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The effect of nurses' perceptions of evidence-based attitudes on the quality of care: a cross-sectional study

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Abstract

Background Evidence-based practice, which is one of the key components of quality health care worldwide, has been emphasized more recently.

Aim This study was conducted to investigate the effect of nurses' evidence-based attitudes on the quality of care.

Methods This descriptive and cross-sectional study was conducted with 490 nurses actively working in Turkey. The Demographics Form, Attitude Scale for Evidence-based Nursing, and Caring Behaviors Scale were used to collect data. Structural Equation Modeling was used in the analysis of the research data, and the analysis was carried out using SPSS 22.0, AMOS V 24.0, G*Power 3.1 Statistical package programs.

Results Beliefs and expectations towards evidence-based nursing were validated in the model established between the evidence-based practice intention and feelings about evidence-based nursing and Caring Behaviors Scale variables (F = 81.44; $p = 0.001$). It was determined that the model created in line with the hypotheses was compatible and the model fit indices were within the desired limits as $x^2/Sd = 3.256$, RMSEA = 0.06, CFI = 0.98, GFI = 0.97, AGFI = 0.94, IFI = 0.98. The model shows that there is a significant and positive relationship between the attitude towards evidence-based nursing and the quality of care (t = 9.025, $p < 0.001$).

Conclusion There is a significant and positive relationship between evidence-based attitude and care behaviors. It was found out that the evidence-based attitudes of nurses increase the quality of care. Further research could investigate specific interventions or training programs that effectively enhance nurses' attitudes towards evidence-based nursing and subsequently improve the quality of care provided.

Keywords Nursing, Evidence-based attitude, Caring behaviors, Caring quality

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Introduction

Evidence-based practice (EBP), which is one of the key components of quality health care worldwide, has been emphasized more recently [1]. At the same time, the increasing demand to provide safe and high-quality care to patients has made evidence-based practice necessary [1, 2]. EBP is an approach to solving problems in healthcare that encompasses the patient's wishes and values, the clinician's expertise, and the best current evidence [3, 4]. The EBP aims to ensure that care practices are constantly receiving the best possible care based on the most up-to-date research results available, rather than relying on individuals' traditions and beliefs [5, 6]. Nurses, who have the largest group among health service providers, have a very important role in achieving this goal [7]. The EBP is emphasized as very important in improving patient outcomes and improving health care quality [8, 9].

Although appropriate methods for EBP are known, there are several barriers to their use in nursing practice [10]. Four individual barriers to the EBP among nurses have been reported as lack of knowledge of nurses, lack of skills, awareness and professional occupation characteristics related to the use of EBPs [9]. A study revealed that nurses were willing to participate in the evidence-based practice process. However, the nurses identified a need to enhance their knowledge and skills in order to become active participants in the process [11].

As posited by another study, the most significant impediment to the implementation of evidence-based nursing practice in hospital settings is the paucity of knowledge [12]. Removing individual barriers for nurses and increasing the use of evidence-based nursing practices will be beneficial in helping to improve overall quality of patient care [9]. The use of EBPs by nurses, who are professionals, is critical in terms of reducing costs, increasing the quality of care, increasing patient satisfaction, and reducing the possibility of medical neglect [4]. It also increases both the safety and quality of care of patients [2]. Therefore, EBP knowledge is a basic need for healthcare professionals. To be able to apply EBP, nurses need to know about subjects such as research expertise, informatics literacy, and statistics [13].

In contemporary nursing, the foundation of high-quality care rests on the application of current research findings. This approach requires nurses to incorporate evidence-based methods into their clinical practices [14]. Evaluating the quality of care that nurses provide will contribute to the structuring of care in a qualified way. Therefore, it is important to reveal nurses' attitudes towards evidence-based nursing and their views on the quality of care. The aim of this study was to investigate how nurses' perceptions regarding evidence-based attitudes affected the quality of care.

Methods

A quantitative-cross-sectional-descriptive survey design method was used in this study. The fieldwork was carried out with 490 nurses actively working in hospitals between 01/08/2021 and 01/12/2021. The study aimed to assess the effect of nurses' perceptions of evidence-based attitudes on the quality of care.

Population and sampling of the research

The research population comprised nurses who were actively employed in Turkey. It was calculated that the minimum number of participants required was at least 384 for a 95% confidence interval ($d = 0.05$), $t = 1.96$, $p = 0.5$, $q = 0.5$) by utilizing the formula for an unknown population ($n = t\ 2.p.q/d\ 2$). A total of 490 nurses took part in the study. The power of the study was calculated as 95% at the medium effect size with a confidence level of 99% in the post hoc power analysis carried out in accordance with the results [15]. To report the results of this study, the STROBE guidelines were followed [16].

