



## ORIGINAL ARTICLE

### Current midwifery education system and curriculum in turkey, Germany, and Greece and comparison with international midwifery confederation (ICM) qualifications

Emel GÜDEN<sup>1,\*</sup>, Amara Renata ECKERT<sup>2</sup>, Nezihe Neşe Karabekir<sup>3</sup>, Olga GAUNI<sup>4</sup>, Ali Ramazan BENLİ<sup>5</sup>, Evangelia PHILIPPAKI<sup>6</sup>, Hakan ÇOKER<sup>3</sup>

<sup>1</sup>Public Health Department, Institute of Health Sciences, Erciyes University, Kayseri, Turkey

<sup>2</sup>Department of Social and Cultural Sciences and Social Work, Darmstadt University of Applied Sciences, Darmstadt, Germany

<sup>3</sup>Istanbul Birth Academy, Istanbul, Turkey

<sup>4</sup>Pregnate Science Research Center, Athens, Greece

<sup>5</sup>Kayseri Provincial Health Directorate, Kayseri, Turkey

<sup>6</sup>Family Medicine, Athens, Greece

\*Institute of Health Sciences Köşk Town. Prof. Dr. Turhan Feyzioğlu St. Kayseri, 38010 Turkey

Tel: +90 3522226996

Email: emelguden@gmail.com

**Background:** Health indicators and working conditions of midwives differ from each other in Turkey, Greece and Germany. This research is a comparison of midwifery undergraduate programs of three countries, and the conformity of the curriculum to International Confederation of Midwives' (ICM) standards has been evaluated.

**Method:** This research was prepared in partnership with a European Union Project. This comparative study evaluated midwifery school curricula based on core competencies for Midwifery Practice, which focuses on ICM's midwifery education curriculum updated in 2019. In this study, competencies specific to pre-pregnancy and prenatal care, competencies specific to care during childbirth and childbirth, and curriculum content related to competencies specific to ongoing care of women and newborns were investigated.

**Results:** A large part of the curricular undergraduate programs of the three countries are at the level to meet the competencies set by the ICM. It has been observed that in subjects such as preparation for birth, supporting the mother's post-pregnancy mourning process that results in abortion, and postpartum baby loss, delivery techniques for the fetus in different presentations, appropriate manoeuvring and position change skills in emergency situations, newborn and adult advanced resuscitation skills, methods and techniques to reduce pain at birth there is no standard or no content.

**Conclusion:** Educators need to focus on inadequate areas to educate students which can meet the qualifications specified by the ICM. Theoretical and practical skills used to train advanced midwives as well as the midwifery programs should be opened to take the internship opportunities into account.

**Keywords:** Midwifery, Midwife Competence, ICM Competence

### نظام ومناهج تعليم القبالة الحالية في تركيا وألمانيا واليونان ومقارنتها بمؤهلات اتحاد القبالة الدولي (ICM)

**الخلفية:** تختلف المؤشرات الصحية وظروف عمل القابلات عن بعضهن البعض في تركيا واليونان وألمانيا. هذا البحث هو مقارنة بين برامج القبالة الجامعية في ثلاثة بلدان ، وقد تم تقييم مدى توافق المناهج الدراسية مع معايير الاتحاد الدولي للقابلات (ICM).

**الطريقة:** تم إعداد هذا البحث بالشراكة مع مشروع الاتحاد الأوروبي. قيمت هذه الدراسة المقارنة المناهج الدراسية لمدرسة القبالة بناء على الكفاءات الأساسية لممارسة القبالة ، والتي تركز على منهج تعليم القبالة التابع لـ ICM المحدث في عام ٢٠١٩. في هذه الدراسة ، الكفاءات الخاصة برعاية ما قبل الحمل وما قبل الولادة ، والكفاءات الخاصة بالرعاية أثناء الولادة والولادة ، و تم التحقيق في محتوى المناهج الدراسية المتعلقة بالكفاءات الخاصة بالرعاية المستمرة للنساء والأطفال حديثي الولادة.

