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Midwifery Students' Perception of Episiotomy Skill Self-Efficacy and Examination of Influencing Factors[1]

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Abstract
The aim of this study was conducted to investigate midwifery students' episiotomy skills self- efficacy levels and the factors affecting them. The sample of the study, which was conducted in a descriptive design, consisted of 135 students studying in the 3rd and 4th grades of the Midwifery Department of a public university in the 2023-2024 academic year. Data were collected with "Descriptive Information Form" and "Episiotomy Skills Self-Efficacy Scale (ESESES)". Descriptive statistics, Mann Whitney you and Kruskal Wallis Test were used to evaluate the data. The mean age of the midwifery students who participated in the study was 22.22±2.01 years and 85.9% of them preferred the midwifery profession willingly. It was found that 72.6% of the students felt that they belonged to the midwifery profession and 31.9% considered themselves sufficient in terms of theoretical knowledge and practice. It was determined that 77.8% of the students performed episiotomy suture practice with low reality simulation, 20.7% on living tissue and 17.8% with high reality simulation. It was determined that 71.1% of the students used chicken meat/ calf tongue, 19.3% used sponge/fabric, and 9.6% used models to improve episiotomy practice. The mean score of the students' episiotomy skills self-efficacy scale was found to be 55.09±10.69. It was determined that the mean scale scores significantly differed depending on whether the participants intentionally chose their field of study and perceived themselves as competent in both theoretical knowledge and practical skills. In line with the findings of the study, it was determined that midwifery students' episiotomy skills and self-efficacy perceptions were at a moderate level.

Keywords: Midwifery, episiotomy skill levels, student, self-efficacy perception

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INTRODUCTION

Episiotomy is a surgical incision made in the perineal area during childbirth under the supervision of a midwife or physician. It aims to enlarge the vaginal opening, decrease the occurrence of third- and fourth-degree perineal tears, and prevent severe tissue trauma by providing a more manageable incision line for repair. (Barjon & Mahdy, 2022). The incidence of episiotomy varies between 40.8% in Italy, 9.7% in Sweden, 24.5% in the USA and 65-80% in Turkey (Wu et al., 2013; Cromi et al., 2015; Citak Bilgin et al., 2018; Donmez & Unal, 2003). It is thought that more episiotomies are performed in primiparous women compared to multiparous women, and it is also thought that episiotomy is performed in more than 90% of primiparous women. In cases where episiotomy is not performed or delayed, serious perineal tears including anal sphincter in pregnant women are one of the important complications of vaginal delivery (Besen and Rathfisch, 2020; Friedman et al., 2015). Looking at the literature, the incidence of severe perineal tears varies between 1.2% and 6% (Knobel et al.,2018; Junior et al.,2016).

In the curriculum, midwifery education is carried out in an integrated theoretical and practical way. Supporting the theoretical knowledge gained by the students at school with laboratory and clinical applications allows students to use and develop their professional knowledge and skills specific to midwifery by communicating with the patient, making the right decision, problem solving, and developing self-understanding skills. Skill development practices provide psychomotor development and professional socialization of students and also include the support of a standard education and clinical practice with simulation or model methods (WHO, 2018). Effective teaching of obstetric surgery skills is vital for the training of midwives (Aytekin et al., 2022). The increase in the number of students in the field of midwifery, the relatively low number of educators, and the prevalence of medical errors in obstetrics have resulted in insufficient opportunities for student practice in clinical settings. Consequently, students' skills do not develop to the desired level (Aslan, 2019).

The inability of midwifery students to perform the necessary practices and the inability to carry out adequate laboratory courses negatively affect their self-confidence levels. Therefore, students who are afraid of making mistakes in the clinic are thought to have low self-esteem (Turkmen & Karaca Sivrikaya, 2023). Students need to improve their self-confidence and self-efficacy by practicing in this important practice. In midwifery education, it is recommended that practice should be increased by using methods such as simulation and models to increase students' knowledge, technical skills, motivation, satisfaction, self-confidence, patient safety, leadership, efficiency and productivity (Turkmen & Sivrikaya, 2023). In a study conducted by Yilar Erkek and Ozturk Altinayak, it was found that midwifery students' practice in laboratory environments positively affected the performance of students in the clinical environment (Yilar Erkek & Ozturk Altinayak, 2021).

