

# INVESTIGATION OF ATTITUDES OF SURGICAL NURSES TOWARDS EVIDENCE-BASED NURSING PRACTICES IN AND AFFECTING FACTORS

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## ABSTRACT

**Purpose:** This study was conducted to investigation of attitudes of surgical nurses towards evidence-based nursing practices in and affecting factors.

**Material and Methods:** The sample of the descriptive and cross-sectional study consisted of 110 nurses who worked in the surgical clinics of a university hospital. Nurse Introductory Information Form and Attitude Towards Evidence-Based Nursing Questionnaire (AEBNAQ) were used to collect the data. Written permissions were obtained from the Scientific Ethics Committee, the institution where the study would be conducted, and the nurses participating in the study. SPSS (Statistical Package for Social Science) 21.0 package program was used to evaluate the data.

**Results:** It was determined that the average age of the nurses participating in the study was 34.03±7.29 (min:22-max:58) years, 40.0% has attended a scientific meeting on evidence-based practice. The total score of the nurses was determined as 62.5±8.5 (min:42- max:75) and sub-dimensions differed as in the "Evidence-Based Nursing Beliefs and Expectations" sub-dimension 29.3±4.2 (min:19- max:35), in the "Evidence-Based Practicing Intention" sub-dimension 16.1±2.7 (min:9- max:20), in the "Evidence-Based Nursing Emotions" sub-dimension 17.1±2.5 (min:9- max:20) points. It was determined that nurses who read scientific journals, have attended scientific meetings, do graduation projects/thesis/research, need evidence in nursing practices, have information about evidence-based practices and want to participate in the training program, and the sub-dimension and total score averages of the AEBNAQ are significantly higher ( $p<0.05$ ).

**Conclusion:** It was found that surgical nurses' attitudes towards evidence-based care were at a good level, with those who attended scientific meetings, followed scientific journals and were younger having higher attitudes.

**Keywords:** Surgery, nurses, evidence-based nursing, attitude, surgery clinic

## INTRODUCTION

In health sciences, evidence is defined as the information obtained through reviews, scientific research, patient feedback, and scientific evaluation

of the practice that is available to experts who are the decision makers in the health care system (1,2). There is a growing need to establish practices based on the best available evidence in all areas of

healthcare (1). Evidence-based practice is defined as the practice that combines the best available evidence with systematic research and clinical expertise wherein decisions are made by selecting, synthesizing, and concluding the results of examining a particular subject and ultimately providing the best care for patients based on experience and critical judgments (1,2,3,4,5).

Putting research results into practice is essential for evidence-based nursing practice and ensuring the maintenance of nursing care quality (5). Therefore, evidence-based nursing can be defined as the approach where nurses, as professional caregivers, use the best evidence obtained by scientific methods in making nursing care-related decisions by combining the evidence with personal experience and the preferences of the patients in healthcare environments, thereby providing the best care that patients deserve and need (1,2, 4,6).

The main aim of nursing practices is to establish an acceptable foundation for evidence-based practice and ensure that this foundation enables nursing care to be effective, rational, and dynamic and enhances clinical judgment (5, 7).

In order to develop strategies that will improve and accelerate the process of evidence-based nursing, obtaining information regarding the attitudes and views of nurses on this subject should be a priority (2,6). The importance of evidence-based practice for nurses working in surgical clinics is becoming increasingly evident with its critical role and impact in healthcare. However, comprehensive studies on evidence-based attitudes of surgical nurses are rarely found in the literature, which can be characterized as a gap (7,8,9). Evidence-based nursing enables surgical nurses to effectively use scientific evidence in patient care and to identify best practices by combining it with their clinical experience (10). This approach increases the quality of surgical care, improves patient outcomes and supports the professional development of nurses. However, more research is needed to assess surgical nurses' attitudes towards evidence-based practice and their awareness of this issue (11). These studies will be an important step to encourage surgical nurses to adopt evidence-based practice and fill the knowledge gap in this field. Therefore, the aim of this study was conducted to investigation of attitudes of surgical nurses towards evidence-based nursing practices in and affecting factors.

