

Evaluation of Studies Published on “Nurses Attitudes Towards Patient Safety” in Türkiye: A Bibliographic Review

Türkiye’de “Hemşirelerin Hasta Güvenliği Tutumları” Konusunda Yayımlanan Çalışmaların Değerlendirilmesi: Bibliyografik Bir İnceleme

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ABSTRACT Objective: This research aims to conduct a bibliographic analysis of national and international literature encompassing publications on nurses’ attitudes towards patient safety. The goal is to identify similarities and divergences reported in the research outcomes. **Material and Methods:** This bibliographic review, conducted between December 2023 and January 2024, employed 9 databases, including “Google Scholar, Dergi Park Academic, Ulakbim-EKUAL, TR Dizin, EBSCO-Host, Medline-Pubmed, Sucopus, Sobiad, and Web of Science” as national and international literature search engines. Utilizing key terms such as “nurse”, “patient safety”, and “attitude towards patient safety”, a total of 365 studies conducted within the Turkish sample were identified without imposing a date restriction. Subsequently, 15 studies meeting the research criteria were selected for detailed examination. **Results:** The analysis revealed that the majority of studies were conducted between 2022 and 2023 (n=9), primarily adopting a descriptive and cross-sectional design (n=13), and predominantly published in the Marmara region (n=5) and within hospitals under the Ministry of Health (n=29). A total of 3,393 healthcare professionals were included in the analysis. It was found that patient safety attitudes were mainly dealt with in descriptive studies and in general, nurses’ patient safety attitudes are at a moderate level and personal and professional characteristics are related to patient safety attitudes. Furthermore, personal and professional characteristics were found to be associated with attitudes towards patient safety. **Conclusion:** The outcomes derived from the research underscore the necessity of generating knowledge based on scientific evidence related to patient safety and enhancing nurses’ attitudes toward patient safety.

Keywords: Bibliographic review; patient safety; attitude towards patient safety; nurse

ÖZET Amaç: Bu çalışmada, hemşirelerin hasta güvenliğine ilişkin tutumlarını kapsayan ulusal ve uluslararası yazındaki yayımların bibliyografik açıdan incelenmesi ve araştırma sonuçlarında raporlanan benzerlik ve ayrışmaların belirlenmesi amaçlanmaktadır. **Gereç ve Yöntemler:** Bibliyografik inceleme türündeki bu çalışma, Aralık 2023-Ocak 2024 tarihleri arasında ulusal ve uluslararası literatür arama motoru olarak “Google Akademik, Dergi Park Akademik, Ulakbim-EKUAL, TR Dizin, EBSCO-Host, Medline-Pubmed, Sucopus, Sobiad ve Web of Science” olmak üzere 9 veri tabanı kullanılarak yapılmıştır. Bu kapsamda “hemşire”, “hasta güvenliği” ve “hasta güvenliği tutumu” anahtar kelimeleri kullanılarak, Türk örnekleminde gerçekleştirilen ve tarih sınırlandırılması yapılmadan yayımlanan toplam 365 çalışmaya ulaşıldı. Araştırma kriterleri doğrultusunda 15 çalışma incelemeye alındı. **Bulgular:** Analiz sonucunda en fazla çalışmanın 2022-2023 yılları arasında (n=9) ve çoğunun tanımlayıcı ve kesitsel tasarımı (n=13) yayımlandığı ve Marmara bölgesinde (n=5), Sağlık Bakanlığı hastanelerinde (n=29) gerçekleştirildiği bulundu. Toplamda 3.393 sağlık çalışanı analiz edildi. Araştırmalarda ağırlık olarak hasta güvenliği tutumlarının tanımlayıcı türde ele alındığı ve genel olarak hemşirelerin hasta güvenliği tutumlarının orta düzeyde olduğu, kişisel ve mesleki özelliklerinin hasta güvenliği tutumları ile ilişkili olduğu bulunmuştur. **Sonuç:** Araştırmadan elde edilen sonuçlar, hasta güvenliği ile ilgili bilimsel kanıtlara dayalı bilgi üretmenin ve hemşirelerin hasta güvenliğine yönelik tutumlarının geliştirmesi gerekliliğini ortaya koymuştur.

Anahtar Kelimeler: Bibliyografik inceleme; hasta güvenliği; hasta güvenliği tutumu; hemşire

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The continually evolving technology in healthcare services, coupled with the intricate healthcare environment, poses threats to patient safety, constituting risks for both patients and healthcare practitioners.^{1,2} Prioritizing patient safety in the delivery of healthcare services aligns with the fundamental principles of medicine, particularly the principle of “do no harm”. In this context, the paramount concern for healthcare institutions should be the prevention of medical errors and the assurance of patient safety.³