**النتائج:** جزء كبير من برامج البكالوريوس في المناهج في البلدان الثلاثة على مستوى تلبية الكفاءات التي حددها الاتحاد الدولي للقابلات. لقد لوحظ أنه في مواضيع مثل التحضير للولادة ، ودعم عملية الحداد بعد الحمل للأم التي تؤدي إلى الإجهاض ، وفقدان الطفل بعد الولادة ، وتقنيات الولادة للجنين في العروض التقديمية المختلفة ، ومهارات المناورة المناسبة وتغيير الوضع في حالات الطوارئ ، مهارات الإنعاش المتقدمة للمواليد الجدد والبالغين ، والأساليب والتقنيات لتقليل الألم عند الولادة ، لا يوجد محتوى قياسي أو لا يوجد محتوى.

**الخلاصة:** يحتاج المعلمون إلى التركيز على المجالات غير الملائمة لتعليم الطلاب الذين يمكنهم استيفاء المؤهلات المحددة من قبل ICM. يجب فتح المهارات النظرية والعملية المستخدمة لتدريب القابلات المتقدمات وكذلك برامج القبالة لأخذ فرص التدريب في الاعتبار.

**الكلمات المفتاحية:** القبالة ، كفاءة القابلة ، كفاءة الاتحاد الدولي للقابلات

### سیستم آموزشی و برنامه درسی فعلی مامایی در ترکیه، آلمان و یونان و مقایسه با استانداردهای کنفدراسیون بین المللی مامایی (ICM)

**زمینه و هدف:** شاخص های سلامت و شرایط کاری ماماها در ترکیه، یونان و آلمان با یکدیگر متفاوت است. این تحقیق مقایسه ای از دوره های کارشناسی مامایی سه کشور است و در آن انطباق برنامه درسی با استانداردهای کنفدراسیون بین المللی مامایی (ICM) مورد ارزیابی قرار گرفته است.

**روش:** این پژوهش با مشارکت پروژه اتحادیه اروپا اجرا شد. این مطالعه تطبیقی، برنامه های درسی دانشکده های مامایی را بر اساس شایستگی های اصلی برای مامایی، که بر برنامه درسی آموزش مامایی ICM تمرکز دارد و در سال ٢٠١٩ به روزرسانی شده است، ارزیابی کرد و محتوای برنامه درسی مربوط به شایستگی های ویژه مراقبت مداوم از زنان و نوزادان مورد پرسش قرار گرفت.

**یافته ها:** بخش بزرگی از برنامه های درسی مقطع کارشناسی سه کشور در سطحی است که صلاحیت های تعیین شده توسط ICM را برآورده کند. مشاهده شده است که در موضوعاتی مانند آمادگی برای تولد، حمایت از روند سوگواری مادر پس از بارداری که منجر به سقط جنین می شود و از دست دادن نوزاد پس از زایمان، تکنیک های زایمان برای جنین در شرایط مختلف، مهارت های مانور مناسب و تغییر موقعیت در شرایط اضطراری، مهارت ها، روش ها و تکنیک های احیای پیشرفته نوزادان و بزرگسالان برای کاهش درد هنگام تولد، هیچ استاندارد یا محتوایی وجود ندارد.

**نتیجه گیری:** مریبان باید بر روی جنبه های ناکافی برای آموزش دانشجویان تمرکز کنند که بتوانند صلاحیت های مشخص شده توسط ICM را برآورده کنند. مهارت های نظری و عملی برای آموزش ماماها پیشرفته و برنامه های مامایی باید در نظر گرفتن فرصت های مناسب کارآموزی گسترش یابد.

**واژه های کلیدی:** مامایی، صلاحیت مامایی، صلاحیت ICM

### دائی کا موجوده نظام اور ترکی، جرمنی اور یونان مین نصاب اور بین الاقوامی مڈوائفری کنفیڈریشن (ICM) کی اہلیت کے ساتھ موازنہ

**پس منظر:** ترکی، یونان اور جرمنی میں صحت کے اشارے اور دائیوں کے کام کرنے کے حالات ایک دوسرے سے مختلف ہیں۔ یہ تحقیق تین ممالک کے مڈوائفری انڈرگریجویٹ پروگراموں کا موازنہ ہے، اور بین الاقوامی کنفیڈریشن آف مڈوائفرز (ICM) کے معیارات کے نصاب کی مطابقت کا جائزہ لیا گیا ہے۔

**طریقہ:** یہ تحقیق یورپی یونین کے پروجیکٹ کے ساتھ شراکت میں تیار کی گئی تھی۔ اس تقابلی مطالعہ نے مڈوائفری پریکنس کی بنیادی صلاحیتوں پر مبنی مڈوائفری اسکول کے نصاب کا جائزہ لیا، جو ٢٠١٩ میں اپ ڈیٹ کردہ ICM کے مڈوائفری تعلیم کے نصاب پر توجہ مرکوز کرتا ہے۔ خواتین اور نوزائیدہ بچوں کی جاری دیکھ بھال کے لیے مخصوص صلاحیتوں سے متعلق نصابی مواد کی چھان بین کی گئی۔

**نتائج:** تینوں ممالک کے نصابی انڈرگریجویٹ پروگراموں کا ایک بڑا حصہ ICM کی طرف سے مقرر کردہ قابلیت کو پورا کرنے کی سطح پر ہے۔ یہ دیکھا گیا ہے کہ پیدائش کے لیے تیاری، حمل کے بعد ماں کے عمل کو سپورٹ کرنا جس کے نتیجے میں اسقاط حمل ہوتا ہے، اور بعد از پیدائش بچے کا نقصان، مختلف پریزٹیشنز میں جنین کے لیے فیلیوری کی تکنیک، ہنگامی حالات میں مناسب تدبیر اور پوزیشن کی تبدیلی کی مہارت، نوزائیدہ اور بالغوں کی جدید بحالی کی مہارتیں، پیدائش کے وقت درد کو کم کرنے کے طریقے اور تکنیکوں کا کوئی معیاری یا کوئی مواد نہیں ہے۔

**نتیجہ:** معلمین کو طلباء کو تعلیم دینے کے لیے ناکافی شعبوں پر توجہ مرکوز کرنے کی ضرورت ہے۔ اعلیٰ درجے کی دائیوں کی تربیت کے لیے استعمال ہونے والی نظریاتی اور عملی مہارتوں کے ساتھ ساتھ مڈوائفری پروگراموں کو کھولا جانا چاہیے تاکہ انٹرن شپ کے مواقع کو مدنظر رکھا جا سکے۔

**مطلوبہ الفاظ:** مڈوائفری، مڈوائف کی قابلیت، آئی سی ایم قابلیت

## INTRODUCTION

It is recognized globally that investment in the health workforce is the key to achieving the Sustainable Development Goals (SDGs), and the insufficiency of healthcare workers in general and midwives in particular (1). According to the International Confederation of Midwives (ICM) the focus is on training a professional health care employee midwife, caring of women during the postpartum period and childbirth, providing the necessary advice, realising birth responsibility, providing care for the newborn baby, and working in partnership with reliable (2).

However, it is not enough to increase the midwifery workforce numerically. It is also necessary to question the quality of the care they are authorized and provided, otherwise the increasing number may not lead to improved health outcomes (3). For this purpose, the World Health Organization (WHO) and the ministries of education and health of each country have published legal plans for the minimum training program that midwives should have (4-7). European Union on midwifery education and professional competence/ on the recognition of professional qualifications and the European Credit Transfer and Accumulation system (ECTS), established vocational training standards for the recognition of midwifery as a profession in EU countries (8).

The International Confederation of Midwives (ICM), which represents midwives at the international level, has also published guidelines on midwifery education and midwifery professional competencies. Training to provide ICM a qualified and competent workforce; it has identified three main objectives defending that professional activities should be organized and members should be organized in a strengthened association (9). ICM emphasizes that a qualified midwifery education should be based on competence and clinical practice rather than an academic degree, and it is important to develop critical thinking, clinical decision-making, and problem-solving skills (9).

Core Education Program on midwifery education was prepared in Turkey in 2016 (10), with a regulation published in the Official Gazette in 2008; a standard program that refers to the criteria specified by the European Credit Transfer and Accumulation System (ECTS) and ICM has been officially published (5). ICM criteria, European Credit Transfer and Accumulation System (ECTS), and Hellenic Quality Assurance and Accreditation Agency are taken into consideration in Greek midwifery education (6). There are still different levels of training for midwifery in Germany. The Law of Midwifery was published on January 1st, 2020 and, has been harmonized with academic standards in accordance with the midwifery education European Directive 2005/36 EG. Prior to the new law of HebRefG, midwifery education in Germany was carried out in a non-academic format called the three-year midwifery school. This non-academic education program will continue as two types of education system until December 31, 2030 as required by the relevant law. A guide on professional qualifications for midwifery has been published by the midwives association in Germany and recommended for use by undergraduate programs (7-11).

This study was carried out in countries where a collaborative European Union project on midwifery education is a partner. Maternal and child health indicators of Turkey, Germany and Greece differ from each other. Beyond the social, cultural, religious and economic indicators of the people, to assess whether midwifery education has an impact on health indicators a comparative cooperation project was conducted. Due to the fact that the partners are from the specified countries, research planning is limited to these countries.

In this study, the entry and graduation criteria of midwifery undergraduate schools in Turkey, Greece and Germany, and the status of the teaching staff were questioned, and it was evaluated whether the curriculum programs were in line with the educational qualifications published by the ICM.

## METHODS

This research study was prepared by First Touch Project research teams in Turkey, Greece, and Germany. The research team consisted of specialist midwives, doctors, and psychologists with academic qualifications. In addition, the Midwifery Department of Hamburg University from Germany, the Midwifery Department of Ege University and Aydın Adnan Menderes Universities from Turkey, and the psychology academics from National & Kapodistrian University of Athens from Greece were supported in the article review and data collection process.

Team members were tasked with collecting the list of midwifery schools of the countries, websites, school entry requirements and curriculum programs, and submitting these to the project coordinator. In the study, midwifery education programs, entrance conditions, duration, graduation criteria and the compatibility of the curriculum with ICM Qualifications were examined. Midwifery schools with curriculum information on their website were included in the study for curriculum comparison. Schools that provide midwifery education in Turkey have been researched through the YÖK-ATLAS Program (12), and according to the 2020 table, there were a total of 53 midwifery undergraduate programs; 44 (35 state, 9 private) within the Faculty of Health Sciences and 9 (five state, four private) within the health college. There are three state and two private undergraduate programs in Greece where midwifery education is given (13). It has been observed that there are 14 public schools in Germany that offer midwifery education at the undergraduate level. Currently, 62 midwifery schools offer a three-year training program in Germany. Since these schools do not provide education at the undergraduate level, they were excluded in the study (14).

The rate of sharing the curriculum on the websites of midwifery schools in Turkey, Germany, and Greece was 79.2%, 14.3%, and 60% respectively. Although the curriculum was published, the explanation information regarding the course content was not available on every university website. Evaluations were made with reference to the course titles of universities that publish content disclosures from each country. With simple random selection among the universities that publish the annotated curriculum, the University of West Attica from Greece, Ostbayerische Technische Hochschule Regensburg from Germany, and

Karabuk University from Turkey were taken as reference and it was assumed that the courses offered in other undergraduate programs had the same content.

The curricula of midwifery schools in three countries are evaluated through the ICM's publication and focuses on midwifery education. The curricula updated in 2019 were called *Basic Competencies for Midwifery Practice* (9). In the list consisting of four parts, *General Competencies* consists of 13 subheadings, *Competencies Specific to Prenatal and Prenatal Care* consists of 9 subheadings, *Care Specific Competencies During Birth and Birth* consists of 3 subheadings, and *Competencies Specific to the Continuing Care of Women and Newborns* consists of 6 subheadings.

In the present study, the content of the curriculum was questioned for the competencies specific to preconception and prenatal care, competencies specific to care during birth and delivery, and activities under the competencies specific to the ongoing care of women and newborns. For content evaluation, the course content representing the topics specified by the ICM has been tabulated as whether it is covered by the curriculum, partially or not. Frequency and percentage were used to show each competency's availability in the schedule.

## RESULTS

Although 79.2% of midwifery schools in Turkey have shared their curriculum on their websites, no explanatory and introductory data for 7.5% have been reached. 60% of midwifery schools in Greece shared the curriculum on their websites. In Germany, 14.3% of midwifery schools shared the entire curriculum, 42.9% shared general program titles, and 42.8% did not share any curriculum information.

The number of midwifery graduate academicians working in the midwifery department in Turkey is 36.4% of the total academicians. In Turkey, 15 midwifery graduates, 24 nursing undergraduate graduates, five biologists, three medical faculty graduates, and one veterinary faculty graduate work

as department head in midwifery departments. There was not enough information about the five department heads (Table 1). In Germany, the number of midwifery graduate graduates is 81.8% of all academics. In Greece, the number of midwifery graduate graduates is 62.5% of all academics.

According to the data published on the websites of universities, the number of academic staff per midwifery undergraduate program in Turkey is 8.2%, in Germany 8.25%, and 10.6% in Greece.

In order to enter midwifery schools in Turkey, after 12 years of high school education, students are accepted through the central placement exam applied nationally. In Greece, the placement process is carried out according to the university entrance exams (National health sciences) for the graduates of 12 years of education. In previous years, the oral exam had an effect on passing or failing the students' academic abilities and academic qualifications as well as their personality traits. Private universities that offer midwifery education accept students with any 12-year high school diploma without an examination (15).

In Germany, midwifery education and admission requirements are in transition, as the Midwifery Reform Act (HebRefG) and the Study and Examination Regulations for Midwives (HebStPrV) came into effect on 1 January 2020. In January 1, 2020, undergraduate programs were planned to provide education in the 2020-2021 academic year in accordance with the relevant law. The condition for admission to the midwifery undergraduate program is to qualify for higher education and to be a high school graduate. Academic and non-academic midwifery education program application requirements are also different from each other. For non-academic; application is also possible with ten years of school education (high school), vocational training, and several years of professional experience (for nurses). It does not seem possible for those completing the non-academic education program to be internationally recognized.

Those who want to get undergraduate midwifery education

Table 1. Midwifery Undergraduate Programs Academic Staff Status (August 2020)

Academic Title	Turkey* (n:49)				Germany ** (n:4)				Greece *** (n:3)			
	Midwifery Bachelor's Degree		Other or field not specified		Midwifery Bachelor's Degree		Other or field not specified		Midwifery Bachelor's Degree		Other or field not specified	
Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Head of Department	15	28.3	38	71.7	3	60	2	40	1	33.3	2	66.7
Professor	1	3	32	97	1	33.3	2	66.7	2	40	3	60
Associate Professor	8	30.8	18	69.2	2	66.7	1	33.3	4	80	1	20
Dr. Fac. Member	45	33.6	89	66.4	3	75	1	25	2	60	3	60
Teach. Ass.	31	44.3	39	55.7	3	100	0	0	11	78.6	3	21.4
Research Assistant	47	53.4	41	46.5	15	100	0	0	0	0	0	0
Total	147	36.4	257	63.6	27	81.8	6	18.2	20	62.5	12	37.5

\*Information about academic staff could be obtained on the websites of 49 universities from Turkey.

\*\*Information about academic staff could be obtained from the websites of 4 universities in Germany.

\*\*\*In Greece, information about academic staff could be obtained from the websites of 3 universities.

should meet these requirements:

- Hebammenreformgesetz - a university entrance qualification recognized as general higher education entry qualification, technical college entry qualification or equivalent,
- Basic health suitability for vocational education,
- An extended legal permit document,
- A four-week internship (assessment of suitability for the profession) in a pre-admission clinical practice area (delivery room or postnatal service) or non-clinical midwifery institutions or with a self-employed midwife (at the request of the university),
- Language proficiency - B2 level German,
- The educational motivation and personal and social responsibility infrastructure of the applicants in related fields are also important. To include these factors, applicants can be invited to an interview at the university after checking the formal admission requirements (7).

While there is no gender discrimination for student preferences for midwifery departments in Germany and Greece (7-15), it has been announced that only female students can be admitted according to the Turkey 2020 YÖK license guide (12).

It is stated that Turkey and Greece have a standardized curriculum, but Germany has updated its curriculum in 2020. According to the current curriculum programs, midwifery education in Turkey and Greece is provided in 240 ECTS and eight terms in accordance with EU directives. However, there are differences among the universities providing undergraduate education in Germany. According to the data of eight universities shared on their website, it was seen that there were two 240 ECTS (8 semesters), four 210 ECTS (three seven semesters, one eight semesters), two 180 ECTS (one 8 semesters, the other 6 semesters).

Comparison of the midwifery curriculum in Turkey, Germany, and Greece according to the standards specified by

