



# Patient Safety Attitude in Iranian Health Care Workers: A Systematic Review

## ARTICLE INFO

### Article Type Review Article

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### How to cite this article

Mousavipour SS, Golitaleb M, Karimikia M, Aliakbari F, Yousefi K, Sahebi A. Patient safety Attitude in Iranian Health Care workers: A systematic Review. *IJMPP*2022;7(1): 627-634.

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### Article History

Received: Sep 25, 2021  
Accepted: Dec 19, 2021  
ePublished: Dec 30, 2021

## ABSTRACT

**Aim:** Patient safety is one of the most important parameters of quality health care. The role of health care workers in providing safe care is essential, and their positive attitudes towards this issue will positively affect patient safety. This review aimed to investigate the attitudes of health care workers towards patient safety in Iran.

**Method and Materials:** The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline was used to conduct the present review. Data resources including SID, Magiran, Scopus, PubMed, ISC, Web of science, and Google Scholar were chosen to conduct the literature search both in Persian and English without any time limit until the end of January 2021. Inclusion criteria included all English or Persian language studies in which the Safety Attitude Questionnaire (SAQ) was used to assess the attitude of Iranian health care workers towards patient safety.

**Findings:** In the primary search, 342 studies were obtained, finally 11 of which were reviewed. Among these, 10 studies had cross-sectional designs, and one study was a quasi-experimental research. Overall, 2162 health care workers were analyzed. The results of the present study showed that most health care workers in Iran had unfavorable attitudes towards patient safety.

**Conclusion:** As upgrading health care workers' attitudes seems necessary to improve patients' safety, it is recommended that health organizations provide regular patients' safety training, both at employment time and during service to the health care workers who are in direct and indirect contact with patients.

**Keywords:** Patient Safety, Health Care Providers, Iran, Systematic Review.

## Introduction

Safety culture is a concept that has attracted widespread attention and is defined as an organizational approach in health and safety management, including the values, attitudes, views, and appropriate behavior of individuals and groups [1,2]. Patient safety is a never event that has been the subject of global efforts since 2004 to improve the safety of patient health care [3]. Nevertheless, it remains a global issue affecting developed and developing countries. In this regard, health care organizations should focus on safety culture assessments and provide employees with a basic understanding of safety concepts [4]. Nurses, as the largest group providing health care services, have major responsi-

bilities for the quality of the care provided to the patient and play an important role in ensuring the quality of health systems [5-7]. Studies have shown that professional values and job satisfaction are important predictors of staff's attitudes towards patient safety culture [8]. Providing quality care, patient satisfaction, and patient safety have been significantly associated with the care environment and health care providers' positive attitudes towards patient safety culture [9-11]. Health care professionals have important roles in providing safe care, and their positive safety attitudes will certainly promote patient safety [12,13]. Attitudes toward high-risk behaviors predict the safety adaptation behaviors recruited by a

system, as well as the likelihood of occurrences. Therefore, there is a need to assess health care providers' knowledge and skills regarding patient safety in order to achieve a deeper understanding of this issue [14-16]. Thus, assessing health care providers' attitudes towards patient safety is important to deliver quality health care. In this regard, several studies have been conducted in Iran to divulge the attitudes of health care workers on patient safety. Regarding the importance of patient safety in health care organizations, which is one of the main strategies for implementing the clinical governance system, we aimed to conduct a systematic review on Iranian health care providers' attitudes towards patient safety.

### Method and Materials

The Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA) guideline was used to conduct the present review [17]. Search, screening, study selection, quality evaluation, and data extraction steps were performed, respectively. Furthermore, the steps of selecting studies, evaluating the quality, and extracting the data were done independently by the two researchers, and any disagreements were resolved through group discussion.

**Search Strategy and Databases:** Data resources included Scopus, ISC, SID, Magiran, PubMed, Web of Science, and Scholar Google. Moreover, reference lists and conference proceedings were used to find additional relevant articles. English keywords and their Persian equivalents, including "Patient safety", Attitude, Iran, "Health personnel", "Health care provider", "Health worker", "Healthcare worker", "Health care professional", "Medical staff", "Medical worker", were used. In order to formulate a search strategy, first a search syntax was designed for PubMed using the keywords, search fields, and operators, based on which, a search strategy was developed for other databases. The searches were conducted in both Persian and English without any time limit until the end of January 2021. Table 1 shows a number of the search strategies used.

**Eligibility Criteria:** All English or Persian language studies that used the Safety Attitude Questionnaire (SAQ) [18] to examine the attitudes of health care workers towards patient safety in Iran were included. The studies that used other tools or assessed patient safety culture were excluded.

### Selection of Studies

In order to manage search results, first all the obtained studies were entered into EndNote

**Table 1)** The search strategies used in different databases

|               |   |
|---------------|---|
| <b>PubMed</b> | ("Patient Safety*" AND Attitude* OR Opinion* AND "Health personnel" OR "Health care provider*" OR "Health worker*" OR "Healthcare provider*" OR "Healthcare worker*" OR "Health care professional*" OR "Medical staff" OR "Medical worker*" AND Iran)   |
| <b>Scopus</b> | ((All("Patient Safety*") AND (All(Attitude*) OR ALL(Opinion*))) AND (All("Health Personnel") OR All("Health care provider*") OR All("Health worker*") OR All("Healthcare provider*") OR All("Healthcare worker*") OR All("Health care professional*") OR All("medical staff") OR All("Medical worker*"))) AND All(Iran))            |
| <b>ISI</b>    | ((TS=("Patient Safety*") AND (TS= (Attitude*) OR TS= (Opinion*))) AND (TS= ("Health personnel") OR TS= ("Health care provider*") OR TS= ("Health worker*") OR TS= ("Healthcare provider*") OR TS= ("Healthcare worker*") OR TS= ("Health care professional*") OR TS= ("Medical staff") OR TS= ("Medical worker*"))) AND TS= (Iran)) |

X7 software. After removing duplicates, 288 studies were screened, among which, the full texts of 29 probably related studies were independently reviewed by two of the researchers (AS and MG). Finally, 11 studies were selected.

**Quality assessment and Data Extraction**

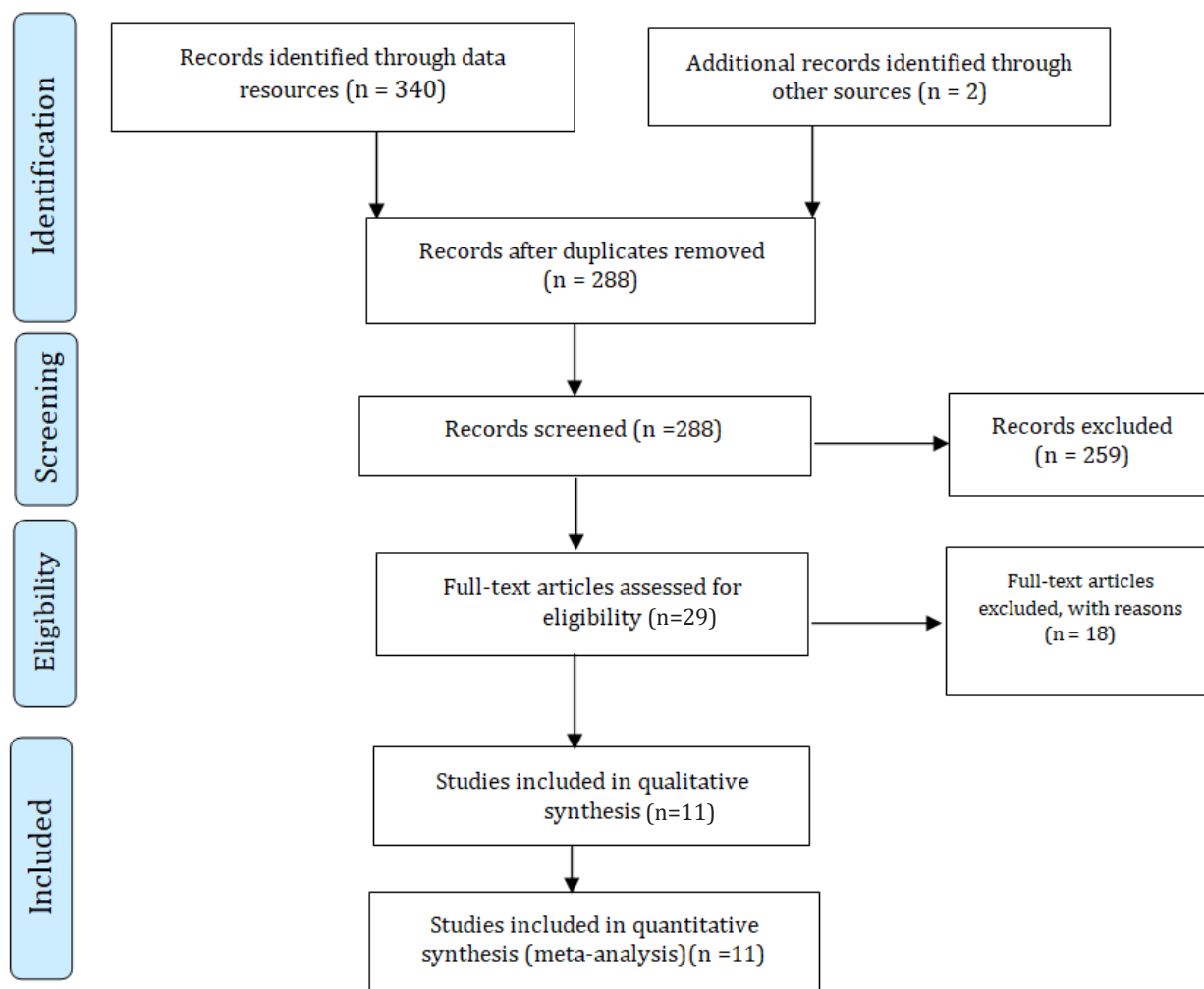
Qualitative assessment was performed by two researchers (AS and MG) independently. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) [19] tool was used to evaluate the quality of cross-sectional studies and the Joanna Briggs Institute (JBI) [20] checklist was used to evaluate quasi-experimental studies. In order to extract the data, two researchers (AS and MG) independently entered the

