



**Şükran Özkahraman Koç**

Süleyman Demirel University, sukranozkahraman@sdu.edu.tr,  
Isparta-Turkey

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ORCID ID	0000-0001-7286-6477
CORRESPONDING AUTHOR	Şükran Özkahraman Koç

**DETERMINATION OF LEVELS OF CORE COMPETENCIES OF MIDWIFERY STUDENTS**

**ABSTRACT**

A descriptive analysis was conducted to determine self-perceived levels of core competencies of midwifery students. The study was conducted with 247 students who attended a faculty of health sciences and agreed to participate in the study between May 1 and June 30, 2018. Data were collected using the Identification Form and the Core Competencies for Public Health Professionals Form. Of the participants, 45.0% lived in houses/apartments, 30.0% graduated general high schools, 85.0% had income that could cover their expenses, and 90.0% came from nuclear families. Midwifery students had a total mean score of 2.84±1.08 (Min.1, Max.6) from the Core Competencies Form. The difference among the mean core competencies scores of the students from all skill areas were statistically significant (p<0.05).

**Keywords:** Midwifery Students, Competency, Core Competencies, Health Sciences, Public Health

**1. INTRODUCTION**

The efforts to restructure healthcare services have urged many countries to look for new ways and methods, regardless of their resources allocated to healthcare. Thus, health awareness of individuals has been raised to foster the belief that everyone is responsible for their own health. As a result, the costs of healthcare services have increased due to rising demands for better quality healthcare services. This has created disparities in the provision of healthcare services both among the countries and among the regions in the same country. The serious consequences of lack of proficiency and errors related to health professionals in the stages of healthcare delivery further highlight the importance of quality healthcare services [1]. The common goal of all health professionals is to increase the number of healthy individuals in a country. The increased awareness of individuals and the growing supply of healthcare services cause healthcare facilities to operate in a dynamic and volatile environment [2]. The understaffed healthcare facilities and the lack of adequate training of health professionals create major obstacles to access to healthcare services. The World Health Organization has been working with several organizations to minimize the effects of these obstacles. The aim of healthcare programs is to reach the poor and needy communities in the shortest time possible. But this is hindered by the healthcare system itself [3].

The curricula of health professionals are guided by the licensing and accreditation standards. The competency movement has emerged in response to the need for certifying the skills and knowledge of students as well as trainers. In fact, the competency-based curricula are needed to find out the information and skills in specific areas. Competency-based education comprises individual traits

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and characteristics at the first level; skills, abilities, and knowledge at the second level; the competencies that create useful tasks by combining the skills, abilities, and knowledge at the third level; and an assessment of the performance at the fourth level. Thus, the system can be seen as a four-level pyramid, and with academic programs, students are prepared for the licensing/certification exams and are encouraged to acquire favorable knowledge and skills [4]. The Council of the European Union and the European Parliament organized an information and training meeting on the promotion of health in the field of public health, wherein it was noted that some countries had certain levels of post-graduation knowledge in public health, while other lacked even the level of general knowledge [5]. Indeed, a public health professional who is beneficial to the community assesses the community's health status, identify health-related priorities, plan and implement effective initiatives, and evaluate the same [6].

## **2. RESEARCH SIGNIFICANCE**

Public health professionals have recently developed their own professional competencies system and have begun emphasizing the need for certification of their competencies. Core competencies of public health professionals have been developed to guide community-based practices, provide guidance, and shape the educational programs. Therefore, these areas should be included in the content of the curricula for the education of public health professionals and the relevant core competencies should be used to measure the preparedness of students for the practice and the levels they have attained [7]. Core competencies are used to create job descriptions, identify developmental needs of employees, develop and examine curricula, identify orientation and training needs of new employees, and develop self-assessment process of public health professionals [8]. Public health professionals ought to stay updated with regard to their knowledge and skills and be open to changes. It is important to know the composition of employees in order to implement and maintain organizational change in a healthcare system. There are various special professional classifications specific to public health professionals [9]. In these classifications, midwives constitute public health professionals who are in closest contact with women, children, families and, most importantly, society. For midwives to work as proficient public health professionals and be beneficial to society, their competency levels should be determined when they are students, and the curricula for their education should be based on competencies. Therefore, the curricula can be changed taking into consideration the areas needed by midwifery students concerning the self-perceived levels of core competencies in public health. Thus, upon graduating as proficient midwives, they are expected to act professionally as part of the healthcare teams in their working lives. The data from such studies will contribute to the development of curricula. This study is also important because of the fact that it is the first study in this subject area in Turkey, despite the fact that many such studies have been conducted abroad.