the ICM, preconception and prenatal care at the basic knowledge and skill level, birth and postnatal care, continuous care of women and newborns are shown in Table 2. It has been observed that ICM knowledge and competencies are largely met according to the published curriculum list of midwifery undergraduate programs of three countries. It is seen that many subject topics are given to students by all country and undergraduate programs under the heading of compulsory and elective courses. In midwifery programs, 29.2% of schools in Turkey, 37.5% in Germany, and 66.7% in Greece give birth preparation training at the undergraduate level (12-14). In Turkey, under the title of elective program, 22% of birth preparation education programs are provided. It has been seen that the content of the courses on human psychology is generally sufficient, but more content should be provided on maternal psychology. Midwifery programs of all three countries are insufficient in supporting the grief process of the woman as a result of pregnancy resulting in the mother's postpartum and/or baby loss. It has been observed that the rates of the course content of the countries differ in terms of delivery for the fetus in different presentations, which is one of the knowledge and skills of the midwifery profession, the appropriate maneuver and position change, and intervention skill in emergency situations. The training programs of all three countries on neonatal resuscitation and adult advanced resuscitation, which are among the emergency first aid areas, seem to be quite insufficient. It was determined that midwifery programs should add more course content in terms of knowing, applying and educating the family about the care of babies in need of special care. (Table 2).

Among the methods and techniques to reduce pain at birth; non-pharmacological techniques, massage, water/water birth, bathing, breathing exercises were found to be quite low in all midwifery programs of three countries.

**Table 2. Comparison of Midwifery Undergraduate Programs Curriculum with ICM\* Basic Knowledge and Skills**

ICM BASIC KNOWLEDGE AND SKILLS	Turkey (n:41)			Germany (n:8)			Greece (n:3)		
	Yes	Partially	No	Yes	Partially	No	Yes	Partially	No
	%	%	%	%	%	%	%	%	%
<b>Preconception and prenatal care</b>									
Nutrition (adult, woman, pregnant, child, baby)	80.5	12.2	7.3	100	0	0	100	0	0
Pregnancy verification tests, calculating pregnancy date and calculating estimated date of birth.	100	0	0	100	0	0	100	0	0
Antenatal anamnesis and physical examination	100	0	0	100	0	0	100	0	0
Evaluation of fetal heart rate and activity	100	0	0	100	0	0	100	0	0
Fetal risk factors that require the transfer of women to higher levels of care in the prenatal period	100	0	0	100	0	0	100	0	0
Normal psychological changes during pregnancy; stress indicators	95.2	2.4	2.4	50	25	25	66.7	0	33.3
Birth preparation trainings	29.2	22	48.8	37.5	0	62.5	66.7	0	33.3
Preparing the family for extraordinary situations	85.4	2.4	12.2	100	0	0	100	0	0
Signs and symptoms of life-threatening conditions for the woman or fetus during pregnancy	100	0	0	100	0	0	100	0	0

Table 2. Continued.									
ICM BASIC KNOWLEDGE AND SKILLS	Turkey (n:41)			Germany (n:8)			Greece (n:3)		
	Yes	Partially	No	Yes	Partially	No	Yes	Partially	No
	%	%	%	%	%	%	%	%	%
<b>Birth</b>									
Evaluating the anatomy of the maternal pelvis and fetus	100	0	0	100	0	0	100	0	0
Knowing the factors that prevent the progression of labor and intervening / referring when necessary	100	0	0	100	0	0	100	0	0
Pain reduction techniques; relaxation techniques / non-pharmacological techniques, massage, water birth, bathing, breathing exercises	4.9	4.9	90.2	0	0	100	0	0	100
Use of drugs and non-drug methods to increase uterine activity when necessary	100	0	0	100	0	0	100	0	0
Managing a normal birth	100	0	0	100	0	0	100	0	0
Ability to give birth in different presentations	85.4	7.3	7.3	37.5	37.5	25	66.7	33.3	0
Responding to emergencies and referring (appropriate maneuvers, methods of changing position for the baby and mother)	85.4	7.3	7.3	37.5	37.5	25	66.7	33.3	0
Knowing/applying newborn resuscitation	19.5	0	80.5	0	0	100	0	0	100
Knowing/practicing adult advanced resuscitation	17	0	83	0	0	100	0	0	100
Repairing perineal traumas	100	0	0	100	0	0	100	0	0
APGAR evaluation	100	0	0	100	0	0	100	0	0
<b>Continuing care of women and newborns</b>									
Recognizing and managing breastfeeding problems (mastitis, low milk, breast fullness)	100	0	0	100	0	0	100	0	0
Newborn eye care and belly care	100	0	0	100	0	0	100	0	0
Postpartum psychological support of the mother and midwifery care	4.9	95.1	0	12.5	25	62.5	33.3	66.7	0
Monitoring the growth and developmental behavior of the newborn	100	0	0	100	0	0	100	0	0
Baby care for babies requiring special care (disabled, metabolic problems, premature)	82.9	9.8	7.3	75	12.5	12.5	66.7	33.3	0
Midwifery applications in subinvolution, bleeding, anemia, hematoma, thrombophlebitis, amniotic fluid embolism	100	0	0	100	0	0	100	0	0
Midwifery practices about local infection, reproductive organ infections and sepsis	100	0	0	100	0	0	100	0	0
Postnatal depression, anxiety, midwifery practices in psychosis	92.7	7.3	0	62.5	25	12.5	66.7	33.3	0
Grief process of the woman as a result of pregnancy resulting in baby loss	63.4	0	36.6	0	0	100	33.3	0	66.7
* <a href="https://internationalmidwives.org/assets/files/general-files/2019/10/icm-competencies-en-print-october-2019_final_18-oct-5db05248843e8.pdf">https://internationalmidwives.org/assets/files/general-files/2019/10/icm-competencies-en-print-october-2019_final_18-oct-5db05248843e8.pdf</a> 03.09.2020									

