Original Article

Investigation of the Labor Evalution Information Levels and the Levels of Self-Confidence of Midwifery Students

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Abstract
Background: Determining the evaluation level of midwifery students' obstetric knowledge and its relationship with their self-confidence is important as it will affect the quality of midwifery education.
Aims and Objectives: This study was planned to examine the knowledge levels and self-confidence levels of midwifery students regarding the evaluation of labor.
Design: Descriptive and cross-sectional study
Method: The sample of the descriptive study consisted of 144 third and fourth grade students who studied at the Faculty of Health Sciences in the spring semester of the 2022-23 academic year and took the obstetrics course at a public university between April 2023 and May 2023. Data were collected by using the “Student Information Form” which was prepared by the researchers in line with the literature, “Labor Evaluation Information Scale (LEIS)” and “Self-Confidence Scale”.
Results: It was determined that 44.4% of the students were in the third grade, 55.6% in the fourth grade, and 74.3% of them willingly chose the department. The students' total LEIS mean score was 18.60±4.38, the total self-confidence scale mean score was 121.85±19.25, and the mean self-confidence level was 3.69±0.58. It was determined that third grade midwifery students had significantly higher knowledge of the bone pelvis and fetus, labor mechanism and labor assessment (p: 0.012; p: 0.023; p: 0.007). It was determined that there was a very weak positive and significant relationship between the level of LEIS and the level of self-confidence (r= 0.166, p: 0.049).
Conclusion: It was found that as the students' knowledge of labor assessment increased, their self-confidence level also increased.

Keywords: Birth, Labor Assessment, Midwifery, Self-confidence

Introduction

According to the International Confederation of Midwives (ICM); midwives is a person who has acquired the necessary qualifications to legally use the title of "midwife" and has successfully completed a midwifery training program recognized in the country in which she is located, by demonstrating competence in midwifery practice based on the ICM Core Competencies for Midwifery Practice and the Global Standards for ICM Midwifery Education framework (ICM, 2023). According to World Health Organization (WHO); midwife is a trained person who provides necessary care and counseling during pregnancy, birth and the post-partum, had naturally births given under her own responsibility, cares for the newborn and provides family planning counseling (WHO, 2023). According to Turkish Midwives Association; midwife is a person who successfully completes the program is

registered or legally permitted to perform the "Midwifery" profession (Turkish Midwives Association, 2016). As stated in the definition of three organizations, the person who will be a midwife must have passed a certain training program with standards on the basis of the target group to whom they will care. In Turkey, these standards have been determined by the National Core Program in Midwifery (The Council of Higher Education, 2016) based on international standards. In this direction, nine titles of basic practices and related skills that midwives who have completed the Midwifery undergraduate program should do and manage at certain levels are included in the Midwifery National Core Education Program "Midwifery practices in labor" is one of these titles (Council of Higher Education, 2016). Although many different methods such as simulation education, virtual reality, 3D imaging or video-assisted education are used in gaining skills for birth, it is important for students to have the necessary theoretical knowledge to understand and use these methods (Bogossian et al., 2012; Williams et al., 2018; Hazar & Gultekin, 2019).

Self-confidence is defined as believing in oneself within a task or purpose and being aware of their emotions and abilities (Kukulu et al., 2013). Self-confidence is an important factor that plays a role in an individual's performance towards a task or goal. Higher the self-confidence of the individual, the greater his/her power to cope with the difficulties he/she experiences on the way to reach his/her goal. In addition, people with high self-confidence are aware of their own abilities and therefore can set realistic and attainable goals for themselves (Kukulu et al., 2013; Chesser-Smyth & Long, 2013; Porter et al., 2013). It is important for well learning process that improving self-confidence, effective performance and deciding (Donovan, 2008). A study reported that reported that the problem-solving skills of midwifery and nursing students with high self-confidence were also high (Ucar & Duy, 2013). It has been reported in the literature that individuals with low self-confidence have difficulties in mAking individual decisions (Akin, 2007). Another study conducted with nursing students concluded that as students' social problem-solving skills and self-confidence levels increase, their professional self-perception levels increase (Oner et al., 2019). It is thought that midwifery students must have a sufficient level of birth knowledge in order to be able to work as an effective and sufficient midwife, and that they have a high level of self-confidence in order to manage the problems that may arise during childbirth. In the literature review, no studies were found examining the knowledge levels and self-confidence levels of midwifery students about labor evaluation. For this reason, this study was planned to examine the knowledge levels and self-confidence levels of midwifery students about labor.

Research Questions and Hypothesis

Research questions:

1. What is the knowledge level of midwifery students about labor?

2. What are the self-confidence levels of midwifery students?

3. Is there a relationship between midwifery students' knowledge levels about labor and their self-confidence levels?

Methodology

Population and Sample of the Study: The universe of the study, which was carried out in a descriptive and cross-sectional design, consisted of 168 students in total, 3rd and 4th grade midwifery students who took the obstetrics course and studied at the Faculty of Health Sciences in the 2022-23 spring semester of a public university between April 2023 and May 2023. The sample size was calculated by taking into account the sample size calculation formula of the known universe (N=168), 95% confidence interval (Z=1.96) and 5% margin of error (d=0.05; p=0.05), and was found to be 117 people. Sample selection was not made in the study, and a sample of 164 students who accepted to participate in the study by reading and approving the Informed Consent Form was formed (Participation rate: 97.61%).

Data Collection Tools: Data were collected by using the "Student Information Form" (6 questions) which was created by researchers in line with the literature, "Labor Evaluation Information Scale (LEIS)" (25 questions) and "Self-Confidence Scale" (33 questions).

Student Information Form: It consists of 6 questions questioning factors such as age,

class, economic situation. It was created by researchers in line the literature.

Labor Evaluation Knowledge Scale (LEIS): Developed by Huseyinoglu et al., (2022), it has a total of 25 items and two sub-dimensions as “Bone Pelvis and Fetus” and “Delivery Action and Mechanism”. Those who give correct answers are given 1 point, those who do not know and give wrong answers are given 0 points. A maximum score of 25 and a minimum score of 0 can be obtained from the scale. An increase in the score indicates that the level of knowledge about labor is high. The Cronbach's alpha reliability coefficient was found to be 0.87 for the scale total, 0.84 for the "Bone Pelvis and Fetus", and 0.70 for the "Delivery Act and Mechanism" (Huseyinoglu et al., 2022). In this study, the Cronbach's alpha was 0.80 for the scale total, 0.73 for the "Bone Pelvis and Fetus", and 0.60 for the "Delivery Act and Mechanism".

Self-Confidence Scale: The scale, which consists of two sub-dimensions, inner and outer self-confidence, has 33 items and is a Likert type scale developed by Akin (2007) and scored between 1-5. A maximum of 165 and a minimum of 33 points can be obtained from the scale. A high score indicates a high level of self-confidence. The self-confidence level of the individual can be determined by dividing the total score obtained from the scale by the number of items. A self-confidence level score below 2.5 indicates low self-confidence, between 2.5 and 3.5 indicates medium, and 3.5 and above indicates high self-confidence. The Cronbach's alpha coefficient was reported to be 0.83 for the whole scale, and 0.83 and 0.85 for the internal self-confidence and external self-confidence subscales, respectively (Akin, 2007). For this study, it was 0.94 for the total scale, and 0.90 and 0.89 for the internal and external self-confidence sub-dimensions, respectively.

Data Collection: The data was conveyed to the students with Google Forms. Explanations were given in the instruction, and students were asked to fill in each item. After giving the answer “yes” to the question “Do you agree to participate in the study specified in the form” and getting their approval, the scale questions were passed.

Evaluation of Data: The data were analyzed with the SPSS 16.0 (Statistical Package for Social Science) package program. While evaluating the data, the number, percentage, mean and standard deviation from descriptive statistical analyzes were used, while their distribution was checked with the Kolmogorov Smirnov test. The relationship between the data was determined by the Pearson correlation coefficient. The results of the research were evaluated at a significance level of $p \leq 0.05$ in the 95% confidence interval.

