է մասնակցելու այս ծրագրին: Ծրագրում ընդգրկված են նաև մանկաբարձ ուսանողներ, մանկաբարձական ծրագրի դասախոսներ և ղեկավարներ Երևանի և մարզային այլ քոլեջներից: Ցանկանում եմ տեղեկացնել, որ Ձեր կողմից տրամադրված տեղեկությունները գաղտնի են պահվելու, որևէ փաստաթղթի մեջ Ձեր անունը չի նշվելու, Ձեր կողմից տրամադրված տեղեկությունները պետք է օգտագործվեն միայն հետազոտական նպատակներով: Միայն հետազոտող թիմն է ունենալու հասանելիություն Ձեր կողմից տրամադրված տեղեկություններին և տեղեկությունները ներկայացվելու են միայն ամբողջական զեկույցի տեսքով: Ձեր համաձայնությամբ ես կձայնագրեմ մեր հարցազրույցը և/կամ գրառումներ կվերցնեմ հարցազրույցի ընթացքում, որպեսզի բաց չթողնեմ որևէ կարևոր տեղեկություն: Ձեր մասնակցությունը այս հետազոտությանը կամավոր է և ներառում է միայն այս քննարկումը, որը կտևի մոտավորապես 90 րոպե: Դուք իրավունք ունեք բաց թողնել այն բոլոր հարցերը, որոնց չեք ցանկանա պատասխանել նաև հրաժարվել շարունակելու հարցազրույցը ցանկացած պահի: Ձեզ ոչինչ չի սպառնում, եթե Դուք հրաժարվեք մասնակցել այս հետազոտությանը: Ձեր մասնակցությունը այս

հետազոտությանը չի ներառում որևէ ֆինանսական խրախուսում, անմիջական ռիսկ կամ օգուտ և որևէ վտանգ չի ներկայացնում Ձեր ուսմանը: Հնարավոր է, որ Ձեր կողմից տրամադրված տեղեկությունները կնպաստեն մանկաբարձական կրթության որակի բարձրացմանը Հայաստանում։

Այս հետազոտության վերաբերյալ հարցեր ունենալու դեպքում կարող եք զանգահարել ծրագրի ղեկավար Սերինե Սահակյանին (+374-60) 61 25 61 հեռախոսահամարով: Եթե կարծում եք, որ այս հետազոտության շրջանակներում Ձեզ հետ ճիշտ չեն վարվել կամ որևէ կերպ վիրավորել են հարցազրույցի մասնակցության ընթացքում, Դուք կարող եք դիմել Հայաստանի ամերիկյան համալսարանի գիտական էթիկայի հանձնաժողովի անդամ Վարդուհի Հայրումյանին՝ հետևյալ հեռախոսահամարով (+374-60) 61 26 17:

Դուք համաձա՞յն եք մասնակցել հետազոտությանը: Թույլ կտա՞ք միացնել ձայնագրիչը: Խնդրում եմ ասել ԱՅՈ կամ ՈՉ: Եթե պատրաստ եք, կարող ենք սկսել: