

Research Article

The Effects of the Empathy Levels of Midwifery Students on Their Caring Behaviors

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Received 18 August 2022; Accepted 21 September 2022; Published 8 February 2023

Academic Editor: Supat Chupradit

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Purpose. This study was conducted to investigate the effects of the empathy levels of midwifery students on their caring behaviors. **Design and Methods.** This descriptive study was carried out with 225 midwifery students. The data were collected via the Participant Information Form, the Midwifery Empathy Scale-Revised, and the Caring Behaviors Inventory-24. **Findings.** The mean Midwifery Empathy Scale-Revised score was 63.64 ± 7.47 , which showed moderate levels of empathy. The mean Caring Behaviors Inventory-24 score was 5.13 ± 0.84 , and this showed good levels of caring behaviors. In this study, the empathy was determined to explain 17% of the total variance in the caring behaviors ($F = 45.371$, $R^2 = 0.170$; $p = 0.001$). **Practise Implications.** The empathy levels of students affect their caring behaviors positively.

1. Introduction

In the provision of healthcare services, it is aimed to understand individuals correctly and meet their needs effectively [1–3]. To achieve this aim, empathic skills are needed [1, 4]. Empathy is a multidimensional concept that has cognitive, emotional, behavioral, and moral components [4, 5]. Individuals who can empathize can perceive the other person more accurately [6]. Empathic relationships established with patients are known to improve the adjustment of patients to their care and treatment processes [7, 8]. The International Confederation of Midwives (ICM) stated that empathic skills are among the main criteria of the profession of midwifery [2, 9]. As in other care-oriented professions, an empathic approach also increases the quality of care in midwifery practices [10–12].

The concept of care, which is as deep-rooted as the history of humanity, involves meeting the needs of the patient, supporting the patient, and helping them. Caring behaviors refer to the performance of roles such as listening to the patient, informing, respecting, and giving assurance [13, 14]. As caring roles are performed, the positive perception of caring behaviors increases [15]. The focus of care,

which constitutes the essence of midwifery practices, is the health of women, newborns, and families [3, 10, 12, 16]. Empathy is one of the factors that shape caring behaviors [15]. It is important to have an empathic perspective, especially for midwives, who accompany women in a special experience such as childbirth, to be able to identify the care needs of these women [7, 17, 18].

An adequately empathic approach not only allows practitioners to provide higher quality care but also raises patient satisfaction, reduces complications, and lowers healthcare costs [3, 19]. When empathy is not given the importance it deserves in midwifery practices, the quality of the care process decreases [5]. It was argued that empathy in healthcare services can be developed through basic vocational training [20]. In the literature, there are studies on the empathic approaches and caring behaviors of students receiving education in several fields of health [4, 21, 22]. However, according to some studies on the topic, many students have limited capacity to empathize during their clinical learning experiences [4, 20, 23]. An empathic approach is highly valuable for the establishment of a meaningful relationship between the midwife and the patient [11, 15]. In this sense, it is important to know the factors that

affect empathy and levels of empathy among midwifery students [5, 10]. Studies investigating the effects of empathy on caring behaviors in midwifery are highly limited. In line with this gap in the literature, it was aimed in this study to determine the effects of empathy on the caring behaviors of midwifery students.

Accordingly, in this study, it was aimed to determine the effects of the empathy levels of midwifery students on their caring behaviors. The research questions in the study are as follows:

- (1) What are the empathy levels of midwifery students?
- (2) What are the perceived caring behavior levels of midwifery students?
- (3) Do the empathy levels of midwifery students affect their caring behaviors?

2. Methods

2.1. Design. The sample of this descriptive study consisted of undergraduate midwifery students.

2.2. Participants. The study was carried out between May and August 2022 at the faculty of health sciences. At the time of the study, there were 311 students registered at the department of midwifery at this university. No sampling method was used in the study, and it was aimed to reach the entire population. Forty-five students who were absent on the day when the questionnaire was implemented, eleven students who did not agree to participate in the study, and thirty students who filled out the data collection forms incompletely were excluded from the study. The participation rate in the study was 72.34% ($n = 225$). The study was completed with 225 students who completely filled out the data collection forms. The inclusion criteria for the study were being a midwifery student and agreeing to participate in the study. Those who did not agree to participate were excluded. The students to be included in the study were informed about the study, and their consent was received before they were included.

2.3. Data Collection Tools. The data collection instruments of this study included a Participant Information Form, the Midwifery Empathy Scale-Revised, and the Caring Behaviors Inventory-24.