Self-efficacy belief can be considered as an important parameter affecting a student's success and can be a reliable predictor of his/her clinical competence and skills (Mohamadirizi et al., 2015; Arseven, 2016). Accordingly, students' self-assessment is an appropriate guide to predict their clinical skills. (Yilar Erkek & Ozturk Altinayak, 2021). Low self-efficacy beliefs increase the anxiety and stress levels of individuals while doing their jobs and reduce their ability to solve problems. Evaluation of clinical competence is of great importance, especially in determining the areas that need to be improved and in determining the educational needs of midwives. Therefore, this study aims to determine the self-efficacy perceptions of 3rd and 4th year midwifery students in episiotomy practices and the factors affecting them. The findings of the research will provide important data for the planning of educational programmes or service planning for the development of practice skills.

Purpose of the Research

The study was conducted to examine midwifery students' self-efficacy levels regarding episiotomy skills and the factors influencing these levels.

METHOD

Population and Sample of the Study

The population of the study, which was conducted in a descriptive design, consisted of 135 students who voluntarily participated in the study out of 180 students studying in the third and fourth year of the Department of Midwifery at a public university in the 2023-2024 academic year. The rate of participation in the study was determined as 75%. The study was started after obtaining ethics committee and institutional permission. Students studying in the third and fourth year of the midwifery department of the relevant public university, who received episiotomy theoretical and practical episiotomy within the scope of normal birth and postnatal period course, and who were open to communication and cooperation constituted the inclusion criteria of the study. According to these criteria, the statements of the participants were taken as the basis for inclusion in the study.

Data Collection Tools

The data of the study were collected using the "Descriptive Information Form" and "Episiotomy Skills Self-Efficacy Scale" created by the researchers. Introductory Information Form: It was designed by the researchers based on the literature (Demirel et al., 2020; Maphanga & Naidoo, 2021). The form includes questions assessing students' sociodemographic characteristics (age, type of high school graduated, type of high school graduated, income status, etc.) and knowledge about episiotomy skills.

Episiotomy Skills Self-Efficacy Scale (ESESES)

The scale developed by Hadimli et al. in 2023 consists of 19 questions. There are no reverse coded items in the scale designed with a four-point Likert type ("strongly disagree-1", "disagree-2", "agree-3", "strongly agree-4"). The scale consists of two sub-dimensions; "Episiotomy Preparation and Application (1-11)" and "Episiotomy Repair and Control (12-19)". The total score that can be obtained from the scale varies between 19 and 76. An increase in the total score obtained from the scale indicates a high level of self-efficacy for episiotomy skills. Cronbach alpha internal reliability coefficient of the scale was calculated as 0.97 (Hadimli et al., 2023). For the sample of this study, Cronbach's alpha value was found to be 0.95.

Ethical Principles of the Research

Ethics committee approval was obtained from the Health Sciences University Hamidiye Scientific Research Ethics Committee (Number: 27449, Date: 30.04.2024). In all stages of the research, the "confidentiality principle" was complied with and the rules in the Declaration of Helsinki were followed. After the participants were informed about the study, their informed consent was obtained.

Data Evaluation

The research data were evaluated in SPSS 16.0 (Statistical Package for Social Science) package programme. Frequency and percentage analyses were used to determine the descriptive characteristics of the women participating in the study, and mean and standard deviation statistics were used to examine the scales. The normality of the data distribution was checked by Kolmogorov-Smirnov test. Spearman correlation test was used to compare two continuous variables and Mann-Whitney U-test and Kruskal-Wallis tests were used to compare categorical variables with continuous variables. $P<0.05$ was considered statistically significant.