Inclusion criteria for research

All nurses who were employed in units caring for inpatients, had six or more months of experience and volunteered to participate were included.

Exclusion criteria from research

Those nurses who did not agree to take part, as well as those who exited the study before it was concluded and/or who did not complete the questionnaire or scales were excluded.

Data collection tools

The Demographics Form (DF), Attitude Scale for Evidence-based Nursing (ASEBN), and Caring Behaviors Scale (CBS), which the researchers developed following a review of the literature, were used to collect the data.

The Demographics Form (DF)

The Demographics Form prepared by the researchers in line with the literature [17, 18] (age, gender, marital status, evidence-based publication reading status, evidence-based education status, education level, and working time in the profession) consists of seven questions.

Attitude Scale for Evidence-Based Nursing (ASEBN)

This scale was created by Ruzafa-Martinez et al. [19]. The Turkish adaptation of the scale was carried out by Ayhan et al. [20]. It is made up of 15 items and three subdimensions. Of the items, eight consist of positive statements, while seven items consist negative statements. These seven negative items are reverse-coded in reverse. The instrument has the form of a five-point Likert-type scale. The lowest obtainable score is 15, while the highest

is 75. There are three sub-dimensions (Beliefs and Expectations for Evidence-Based Nursing Sub-Dimension, Evidence-Based Intention to Practice Sub-Dimension, and Emotions Related to Evidence-Based Nursing Sub-Dimension). There is no cut-off point in the scale, and the higher the score the more positive the attitude towards evidence-based nursing. The Cronbach's alpha reliability coefficient of the Turkish version of the scale was determined as 0.90. The Cronbach's alpha reliability coefficients for the sub-dimension were 0.86 for the Belief Sub-Dimension, 0.69 for the Intention to Practice Sub-Dimension, and 0.71 for the Emotions Sub-Dimension. In the current study, the Cronbach's alpha reliability coefficient for the entire scale was determined as 0.87.

Caring Behaviors Scale (CBS)

This scale is utilized to assess the quality of care. It was initially created by Wolf in 1981 with a total of 75 items. After a subsequent revision in 1994, the total number of the items was decreased to 42 [21]. In 2006, Wu et al., further reduced this 42-item scale, which is used for bilateral diagnosis by both nurses and patients and nurses, to 24 items [22]. The scale was rearranged into four sub-dimensions as assurance, knowledge-skill, respectfulness and commitment. This 6-point Likert scale is designed to evaluate the nursing care process. It was adapted to Turkish by Kurşun and Kanan [23]. Questions 16, 17, 18, 20, 21, 22, 23 and 24 of the scale are related to the assurance sub-dimension, questions 9, 10, 11, 12 and 15 to knowledge-skills sub-dimension, questions 1, 3, 5, 6, 13 and 19 to the sub-dimension of being respectful, and questions 2, 4, 7, 8 and 14 to the sub-dimension of commitment. The scores for the scale items are added together and then divided by 24, giving a total score of between 1 and 6. The highest obtainable score is thus 6, while the lowest is 1. The six-point Likert-type scale is answered. The score for each sub-dimension is also between 1 and 6 points, and this is obtained by adding up the score for each item and dividing the total by the number of items. The scale is used by both patients and nurses to assess the quality of care provided. The scale's Cronbach's alpha value was found to be 0.97 in patients and 0.96 in nurses. With regard to the sub-dimensions, it was found to be between 0.89 and 0.93 in patients and 0.81 and 0.94 in nurses [23]. In the current study, the Cronbach's alpha value for the total scale was determined as 0.93.

Data collection

Nurses were informed of the study's purpuse, assured of the anonymity and confidentiality of their questionnaire responses, and assured that the collected data would be utilized solely for academic research. The date were collected using a questionnaire form created online using Google Forms, with the aim of reaching a larger number of participants. The nurses were sent a link to this survey via email, Instagram, and WhatsApp. In accordance with data confidentiality principles, informed consent was obtained from each participant prior to the collection of any data for the study. To prevent multiple responses and to protect the integrity of the data, the design of the survey ensured that it was only possible for each participant to fill it in once. After the form had been filled in online, only the researcher who had designed the form was able to access the answers occur through their Google account. The survey completion time for participants ranged from approximately 15 to 25 min.

Data analysis

The research data were analyzed using the SPSS 22.0, AMOS V 24.0, and G*Power 3.1 programs. A p value of 0.05 was taken as significant for the statistical tests. Table 1 shows the tests used to evaluate the data.