## MATERIAL AND METHODS

The study was conducted in all surgical clinics of a university hospital. The data collection period lasted 3 months and the data were collected face-to-face. A total of 288 surgical nurses work in this hospital. The sample of the descriptive cross-sectional study consisted of nurses (n=110) working in the surgical clinics (Anesthesia and Reanimation Intensive Care Unit, Brain and Nerve Surgery Clinic, Pediatric Surgery Clinic, General Surgery Clinic, Thoracic Surgery Clinic, Eye Clinic, Gynecology and Obstetrics Clinic, Cardiovascular Surgery, Ear Nose Throat Clinic, Organ Transplant Center, Orthopedics and Traumatology Clinic, Plastic and Reconstructive Surgery Clinic, IVF Center, Urology Clinic) of a university hospital between March and September 2019. The number of samples was calculated with the data of nurses in the study, conducted by Doğan et al. (2019) (12). The impact factor was determined with the mean score of the attitude scale in this study. Using the G-Power 3.1 software, 0.36 standard deviation was determined as the smallest effect and the sample size was calculated as a total of 82 nurses with 95% power, 95% confidence interval and 0.05 margin of error. A total of 110 nurses who agreed to participate in the study were included in the sample. 38.19% of the research population was reached. Nurse Introductory Information Form and Attitude Toward Evidence-Based Nursing Questionnaire (AEBNQ) were used to collect the data.

### Nurse Introductory Information Form

This form contains 14 questions regarding the sociodemographic characteristics and research activities of nurses. Sociodemographic characteristics included age; gender; marital status; educational status; years of experience in the profession, clinic, and department of work. In addition, research activities, participation in scientific meetings on evidence-based nursing, and questions about lessons are included.

### Attitude Toward Evidence-Based Nursing Questionnaire (AEBNQ)

The questionnaire was first developed by Ruzafa-Martinez et al. (2011) in Spain to measure nurses' attitudes toward evidence-based nursing (13). The Turkish validity and reliability study of the questionnaire was conducted by Ayhan et al. in 2015 (14). AEBNQ contains of 15 items and three sub dimensions on a 5-point Likert scale. Eight items are

**Table 1.** The Score of Surgical Nurses' Attitudes Towards Evidence-Based Nursing

The minimum and maximum score that can be taken from the scale	Mean±sd	Min- Max.
AEBNQ Mean Score (15-75)	62.5 ± 8.5	42-75
Beliefs and Expectations (7-35)	29.3 ± 4.2	19-35
Practice Intention (4-20)	16.1 ± 2.7	9-20
Emotions (4-20)	17.1 ± 2.5	9-20

AEBNQ: Attitude Toward Evidence-Based Nursing Questionnaire, sd: standard deviation, Min: Minimum, Max: Maximum

scored positively (items 1, 2, 5, 7, 9, 11, 13, and 14) and seven items are scored in reverse (items 3, 4, 6, 8, 10, 12, and 15). The minimum obtainable score is 15, and the maximum obtainable score is 75. The Beliefs and Expectations for Evidence-Based Nursing Subdimension includes items 1, 2, 7, 9, 11, 13, 14 and the points that can be obtained are min:7- max:35. Evidence-Based Practice Intention Subscale includes items 3, 5, 6, 12 and the possible scores are min:4- max:20. Emotions Related to Evidence-Based Nursing Subscale; It includes items 4, 8, 10, 15 and the scores that can be obtained are min:4- max:20. Higher scores indicate more positive attitudes toward evidence-based nursing (10). In the study by Ayhan et al (2015), the Cronbach's reliability coefficient of the scale was found to be 0.86 (14), whereas in the present study it was 0.921.

All statistical analyses were conducted digitally, and SPSS (Statistical Package for Social Science) 21.0 package program was used. Descriptive statistics were presented as number and percentage and mean and standard deviation. Fisher's chi-square test was used to compare variables. The relationship between the obtained scores and other variables was evaluated using Kruskal–Wallis, Mann–Whitney U, and Spearman's correlation tests.  $p < 0.05$  was accepted as statistically significant in all analyses. Permission to use the scale was obtained from the corresponding author. Institutional permission was obtained from the chief physician of the university hospital where the research was conducted (no. 69631334-605.01). Consent was also obtained from the nurses during the research. Additionally, ethical permission was obtained from Ege University Medical Research Ethics Committee (Date: 29.05.2019, No. 19-5.2T/54).

**RESULTS**

The mean age of the nurses was  $34.03 \pm 7.29$  (min:22-max:58) years, 91.8% of the were female, 87.3% nurses had a bachelor of science in nursing

degree, and 40.9% were clinical nurses. When research activities of the nurses were examined, it was found that 61.8% did not read scientific journals, 78.2% attended at least one scientific meeting, 51.8% completed a graduation project/thesis/research during their undergraduate education, 91.8% needed evidence in nursing practice, 94.5% wanted to learn more about evidence-based practices, and 89.1% wanted to participate in a training program on evidence-based nursing. Mean AEBNQ score of the nurses was  $62.5 \pm 8.5$  (min:42-max:75). The mean score for the Beliefs and Expectations Toward Evidence-Based Nursing subdimension was  $29.3 \pm 4.2$  (min:19-max:35), Evidence-Based Practice Intention subdimension was  $16.1 \pm 2.7$  (min:9-max:20), and Emotions Related to Evidence-Based Nursing subdimension was  $17.1 \pm 2.5$  (min:9-max:20) (Table 1).

A significant difference was found between Evidence-Based Practice Intention and Emotions Related to Evidence-Based Nursing subdimension mean scores and total AEBNQ scores with respect to the status of participating in a scientific meeting and completing a graduation project/thesis/research. A significant difference was found in all subdimensions and total AEBNQ scores with respect to reading a scientific journal, attending a scientific meeting on evidence-based practice, needing evidence in nursing practice, wanting to learn more about evidence-based practices, and wanting to participate in a training program on evidence-based nursing ( $p < 0.05$ ) (Table 2).

A significant relationship was found between years of experience in the profession and Beliefs and Expectations Toward Evidence-Based Nursing subdimension scores ( $r = -.200, p = .036$ ) and between age, years of experience in the profession, and Evidence-Based Practice Intention subdimension scores ( $r = -.227, p = .017; r = -.226, p = .018$ , respectively) and total AEBNQ score ( $r = -.201, p = .035; r = -.210, p = .028$ , respectively). On

the other hand, a negative correlation was found between AEBNQ scores and age and years of experience in the profession. AEBNQ scores were seen to increase with decreasing age and years of experience in the profession (Table 3).

**DISCUSSION**

Nurses play an important role in optimally improving and developing health outcomes through evidence-based healthcare practices (6, 15). In nursing

research, studies examining the knowledge, attitude, skill, and behavior of nurses toward evidence-based practice are becoming popular day by day (15). Nursing practice in surgical clinics is constantly evolving with rapid changes in medical technology and surgical procedures. This dynamic environment requires nurses to adopt evidence-based approaches to update and effectively guide their practice. Therefore, surgical nurses can be expected to show more inclination towards evidence-based nursing