FINDINGS

The mean age of the students participating in the study was 22.22±2.01 and the estimated general weighted grade point average (GPA) was 3.07+0.39. It was determined that 61.5% of the participants were 3rd year students and 38.5% were 4th year students. It was determined that 63% of the students' income was equal to their expenses, 66.7% lived with their families during the study period, and 15.6% graduated from health vocational high school. It was determined that

85.9% of the participants preferred the department willingly, 72.6% felt that they belonged to the midwifery profession and 31.9% felt adequate in terms of professional theoretical knowledge and practice. Table 1 shows the findings related to the descriptive characteristics of the students.

Table 1. Findings Related to Descriptive Characteristics of Students (n=135)

	X±SS	**Min.**	**Max.**
Age	22,22+2,01	20	33
GANO	3,07+0,39	2	3,80
		n	**%**
Classroom	Grade 3	83	61,5
	Grade 4	52	38,5
Income status	Income less than expenditure	43	31,9
	Income equals expenditure	85	63
	Income more than expenditure	7	5,2
Place of stay during the study period	Together with the family	90	66,7
	Dormitory	45	33,3
Graduated high school type	Health High School	21	15,6
	Other	114	84,4
Preferring the department willingly	Yes	116	85,9
	No.	19	14,1
Feeling of belonging to the profession	Yes	98	72,6
	No.	37	27,4
Feeling theoretically and practically adequate to move on to professional life	Yes	43	31,9
	No.	92	68,1

Note: General Weighted Grade Point Average (GPA); Other (Anatolian High School, Science High School, Imam Hatip High School)

Within the scope of our study, it was determined that 77.8% of the students performed episiotomy suture practice with low reality simulation, 20.7% on living tissue and 17.8% with high reality simulation. When the materials used in episiotomy skills of the students were evaluated, it was found that 71.1% used chicken meat or calf tongue, 19.3% used sponge/fabric, and 9.6% used a model (Table 2).

Table 2. Findings Related to Students' Episiotomy Application Skills (n=135)

		n	**%**
*Quality of episiotomy suturing skill experience	Low Reality Simulation	105	77,8
	On living tissue	28	20,7
	High Reality Simulation	24	17,8
Material used in episiotomy skills	Chicken meat/ veal tongue	96	71,1
	Sponge/Fabric	26	19,3
	Model	13	9,6

Note: *More than one answer was given.

The mean total score of the Episiotomy Skills Self-Efficacy Scale was 55.09±10.69 (range: 19- 76). The mean scores of the participants were 29.88+6.38 (range: 11-44) in the Episiotomy Preparation and Application sub-dimension and 25.21+5.17 (range: 8-32) in the Episiotomy Control sub-dimension.

Table 3. Comparison of Episiotomy Skills Self-Efficacy Scale Total and Subscale Scores According to Some Characteristics of Students

		Episiotomy Preparation and Application	**Episiotomy Control**	**Scale Total**
		Mean+SS	Mean+SS	Mean+SS
Classroom	3rd Class	29,39+6,48	24,65+5,57	54,04+11,22
	Grade 4	30,65+6,21	26,11+4,36	56,76+9,64
		U: -0,846	U: 1,293	U: -1,346
		p: 0,398	p: 0,196	p: 0,178
Income status	Income less than expenditure	28,72+5,99	23,90+5,28	52,62+10,35
	Income equals expenditure	30,17+6,39	25,63+5,06	55,81+10,62
	Income more than expenditure	33,42+7,76	28,14+4,22	61,57+11,11
		KW: 2,597	KW: 5,145	KW: 3,735
		p: 0,273	p: 0,076	p: 0,154
Place of stay during the study period	Together with the family	29,08+5,96	24,86+5,24	53,95+10,34
	At home	31,46+6,95	25,91+5,00	57,37+11,12
		U: -2,014	U:-1,023	U: 2,890
		p: 0,044	p: 0,306	p: 0,089
Graduated high school type	Health High School	31,85+5,51	24,89+5,34	58,80+8,32
	Other	29,51+10,96	26,95+3,80	54,41+10,96
		U:-1,361	U: -1,507	U: -1,369
		p: 0,173	p: 0,132	p: 0,171
Preferring the department willingly	Yes	30,54+6,35	25,39+5,18	55,93+10,79
	No.	25,84+5,01	24,10+5,11	49,94+8,60
		U:-3,660	U: -1,194	U: -3,065
		p: 0,000	p: 0,232	p: 0,002
	Yes	30,28+6,72	25,20+5,20	55,48+11,07
	No.	28,81+5,31	25,24+5,15	54,05+9,68