In one study, the elective courses in midwifery undergraduate programs in each of the three countries were examined. In Turkey evidence-based midwifery practice, infertility and assisted reproductive techniques, sexual health, alternative delivery methods, coping with labor pain, neonatal nutrition and breastfeeding counselling, family and community midwifery, family counselling, childbirth preparation, neonatal resuscitation, and adult resuscitation are elective courses. In Germany evidence-based midwifery practices, intercultural midwifery, pregnancy monitoring and

care, and mental problems for women are included as an elective course. In Greece Elective courses were given on pelvic floor malfunctions, electronic fetal monitoring, alternative treatment methods, women in menopause, advocacy and empowerment in midwifery, autonomous midwifery practice, interprofessional training and providing integrated care.

The midwifery graduation criteria of all three countries were arranged in accordance with the vocational training standards for the recognition of midwifery as a profession in

EU countries, published in the European Parliament and Council Regulation 2005/36 / Ec / EU Official Gazette on the Recognition of Professional Qualifications (8).

## DISCUSSION

The average duration of education in Turkey and Greece is four years, while in Germany it is 3.7 years. According to a study conducted with midwifery schools in 73 countries of the world, in 82% of countries, it was stated that the minimum education period to start midwifery education is 12 years or more, the average duration of education is 3.1 years for undergraduate programs and 1.9 years for midwifery departments whose focus is nursing (16). The duration of education is an average of 10 semesters in South America (17). In the United States, there are different levels of midwifery education. Midwifery education in Canada is at the four-year undergraduate level with direct entry into the midwifery program. Midwifery education in the UK is offered through direct introduction to midwifery and additional courses on nursing. Midwives who are trained through direct introduction are required to study for at least three years. Midwifery education is provided with a three-year undergraduate education program in Australia. Those who want to do midwifery after nursing must have a master's degree. In New Zealand, there is an opportunity for both direct entry to midwifery and a post-nursing course to midwifery. The direct midwifery entry program includes a 4-year undergraduate study. In China, midwifery education is still carried out at two different levels, high school and higher education (18).

According to EU Directives, each midwifery student is expected to have 40 births before graduation in the European Union, including Turkey's candidate country, Germany and Greece. According to a study conducted with midwifery departments of 73 countries, the average number of normal births desired before graduation was 33 (Min: 0 - Max:240), and 44% of countries reported 30 or more births (16). It was reported that 32% of the students in Ethiopia had 20 or more births during their education, and only 6% had 40 or more births (19).

It was observed that all three countries whose midwifery undergraduate curricula were examined, offered an educational content that could reach the knowledge and skill level published by the ICM (Table 2). In a study conducted in Iran, it was reported that the curricula of the midwifery department were compatible with ICM (20). In the present study the training content on the use of USG, which is preferably recommended by the ICM, was not encountered in all three countries. Health needs of different geographical regions and health service delivery policies of countries are an important determinant in midwifery education. For example, it has been reported that midwives use ultrasound to identify high-risk pregnant women in centers far from medical support in Kenya (21).