This study conducted a descriptive analysis to determine self-perceived levels of core competencies of students of the midwifery department.

## **3. MATERIALS AND METHODS**

### **3.1. Study Population and Sampling**

The population of the study consisted of 270 midwifery students (all students enrolled in midwifery department) who attended a faculty of health sciences in the academic year 2017-2018 and agreed to



participate in the study. Necessary permits were obtained for this study. 247 students (91.4%) who agreed to participate in the study between May 1 and June 30, 2018 were sampled for the study. The data were collected using the Identification Form and the "Core Competencies for Public Health Professionals Form.

### **3.2. Data Collection Tools**

To collect data, the Identification Form and the Core Competencies for Public Health Professionals Form were used. The Identification Form was developed by the authors by reviewing the literature in the field [10, 11, 12, 13 and 14]. This form includes questions on age, family type, education status of parents, attending any convention, seminar, or meeting, following up professional innovations and developments, etc. The form consists of 20 questions. Core Competencies for Public Health Professionals used in the study, had been developed by the "Council on Linkages between Academia and Public Health Practice" (CK) in 2001, and its Turkish adaptation was prepared by Özkahraman (2011), and the total Cronbach's alpha value of the form was found to be 0.98 [15]. The Core Competencies Form includes 68 items in eight "skill areas" and three "skill levels." The skill areas of the form are the following: Analytical/Assessment Skills (11 items), Policy Development/Program Planning Skills (11 items), Communication Skills (7 items), Cultural Competency Skills (5 items), Community Dimensions of Practice Skills (8 items), Public Health Sciences Skills (8 items), Financial Planning and Management Skills (10 items), and Leadership and Systematic Thinking Skills (8 items). The skill levels or tiers in the Core Competencies Form are as follows: aware, informed, and proficient. The "aware" level is the basic mastery level in competencies. Individuals may determine concepts and skills, but have limited power in performing the skills. The "informed" level is the medium mastery level in competencies. Individuals have the power to define and implement the skills. The "proficient" level is the advanced mastery level in competencies. Individuals at this level have the power to criticize, synthesize, and teach the skills. Although skill levels vary depending on occupational classifications, the students are expected to be in the "aware" level of core competencies as a minimum [16].

Each item in the Core Competencies Form is scored between 1 and 6: not at all proficient (1 point), less proficient (2 points), partially proficient (3 points), proficient (4 points), very proficient (5 points), and completely proficient (6 points). In determining the skill levels of the students, those whose core competencies scores were 1-2 points were designated as "aware," those with 3-4 points as "informed" and those with 5-6 points as "proficient." The highest and lowest total scores from the Core Competencies Form are 408 and 68, respectively. High scores indicate that the students are more proficient in that area.

### **3.3. Data Collection**

The data was collected from the midwifery students who were attending the midwifery department of the faculty and who agreed to participate in the study between May 1 and June 30, 2018 at the end of the Spring semester of the academic year 2017-2018. The participants were informed about the scientific benefits of the study and the time required for the interview. As the participation in the study was voluntary, verbal approval of the voluntary students were obtained and the forms were filled in 20-25 minutes in the class environment.

### 3.4. Data Evaluation

The data obtained in the study were analyzed using SPSS for Windows (version 18.0). The tests and analysis used were as follows: the numbers and percentiles were used in analyzing the data in the Identification Form. Mean scores were used in the evaluation of the data from the Core Competencies Form. The relationship between core competencies scores and socio-demographic variables was examined using t-test and analysis of variance. The Bonferroni test was utilized to find out the group of the data, which were found to be significant in the analysis of variance.

### 4. FINDINGS

The average age of the participating midwifery students was 21.32±1.12. Of the midwifery students, 30.0% graduated general high schools, 45.0% lived in houses/apartments, 85.0% had income that could cover their expenses, and 90.0% came from nuclear families. 44.1% percent of the midwifery students intentionally chose to attend the department. It was found that 18.2% of the midwifery students attended a convention or symposium and 60.3% followed up professional innovations and developments (Table 1).