Note: U: Mann Whitney U Test, KW: Kruskal Wallis Test, Other (Anatolian High School, Science High School, Imam Hatip High School)

It was determined that the variables of class, income status, type of high school graduated from, feeling of belonging to the profession, quality of episiotomy suture skill experience and material used in episiotomy skill did not significantly affect the total and sub-dimension mean scores of the episiotomy skills self-efficacy scale ($p>0.05$) (Table 3).

It was found that the variables of the place of residence during the education period, willingly preferring the department and considering oneself sufficient in terms of professional knowledge and practice significantly affected the mean scores of episiotomy preparation and application sub-dimension ($p<0.05$).

It was determined that the variables of preferring the department willingly and the variables of considering oneself sufficient in terms of professional theoretical knowledge and practice significantly affected the mean scores of the episiotomy skills self-efficacy scale ($p<0.05$).

DISCUSSION AND CONCLUSION

In this study, in which midwifery students' perception of episiotomy skills self-efficacy was determined and the factors affecting it were examined, it was determined that midwifery students' perception of episiotomy skills self-efficacy (mean total score of EBÖYÖ: 55.09 ± 10.69) was at a moderate level. In the study by Hadimli et al. in which the psychometric measurement of the episiotomy skills self-efficacy scale was evaluated, the scale total score of midwifery students was determined as 63.7±3.01 (Hadimli et al, 2023). In the study by Demirel et al. in which the effect of episiotomy repair simulation on the self-efficacy levels of midwifery students was examined, the general self-efficacy scores of the students after the simulation process were determined as 76±01 and it was found that their scores increased compared to the pre-training period (Demirel, 2020). When the literature is examined, it can be said that the episiotomy skills self-efficacy levels of the midwifery students participating in our study are at a medium level. It is thought that this situation may lead to difficulties for students in assessing their skills in episiotomy procedures when they do not receive sufficient observation and feedback. As a result, their episiotomy skill self-efficacy levels may be negatively affected.

In our study, when the factors affecting the episiotomy skills self-efficacy levels of midwifery students were examined, it was determined that the episiotomy skills self-efficacy levels of students who willingly preferred the midwifery department were significantly higher. Studies show that adopting and loving the department, increasing self-esteem and positive clinical experiences are among the advantages of self-efficacy (Ashktorab et al, 2017; Kim & Park, 2011). In a study conducted with midwifery students, it was reported that the general self- efficacy-efficacy levels of midwifery students who willingly preferred the department were also significantly higher (Aker & Aydin, 2023). It is an expected result that students who willingly choose the midwifery department have a natural motivation for the profession and are aware that they should have the necessary knowledge and skills to maintain their career in the best way, and that they trust their skills in episiotomy practice and have high self-efficacy perceptions.

It is thought that the socio-demographic characteristics of the students may affect their episiotomy skill and self-efficacy levels. In our study, it was determined that the place where midwifery students stayed during the education period significantly affected the episiotomy preparation and application sub-dimension. It was found that the episiotomy preparation and application sub-dimension scores of the midwifery students staying in the dormitory were higher than the students staying in the family home. It is thought that the students staying in the dormitory have less family and home responsibilities compared to the students staying in the family home and have time to focus more on school and practice education, which may increase their episiotomy preparation and practice self-efficacy levels. In addition, the opportunity to discuss their practices and experiences with their peers in the dormitory environment, to determine their deficiencies and to repeat the subject positively affects the self-efficacy perception of the students.

Self-efficacy perception is affected by the individual's experiences, verbal expressions, physical and emotional state of the individual and direct or indirect behaviors provided by social models.