Ethical Principles of the Study: Ethical permission (Document date and number: 22.03.2023-16895) was obtained from the University in which the data were selected and from its Scientific Research Ethics Committee before proceeding to the data collection phase, and written permission was obtained from the department where the research was conducted. In Google Forms, personal information will remain confidential in the description section. The "principle of confidentiality" has been complied with by providing information on the matter. In addition, this research was conducted in accordance with the rules within the scope of the Helsinki Declaration Principles.

Results

The mean age of the students was 22.15±2.06 (min: 20, max: 34). It was determined that 44.4% of the students were in the 3rd grade, 55.6% in the 4th grade, and the majority (62.5%) chose the department voluntarily (74.3%) whose income was equivalent to their expenses. The majority of the students (72.9%) think that their theoretical knowledge and application skills (62.5%) are partially sufficient. The midwifery students' total (LEIS) mean score was 18.60±4.38 (min: 00 max: 25.00) (Table 1).

Midwifery students' total score on the Self-Confidence Scale was 121.85±19.25 (min: 66, max: 165) (Table 2). The average self-confidence level of the students was 3.69±0.58 (high).

When the comparison of the sub-dimensions and total score averages of the LEIS and Self-Confidence Scale according to the grade levels of the students was examined, it was determined that the 3rd grade midwifery students had a significantly higher knowledge level of bone pelvis and fetus, the mechanism

of labor and the evaluation of labor (p: 0.012; p: 0.023; p: 0.007) (Table 3).

The students' level of LEIS and their self-confidence level was examined by Pearson correlation analysis. It was determined that there was a very weak positive and significant relationship (r= 0.166, p: 0.049). A highly positive and highly significant relationship was found between the students' knowledge of the mechanism of labor and their knowledge of the bone pelvis and fetus (r= 0.607, p: 0.000). A very high positive and highly significant correlation was found between the students' knowledge of the bone pelvis and fetus and their knowledge of the mechanism of labor and LEIS level (r= 0.946, p: 0.000, r = 0.832, p: 0.000, respectively).

A very weak, positive and significant relationship was found between students' knowledge of the contraceptive mechanism and their level of LEIS and internal self-confidence (r= 0.197, p: 0.018; r= 0.188, p: 0.025). A highly significant positive correlation was found between students' inner self-confidence and outer self-confidence levels (r= 0.864, p: 0.000). A very high positive and highly significant relationship was found between the students' internal and external self-confidence levels and their self-confidence level (r= 0.969, p: 0.000; r= 0.962, p: 0.000, respectively) (Table 4).

Table 1: Findings concerning midwifery students' (LEIS) sub-dimension and total scores (N=144)

	Mean	Standard deviation	Min.	Max.
Bone Pelvis and Fetus	11.71	3.05	0.00	16.00
Birth Action and Mechanism	6.88	1.78	0.00	9.00
LEIS Total	18.60	4.38	0.00	25.00

Table 2: Findings regarding midwifery students' self-confidence scale sub-dimension and total scores (N=144)

	Mean	Standard deviation	Min.	Max.
Inner Self Confidence	62.86	10.49	34.00	85.00
External Self-Confidence	58.99	9.44	33.00	80.00
Self Confidence Total	121.85	19.25	66.00	165.00

Table 3: Comparison of the sub-dimensions and total scores of the LEIS and self-confidence scales according to the grade levels of the students