Table 1. Core competencies scores of midwifery students based on their identification data (n=247)

Identification Data	Number	%	Mean±SS	F/t	p
<b>High school type</b>					
General High School	74	30.0	2.60±1.13	F=16.578 p<0.05	
Super High School	101	40.8	3.58±1.16		
Anatolian High School	72	29.2	2.69±1.11		
<b>Currently staying</b>					
In dorms/apartments	111	45.0	3.74±1.18	F=17.532 p<0.05	
With friends	98	39.6	2.87±1.39		
With family	38	15.4	2.83±1.14		
<b>Income status</b>					
Income is more than expenses	12	4.8	2.15±0.91	F=15.329 p<0.05	
Income is equal to expenses	210	85.0	2.94±1.00		
Income is less than expenses	25	10.2	2.10±0.89		
<b>Family type</b>					
Nuclear family	209	84.6	2.43±1.18	F=7.319 p>0.05	
Extended family	11	4.4	2.22±0.89		
Fragmented family	27	11.0	2.21±1.17		
<b>Mother's education status</b>					
Primary School	18	7.5	2.25±1.25	F=6.232 p>0.05	
Secondary School	46	18.6	2.30±1.23		
High School	112	45.3	2.19±1.15		
Bachelor's Degree	59	23.8	2.22±0.97		
Post-graduate	12	4.8	2.21±1.05		
<b>Father's education status</b>					
Primary School	3	1.2	2.22±0.96	F=8.201 p>0.05	
Secondary School	10	4.1	2.21±1.00		
High School	128	51.9	2.18±0.99		
Bachelor's Degree	78	31.5	2.19±1.05		
Post-graduate	28	11.3	2.20±1.06		
<b>Did you choose the department intentionally?</b>					
Yes	109	44.1	3.84±1.27	t=18.623 p<0.05	
No	138	55.9	2.47±1.29		
<b>Have you attended any convention, symposium, etc.?</b>					
Yes	45	18.2	2.38±1.10	t=2.187 p<0.05	
No	202	81.8	2.98±1.17		
<b>Do you follow up professional innovations and developments?</b>					
Yes	149	60.3	2.98±1.19	t=1.86 p<0.05	
No	98	39.7	2.13±1.14		
Total	247	100.0	2.84±1.08		



As a result of the statistical analysis between identification characteristics of the students and their mean scores of core competencies, it was found that there was no statistically significant difference between the mean scores of core competencies and family type, education student of the mother, and education student of the father ( $p>0.05$ ). However, there was statistically significant difference between the mean scores of core competencies and high school type, place of current residence, income status, status of intentional choice of the department, attending any convention or symposium, and following up professional innovations and developments ( $p<0.05$ ) (Table 1). As a result of the Bonferroni test, it was understood that the difference between the mean scores of core competencies and the type of high schools of graduation was due to the higher mean scores of core competencies of the midwifery students who graduated super high schools ( $F=16.578$ ,  $p<0.05$ ). The difference between the mean scores of core competencies and the place of current residence was attributable to the higher mean scores of core competencies for those who were staying in dorms/apartments ( $F=17.532$ ,  $p<0.05$ ). The higher mean scores for the group where income was equal to expenses resulted in significant difference between the income status and the mean scores of core competencies ( $F=15.329$ ,  $p<0.05$ ).

Table 2. Mean scores of skill areas of core competencies form

Skill Areas	Mean±SS
Analytical/Assessment Skills	3.32±0.83
Policy Development/Program Planning Skills	2.26±1.45
Communication Skills	3.82±1.24
Cultural Competency Skills	3.90±1.23*
Community Dimensions of Practice Skills	3.24±1.16
Public Health Sciences Skills	3.10±1.14
Financial Planning and Management Skills	1.10±1.74
Leadership and Systematic Thinking Skills	1.31±1.60
Core Competencies Form Total Scores	2.84±1.08
F ... p	F=11.183 ... p<0.05

\*The mean that makes the difference

The total core competencies score of the midwifery students was  $2.84±1.08$ . The mean scores of the midwifery students for the skill areas of the Core Competencies Form were  $3.32±0.83$  for the Analytical/Assessment Skills,  $2.26±1.45$  for the Policy Development/Program Planning Skills,  $3.82±1.24$  for the Communication Skills,  $3.90±1.23$  for the Cultural Competency Skills,  $3.24±1.16$  for the Community Dimensions of Practice Skills,  $3.10±1.14$  for the Public Health Sciences Skills,  $1.10±1.74$  for the Financial Planning and Management Skills, and  $1.31±1.60$  for the Leadership and Systems Thinking Skills. The analysis of variance among the skill areas of the Core Competencies Form of the midwifery students found a significant difference ( $F=10.292$ ) ( $p<0.05$ ) (Table 2). The Bonferroni test was conducted to find the reason for this difference and it was determined that it was due to the higher mean scores for the Cultural Competency Skills than other skill areas.