The World Health Organization (WHO) has defined patient safety in the “2021-2030 Global Patient Safety Action Plan” as the framework encompassing organized activities that continuously and sustainably reduce risks in healthcare services, decrease preventable harm, make errors less likely, and mitigate their impact through cultures, processes, procedures, behaviours, technologies, and environments. Simultaneously, it emphasizes that patient safety is a fundamental element in delivering quality healthcare services.⁴ Accordingly, patient safety is acknowledged as one of the most critical indicators of quality in healthcare services.² The WHO underscores the need for a national effort in compliance with international regulations to protect against preventable harm in healthcare services, emphasizing the requirement for ensuring the safe treatment and care of the community.⁵ In line with this, our Ministry of Health has established Health Quality Standards (HQS) hospital. These standards are developed with the aim of setting achievement targets to meet the standards, taking into account WHO goals and objectives, international developments, country needs, and priorities, and subsequently ensuring an optimum level of quality for all hospitals providing healthcare services in Türkiye, particularly public, private, and university-affiliated hospitals. HQS defines the concept of patient safety as taking measures and improvement activities to keep all stakeholders in the service from being harmed by foreseeable dangers at an acceptable level of risk.⁶

The International Council of Nurses has emphasized the necessity of enhancing patient safety by recruiting, continuously developing, and retaining professional healthcare personnel. This involves addressing issues such as infection control, ensuring the

safe use of medications, improving performance, implementing a healthy practice and care environment, taking comprehensive measures in environmental safety and risk management, ensuring device safety, and integrating the infrastructure that allows for the development of scientific knowledge related to patient safety as a whole.⁷

The development of an effective patient safety culture in healthcare institutions is of paramount importance in reducing or eliminating adverse events that may occur in healthcare services, which inherently carry high levels of risk.³ Improving patient safety necessitates the cultivation of organizational culture with a robust structure that prioritizes and enables safety.^{8,9} The WHO has stated that enhancing the safety culture forms the foundation for any initiative aimed at improving patient safety and sustaining such initiatives.⁵ The patient safety culture involves the significance attributed to safety within the institution, the expected behaviour of healthcare professionals regarding patient safety, and encompasses their attitudes, beliefs, values, and guidelines.⁸ Given these circumstances, the initial phase of initiatives aimed at establishing a culture of patient safety in healthcare institutions should involve measuring and evaluating the attitudes of employees towards patient safety.^{3,10}

Nurses, who play a crucial role in the delivery of safe and high-quality healthcare services, assume a fundamental responsibility for the development of patient safety and safety culture. This is attributed not only to their numerical majority but also to their proximity to patients, active involvement in various domains, critical thinking in the face of complex situations, problem-solving capabilities, and effective communication within the healthcare team to ensure coordination.^{3,11-13} Consequently, nurses play a key role in establishing a culture of patient safety.¹⁴ In this particular setting, the assessment of nurses’ perspectives on patient safety, taking into account the factors that impact these perspectives, can play a role in mitigating adverse events within clinical environments.¹⁵ Therefore, it is anticipated that the findings from this study will inform health managers and other stakeholders, assisting them in reviewing and augmenting policies that influence nurses’ attitudes and provid-

ing insights into safety attitudes of nurses. Analyzing research findings on nurses' attitudes towards patient safety will help identify priorities for future studies and contribute foundational insights. Additionally, providing information about factors influencing nurses' attitudes will enrich the knowledge base in this domain.

MATERIAL AND METHODS

RESEARCH TYPE AND PURPOSE

This study adopts a bibliographic review approach. The objective of the research is to unveil similarities and differences reported in research outcomes regarding nurses' attitudes towards patient safety in national and international literature. This is achieved through the implementation of bibliographic analysis and descriptive content analysis methods.

Research Questions

The following questions were addressed in this research.

Studies on Nurses' Patient Safety:

1. What are the bibliographic characteristics of published studies on nurses' attitudes towards patient safety?
2. How do nurses in Türkiye perceive patient safety?
3. What are the reported results and key findings in the studies?

DATA RETRIEVAL PROCESS OF THE RESEARCH

The data collection for this study involved a retrospective review of relevant publications conducted between December 2023 and January 2024. Research data were gathered through internet access networks, utilizing 9 national and international databases, namely "Google Scholar, Dergi Park Academic, Ulakbim-EKUAL, TR Dizin, EBSCO-Host, Medline-Pubmed, Sucopus, Sobiad, and Web of Science". Articles were identified by employing keywords in Turkish such as "hemşire" (nurse), "hasta güvenliği" (patient safety), and "hasta güvenliği tutumu" (patient safety attitude), as well as their English counterparts "nurse", "patient safety", and "patient safety attitude", resulting in a total of 365 articles. In this study,

the research criteria were defined as the publication language being Turkish or English, exclusively using the "Patient Safety Attitude Scale" developed by Sexton et al. and adapted to Turkish by Baykal et al. and accessibility to the full text. There were no limitations imposed on the publication year.^{16,17} The screening process and reporting of findings adhered to the PRISMA checklist guidelines.¹⁸ The articles obtained through the searches were evaluated by the researchers based on predetermined inclusion and exclusion criteria (Table 1). Fifteen articles meeting the inclusion criteria were examined in the research.

In the initial phase, a systematic literature review on patient safety yielded a total of 365 publications from nine different databases, with 40 duplicates excluded. Following the application of acceptance criteria, 67 studies remained. The remaining articles were scrutinized based on their titles and abstracts, resulting in 15 articles deemed suitable for further examination. These selected articles were then thoroughly read in full text, considering research quality assessment criteria. For evaluating the data, 12 of the research quality assessment criteria recommended by Polit and Beck were utilized.¹⁹ These criteria are employed for a comprehensive evaluation of the study, covering fundamental concepts, objectives, research questions, sample characteristics, appropriateness of measurement tools, validity and reliability, findings, alignment of discussion with the results, reporting of conclusions and limitations.¹⁹ Each study was evaluated against these criteria, with a score of 1 assigned for meeting the criterion and 0 for non-compliance. A high score in research quality assessment indicates the methodological rigor of the study.¹⁹ In this study, the criterion for inclusion required each examined research to meet at least 9 points in the assessment (Table 1). The average scores for each criterion in the quality assessment for each study are presented in Table 3. Figure 1 illustrates the PRISMA flow diagram outlining the processes involved in this review.

EXAMINED VARIABLES AND ANALYTICAL METHODS

In the bibliographic examination of articles, the total number of authors, publication year, location of the research, type of institution where the study was conducted, sample type and size, research design, and

TABLE 1: Inclusion and exclusion criteria for the research

Criteria for inclusion	Criteria for exclusion
Study conducted in Türkiye	Study conducted abroad
Written in Turkish or English	Study written in a language other than Turkish and English.
Being conducted on nurses	Other healthcare professionals and nursing students.
Being a quantitative study of descriptive and correlational nature	Being conducted in the form of a review or a methodological study.
Being a research article with accessible full text.	Congress proceedings, thesis, reports, lecture notes, etc.
Quality score of ≥ 9	Quality score of ≤ 8

TABLE 2: Examination of the bibliographic characteristics of the studies

Variables		n	%
Publication type (n=15)	National	7	46.67
	International	8	53.33
Language of publication (n=15)	Turkish	9	64.29
	English	6	35.71
Publication year (n=15)	2015	1	6.67
	2018	1	6.67
	2019	1	6.67
	2020	2	13.33
	2021	1	6.66
	2022	4	26.67
Research type (n=15)	2023	5	33.33
	Descriptive	13	86.67
Number of authors (n=15)	Descriptive and correlational	2	13.33
	2 authors and below	7	46.67
	3 authors	5	33.33
Diversity of institutions in the sample (n=15)	4 authors and above	3	20.00
	Single-center study	8	53.33
	Multi-center study	7	46.67
Number of institutions in the sample (n=42)	University hospital	11	26.19
	State hospital	9	21.43
	Training and Research Hospital	20	47.62
	Private hospital	2	4.76
Location of the research	Mediterranean Region	1	6.67
	Aegean Region	2	13.33
	Central Anatolia Region	2	13.33
	Black Sea Region	4	26.67
	Marmara Region	5	33.33
	Nationwide in Türkiye	1	7.15
Sample size (Total=3,393) (Minimum n=100 maximum n=362)	100-199	5	33.33
	200-299	8	53.33
	300 \leq	2	13.33

measurement tool used were analysed for their distributions. The process of categorizing the results in-

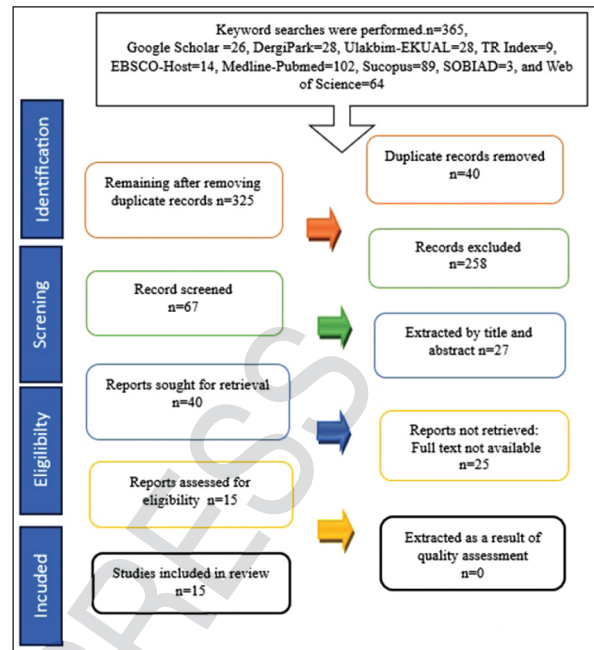


FIGURE 1: PRISMA flow diagram of the study

involved content analysis conducted through a thorough examination of the full texts of the articles. The qualitative results addressing the research questions in this study were evaluated. Descriptive content analysis was employed for the evaluative dimension of the research results, utilizing the PRISMA/2020 Checklist. Quantitative data were analysed using the SPSS 22.00 software package, involving frequency and percentage calculations.

ETHICAL ASPECT OF THE RESEARCH

As the studies examined in this research were obtained from openly accessible databases, obtaining ethical approval was not deemed necessary.

LIMITATIONS OF THE RESEARCH

Despite using keywords that best define fundamental concepts and widely used databases, there is a limitation in that some studies may have been overlooked. The exclusion of articles that did not meet the research inclusion criteria was identified as a limitation.

RESULTS

The research findings are presented under 2 separate headings, encompassing the examination of the bib-

liographic characteristics of the studies and the evaluation of the reported results and key findings in the research (Table 2).

Fifteen articles meeting the inclusion criteria of the study were examined. Among the examined publications, it was noted that 53.33% were issued in international peer-reviewed journals from 2015 to 2023, and 60% of these were released within the last 2 years. Furthermore, 85.71% of the studies were descriptive, and 14.79% were correlational quantitative research. The sample sizes varied between 100 and 362, encompassing a total of 3393 nurses. Notably, 42.86% of the articles had one or 2 authors. Regarding the institutions where the research was conducted, it was predominantly single-centre studies (53.33%) conducted in education and research hospitals (47.62%). Additionally, universities (26.19%), state hospitals (21.43%), and private hospitals (4.76%) were also identified. When examining the regions where the research was conducted, it was found that studies were generally carried out in 5 regions, with the Marmara region accounting for 33.33% of the research (Table 2).

EVALUATION OF REPORTED RESULTS AND KEY FINDINGS IN THE RESEARCH

The results of studies conducted using the “Patient Safety Attitude Scale” are presented in Table 3. Among the studies assessed in the research, it was determined that 78.57% demonstrated a moderate level, while 14.28% exhibited a good level of patient safety attitudes (Table 3).^{3,20-32}

In the examined studies, diverse results emerge when evaluating the sub-dimensions of the Patient Safety Attitude Scale. Nurses received the highest scores in the sub-dimensions of “management perception”, “teamwork”, “working conditions”, and “job satisfaction”. Conversely, the lowest scores were observed in the sub-dimension of “safety climate”, “job satisfaction”, and “stress recognition”.^{3,24,27,28,31,33}

In the examined articles, it was observed that the patient safety attitudes of nurses participating in the studies differed based on sociodemographic characteristics such as age marital status, gender, educational level.^{3,20,22,26-28,30,33} Additionally, findings indicated variations in patient safety attitudes based

on work-related features such as the year of the study, the unit worked, position held, shift worked, weekly working hours, voluntary work in the clinic, experience in caring for coronavirus disease-2019 patients, adherence to hand hygiene and glove use participation in quality improvement activities in the institution.^{3,24,31,22,26-31,33} Furthermore, a positive relationship was found between receiving education related to patient safety and patient safety attitudes.^{3,24,32}

Studies analysing the association between the patient safety attitudes of nurses and factors such as professional values, a positive perception of workload, and attitude towards medical errors, consistently found a positive correlation between patient safety attitudes and these variables.^{24,27,31} Moreover, a negative and modest correlation was noted between workload and the intention to remain in the job.²⁵

DISCUSSION

The most crucial indicator of providing quality and safe healthcare services in the healthcare sector is patient safety.³⁴ This study was conducted to examine 15 research articles on the patient safety attitudes of nurses working in Türkiye.

One notable point to emphasize based on the obtained data is that the majority of the studies were conducted in the Marmara region, particularly in training and research hospitals affiliated with the Ministry of Health. Considering that private sector hospitals constitute 36.91% of all hospitals in Türkiye, and given the significant presence of the Marmara Region, it raises the consideration that studies on patient safety have not been conducted proportionally in private sector hospitals.³⁵ Furthermore, upon evaluating the study findings, it is evident that there has been insufficient research on nurses’ attitudes towards patient safety, but there has been an increase in the number of publications in this area in the last 2 years. Despite numerous errors and harm in the healthcare sector, the inadequate visibility of nurses’ attitudes towards patient safety and influencing factors suggests an intriguing and worthy subject for contemplation and discussion.

The generally moderate level of nurses’ attitudes towards patient safety indicates a need for improve-

TABLE 3: Key characteristics and quality scores of accepted studies in the research

Serial number	Authors publication year quality score	Institution and city/region where the research was conducted	Research type and sample size (n)	Data collection instruments	Key findings and recommendations
1	Yılmaz Güven&Özalp, 2022 Quality score: 11	A training and research hospital and a state hospital, Western Black Sea	Descriptive n=197	Sociodemographic Characteristics Form, Medical Error Attitude Scale, And Patient Safety Attitude Scale.	<ul style="list-style-type: none"> Nurses demonstrate a moderate level of patient safety attitudes. Nurses working in surgical clinics exhibit a weak positive correlation between their attitudes towards medical errors and patient safety attitudes. The weekly working hours are found to influence job satisfaction, safety climate, and managerial approaches, affecting the attitudes of nurses in surgical clinics towards medical errors and patient safety. Nurses working in intensive care units experience more medical errors compared to other clinics, with emphasis placed on team collaboration, safety climate, and working conditions as influential factors in medical error occurrences. <p>Recommendations:</p> <ul style="list-style-type: none"> Providing in-service training related to medical errors in hospitals to support the staff. Organizing orientation training for newly hired nurses. Conducting postgraduate update training on patient safety and medical errors. Emphasizing the necessity for all staff to take responsibility for patient safety. Suggesting continuous and regular work with larger groups on patient safety and medical errors.
2	Özer, Şantaş, Gün&Şentürk, 2019 Quality score: 9	A state hospital in Burdur, located in the Aegean Region.	Descriptive n=163	Descriptive Characteristics Form, Patient Safety Attitude Scale.	<ul style="list-style-type: none"> Nurses demonstrate a moderate level of patient safety attitudes. Among the sub-dimensions of the Patient Safety Attitude Scale, nurses score highest in managerial approaches and safety climate, while the lowest scores are observed in the sub-dimension of stress recognition. Nurses aged 25 and below exhibit significant differences in job satisfaction and stress recognition sub-dimensions. Gender differences are observed in job satisfaction, teamwork, safety climate, and managerial approaches, with these dimensions being significant in females compared to males. Healthcare sector employees with a total of 5 years or more of experience perceive higher teamwork compared to those with 4 years or less of experience. Individuals with a total work experience of 3 years or more in the current unit show a positive perception of managerial approaches compared to those with 1 year or less of experience. <p>Recommendations:</p> <p>No recommendations have been provided.</p>
3	İşeri&Şantaş, 2023 Quality score: 12	Internal and surgical clinics of a liver transplant institute and a medical faculty hospital in the Black Sea Region	Descriptive n=268	Nurse Introduction Form, Professional Values in Nursing Scale, and Patient Safety Attitude Scale	<p>The results of the study demonstrated that the Professional Values and Patient Safety Attitude scores of the nurses were above the average.</p> <p>It demonstrated that professional values positively affected the patient safety attitude.</p> <p>It was found that the increase in nurses' age, working years and education levels positively affected professional values and patient safety attitude and were significant predictors.</p> <p>Recommendation:</p> <p>It is recommended that professional values and patient safety issues should be integrated and reviewed in nursing curricula at all educational levels.</p> <p>It is recommended to be supported by continuing education and postgraduate studies for nurses.</p>
4	Karahan, Çelik&Şugeçti, 2021 Quality score: 12	A health training and research center along with a state hospital in the Black Sea Region.	Descriptive n=240	Introduction Characteristics Form, Individual Workload Perception Scale, and Patient Safety Attitude Scale.	<ul style="list-style-type: none"> Nurses exhibit a positive attitude towards patient safety. The lowest score among the sub-dimensions of the Patient Safety Attitude Scale is in stress recognition, while the highest score is in teamwork. Positive perceptions of workload significantly influence nurses' attitudes towards patient safety. Female nurses have a significantly high average score in the managerial approaches sub-dimension, while married nurses have significantly high scores in working conditions, and unmarried nurses have significantly high scores in stress recognition. Nurses working in intensive care units have a significantly high average score in the stress recognition sub-dimension. Nurses who willingly work in the clinic show significantly high average scores in teamwork, managerial approaches, working conditions sub-dimensions, and overall scale scores. <p>Recommendations:</p> <ul style="list-style-type: none"> Identifying whether nurses work willingly in their units and creating positive work environments accordingly. Regularly planning courses and training programs for patient safety. Supporting nurses in reporting patient safety errors. Establishing a corporate culture of patient safety. Increasing the number of nurses, appointing medical secretaries to reduce invisible workloads, or developing information system software programs are recommended.

TABLE 3: Key characteristics and quality scores of accepted studies in the research (continued).

Serial number	Authors publication year quality score	Institution and city/region where the research was conducted	Research type and sample size (n)	Data collection instruments	Key findings and recommendations
5	Efil, Engin&Türen, 2023 Quality score: 10	A training and research hospital/region and province not specified.	Descriptive n=362	Nurse Introduction Form, Isolation Precaution Compliance Scale, and Patient Safety Attitude Scale.	<ul style="list-style-type: none"> Nurses demonstrate a positive attitude towards patient safety. There is no significant relationship between nurses' compliance with isolation precautions and their attitudes towards patient safety. The average score of nurses' attitudes towards patient safety varies based on age and the situation of caring for a coronavirus disease-2019 (COVID-19) patient. Among employees, there is a very weak positive relationship between patient safety, teamwork climate, and safety climate, and a very weak positive relationship between hand washing-glove usage and teamwork climate. <p>Recommendations:</p> <ul style="list-style-type: none"> Evaluate the effectiveness of training provided to reduce infection rates in healthcare settings. Review compliance with isolation precautions. A computer alert system is recommended to improve the implementation of isolation precautions in healthcare institutions.
6	Uzelli, Yılmaz, Duzgün&Yılmaz, 2022 Quality score: 9	A hospital in the Marmara Region.	Descriptive and cross-sectional n=100	Nurses' Identification Form The Safety Attitudes Questionnaire	<ul style="list-style-type: none"> Nurses exhibit a moderate level of patient safety attitudes and a generally positive attitude. Independent variables, except for marital status and employment position, do not significantly influence nurses' attitudes. Nurses working in surgical units demonstrate a positive attitude towards patient safety. <p>Recommendations:</p> <ul style="list-style-type: none"> Future studies should be conducted with a broader sample. Nursing leaders should strive to maintain nurses' work motivation and improve working conditions to ensure patient safety. Nursing and health managers are advised to consider the education and training of nurses for the maintenance of patient safety and the enhancement of the quality of nursing interventions.
7	Aykaç&Yeşilyurt, 2023 Quality score: 11	2 private hospitals in the Central Anatolia Region, Ankara.	Descriptive and cross-sectional n=281	Introduction Characteristics Form and Patient Safety Attitude Scale.	<ul style="list-style-type: none"> The total score averages of nurses on the Patient Safety Attitude Scale (PSAS) are below the moderate level. Among the sub-dimensions of the scale, the highest score is in the working conditions sub-dimension, while the lowest score is in the safety climate sub-dimension. There is no significant difference in the total scores of PSAS based on marital status, educational status, and managerial duties of nurses. Nurses who received patient safety training, had professional experience, worked 55-69 hours per week, and worked continuously at night demonstrated significantly higher levels of patient safety attitudes. <p>Recommendations:</p> <ul style="list-style-type: none"> Periodically measuring and assessing employees' attitudes towards patient safety, and planning necessary corrective actions and activities based on the assessment results. Developing rules and guidelines to establish a patient safety culture and ensuring the effective use of existing ones. Conducting in-service training programs on patient safety in the institution and ensuring nurses' participation in these trainings. Ensuring active participation of nurses in quality improvement initiatives. It is recommended to conduct the study with larger sample groups that include different types of hospitals and units.
8	Erkuş Küçükkeleşpe, Altınbaş&Karaca, 2022 Quality score: 12	Public hospital, university hospital, training and research hospital Nationwide in Türkiye (online)	Descriptive and correlational study n=323	Individual Workload Perception Scale and Patient Safety Attitude Survey.	<ul style="list-style-type: none"> Nurses' perceptions of individual workload are at a moderate level, and their attitudes towards patient safety are positive and above the moderate level. There is a positive and moderate relationship between nurses' individual workload perception scale and the patient safety attitude survey in various dimensions. The individual workload perception scale shows a negative and weak relationship between the workload and intention to stay sub-dimensions and the stress recognition sub-dimension of the patient safety attitude survey. Nurses' attitudes towards the working environment are not negative, and their satisfaction is at a moderate level. <p>Recommendations:</p> <ul style="list-style-type: none"> It is recommended to conduct further research using quantitative and qualitative research methods to explore the perceptions of nurses regarding workload in the work environment, factors affecting intentions to stay, and stress factors influencing their performance.

TABLE 3: Key characteristics and quality scores of accepted studies in the research (continued).

Serial number	Authors publication year quality score	Institution and city/region where the research was conducted	Research type and sample size (n)	Data collection instruments	Key findings and recommendations
9	Aydemir&Koc, 2023 Quality score: 12	Public and university hospitals (general hospitals), 19 hospitals, Samsun/Black Sea Region.	Descriptive, cross-sectional, and exploratory. n=282	Patient Safety Attitude Scale (PSAS) and Patient Safety Culture Scale.	<ul style="list-style-type: none"> Emergency nurses demonstrate a moderate level of attitudes towards patient safety. Differences are observed in the attitudes and cultures of nurses towards patient safety based on sociodemographic and occupational characteristics. <p>Recommendations:</p> <ul style="list-style-type: none"> Encourage nurses to report patient safety risk factors and medical errors. Establish a non-punitive institutional environment, particularly for emergency units, where nurses can freely report medical errors with the help of procedures and protocols aimed at reducing medical errors. Implement continuous monitoring and evaluation in the healthcare system to increase awareness of patient safety and encourage open communication between institutional leaders and employees.
10	Ünver, Yeniğün&Cansu, 2020 Quality score: 10	A training and research hospital in Uşak, located in the Aegean Region.	Descriptive and cross-sectional. n=207	Study data include a demographic characteristics form and the Patient Safety Attitude Survey.	<ul style="list-style-type: none"> Nurses working in surgical units exhibit a positive attitude towards patient safety. It is found that the previous training of nurses working in surgical units significantly improves their attitudes towards patient safety. <p>Recommendations:</p> <ul style="list-style-type: none"> Implementation of effective in-service training programs on patient safety in hospitals. Encouraging nurses to participate in training programs such as courses and conferences that enhance attitude development.
11	Çilhoroz&İğün 2022 Quality score: 10	A University Hospital in Ankara, Türkiye.	Descriptive n=215	Sociodemographic information Form, PSAS.	<ul style="list-style-type: none"> The average total score of nurses on the PSAS is at a moderate level. The variable with the most significant impact on nurses' attitudes towards patient safety is the weekly working hours. Nurses who have received training on patient safety have higher attitudes towards patient safety. <p>Recommendations:</p> <ul style="list-style-type: none"> Hospital administrators should reorganize working hours, particularly ensuring that the weekly working hours do not exceed 40, and have high weekly working hours, to receive training on patient safety regularly. Managers and policymakers should allocate more resources to the education of nurses in order to enhance their awareness and culture of patient safety for a safer healthcare service delivery process.
12	Özer, Sarsılmaz (Kankaya), Aktaş (Toptaş)&Şenuzun-Aykar, 2015 Quality score: 9	A university hospital in Izmir, located in the Aegean Region.	Descriptive and cross-sectional. n=103	Data collection tools include the Nurse Information Form, PSAS, and the Nursing Malpractice Tendency Scale.	<ul style="list-style-type: none"> Nurses working in cardiology and cardiovascular surgery clinics have a low tendency for medical errors. Their attitudes towards patient safety, however, are not at a satisfactory level. Cardiology nurses have more positive attitudes towards patient safety compared to cardiovascular surgery nurses. <p>Recommendations:</p> <ul style="list-style-type: none"> Establishing and maintaining a patient safety culture is particularly crucial. Implementing the regulations outlined in the Turkish Ministry of Health's "Regulation on Improving and Evaluating the Quality of Healthcare Services," especially in all cardiology and cardiovascular surgery departments. Providing in-house training for nurses. Developing various methods to prevent or detect medical errors before they have negative effects, aiming to reduce the frequency of these errors to enhance the quality and safety of patient care in Turkey. Suggests conducting similar studies in a broader population, including cardiology and cardiovascular surgery departments in private and non-teaching public hospitals.

TABLE 3: Key characteristics and quality scores of accepted studies in the research (continued).

Serial number	Authors publication year quality score	Institution and city/region where the research was conducted	Research type and sample size (n)	Data collection instruments	Key findings and recommendations
13	Efil, Türen&Demir, 2023 Quality score: 10	An education and research hospital in Istanbul.	Descriptive and cross-sectional n=245	Nurse Characteristics Form, Fear of COVID-19 Scale, and Patient Safety Attitude Survey are used as data collection tools.	<ul style="list-style-type: none"> Nurses have a low fear of the coronavirus. Their attitudes towards patient safety are positive. However, there is no significant correlation between these two factors. The proportion of nurses experiencing patient safety issues but not reporting them is not at the desired level. It is emphasized that efforts are needed to improve conditions where unnoticed adverse events, posing a risk to patient safety, occur. <p>Recommendations:</p> <ul style="list-style-type: none"> Ensure the adaptation of nurses working in COVID-19 units, provide necessary training regularly based on updated information. Monitor the physical, social, and psychological issues experienced by nurses due to the COVID-19 pandemic in the long term. Evaluate how these issues might impact healthcare delivery. Suggests adjusting nurses' working hours considering these challenges.
14	Durgun&Kaya, 2018 Quality score: 10	At tertiary hospitals in Istanbul.	Descriptive n=196	Knowledge Questionnaire and Patient Safety Attitude Scale are used as data collection tools.	<p>The attitudes of nurses toward patient safety were found to be at a moderate level. Additionally, it was determined that these attitudes were not associated with factors such as age, gender, education level, nursing experience, emergency service experience, emergency service certification, patient safety training, self-efficacy perception for patient safety, hospital quality certification, and emergency service quality certification.</p> <p>Recommendations:</p> <p>Continuous improvement of training programs (professional education, in-service training, certification, etc.) and regular reassessment and evaluation of the outcomes of these programs.</p> <p>Conducting comparative studies with larger sample groups and including different units for a more comprehensive analysis.</p>
15	Bahar&Öner, 2020 Quality score: 10	Namık Kemal University Application and Research Center, Tekirdağ State Hospital, Çanakkale 18 Mart University Faculty of Medicine Hospital, Çanakkale State Hospital, Tekirdağ and Çanakkale/ Marmara Region	Descriptive n=231	Employee Information Form, PSAS	<ul style="list-style-type: none"> Surgical unit nurses demonstrate a moderate level of patient safety attitudes. PSAS sub-dimensions reveal that the highest scores are related to job satisfaction, while the lowest scores are associated with the safety climate sub-dimension. Nurses aged between 18-30 tend to have higher scores in the management understanding sub-dimension compared to those aged 31-40. Nurses working in the operating room exhibit higher scores in the total PSAS, teamwork, and safety climate sub-dimensions compared to their counterparts in surgical wards and surgical intensive care units. Nurses working more than 40 hours per week tend to have a higher average score in the job satisfaction sub-dimension. <p>Recommendations:</p> <ul style="list-style-type: none"> Institutions should implement measurements and regulations related to patient safety. In-service training programs regarding patient safety practices should be organized. Managers should develop beliefs and attitudes to enhance the patient safety culture. Hospital management is advised to reduce nurses' workload, implement promotions, improve teamwork among employees, and enhance the working environment.