**Table 2.** Comparison of attitudes towards evidence-based nursing and independent variables

Independent Variables		n	Subdimensions of AEBNQ			AEBNQ Median(IQR)
			Beliefs and Expectations Median(IQR)	Practice Intention Median(IQR)	Emotions Median(IQR)	
Gender	Female	101	28.00(26.00-34.50)	16.00(14.50-18.00)	17.00(16.00-20.00)	62.00 (57.00-70.50)
	Male	9	28.00(27.00-32.00)	16.00(12.50-17.50)	16.00(14.50-19.50)	60.00 (56.00-68.00)
	Test Statistics			Z: -0,28 P: ,978	Z: -,659 P: ,510	Z: -,700 P: ,484
Read scientific journals	Yes	42	31.00(28.00-35.00)	18.00(16.00-20.00)	18.50(16.00-20.00)	66.50 (60.00-73.25)
	No	68	28.00(26.00-31.00)	15.00(13.00-17.00)	16.00(15.00-19.00)	59.00 (55.00-66.75)
	Test Statistics			Z: -3,214 P: ,001	Z: -4,095 P: ,000	Z: -2,632 P: ,008
Attended at least one scientific meeting	Yes	86	28.50(26.00-35.00)	17.00(15.00-18.00)	18.00(16.00-20.00)	62.50 (58.00-71.00)
	No	24	28.50(26.50-31.00)	15.50(13.00-17.00)	16.00(15.00-17.75)	59.00 (53.25-63.50)
	Test Statistics			Z: -1,541 P: ,123	Z: -2,436 P: ,015	Z: -2,620 P: ,009
Completed a graduation project/thesis/ research	Yes	57	30.00(27.00-35.00)	17.00(15.00-19.00)	19.00(16.00-20.00)	66.00 (59.00-73.00)
	No	53	28.00(26.00-31.00)	16.00(14.00-17.50)	16.00(15.00-19.00)	60.00 (55.00-66.00)
	Test Statistics			Z: -2,160 P: 0,31	Z: -2,505 P: ,012	Z: -3,002 P: ,003
Attend any scientific meeting on evidence-based practice	Yes	44	32.00(28.25-35.00)	18.00(15.25-20.00)	19.00(16.00-20.00)	68.00 (62.00-74.00)
	No	66	28.00(26.00-30.25)	15.50(13.75-17.00)	16.00(15.00-19.00)	59.00 (55.75-66.00)
	Test Statistics			Z: -4,474 P: ,000	Z: -4,141 P: ,000	Z: -3,405 P: ,001
Took an evidence-based practice course	Yes	55	30.00(27.00-35.00)	17.00(15.00-18.00)	18.00(16.00-20.00)	65.00 (59.00-70.00)
	No	55	28.00(26.00-33.00)	16.00(14.00-18.00)	16.00(15.00-20.00)	59.00 (56.00-70.00)
	Test Statistics			Z: -1,911 P: ,056	Z: -1,886 P: ,059	Z: -,670 P: ,503
Needed evidence in nursing practice	Yes	101	28.00(27.00-35.00)	16.00(15.00-18.00)	17.00(16.00-20.00)	62.00 (57.00-71.00)
	No	9	25.00(22.50-29.00)	15.00(12.50-16.00)	15.00(13.50-17.00)	51.00 (49.00-62.00)
	Test Statistics			Z: -2,791 P: ,005	Z: -2,308 P: ,021	Z: -2,543 P: ,011
Wanted to learn more about evidence-based practices	Yes	104	28.00(27.00-34.75)	16.00(15.00-18.00)	17.00(16.00-20.00)	62.00 (57.25-70.75)
	No	6	23.00(19.75-26.50)	13.00(11.25-15.00)	15.00(13.50-16.50)	50.00 (47.25-56.75)
	Test Statistics			Z: -3,215 P: ,001	Z: -2,845 P: ,004	Z: -2,272 P: ,023
Wanted to participate in a training program on evidence-based nursing	Yes	98	28.50(27.00-35.00)	17.00(15.00-18.00)	17.50(16.00-20.00)	62.00 (57.00-71.00)
	No	12	26.00(22.25-27.75)	15.00(13.00-15.00)	15.50(15.00-17.75)	57.00 (49.50-59.75)
	Test Statistics			Z: -3,283 P: ,001	Z: -2,797 P: ,005	Z: -2,207 P: ,027

AEBNQ: Attitude Toward Evidence-Based Nursing Questionnaire, IQR: Interquartile Range, z: Mann-Whitney U

**Table 3.** Correlation between age, years of work in the occupation and the attitude scale towards evidence-based nursing scores

		<b>AEBNQ</b>	<b>Beliefs and Expectations</b>	<b>Practice Intention</b>	<b>Emotions</b>
<b>Age</b>	<b>r<sub>s</sub></b>	-,201*	-,186	-,227*	-,097
	<b>P</b>	,035	,052	,017	,312
<b>Years of experience in the profession</b>	<b>r<sub>s</sub></b>	-,210*	-,200*	-,226*	-,119
	<b>P</b>	,028	,036	,018	,215