2.3.1. Participant Information Form. The form that was developed in line with information in the relevant literature included 8 questions on the sociodemographic characteristics of the participants [15, 24].

2.3.2. Midwifery Empathy Scale-Revised (MES-R). The scale was developed by Vivilaki et al. [25]. It was tested for validity and reliability in Turkish by Sevinç [26]. After it was determined that the Turkish form of the scale was not valid and reliable, the revised form of the scale was obtained. MES-R consists of 14 items that assess empathic skills and empathic

tendencies. Each item has a score range of 1–6, and some items are inversely scored. The minimum and maximum scores of the scale are 14 and 84. Higher total scores indicate higher levels of empathy. Sevinç [26] reported Cronbach's alpha coefficient of the scale as 0.736 [26]. In this study, Cronbach's alpha coefficient of the scale was found as 0.762.

2.3.3. Caring Behaviors Inventory-24 (CBI-24). The Caring Behaviors Inventory-24 is the short form of the Caring Behaviors Inventory-42 that was developed by Wu et al. [27]. It was adapted to Turkish by Kurşun and Kanan [14]. CBI-24 was designed to evaluate the nursing care process. It consists of 24 items and four subscales, namely, assurance, knowledge and skill, respect, and adherence. Kurşun and Kanan [14] reported that Cronbach's alpha coefficient of the scale was higher than 0.80 [14]. In this study, the overall Cronbach's alpha coefficient of the scale was determined as 0.823.

2.4. Data Collection. The data were collected by the researcher with the face-to-face interview method on the weekdays in the classrooms of the faculty where the study was conducted. The data collection forms were distributed during the recess times of the students who voluntarily participated in the study. The forms were filled out under the supervision of a faculty member to minimize interactions between students during data collection and ensure that they filled out the forms individually. It took approximately 10 minutes for each student to fill out the forms.

2.5. Statistical Analysis. The SPSS package software was used in the analyses of the data. The Kolmogorov–Smirnov test was used to test the distributions of the continuous variables. In the normality analysis of the variables that was conducted based on groups, it was found that the data were non-normally distributed; however, when the total scores were examined, a normal distribution was observed. The continuous variables in the study are presented with frequency, mean, and standard deviation values. The nonparametric Kruskal–Wallis test was used to test the significance of the differences among three mean values, whereas the post hoc Bonferroni test was conducted to identify the source of differences that were found significant. The relationships between two continuous variables were tested using Pearson's correlation analysis. Simple linear regression analysis was carried out to investigate the effect of the empathy variable on caring behaviors. Multiple linear regression analysis was conducted to investigate the effects of the empathy variable on the dimensions of the caring behaviors scale. The level of statistical significance was accepted as $p < 0.05$.

2.6. Ethical Consideration. The ethical approval to conduct this study was obtained from the noninterventional clinical studies ethics committee of the university on 21/06/2022 with the decision numbered 2022/6–11. Written permission was also obtained from the dean's office of the faculty where the study would be carried out.

TABLE 1: Comparisons of the MES-R and CBI-24 total scores of the participants based on their sociodemographic characteristics (n = 225).

Variables	n (%)	Mean ± SD (min-max)	MES-R Mean ± SD	Test	CBI-24 Mean ± SD	Test
Age (years)		21.13 ± 1.56 (18–29)	63.64 ± 7.47	$r = -0.050$ $P = 0.367$	5.13 ± 0.84	$r = -0.109$ $P = 0.104$
Education						
1 st year	55 (24.4)		60.85 ± 8.36 ^a		4.83 ± 0.99	
2 nd year	62 (27.6)		62.75 ± 6.83 ^b	$X^2 = 14.176$	5.17 ± 0.79	$X^2 = 5.111$
3 rd year	63 (28.0)		65.82 ± 6.86 ^b	$P = 0.003^*$	5.28 ± 0.74	$P = 0.164$
4 th year	45 (20.0)		65.22 ± 6.85 ^b		5.26 ± 0.77	
Monthly income level						
Less than expenses	70 (31.1)		63.70 ± 7.61		5.29 ± 0.60	
Equivalent to expenses	137 (60.9)		63.40 ± 7.59	$X^2 = 1.372$ $P = 0.504$	5.10 ± 0.86	$X^2 = 0.757$ $P = 0.685$
More than expenses	18 (8.0)		65.27 ± 5.91		5.15 ± 0.85	
Family						
Nuclear	180 (80.0)		63.57 ± 7.56		5.12 ± 0.86	
Extended	42 (18.7)		63.88 ± 7.36	$X^2 = 0.067$ $P = 0.967$	5.17 ± 0.76	$X^2 = 0.806$ $P = 0.668$
Broken family	3 (1.3)		64.33 ± 4.16		5.26 ± 1.24	
Residence						
Village/town	33 (14.7)		62.24 ± 7.79		5.09 ± 0.99	
District	52 (23.1)		63.53 ± 7.11	$X^2 = 1.452$ $P = 0.484$	5.07 ± 0.78	$X^2 = 1.058$ $P = 0.589$
City center	140 (62.2)		64.01 ± 7.53		5.17 ± 0.83	
Number of siblings						
Between 1 and 4	108 (48.0)	4.72 ± 1.94 (1–10)	63.64 ± 7.47	$r = -0.059$ $P = 0.378$	5.13 ± 0.84	$r = -0.000$ $P = 0.995$
5 and above	117 (52.0)					
The attitude toward the midwifery after started degree						
Positive	162 (72.0)		64.53 ± 6.86 ^a		5.20 ± 0.81 ^a	
Negative	25 (11.1)		60.56 ± 7.74 ^b	$X^2 = 5.898$ $P = 0.052$	4.84 ± 0.95 ^b	$X^2 = 6.109$ $P = 0.047^*$
Has not changed	38 (16.9)		61.86 ± 8.98 ^a		5.03 ± 0.87 ^a	
Reason for preferring midwifery profession						
Employment concerns	142 (63.1)		63.37 ± 6.80		5.12 ± 0.89	
Love midwifery	65 (28.9)		64.83 ± 8.33	$X^2 = 1.653$ $P = 0.438$	5.16 ± 0.81	$X^2 = 1.179$ $P = 0.555$
Family preference	18 (8.0)		61.50 ± 8.86		5.20 ± 0.60	
Where want to work after graduation						
Hospitals	92 (40.9)		63.26 ± 6.69		5.13 ± 0.92	
Family health center	75 (33.3)		64.85 ± 7.05		5.09 ± 0.74	
Private hospitals	6 (2.7)		62.00 ± 10.31	$X^2 = 7.003$ $P = 0.136$	5.02 ± 1.55	$X^2 = 3.161$ $P = 0.531$
Self-employed midwife	4 (1.8)		53.00 ± 12.72		4.61 ± 0.86	
Lecturer	48 (21.3)		63.58 ± 8.16		5.28 ± 0.71	

MES-R, Midwifery Empathy Scale-Revised; CBI-24, Caring Behaviors Inventory-24; SD, standard deviation; r, Pearson correlation analysis; X², Kruskal-Wallis test; ^{a,b,c}subgroup comparisons via the Bonferroni test. *p < 0.05.

3. Results

The mean age of the participants was 21.13 ± 1.56 (min-max 18–29), 63 (28.0) of them were 3rd year students, the monthly income of 137 (60.9%) was equivalent to their expenses, 180 (80%) had nuclear families, 140 (62.2%) were living in the city center, 117 (52%) had 5 or more siblings, 162 (72%) stated that their attitude toward the profession of midwifery changed positively after they started their degree, 142 (63.1%) said they chose this profession due to employment concerns, and 92 (40.9) wanted to work as midwives after graduation in hospitals. The mean total MES-R score of the participants who were 1st year students was 60.85 ± 8.36, and this score differed from the mean scores of other groups to a statistically significant extent (p < 0.05). The mean total CBI-24 score of the participants who had a negative attitude toward the profession of midwifery was 4.84 ± 0.95, and this score differed from the mean scores of other groups to a statistically significant extent (p < 0.05) (Table 1).

While the mean total MES-R score of the participants was 63.64 ± 7.47, their mean total CBI-24 score was 5.13 ± 0.84, and their mean scores on the assurance, knowledge and skill, respect, and adherence subscales of CBI-24 were, respectively, 5.15 ± 0.91, 5.08 ± 0.99, 5.10 ± 1.02, and 5.19 ± 1.29 (Table 2).

The MES-R scores of the participants had positive and weak relationships to their CBI-24 assurance, knowledge and skill, respect, and adherence subscale scores (r = 0.303, p = 0.001; r = 0.355, p = 0.001; r = 0.338, p = 0.001; r = 0.316, p = 0.001). There was a positive moderate relationship between the total MES-R and total CBI-24 scores of the participants (r = 0.412, p = 0.001) (Table 3).

The variable of empathy explained 17% of the total variance in caring behaviors. Empathy affected caring behaviors positively (F = 45.371, R² = 0.170; p = 0.001) (Table 4).

The empathy variable was significantly effective on the knowledge and skill subscale and respect subscale of CBI-24

TABLE 2: Distributions of the mean, minimum, and maximum scores of the participants and the minimum and maximum possible scores of the scales ($n = 225$).

Scales	Min-Max possible scores	Mean \pm SD (min-max)
MES-R	14–84	63.64 \pm 7.47 (14–84)
CBI-24 total	1–6	5.13 \pm 0.84 (1–6)
CBI-24 subscales	Assurance	5.15 \pm 0.91 (1–6)
	Knowledge and skill	5.08 \pm 0.99 (1–6)
	Respect	5.10 \pm 1.02 (1–6)
	Adherence	5.19 \pm 1.29 (1–6)

MES-R, Midwifery Empathy Scale-Revised; CBI-24, Caring Behaviors Inventory-24; SD, standard deviation.

TABLE 3: Relationships between the MES-R total, CBI-24 total, and CBI-24 subscale scores of the participants ($n = 225$).

MES-R	CBI-24				
	Assurance	Knowledge and skill	Respect	Adherence	CBI-24 total
r	$r = 0.303$	$r = 0.355$	$r = 0.338$	$r = 0.316$	$r = 0.412$
P	$P = 0.001^*$	$P = 0.001^*$	$P = 0.001^*$	$P = 0.001^*$	$P = 0.001^*$

MES-R, Midwifery Empathy Scale-Revised; CBI-24, Caring Behaviors Inventory-24; r , Pearson correlation analysis. $^*P < 0.05$.

TABLE 4: Simple linear regression analysis between the MES-R and CBI-24 scores of the participants ($n = 225$).

	MES-R							
	R	R^2	F	Constant coefficient	Standard error	β	t	P
CBI-24	0.412	0.170	45.371	2.166	0.444	0.653	4.877	0.001*

$^*P < 0.05$. Dependent variable: CBI-24, independent variable MES-R. MES-R, Midwifery Empathy Scale-Revised; CBI-24, Caring Behaviors Inventory-24.

TABLE 5: Multiple linear regression analysis between the MES-R and CBI-24 subscales scores of the participants ($n = 225$).

		B	SD	β	t	p	R^2	Adjusted R^2	F	P
		CBI-24 subscales	Constant	45.074	2.99		15.440	0.001*		
Assurance	0.052		0.08	0.051	0.606	0.545				
Skill and knowledge	0.297		0.11	0.197	2.541	0.012*	0.178	0.163	11.858	0.001*
Respect	0.166		0.07	0.173	2.260	0.025*				
Adherence	0.148		0.11	0.102	1.254	0.211				

$^*P < 0.05$. Independent variable: MES-R. dependent variables: CBI-24 assurance, knowledge and skill, respect, and adherence subscales, % 95 confident interval.

and explained 16% of the total variance in scores of these subscales ($F = 11.858$; adjusted $R^2 = 0.163$; $p = 0.001$). On the other hand, the empathy variable was found to have no significant effect on the scores of the assurance and adherence subscales of CBI-24 ($p > 0.05$) (Table 5).

The post hoc power analysis for this study was carried out using the G * Power 3.1.9.7 program [28]. According to the total sample size of the study, which was 225, the correlation coefficient was calculated as 0.109, and with a 5% error margin ($\alpha = 0.05$) for the correlation analysis, the power of the study ($1 - \beta$) was found as 0.99.

4. Discussion

In this study, it was determined that the attitudes of 72% of the participants toward the profession of midwifery changed positively after they started their midwifery education, and 63.1% of them chose the profession due to employment concerns (Table 1). In the study conducted by Demirel et al. [12], the attitudes of 83.7% of midwifery students toward midwifery were found to change positively after they started

their midwifery education, whereas 55.1% chose the profession due to their higher likelihood to get employed [12]. Ay et al. [24] also stated that 51.9% of students chose the profession of midwifery so that they could find a job easily [24]. The majority of the participants of this study (78.7%) said they wanted to work as midwives after their graduation (Table 1). Uğurlu and Karahan [29] found that 61.6% of midwifery students wanted to work as midwives after graduating [29]. The attitudes of the participants of this study toward the profession and their expectations were determined to be similar to those reported in other studies in the literature. In this study, the participants who were 1st year students had a significantly lower mean total MES-R score than others, and the participants who were 3rd year students had the highest mean total MES-R score ($p < 0.05$, Table 1). Similarly, Abdurashid et al. [5] and Kartal and Aker [2] reported that the empathy levels of students increased from their 1st year to their 3rd year [2, 5]. Some other studies in the literature have reported different results on this topic. Akin et al. [10] found that the empathic tendency levels of 1st year midwifery students were higher than the levels of those