Ethical principles

Permission for the research was granted by the Scientific Research and Publication Ethics Committee of a state university (Date and Number: 01.07.2021–15967). The participants were informed online about the study's purpose and method, the amount of time allocated, the fact that no harmful effects would occur as a result of their participation, that this participation was absolute voluntary. Their informed consent was then obtained. The Declaration of Helsinki was followed during the study in order to protect the rights of the individuals participating.

Results

The distribution of the introductory characteristics of those taking part shows that (Table 2) 66.1% of the participants were women, that 82.9% of them were undergraduates, that 70.6% of them had been working for 0–5 years, that 69.6% of them were single, and that 70.8% of them did not receive evidence-based education.

Structural Equation Model (SEM)

The SEM was used in order to assess the effect of evidence-based attitude perceptions, which is the independent variable in the study, on the quality of care, which is the dependent variable of the study.

Assumption analysis

The SEM is a multivariate statistical method that provides the opportunity to simultaneously test more than one relationship and to investigate the causal relationships between variables through modeling [24, 25].

Preliminary assumption tests are used when conducting analysis using the SEM. These include:

Table 1 Statistical methods used in data analysis

Evaluated features	Statistical methods
Determining the conformity of the data to the normal distribution	• Skewness coefficient • Kurtosis coefficient
Identifying descriptive features	• Percentage distribution • Frequency distribution
Determining the relationships between variables and creating a model	• Structural equation model (Maximum likelihood estimation)
Evaluation of model fit	• Fit indices - Adjusted Chi-square Statistics (X^2/Sd) - Fit Index (GFI) - Adjusted Fit Index (AGFI) - Comparative Fit Index (CFI) - Root Mean Square of Approximate Errors (RMSEA) - Increased Fit Index (IFI)
Model assumption analyses	• Multiple normal distribution - Skewness value - Kurtosis value, - Mahalanobis distance • Multi-linear connection - Pearson correlation analysis, - Tolerance value - Variance Inflation Factor (VIF)
Ensuring the validity of measurement tools	Confirmatory Factor Analysis (Fit indices) Average Variance Extracted (AVE)
Ensuring the reliability of measurement tools	Cronbach's alpha coefficient Compound confidence value (CR)

Table 2 Demographic characteristics of nurses'

Variables	(*n* = 490)	
	Number	%
Gender		
Male	166	33.9
Female	324	66.1
Education level		
Secondary education	16	3.3
Associate degree	30	6.1
Undergraduate	406	82.9
Postgraduate	38	7.7
Working time in the profession		
0–5 years	346	70.6
6–10 years	64	13.0
11–15 years	38	7.8
16 years and over	42	8.6
Marital status		
Married	149	30.4
Single	341	69.6
Evidence-based education		
Yes	143	29.2
No	347	70.8
Age 29.03 ± 4.36 (20–46)		

- A sufficient sample size,
- Variables with multiple normal distributions,
- No multicollinearity present between variables,
- No outliers being present.

In accordance with these assumptions, it was found that the study took place in more than 200 sampling classes [24], which is considered as the large sampling size for the SEM, with a sampling size of 490. Whether the variables had multiple normal distributions was determined by the kurtosis and skewness values. For the multiple normal distribution, the skewness value should be between − 2 and + 2, and the kurtosis value should be between − 10 and + 10 [24]. The skewness value was in the range of -0.746-0.083 and the kurtosis value was in the range of -0.094/0.171, so the variables had multiple normal distribution. For multicollinearity between the variables, many parameters are examined. Correlation, tolerance and variance inflation factor (VIF) are among the values frequently investigated with regard to nursing [26, 27]. Correlation value of 0.35 – 0.17 (< 0.70), tolerance value of 0.49–0.60 (> 0.10) and VIF value of 1.73–2.16 (< 10) were found in the current study for the dependent and independent variables. As a result of these ranges in values, no multicollinearity was determined between the dependent and independent variables. Mahalanobis distance and *p1/p2* values were investigated to determine the outliers, and no outliers were found.

Reliability analysis of scales

Before the SEM model is tested, the reliability of the variables is assessed. This was tested by finding the Cronbach's alpha coefficient (> 0.60) [28], and the scales' combined reliability (*CR* > 0.60) [29] values. The Cronbach's alpha coefficients of the instruments were determined to be in the range of 0.87–0.94.

Validity analysis of scales

ASEBN

The ASEBN was an independent variable and confirmatory factor analysis was used to test its construct validity. The fit indices were found to be $x^2/Sd = 3.532$, $RMSEA = 0.07$, $CFI = 0.91$, $AGFI = 0.89$, $IFI = 0.90$ and the scale's structure was thus confirmed [28]. It was determined that the standardized path coefficients of the scale were significantly distributed in the range of 0.44–0.76 in the confirmatory factor analysis,

CBS

The CBS was a dependent variable in the study. Confirmatory factor analysis was used to test its construct validity. According to the analysis, the fit indices were $x^2/Sd = 3.203$, $RMSEA = 0.06$, $CFI = 0.90$, $AGFI = 0.85$, $IFI = 0.90$ and the scale's structure was thus confirmed. It was stated that the standardized road coefficients of the scale were significant and in the range of 0.50–0.80.

SEM

An SEM was used to assess the relationship between the scales after providing the assumption analysis and determining that the measurement tools are valid and reliable.

In the established SEM model, it was predicted that the evidence-based attitudes of nurses affected their care behaviors. Basically, two hypotheses for this effect were examined:

$\mathbf{H_0}$: There is no significant relationship between nurses' evidence-based attitudes and care behaviors.

$\mathbf{H_1}$: There is a significant relationship between nurses' evidence-based attitudes and care behaviors.

The model developed in accordance with the hypotheses was found to be compatible and the model fit indices were within the desired limits as $x^2/Sd = 3.256$, $RMSEA = 0.06$, $CFI = 0.98$, $GFI = 0.97$, $AGFI = 0.94$, $IFI = 0.98$ [28] (Table 3).

There was a significant and positive relationship between the Evidence-based Attitudes Scale and the Care Behaviors Scale ($t = 9.025$, $p < 0.001$) in the model, and H_1 was accepted (Fig. 1; Table 4).

Table 3 Fit index values of the model

Fit index	Research model	Normal value	Acceptable value
χ^2 / sd	3.256	< 2	< 5
GFI	0.97	> 0.95	> 0.90
AGFI	0.94	> 0.95	> 0.90
IFI	0.98	> 0.95	> 0.90
CFI	0.98	> 0.95	> 0.90
RMSEA	0.06	< 0.05	< 0.08

Discussion

In this section, the results of the study are discussed with regard to the relevant literature.

The present study determined that the attitudes of nurses towards evidence-based nursing were above the moderate level. The results of some studies show similarity with our result [20, 30]. However, some others, unlike our results, stated that the attitudes of nurses towards EBPs were at a moderate level [14, 31, 32]. Durmuş et al. found that nurses' attitudes towards evidence-based nursing were slightly above the moderate level [18]. It is thought that the difference in the results is due to the fact that the studies were conducted in different regions and cultures. Although evidence-based attitudes are generally positive, there are challenges and barriers to reflecting on practice. The literature reports that there were difficulties in using EBPs in clinical settings [33]. At the individual level, lack of resources and time, lack of sufficient knowledge and skills are seen as the most common obstacles to EBP. Lack of management support, lack of appropriate values, and lack of an encouraging culture are among the institutional barriers [34]. Other barriers have also been reported, such as not knowing the required language, inability to access, interpret, and use research findings [10]. These barriers may lead to reduced implementation of evidence-based interventions, which may impact the quality of care provided.

Evidence-based nursing research plays a vital role in improving the quality of care [6]. The current study found out that there was a moderately positive and significant relationship between the attitude towards evidence-based nursing and the quality of care. Nurses engaging in evidence-based practice are better able to efficiently use the resources available, improve their patients' level of satisfaction, and decrease the number of unnecessary or ineffective or practices, which all lead to better, more cost-effective nursing care [35]. Nurses stated that EBP is very beneficial as it increases the quality of patient care, scientifically prove the practices and protect themselves legally [36]. In order to enable the best health outcomes and quality of care it is vitally necessary to improve nurses' skills so that they are competent in EBP [35]. In another study, it was noted that as the level of professional autonomy of nurses increased, their EBP skills improved and the quality of nursing services increased [37].

Caring constitutes a fundamental aspect of nursing practice and serves as a key indicator of quality care. The nursing profession primarily emphasizes caring behavior as its central focus [38]. In the current study, it was found that the care behaviors of nurses were above the middle level. A similar result was found in another study [39]. According to research conducted by Asadi et al. [40], nurses working in COVID-19 units exhibited moderate