When the Core Competencies Form's skill levels of the midwifery students were calculated, the students were found to be "informed" in the Analytical/Assessment Skills (65.5%), the Communication Skills (92.2%), the Cultural Competency Skills (80.3%), the Community Dimensions of Practice Skills (60.0%), and the Public Health Sciences Skills (65.2%). Also, they were found to be in the "aware" level for the Policy Development/Program Planning Skills (59.5%), the Financial Planning and Management Skills and the Leadership and Systematic Thinking Skills (58.3%).



## 5. DISCUSSION

In the studies on the core competencies in the field of public health, the skill levels of employees in community-based practices were determined. In these studies, it was noted that the employees with the high core competency perceptions were able to provide quality services in line with the needs of the community [13, 17, 18 and 19]. The mean scores of the Core Competencies Form for the midwifery students who participated in the study were the highest in the Cultural Competency Skills and the lowest in the Financial Planning and Management Skills. To support this finding, another study on the midwives among the public health professionals, the highest scores were found to be in the Cultural Competency Skills and the lowest scores in the Financial Planning and Management Skills [20]. In Turkey, midwives enjoy a very comprehensive work area in primary healthcare. They monitor pregnant women, and mothers, infants, and children in the postpartum period through home visits. They are required to know about the cultural structure of the community so that they can provide full-fledged care needed by families in the follow-ups [21, 22 and 23].

The higher mean scores for the Cultural Competency Skills found in this study implies that the midwifery students will be able to be in close contact with the community. The examination of the total scores of the Core Competencies Form of the midwifery students reveals that they also scored highly in the Communication Skills. It is an interesting finding that the majority of the students indicated that they were able to communicate effectively with the community. In a number of studies, it was found that the majority of health professionals were able to meet the expectations of the community in terms of medical treatment and care. Besides, it was also reported that the community expected health professionals to establish good communication, show compassion, and be friendly and understanding, but their expectations were not fulfilled [24, 25 and 26]. In the Financial Planning and Management Skills of the Core Competencies Form, health professionals are expected to develop and defend budgets of their organizations and perform cost-effectiveness, cost-benefit, cost-utility analysis. In our country, however, financial planning for healthcare facilities is performed centrally by the Ministry of Health. As the financial budget of the organization is determined without their involvement, healthcare professionals feel themselves not proficient in this area after their school years, since they are not involved with this subject anymore.

The public health professionals who provide healthcare services for the community are expected to be in the "proficient" level in all skill areas of core competencies in order to be able to perform community-based practices. Therefore, there has been increased emphasis on the competencies of public health professionals. Indeed, a proficient professional is an effective member of the healthcare system [26 and 27]. In this study, the midwifery students were found to be in the "aware" level for the Policy Development/Program Planning Skills, the Financial Planning and Management Skills and the Leadership and Systems Thinking Skills, and in the "informed" level for all the other skill areas. Other studies reported similar findings [15, 28 and 29]. All healthcare professionals are required to be, at least, in the "aware" level of core competencies [16 and 19]. In the Analytical/Assessment Skills, professionals are expected to identify the problems in the community, collect and analyze data and determine the risky situations in the community [16, 30 and 31]. In this study, more than half of the midwifery students perceived themselves to be informed in this area, and this can be seen as an important step for



the service delivery in compliance with the needs of the community. In the Policy Development/Program Planning Skills, health professionals are expected to develop, construe, and implement laws, regulations, and organizational policies. However, the students generally reported themselves to be in the "aware" level in this area. In many studies on public health, public health professionals were found to be not proficient in developing policies related to public health and organizations and making proposals to this end and preparing drafts in this area [15, 20, 28, 32 and 33].

The many midwifery students were found to be in the "aware" level in the Financial Planning and Management Skills and the Leadership and Systematic Thinking Skills. In this area, healthcare professional is expected to contribute to the development performance standards and creation of an ethical culture in their organizations. There was a statistically significant relationship between the mean scores of core competencies of the midwifery students and their status of following up professional innovations and developments. Other studies stressed that the professionals with higher scores of core competencies attended more training programs than those with lower scores [10, 12, 13, 15, 34, 35 and 36].

## **6. CONCLUSIONS AND RECOMMENDATIONS**

As a result of this study conducted descriptively on 247 midwifery students to determine the self-perceived levels of core competencies, the students were found to be in the "informed" level in most areas of the Core Competencies Form. In line with the study findings, the midwifery curricula should include public health core competencies in the contents of the community-based courses. Midwifery students should be ensured to participate in the primary care practices. In addition, it is suggested that the results of this study should be used in future studies and the variables that may affect the levels of core competencies should be investigated more comprehensively.

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## **NOTICE**

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