TABLE 4: Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement-Checklist of items that should be included in reports of cross-sectional studies

	Item no	Recommendation	Page no
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	1
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3-4
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-7
Bias	9	Describe any efforts to address potential sources of bias	7
Study size	10	Explain how the study size was arrived at	6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	8
		(b) Describe any methods used to examine subgroups and interactions	8
		(c) Explain how missing data were addressed	8
		(d) If applicable, describe analytical methods taking account of sampling strategy	8
		(e) Describe any sensitivity analyses	8
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study-eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	8-9
		(b) Give reasons for non-participation at each stage	6
		(c) Consider use of a flow diagram	-
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	8
		(b) Indicate number of participants with missing data for each variable of interest	6
Outcome data	15*	Report numbers of outcome events or summary measures	6
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	6
		(b) Report category boundaries when continuous variables were categorized	6
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	6
Other analyses	17	Report other analyses done-eg analyses of subgroups and interactions, and sensitivity analyses	6
Discussion			
Key results	18	Summarize key results with reference to study objectives	6
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision.	12
		Discuss both direction and magnitude of any potential bias	
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	6-11
Generalisability	21	Discuss the generalisability (external validity) of the study results	11
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	11

*Give information separately for exposed and unexposed groups; An explanation and elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

ment. The findings of Küçükkelepçe and Arslan Şeker and Salih et al. also support the results of our study in a similar manner.^{14,15} In our study, the lowest mean score pertains to the safety climate sub-dimension. The safety climate sub-dimension is defined as the perception of personnel regarding strong and proactive organizational commitment to safety and includes questions related to reporting errors and working in accordance with rules or guidelines.¹⁶ The study results, indicating that safety climate is one of the weakest factors, suggest a potential underreporting of adverse events. This situation is acknowledged as a significant global health issue.³³

In the examined studies, patient safety attitudes were generally assessed in relation to personal and professional characteristics, and patterns among them were explored.³⁸ It has been determined that nurses' patient safety attitudes are associated with personal and professional characteristics. Salih et al. and Biresaw et al. have indicated a strong correlation between nurses' patient safety attitudes and educational level, professional experience, and participation in patient safety-related training.^{15,36} In the study by Wake et al. significant relationships were found between gender, work experience, professional education, knowledge of patient safety in continuous education, and receiving training on patient safety factors with attitudes toward patient safety.³⁷ Biresaw et al. reported a positive and significant relationship between nurses' patient safety attitudes and age, while Salih et al. found a slight impact between age and marital status, with no significant relationship found between gender and the unit worked.^{15,36} The results of these studies conducted abroad align similarly with the findings of our study.

CONCLUSION

Bibliometric analysis is a crucial analytical technique that provides researchers with detailed information about the topic under investigation. In this study, the general characteristics and findings of 15 articles on nurses' attitudes toward patient safety were examined through bibliometric analysis. A general assessment indicates that the importance of the topic in our coun-

try has only been recognized in recent years, with the majority of the studies conducted in the Marmara Region and in hospitals affiliated with the Ministry of Health. It can be stated that the attitude of nurses towards patient safety needs improvement. The emphasis in the studies is primarily on descriptive approaches to patient safety attitudes, and it is concluded that personal and professional characteristics are associated with these attitudes. The research results highlight the need for the development of nursing practices based on scientific evidence related to patient safety and the production of higher-level evidence. These findings suggest deficiencies in the literature on these topics. Based on these results, it is recommended that future studies on patient safety involve experimental designs and qualitative research methods, covering different geographic regions and including private hospitals. Additionally, healthcare managers are encouraged to take initiatives that provide the necessary managerial and educational support to enhance and sustain patient safety.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Berra Yılmaz Kuşaklı; **Design:** Berra Yılmaz Kuşaklı; **Control/Supervision:** Berra Yılmaz Kuşaklı, Züleyha İnceöz; **Data Collection and/or Processing:** Berra Yılmaz Kuşaklı, Züleyha İnceöz; **Analysis and/or Interpretation:** Berra Yılmaz Kuşaklı, Züleyha İnceöz; **Literature Review:** Berra Yılmaz Kuşaklı, Züleyha İnceöz; **Writing the Article:** Berra Yılmaz Kuşaklı; **Critical Review:** Berra Yılmaz Kuşaklı, Züleyha İnceöz; **References and Fundings:** Berra Yılmaz Kuşaklı, Züleyha İnceöz; **Materials:** Berra Yılmaz Kuşaklı, Züleyha İnceöz; **Diğer:** Berra Yılmaz Kuşaklı, Züleyha İnceöz.

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