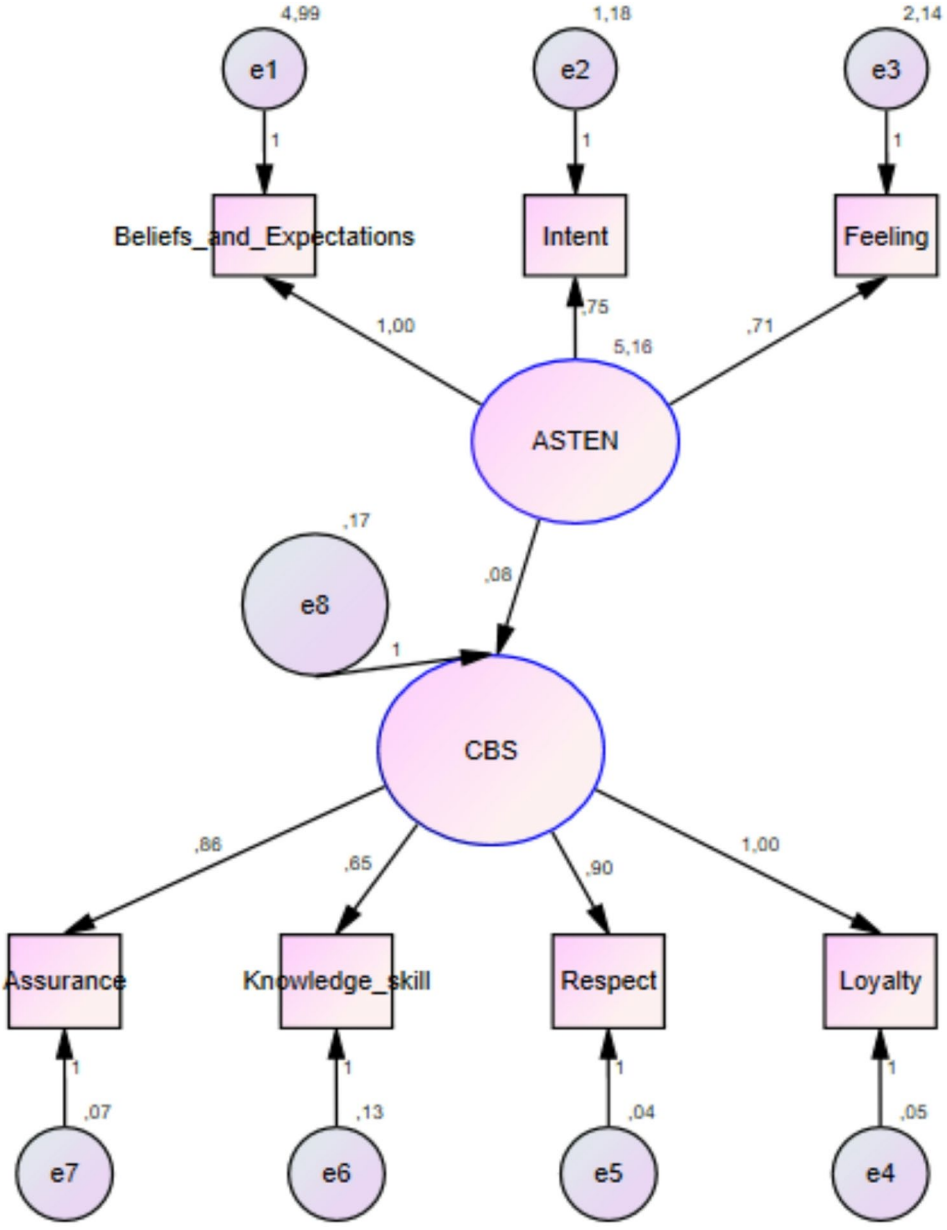

Fig. 1 SEM diagram showing the relationship between nurses' evidence-based attitudes and care behaviors

Table 4 The relationship between evidence-based attitudes and care behaviors of nurses'

Dependent variable	Independent variable	*B*	*SD*	*β*	*t*	*p**
CBS	(Constant)	3.935	0.166		23.76	0.001
	ASTEN	0.024	0.003	0.378	9.025	0.001
	R = 0.378 R^2 = 0.143 *Adjusted* R^2 = 0.141 F = 81.44 *p* = 0.001					

levels of anxiety, yet their caring behaviors remained at an optimal level. This finding suggests that despite facing challenging circumstances, nurses continued to provide above-average care to their patients. Based on these results, it is possible to assert that nurses perceive the quality of care given to patients in a positive manner.

The current study determined that the evidence-based attitudes of the nurses increased the quality of care ($t = 9.025$, $p < 0.001$). Similar results were found in some other studies. They reported that nurses' attitudes are one of the essential factors in whether the practices in clinics are evidence-based. They stated that nurses with positive

attitudes are significantly more likely to base their care on evidence in the clinical setting [4, 41]. Evidence-based nursing increases the quality of care and patient safety [42]. Nurses feel less stressed, more satisfied, stronger and more committed to the organization when they are confident in their skills and abilities in EBP [7]. Promoting EBP increases nurses' job satisfaction, improves patient care outcomes, and reduces healthcare costs [43]. Adoption of EBP in patient care and practices has shown that clinicians feel job satisfaction and feel powerful in their roles [44].