AEBNQ: Attitude Toward Evidence-Based Nursing Questionnaire, r<sub>s</sub>: Spearman's rho

principles to adapt to this variable and complex environment. This study shows that surgical nurses have positive attitudes towards evidence-based nursing. Higher AEBNQ scores observed in our study compared to other studies focusing on intensive care, internal medicine, and surgical nurses, may indicate that surgical nurses have a more positive attitude towards evidence-based nursing practices (2, 6, 7,14,16). However, this difference may be due to the fact that the study was conducted in different regions and units. This may suggest that special education and experience of surgical nurses may positively affect their attitudes towards adopting evidence-based nursing practices. In another study, it was found that Greek nurses exhibited positive attitudes and beliefs toward evidence-based practice to ensure continuity in improving the quality of care and patient outcomes (17). Similarly, another study reporting positive and strong attitudes of nurses toward evidence-based practice emphasized the importance of nurses' current knowledge regarding evidence-based practice and creating useful nursing strategies in an appropriate clinical setting in Omani (18). In this study of Al-Maskari and Patterson, although the mean AEBNQ scores were generally high, the lowest scores were obtained in the Evidence-Based Practice Intention subdimension (18). Evidence-Based Practice Intention subdimension scores are generally reported to be the lowest in most studies. In the study of Yılmaz et al. conducted with nurses working in internal and surgical clinics, the mean score for Evidence-Based Practice Intention subdimension was  $7.51 \pm 2.45$  (2). However, it was  $16.1 \pm 2.7$  in the present study. In Taşçı and Özer's (2023) study, it was stated that increased work intensity increased critical thinking tendency and affected the attitude towards evidence-based nursing (8). In this study, a positive relationship was found between surgical

nurses' positive attitudes towards evidence-based nursing and their desire to use it frequently. These findings suggest that the habit of frequent use of evidence-based practices of surgical nurses may positively affect their attitudes. As a result, it is seen that increasing critical thinking tendency and following information, education and scientific studies about evidence-based practices positively affect the attitude towards evidence-based nursing (8). These findings provide important guidance to support the professional development of surgical nurses and encourage the dissemination of evidence-based practices. In Himmet's (2021) study, a positive moderate relationship was found between both individual innovativeness levels and professional value levels of surgical nurses and evidence-based nursing attitudes. In other words, as both individual innovativeness levels and professional values of surgical nurses increase, their evidence-based nursing attitudes also increase (9). These results indicate that the personal characteristics, innovativeness and professional values of surgical nurses affect their tendency to adopt evidence-based practices.

In this study, the highest mean score of  $29.3 \pm 4.2$  was obtained in the Beliefs and Expectations Toward Evidence-Based Nursing subdimension. This finding was consistent with relevant studies in the literature (17,19). Only in the study by Doğan et al. the lowest mean score was obtained in the Emotions Related to Evidence-Based Nursing subdimension (20). More than half of the surgical nurses included in the study exhibited positive attitudes and perceptions towards evidence-based practice, indicating that evidence-based practice is recognized as an important contribution to improving the quality of nursing care and patient outcomes. In another study, Durmus et al. also found that nurses had moderately positive

attitudes toward evidence-based nursing and stated that nurses' problem-solving skills affected their attitudes and perceptions regarding evidence-based nursing (20).

A significant correlation was found between years of experience in the profession and Beliefs and Expectations Toward Evidence-Based Nursing subdimension, Evidence-Based Practice Intention subdimension, and AEBNQ scores. Furthermore, there was a negative correlation between years of experience in the profession and AEBNQ scores. In other words, as years of experience in the profession increased, AEBNQ scores decreased (Table 3). This result shows that nurses with more professional experience have worse attitudes toward evidence-based practices. Similarly, Ruzafa-Martinez et al. (2011) found that nurses with more clinical experience had worse attitudes toward evidence-based practice than those with less experience (13). Unlike this study, there are also studies in which age and work experience do not affect evidence-based attitudes. These results are also supported by some studies in the literature, and it was observed that nurses' age and work experience did not affect their AEBNQ scores (6, 7, 10, 14, 22).