	Class	Mean±SD	t */p**
Information on the Bone Pelvis and the Fetus	3rd grade (n=64)	12.42±2.89	2.530/ **0.012**
	4th grade (n=80)	11.14±3.08	
Information on the Mechanism of Labor	3rd grade (n=64)	7.26±1.72	2.303/ **0.023**
	4th grade (n=80)	6.58±1.78	
LEIS Total Score	3rd grade (n=64)	19.68±4.20	2.725/ **0.007**
	4th grade (n=80)	17.71±4.34	
Inner Confidence Level	3rd grade (n=64)	63.89±9.108	1.053/0.294
	4th grade (n=80)	62.03±11.47	
External Confidence Level	3rd grade (n=64)	59.64±8.69	0.734/0.464
	4th grade (n=80)	58.47±10.03	
Self-Confidence Scale Total	3rd grade (n=64)	123.53±17.20	0.935/0.352
	4th grade (n=80)	120.51±20.75	

t *: Student's t-test, p ** ≤ 0.05

Table 4: Findings regarding the relationship between midwifery students' leis and self-confidence scale

		Information on the Bone Pelvis and the Fetus	Information on the Mechanism of Labor	LEIS Total Score	Inner Confidence Level	External Confidence Level	Self-Confidence Scale Total
Information on the Bone Pelvis and the Fetus	r *	one					
	p	-					
Information on the Mechanism of Labor	r *	0.607 ***	one				
	p	0.000	-				
LEIS Total Score	r *	0.946 ***	0.832 ***	one			
	p	0.000	0.000	-			
Inner Confidence Level	r *	0.158	0.197 **	0.188 **	one		
	p	0.061	0.018	0.025	-		
External Confidence Level	r *	0.111	0.129	0.129	0.864 ***	one	
	p	0.188	0.123	0.127	0.000	-	
Self-Confidence Scale Total	r *	0.140	0.171 **	0.166 **	0.969 ***	0.962 ***	one
	p	0.096	0.041	0.049	0.000	0.000	-

* Pearson Correlation Test, ** Correlation is significant at the 0.05 level, *** Correlation is significant at the 0.01 level

Discussion

This study was carried out to examine the knowledge levels and self-confidence levels of midwifery students regarding the evaluation of labor. Birth knowledge levels and self-confidence levels of midwifery students included in the study were discussed in line with the literature.

Midwife; it is the person who has normal birth within the scope of her own role and legal responsibilities. In order to perform this task effectively and competently, it is necessary to pass a certain training program determined on the basis of international and national standards. One of the most important standards of this program is knowledge and practices regarding labor (Council of Higher Education, 2016). Various methods have been tried for skill acquisition for labor (Bogossian et al., 2012; Williams et al., 2018; Hazar & Gultekin, 2019). It is thought that having good and comprehensive theoretical knowledge about the evaluation of labor may also contribute positively to the skill of labor. In this study, it was found that the students' knowledge level of labor assessment was high. In the comparison of the students' grade levels and birth assessment information, it was found that the 3rd grade students had a significantly higher level of knowledge. When we look at the midwifery curriculum, we see that birth knowledge lessons start in the 3rd grade. It is thought that the reason for this difference may be due to the fact that the

students recently took the birth science course.

In the study conducted by Ucar and Duy (2013) with midwifery and nursing students, midwifery students' internal self-confidence level (65.11±9.58), external self-confidence level (59.64±9.79) and self-confidence scale total sub-dimension average (124, 75±18.73) (Ucar & Duy, 2013). In the study of Aksoy et al., (2017) in which they examined the anxiety and self-confidence levels of midwifery students who actively participated in labor, they found that the majority of the students had a high level of self-confidence (3.5 and above). In addition, they found that the mean of internal self-confidence (65.31±12.59), external self-confidence (61.60±12.20) and the total sub-dimensions of self-confidence was 126.91±24.33 (Aksoy et al., 2017). Mirzakhani and Shorab (2015) conducted research to determine the self-confidence of Iranian nursing and midwifery graduates to perform the necessary clinical skills. As a result of the research, it was found that the self-confidence of the graduates in performing clinical skills in the management of low and high risk situations was high (Mirzakhani & Shorab, 2015). In another study by Pinar et al. (2018), in which they examined psychological resilience, self-confidence, and problem-solving skills in midwife candidates, the students' internal self-confidence (64.27±12.38), external self-confidence (59.10±12.09) and self-confidence scales total reported that the sub-dimension mean (123.38±23.78) was high (Pınar et al., 2018). Hildingsson et al. (2019) found that students who started their education at the diploma level had high self-confidence levels (Hildingsson et al., 2019). In this study, students' internal self-confidence, external self-confidence and self-confidence total score averages were found to be high, in line with the national and international literature (Ucar & Duy, 2013; Aksoy et al., 2017; Mirzakhani & Shorab, 2015; Pınar et al., 2018; Hildingsson et al., 2019).