EBP has benefits such as improving care quality and outcomes, standardizing care, creating guidelines for health care, reducing health costs, increasing professionalism and job satisfaction on nurses. While using EBP, nurses should improve themselves and have sufficient organizational responsibility in order to meet the information demands of the patients [1, 45]. EBP is pivotal in terms of increasing the overall quality of patient care and ensuring greater confidence in nursing practice and decision-making [9].

Limitations of the study

There are some limitations in this research. The results included only nurses working in inpatient services. In addition, only data collected through the nurses' self-reports were used in the study, and these data were collected online. Notwithstanding the study's limitations, the investigation possesses several strengths. These strengths encompass its multi-province scope, substantial sample size, and high statistical power.

Conclusion

The current study determined that the attitudes of nurses towards evidence-based nursing and the care behaviors were above the middle level. In addition, it was determined that there was a moderately positive and significant relationship between the attitude towards evidence-based nursing and the quality of care. It was found out that the evidence-based attitudes of nurses increase the quality of care. Policies should be designed to help improve the quality of care for nurses. Additionally, creating a supportive work environment that encourages nurses to stay updated with the latest research findings and apply them in their practice could further improve the overall quality of patient care. Future research should focus on developing and evaluating strategies to enhance nurses' EBP skills and create supportive environments that facilitate the integration of evidence into practice. The implementation of regular training programs and workshops can facilitate the development and refinement of nurses' skills in critically appraising research evidence and applying it to their clinical decision-making processes. Furthermore, healthcare institutions may consider establishing dedicated Evidence-Based Practice (EBP) teams or committees to support nurses in their efforts to integrate evidence into practice and address potential barriers they may encounter.

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Author contributions
Study conception and design: Durmuş Mustafa, Çiftci Necmettin, Yıldız Metin, Yıldız Oktay Ferdi Data collection: Durmuş Mustafa, Çiftci Necmettin, Yıldız Oktay Ferdi Data analysis and interpretation: Çiftci Necmettin, Yıldız Metin Drafting of the article: Durmuş Mustafa, Çiftci Necmettin, Yıldız Metin, Yıldız Oktay Ferdi Critical revision of the article: Durmuş Mustafa, Çiftci Necmettin, Yıldız Metin, Yıldız Oktay Ferdi.

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Data availability
The datasets utilized and analyzed in the current study are available upon request from the corresponding authors.

Declarations

Ethics approval and consent to participate
Permission for the research was granted by the Scientific Research and Publication Ethics Committee of a state university (Date and Number: 01.07.2021–15967). The participants were informed online about the study's purpose and method, the amount of time allocated, the fact that no harmful effects would occur as a result of their participation, that this participation was absolute voluntary. Their informed consent was then obtained. The Declaration of Helsinki was followed during the study in order to protect the rights of the individuals participating.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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References

1. Karaahmetoğlu GU, Kutahyalioglu NS, Narayan MC. Factors associated with nurses' attitudes towards Evidence-Based practice in Turkey. Clin Experimental Health Sci. 2022;12(1):209–16. https://doi.org/10.33808/clinexphealthsci.877108.
2. Tlili MA, Aouicha W, Tarchoune S, Sahli J, Ben Dhiab M, Chelbi S, et al. Predictors of evidence-based practice competency among Tunisian nursing students. BMC Med Educ. 2022;22:1–9. https://doi.org/10.1186/s12909-022-03487-4.
3. Lunden A, Kvist T, Teräs M, Häggman-Laitila A. Readiness and leadership in evidence-based practice and knowledge management: A cross-sectional survey of nurses' perceptions. Nordic J Nurs Res. 2021;41(4):187–96. https://doi.org/10.1177/2057158520980687.
4. Daştan B, Hintistan S. Determination of the attitudes of nurses working in internal clinics for evidence based nursing: rural region example. Ordu Univ J Nurs Stud. 2018;1(1):1–9.
5. Saleh AM. Jordanian nurses' knowledge of Evidence-Based practice. Rawal Med J. 2023;48(1):224–7.
6. Anaman-Torgbor JA, Nyande FK, Amenuke M, Gyapong B, Dodunoo D, Tarkang E. Evidence-Based nursing practice in Ghana. SAGE Open Nurs. 2022;8:1–8. https://doi.org/10.1177/23779608221088252.
7. Wilson M, Sleutel M, Newcomb P, Behan D, Walsh J, Wells JN, et al. Empowering nurses with evidence-based practice environments: surveying Magnet®,