The findings of the study emphasize the needs of nurses working in surgical clinics for evidence-based nursing practices and their deficiencies in this field. The nurses' need for evidence in their practices shows their desire to learn more and participate in training programs. These findings reveal that surgical nurses should focus on their professional development and that they can improve the quality of patient care by adopting evidence-based practices. Therefore, it is important to provide appropriate educational and support resources to meet the needs of surgical nurses and strengthen their skills. Yılmaz and Gürler also reported that 92.5% of the nurses needed training on evidence-based practice (23). Evidence-based practice is an approach that involves aspects such as correctly questioning the current clinical problem, reviewing the relevant literature, evaluating the evidence presented in studies, and making clinical decisions based on critical thinking (22). Kilicli et al. reported that mentoring provided by nurses who are adequately equipped and experienced in evidence-based nursing is necessary to facilitate evidence-based practice (25). It is recommended that nurses be taught how to critically evaluate research evidence and use it in patient care (24).

Scientific meetings have an important place and role in increasing information sharing among nurses, enabling them to stay up-to-date and facilitating professional development (6). Another way of updating nurses with the current literature is scientific journals, which are indispensable in increasing the quality of nursing care. Studies show that nurses who read scientific journals use research results more frequently in clinical practice and exhibit good attitudes toward evidence-based nursing (6, 12). However, in the study by Dogan et al., although nearly 90% of the nurses participated in scientific meetings, no significant correlation was found between meeting participation and AEBNQ scores (12). There are studies showing that conducting research and participating in scientific meetings are factors that positively affect nurses' attitude toward evidence-based nursing practices (6, 7, 12). Consistent with the literature, rates of reading scientific journals, attending scientific meetings on evidence-based nursing, needing evidence in practice, wanting to learn more about evidence-based nursing, and willingness to participate in an education program on evidence-based nursing were very high in the present study, and a significant correlation was found between these variables and total AEBNQ and subdimension scores. In addition, although there was no correlation between completing a graduation project/thesis or scientific research during nursing education and Beliefs and Expectations Toward Evidence-Based Nursing subdimension scores, a significant correlation was found between Evidence-Based Practice Intention, Emotions Related to Evidence-Based Nursing and total AEBNQ scores. This result shows that completing a graduation project/thesis or scientific research in undergraduate education is important in improving the attitudes of nurses toward evidence-based practice.

#### **Limitation**

The results obtained in the present study are only valid for the sample where the study was conducted. AEBNQ scores were based on nurses' own statements.

#### **CONCLUSION**

Constant advances in scientific research and the findings put forward bring dynamism to and increase the quality of nursing care. In this study, as the age of the nurses and the years of experience in the profession decreased, the obtained AEBNQ scores

increased. The majority of nurses agree that nursing care is evidence-based. Furthermore, nurses believe that evidence-based practices will strengthen the duty and authority of nurses, and they want to incorporate recent research findings into their practices. Various strategies can be proposed to strengthen evidence-based approaches in nursing practice. These include revising nursing education programs to emphasize evidence-based practices, organizing continuing education and update courses, supporting resources that will provide nurses with easy access to current research findings, creating programs that encourage research, establishing platforms that encourage experience and knowledge sharing among nurses, and adopting policies that promote evidence-based practices at the institutional level. These strategies can support nurses to provide the best care to patients and improve the quality of health services by increasing their knowledge.

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**Author contribution:** Study design: YCD, NE, ED, EO. Data collection: NE. Data analysis: NE, EO. Study supervision: YCD, NE, ED, EO. Manuscript writing: YCD, NE, ED, EO. Critical revisions for important intellectual content: YCD, NE, ED, EO.

**Conflict of interests:** No conflict of interest was declared by the authors.

**Ethical approval:** This study was conducted in compliance with the principles outlined in the Declaration of Helsinki. Permission to use the AEBNQ scale was obtained from the corresponding author via email. Ethical permission was obtained from Ege University Medical Research Ethics Committee (Date: 29.05.2019, No. 19-5.2T/54). Institutional permission was obtained from the hospital in which the study was conducted (No: 69631334-605.01). Informed consent was obtained from the nurses participating in the study.

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