In this study it is determined that in undergraduate programs, subjects such as preparation for birth, support for the mother's mourning process after abortion, abortion, postpartum and/or baby loss, delivery for the fetus in

different presentations, the ability to intervene with appropriate maneuver and position change in emergency situations, newborn resuscitation from emergency first aid areas determined that the number and/or content of the courses on adult advanced resuscitation knowledge and practice, methods and techniques to reduce pain at birth, knowing the care of babies requiring special care, practice and educating the family are not sufficiently covered by all undergraduate programs. A study conducted in Sweden shared results that support the present study. It has been stated that the midwifery students generally feel confident and competent in managing normal pregnancy, labor, and delivery. This shows that more education and confidence are needed for complex and emergency situations, and the number of competent and talented midwives will increase in the future with a high level of trust post-graduation (22). In a study conducted with midwifery senior students in Turkey, the areas in which students who consider themselves highly competent, generally evaluated themselves the most inadequate in control, intervention and care related to risky birth alone, knowing the laws and laws in the field of midwifery at national, and international level, conducting the control, intervention and care related to normal birth alone (23). It was stated that midwifery students in Sweden wanted more lessons and practice time for medical complications, intrapartum care and emergencies (24). In a study conducted with 12 midwifery schools in Belgium, the postnatal care competencies of their students were examined and it was determined that they have quite sufficient skills (25). In a study conducted with midwifery students in Australia, it was stated that the ability to gain competence according to professional midwifery standards is restricted by the limited nature of midwifery practice and medical mastery in the hospitals where they are placed. In addition, it has been reported that it is difficult to achieve the minimum midwifery experience requirements and their own personal learning goals during the clinical practice hours given in the curriculum. In the same study, it was recommended to consider concerns about the reliability of competency standards (26).

In a study conducted with midwifery students in Iran, students' limited clinical learning opportunities and opportunities during their clinical learning, the stress of encountering their first birth, fear of harming, confusion among different methods, problems in relations with their instructors and healthcare personnel, and lack of support were reported (27).

In the present study, the results of competency information regarding the quality of teaching, internship, or educator could not be reached. However, it was observed that there were positions in which the area of expertise of the academic staff and the knowledge and skill areas of the midwifery undergraduate program did not match (Table 1). In a study conducted in Turkey in 2019, it was stated that most of the academicians in midwifery undergraduate programs are not from midwifery (23). However, "Basic Competencies of Midwifery Educators" was published by WHO in 2014. According to the definition, it is emphasized that "People

who have completed a midwifery training program recognized in both theory and practice, have a valid license/registration or other form of legal recognition for midwifery, and who have completed at least two years of full-time clinical experience within the last five years within the scope of practice should be midwifery teachers." (28). Considering that there is not a lot of midwifery undergraduate and graduate education backgrounds in Turkey, it can be thought that midwives who have completed their education in time can be appointed to these positions. In order to ensure the quality of midwifery care, attention should also be paid to the quality of education provided. Methods of ensuring the quality of education include accreditation programs, but the capacity to implement such programs is weak in many countries (29). In order to ensure quality assurance in midwifery education, the Midwifery Education Accreditation Program (MEAP) was initiated by ICM in 2017. MEAP offers accreditation confirmation based on an independent assessment to determine the extent to which it meets ICM standards. MEAP is noted not only to serve as a quality label, but also to provide consistent midwifery education processes and graduate outcomes (30). This research provided quite a lot of significant information for assessing the number and quality of teaching staff, criteria for undergraduate program entry and graduation, and the adequacy of ICM standards in the curriculum content in Turkey, Germany, and Greece midwifery undergraduate programs. However, the fact that midwifery undergraduate programs in Germany, Greece, and Turkey were conducted only through the information and data published on the websites, is the limitation of this study. However, it is thought that this type of multi-center comparative studies make an important contribution to the field due to the scarcity of them. According to the results of the research the curricula of all three countries are at a level to meet the competencies specified by the ICM. It may be advisable to increase the

number of courses and/or the content of the courses on the subjects of preparing for delivery, supporting the mother's post-pregnancy mourning process that results in abortion, abortion, postpartum and/or infant loss, delivery techniques for the fetus in different presentations, the ability to intervene with appropriate maneuver and position change in emergency situations, newborn resuscitation and adult advanced resuscitation theory and application, methods and techniques to reduce pain at birth, knowing the care of babies requiring special care, application and education of the family. It is necessary to increase the number of academicians in the field of midwifery in order to create educational staff in these courses and have the quality recommended by the WHO as well. In order to train students with advanced practical skills, while opening midwifery programs, internship opportunities should be taken into consideration.

### Ethical considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors.

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