pathway to Excellence®, and non-magnet facilities in one healthcare system. Worldviews Evidence-Based Nurs. 2015;12(1):12–21. https://doi.org/10.1111/wvn.12077.
8. Chien L-Y. Evidence-based practice and nursing research. J Nurs Res. 2019;27(4):e29. https://doi.org/10.1097/jnr.0000000000000346.
9. Alatawi M, Aljuhani E, Alsufiany F, Aleid K, Rawah R, Aljanabi S, et al. Barriers of implementing evidence-based practice in nursing profession: A literature review. Am J Nurs Sci. 2020;9(1):35–42. https://doi.org/10.11648/j.ajns.20200901.16.
10. Bowles W, Buck J, Brinkman B, Hixon B, Guo J, Zehala A. Academic-clinical nursing partnership use an evidence-based practice model. J Clin Nurs. 2022;31:335–46. https://doi.org/10.1111/jocn.15710.
11. Alqahtani N, Oh KM, Kitsantas P, Rodan M. Nurses' evidence-based practice knowledge, attitudes and implementation: A cross-sectional study. J Clin Nurs. 2020;29(1–2):274–83. https://doi.org/10.1111/jocn.15097.
12. Lai J, Brettle A, Zhang Y, Zhou C, Li C, Fu J, et al. Barriers to implementing evidence-based nursing practice from the hospitals' point of view in China: A regional cross-sectional study. Nurse Educ Today. 2022;116(2022):105436. https://doi.org/10.1016/j.nedt.2022.105436.
13. Hsiao-Ying H, Yu-Wen W, Jui-Ying F, Chi-Jane W, Lin EC-L, Chang Y-J. Evidence-based practice curriculum development for undergraduate nursing students: the preliminary results of an action research study in Taiwan. J Nurs Res. 2019;27(4):1–11. https://doi.org/10.1097/jnr.0000000000000298.
14. Öztürk Z, Kaya M, Aksoy M. Investigation of Nurse's attitudes towards caregiving roles and evidencebased nursing. Ordu Univ J Nurs Stud. 2024;7(2):415–23. https://doi.org/10.38108/ouhcd.1192747.
15. Cohen J. Statistical power analysis for the behavioral sciences (3.Baskı). New Jersey: Lawrence Erlbaum Associates. 1988.
16. Vandenbrouckel JP, von Elm E, Altman DG, Gotzsche PC, Mulrow CD, Pocock SJ, et al. Strengthening the reporting of observational studies in epidemiology (STROBE): explanation and elaboration. PLoS Med. 2007;4(10):1628–55.
17. Doğan ES, Cin A, Demirağ H, Uçan MF. İnvestigatlon of nurses' attitudes toward evidence-based nursing practices. Int Anatol J Social Sci. 2021;5(2):612–22. https://doi.org/10.47525/ulasbid.879094.
18. Durmuş M, Gerçek A, Çiftci N. Influence of problem solving skills of health workers on evidence-based perceptions of attitude. J Acad Social Sci. 2017;52(52):648–61. https://doi.org/10.16992/ASOS.12679.
19. Ruzafa-Martínez M, López-Iborra L, Madrigal-Torres M. Attitude towards Evidence-Based nursing questionnaire: development and psychometric testing in Spanish community nurses. J Eval Clin Pract. 2011;17(4):664–70. https://doi.org/10.1111/j.1365-2753.2011.01677.x.
20. Ayhan Y, Kocaman G, Bektaş M. The validity and reliability of attitude towards evidencebased nursing questionnaire for Turkish. J Res Dev Nurs. 2015;17(2–3):21–35.
21. Wolf ZR, Giardino ER, Osborne PA, Ambrose MS. Dimensions of nurse caring. Image: J Nurs Scholarsh. 1994;26(2):107–12. https://doi.org/10.1111/j.1547-5069.1994.tb00927.x.
22. Wu Y, Larrabee JH, Putman HP. Caring behaviors inventory: A reduction of the 42-item instrument. Nurs Res. 2006;55(1):18–25.
23. Kurşun Ş, Kanan N. Validity and reliability study of the Turkish version of caring behaviors Inventory-24. Anatol J Nurs Health Sci. 2012;15(4):229–35.
24. Collier JE. Applied structural equation modeling using AMOS: basic to advanced techniques. 1st ed. Routledge; 2020.
25. Gürbüz S. Structural Equation Modeling with AMOS, 1st Ed., Seçkin Publishing, 33–44. 2019.
26. Lee JY, Lee MH. Structural Model of Retention Intention of Nurses in Small- and Medium-Sized Hospitals: Based on Herzberg's Motivation-Hygiene Theory. Healthcare 2022;10(3):502. https://doi.org/10.3390/healthcare10030502.
27. Yoon S, Kim HY, Kim SR. A prediction model of health-related quality of life in young adult patients with stroke. J Clin Nurs. 2021;30(13–14):2023–35. https://doi.org/10.1111/jocn.15755.