In situations requiring clinical practice, students may have low self-esteem and hesitate due to their fear of making mistakes (Turkmen & Karaca Sivrikaya, 2023). Especially episiotomy application is known as an obstetric surgical procedure that increases midwifery students' stress levels and decreases their self-efficacy levels (Aytekin et al., 2021). Midwives' competence and competency in making the decision to perform episiotomy and their ability to perform it are important for women's health. Including practice during the education phase makes a significant contribution to the development of student self-efficacy (Turkmen & Sivrikaya, 2023). Terzioglu et al. found that students found the skill development practices given in laboratory and classroom environments before clinical practice useful and improved themselves (Terzioglu et al., 2012).

Midwife candidates experience stress and anxiety while trying to put this theoretical knowledge they have gained into practice in the clinical environment and this may affect students' self-efficacy (Sari et al, 2008). Having sufficient knowledge about episiotomy is among the factors that affect self-efficacy perception (Pozam & Zaybak, 2022). In a study conducted with different professional groups, it was determined that students who did not feel adequate while using their skills in the clinical environment had low self-efficacy perception levels (Terzioglu et al, 2012).

As a result of the findings of this study, it was found that the self-efficacy perception levels of episiotomy skills of midwifery students who considered themselves sufficient in terms of professional theoretical knowledge and practice were significantly higher. At the same time, in this study, it was determined that 77.8% of the students performed episiotomy practice with low-reality simulation, 20.7% on living tissue and 17.8% with high-reality simulation. It has been reported that in many schools in our country, trainings are carried out and supported on simulation and model in clinical settings, laboratory environment and simulation and model in order to improve the episiotomy practice skills of midwifery students (Demirel et al., 2020). In a study investigating the skill level of midwifery students for episiotomy application, it was reported that the episiotomy skills of students working with the model were at a higher level (Yilar Erturk and Ozturk Altinayak, 2021). In another study investigating the self-confidence and competence levels of midwifery students during episiotomy application, it was determined that students trained with the calf tongue model had higher self-confidence scores than those trained with the sponge model while performing episiotomy in the clinical setting (Guler et al. 2018). It was determined that Demirel et al. reduced students' anxiety levels and increased their self-efficacy levels after calf tongue episiotomy repair simulation training and application with midwifery students (Demirel et al., 2020).

In this study, it was determined that sponges/fabrics, models, and chicken meat/beef tongue were used as materials for practicing episiotomy skills. It was found that the use of different materials, which differed from those reported in the literature, did not affect the perception levels of self-efficacy in episiotomy skills.This result is thought to be specific to the population in the study. In this study, it was determined that 71.1% of the students used chicken meat / calf tongue to improve their episiotomy skills, and in parallel with this finding, it was reported that midwifery students generally performed episiotomy with calf tongue material in studies in the literature (Guler et al., 2018; Yilar Erkek & Ozturk Altinayak, 2021; Demirel et al., 2021). Since the calf tongue material has a similar structure to human skin, muscle tissue and other soft tissues, it provides a realistic experience for the practical application of cutting, suturing and repairing processes. When the studies in the literature are examined, it has been reported that practical training provided with realistic materials enables students to improve their skills, make clinical decisions and make self-assessments (Brady, Bogossian, & Gibbons, 2015; Mckenna et al., 2011; Stitely, Cerbone, Nixon, & Bringman, 2011). In a study, it was stated that episiotomy application should be repeated regularly during the training period in order to increase the perceived competence of the participants regarding their clinical skills (Eston et al., 2020).

Conclusion and Suggestions

According to our research findings, it is seen that midwives' perceptions of episiotomy skills self-efficacy are at a moderate level. In our study, it was determined that the grade level, income status,

feeling of belonging to the profession, the quality of episiotomy suture skill experience and the material used in episiotomy skill variables did not affect the episiotomy skills self- efficacy perception levels of the students, while the variables of willingly choosing the midwifery department, and the status of seeing oneself sufficient in terms of professional theoretical knowledge and practice positively affected the episiotomy skills self-efficacy levels.

Based on these results, it is recommended to evaluate the individual characteristics that affect students' self-efficacy levels in episiotomy skills and to enhance clinical preparation training with technology-supported laboratory practices.

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