It is reported by WHO that cesarean rates continue to increase worldwide (WHO, 2021). Cesarean section, which is life-saving for mother and baby when necessary, can bring many risks. Birth is a physiological process and should occur naturally unless there is an indication. For this reason, it is important to determine the factors that cause the increase in unindicated cesarean rates. In this respect, knowing the birth process, its mechanism and the factors that play a role, being able to evaluate and perform the labor are important factors to indirectly reduce the cesarean section rates (Caughey et al., 2014; Clark et al., 2018; Chen et al., 2018; Rouse et al., 2020; Nelson et al., 2020). It is possible for midwives and midwife candidates to evaluate labor correctly, to make the right risk assessment during childbirth, and to identify problems during delivery, only if they know how to evaluate birth physiology and labor (Huseyinoglu et al., 2022). In this study, it was concluded that as the knowledge level of the students on the bone pelvis and fetus increased, their knowledge level on the mechanism of labor increased, and at the same time, their knowledge level on labor evaluation increased. At the same time, it was found that as the level of knowledge of the students on assessment of labor increased, their self-confidence level increased. This situation makes us think that within the knowledge of the literature, it will contribute to the ability of the students to manage the birth and help eliminate the factors that contribute to the cesarean section rates.

Self-confidence is formed by the combination of inner and outer self-confidence. Inner self-confidence includes features such as gaining positive thinking skills, self-knowledge, self-love, and knowing one's strengths and weaknesses. External self-confidence, on the other hand, includes features such as taking risks, communicating easily with the outside, managing their emotions, and expressing themselves correctly and healthily (Akin, 2007). As a result of the study, a highly significant and high level positive relationship was found between students' inner self-confidence and outer self-confidence. Again, in the correlation findings, a positive and significant relationship was found between the self-confidence level and the internal and external self-confidence levels. This result shows parallelism with the literature.

It is stated that the higher education process will contribute to increasing the self-confidence levels of the students (Avsaroglu & Ure, 2007). In the study, students' external self-confidence levels were found to be lower

than their internal self-confidence levels. The reason for this result may be that the students spent about 3 years of their time in higher education during the social isolation and distance education process during the pandemic. For this reason, tAking initiatives to improve students' external self-confidence can contribute to improving their external self-confidence and thus their self-confidence level. Considering that especially senior students have completed about 3 years of their time in higher education with distance education due to the pandemic, planning post-graduation and in-service initiatives to increase self-confidence can also make a positive contribution.

As a result of the study, it was found that the students' knowledge levels of labor assessment and self-confidence levels were close to high. Students' external self-confidence levels were found to be low and they need improvement. It was determined that as the students' knowledge of labor assessment increased, their self-confidence levels also increased. For this reason, it is thought that determining the knowledge level of midwifery students regarding the evaluation of labor not only within the scope of the course and at exam times, but intermittently, will be useful in order to focus on the aspects that need to be evaluated and developed professionally. In addition, for students who have completed their higher education under pandemic conditions, self-confidence-building topics can be included in the lessons.

Intermittent evaluation of labor assessment knowledge and self-confidence levels of midwives working in the clinic is recommended because it is thought to contribute to their professional success. This may contribute to the decrease in cesarean rates, as it will provide an opportunity to evaluate the labor in a comprehensive manner and to have professional confidence in themselves. As a result, mother-infant health in the short term may enable to improve public health in the long term.

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Limitations of the Study: The limitations of the study are the limited generalizability of the findings due to the fact that the data were collected online on the internet and the research was conducted in only one university in Istanbul.

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