28. Karagöz Y. SPSS-AMOS-META applied statistical analysis. Ankara: Nobel Publishing; 2019.
29. Lt H, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives, structural equation modeling. Multidisciplinary J. 1999;6(1):1–55. https://doi.org/10.1080/10705519909540118.
30. Dikmen Y, Filiz NY, Tanrıkulu F, Yılmaz D, Kuzgun H. Attitudes of intensive care nurses towards evidence-based nursing. Int J Health Sci Res. 2018;8(1):138–43.
31. Alkhatib AH, Ibrahim EA, Ameenuddin M, Ibrahim IA. Nurses' knowledge, perception, and attitude towards evidence-based practice at King Abdullah medical City Saudi Arabia. Am J Nurs Res. 2021;9(1):1–7. https://doi.org/10.12691/ajnr-9-1-1.
32. Bağrıyanık BÇ, Yıldız D, Fidancı BE, Pekyiğit A, Bağrıyanık T, Asarkaya M. Determining the attitudes of nurses working in a children's hospital towards evidence-based practices. J Adnan Menderes Univ Health Sci Fac. 2022;6(2):202–15. https://doi.org/10.46237/amusbfd.894471.
33. Teixeira AC, Nogueira A, Barbieri-Figueiredo MC. Professional empowerment and evidence-based nursing: A mixed-method systematic review. J Clin Nurs 2022:1–12. https://doi.org/10.1111/jocn.16507
34. Berthelsen C, Hølge-Hazelton B. The importance of context and organization culture in the Understanding of nurses' barriers against research utilization: A systematic review. Worldviews Evidence-Based Nurs. 2021;18(2):111–7. https://doi.org/10.1111/wvn.12488.
35. Melnyk BM, Gallagher-Ford L, Zellefrow C, Tucker S, Van Dromme L, Thomas BK. Outcomes from the first Helene fuld health trust National Institute for evidence-based practice in nursing and healthcare invitational expert forum. Worldviews Evidence-Based Nurs. 2018;15(1):5–15. https://doi.org/10.1111/wvn.12272.
36. Arslan S, Şener D, Küçük Ö. The Opınıon of nurses Workıng In Pedıartıc Clınıcs about evıdence-based practıce. Yıldırım Beyazıt Univ J Nurs. 2015;3(1):1–9.
37. Mousavizadeh SN, Mohtashami J. Correlation between professional autonomy and evidence-based practice in nurses. Med Sci. 2018;22(94):514–7.
38. Ferede AJ, Gezie LD, Geda B, Salih MH, Erlandsson K, Wettergren L. Nurses' perceptions of caring behaviors at referral hospitals in Ethiopia: A mixed-methods approach. BMC Nurs. 2024;23(1):767. https://doi.org/10.1186/s12912-024-02431-9.
39. Şenay G, Leyla D. Investigation of nurses' and patients' perceptions regarding nursing care. J Hacettepe Univ Fac Nurs. 2018;5(3):192–208. https://doi.org/10.31125/hunhemsire.500787.
40. Asadi N, Salmani F, Pourkhajooyi S, Mahdavifar M, Royani Z, Salmani M. Investigating the relationship between Corona anxiety and nursing care behaviors working in Corona's referral hospitals. Iran J Psychiatry Clin Psychol. 2020;26(3):306–19. https://doi.org/10.32598/ijpcp.26.3476.1.
41. Hart P, Eaton L, Buckner M, Morrow BN, Barrett DT, Fraser DD, et al. Effectiveness of a computer-based educational program on nurses' knowledge, attitude, and skill level related to evidence-based practice. Worldviews Evidence-Based Nurs. 2008;5(2):75–84. https://doi.org/10.1111/j.1741-6787.2008.00123.x.
42. Vaajoki A, Kvist T, Kulmala M, Tervo-Heikkinen T. Systematic education has a positive impact on nurses' evidence-based practice: intervention study results. Nurse Educ Today. 2023;120:105597. https://doi.org/10.1016/j.nedt.2022.105597.
43. Tucker S, McNett M, Mazurek Melnyk B, Hanrahan K, Hunter SC, Kim B, et al. Implementation science: application of evidence-based practice models to improve healthcare quality. Worldviews Evidence-Based Nurs. 2021;18(2):76–84. https://doi.org/10.1111/wvn.12495.
44. Stillwell SB, Fineout-Overholt E, Melnyk BM, Williamson KM. Evidence-based practice, step by step: searching for the evidence. AJN Am J Nurs. 2010;110(5):41–7. https://doi.org/10.1097/01.NAJ.0000372071.24134.7e.
45. Schaefer JD, Welton JM. Evidence based practice readiness: A concept analysis. J Nurs Adm Manag. 2018;26(6):621–9. https://doi.org/10.1111/jonm.12599.

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