in other class years, and empathic tendency levels decreased as students' education progressed [10]. Bekmezci et al. [1] stated that the class year variable did not affect the empathic tendencies of midwifery students [1]. Demirel et al. [12] observed higher levels of cognitive empathy among 1st year students compared to 4th year students [12]. Durmaz et al. [15] reported higher empathic tendency levels among 2nd year students in comparison to students in other class years [15]. Among the midwifery students who participated in this study, empathy levels increased as the participants' class years progressed. Midwifery education may have contributed to this result. Additionally, in this study, it was seen that the participants whose attitudes toward the profession of midwifery changed negatively after they started their midwifery education had a significantly lower mean total CBI-24 score ($p < 0.05$, Table 1). Other studies have shown that the positive approaches of midwifery students to the profession may affect their perceptions of caring behaviors positively [13, 24]. Accordingly, the low empathy levels of the participants of this study could have affected their care-related perceptions negatively.

In this study, the mean total MES-R score of the participants was 63.64 ± 7.47 (Table 2). In the literature review, no study that was conducted with MES-R, which is a recently developed measurement instrument, could be found. Similar studies examining the empathy levels of students in health-related fields have usually reported moderate levels of empathy [1, 6, 12]. It may also be stated that the participants of this study had moderate empathy levels. Our result was compatible with others in the literature. The mean total CBI-24 score of the participants of this study was 5.13 ± 0.84 (Table 2). In studies that were carried out with nursing students, mean CBI-24 scores were reported as 5.22 ± 0.70 by Akman and Öztürk [13] and 5.12 ± 0.53 by Dığın and Özkan [30]. It may be argued that the midwifery students who participated in this study had good levels of caring behaviors. This result was in agreement with the literature.

In this study, a moderate positive relationship was identified between the MES-R and CBI-24 total scores of the participants, while there were weak positive relationships between their MES-R scores and CBI-24 subscale scores ($p = 0.001$, Table 3). There are a limited number of studies in the literature that have explored the relationship between empathy levels and caring behaviors. In their study that included nursing students, Dođdu et al. [21] found a weak positive relationship between empathy levels and caring behaviors ($r = 0.286$, $p = 0.001$) [21]. It may be considered that students who have high empathy levels have more positive perceptions regarding caring behaviors. Our result was in parallel with the literature. In this study, the variable of empathy was determined to explain 17% of the total variance in the caring behaviors variable. Empathy was found to affect caring behaviors positively ($p = 0.001$, Table 4). According to this result, external factors other than empathy also have an effect on the formation of the caring behaviors of students. The effects of empathy on the components of the caring behaviors of the participants were also investigated. The empathy variable was found to be significantly effective on the knowledge and skill subscale and

respect subscale of CBI-24 and explained 16% of the total variance in scores of these dimensions ($p = 0.001$). The empathy variable affected the knowledge and skill and the respect component of the caring behaviors of the participants positively ($p < 0.05$), but it did not significantly affect the assurance and adherence components ($p > 0.05$, Table 5). It was reported that midwives with high empathy levels respect the person for whom they provide care by thinking that the person is unique as an individual [15]. According to studies in the relevant literature, respecting the opinions, feelings, and requests of women who are given care constitutes the essence of the empathic approach [2, 6]. In midwifery practices, low levels of empathy may affect the care process and its effectiveness negatively [5, 7, 19]. To increase the quality of midwifery care, the empathic skills of midwifery students could be increased.

5. Limitations

The results that were obtained in this study are limited to the measurement instruments that were used and the self-reports of the participants. These results are applicable to students in the undergraduate midwifery program of a faculty. Furthermore, students who were absent during the study period could not be included. Increasing the sample size of the study will increase the correlation coefficients and the explanation rates of the variance in the measured quality, and the results may change based on changes in the sample size and structure.

6. Conclusion

Based on the findings, the empathy levels of the midwifery students were moderate, and their perceived caring behaviors were good. According to the results that were obtained in this study, empathy levels affect caring behaviors positively. It was determined particularly that empathy affected knowledge-skill and respect, which are among caring behavior components in midwifery, positively. It may be recommended to improve the empathic skills and behaviors of midwifery students throughout their undergraduate education.

7. Implications for Nursing Practice

Empathetic approach enables midwives and nurses to understand patients' needs and importance to improve healthcare outcomes. Therefore, the development of empathetic skills constitutes an important priority in the education of midwifery and nursing students.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Authors' Contributions

Ç.E conceptualized and designed the study, drafted the article, and critically revised the article. S.B.K collected, analysed, and interpreted data. T.Ş collected data and drafted the article.

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