required data including the first author’s name, year of publication, the place and design of the study, the number of people studied, studied groups, and the results of each study into a checklist designed by the Microsoft Office Word 2016.

**Findings**

In this study, based on a comprehensive search, 342 studies were initially extracted. After removing duplicates, 288 studies were screened, and finally 11 studies were reviewed. Figure 1 shows the steps of the study selection process.

In the present study, of 11 finally reviewed studies, most had been conducted in Tehran. Regarding the study design, 10



**Figure 1)** Flowchart of the selection of studies based on PRISMA

studies were cross-sectional studies, and one was a quasi-experimental experiment. The SAQ tool had been used by all studies. This tool has six dimensions including team work atmosphere, safety atmosphere, job satisfaction, stress recognition, and the attitude towards patient safety support by hospital and department management [18]. In this study, the safety attitudes of 2162 Iranian health care workers were examined. Table 2 shows the specifications and findings of the assessed studies.

### Discussion

This review was conducted to analyze the studies conducted on the patient safety attitudes of health care workers in Iran. The results of most studies showed that nurses and emergency medical personnel had unfavorable attitudes towards patient safety. Accordingly, upgrading patient safety attitude in nurses requires increasing knowledge on safety, upgrading the incentive system, and coping with job stress. The results of a review in Iran demonstrated a moderate level of compliance with the essential requirements of patient safety in Iran's hospitals [31]. The results of a study by Salih *et al.* in Egypt showed that nurses had neutral attitudes toward patient safety, and this was considerably associated with their education levels, work experience, and participation in patient safety training courses [32]. Another report by Alzahrani *et al.* in Saudi Arabia indicated that emergency department nurses had a less positive attitude towards patient safety [33]. The results of these studies were in line with those of the present study, illuminating the unfavorable attitudes of health care workers towards patient safety. Nurses and emergency medical personnel are the most important and the first groups of health care workers who directly participate in patient care, treatment, relocation, and transfer.

Therefore, the attitudes of these groups towards patient safety should be improved. In this regard, it is suggested to provide them with training courses at the beginning of employment, as well as during their service to elaborate and emphasize the importance of patient safety for them.

The present study showed that the staff of operation room had moderate attitudes towards patient safety. In line, the results of Hababbeh *et al.* showed that operation room staff had negative attitudes towards patient safety, and continuous education had a significant effect on changing their views [34]. Likewise, Ongun *et al.* showed that operation room staff had moderate patient safety attitudes, and training could significantly improve their attitudes [35]. The results of Park *et al.* showed that manpower, training, and establishing a patient safety system were important factors to ensure patient safety in operating rooms. On the other hand, performing a successful and safe surgery requires communications, teamwork, and acknowledging the importance of patient safety by the surgical team [36]. Furthermore, Park *et al.* showed that the promotion of safety management requires holding open discussion sessions about this issue. On the other hand, periodic patient safety training should be provided to operating room nurses in order to increase their understanding of this concept [37]. These results, including those of the present study, show that operating room staff's attitudes towards patient safety were moderate, necessitating improvement via strategies such as education. Operating room personnel are in close contact with the patients needing surgery, so they are exposed to the risks of surgery. Moreover, these patients are anesthetized, which increases the risk of damage to these patients. Overall, patient safety in operating rooms is a very important issue that should be considered by health managers.

Table 2) The Characteristics of the Analyzed Studies

| First author       | Year of publication | Location | Study design       | Sample size | Study population                                 | Findings of the study  |
|--------------------|---------------------|----------|--------------------|-------------|--|--|
| Tourani (18)       | 2016                | Tehran   | Cross sectional    | 237         | Nurses   | Most nurses had plausible descriptions of patient safety.  |
| Khalilzadeh (21)   | 2013                | Urmia    | Cross sectional    | 120         | Midwives, nurses, operating room staff           | Most participants had moderate attitudes towards patient safety.   |
| Shirali (22)       | 2016                | Ahvaz    | Cross sectional    | 75          | Nurses   | Management perception and job satisfaction were lower in the female nurses working in educational hospitals than those working in non-educational hospitals.   |
| Saberi (23)        | 2017                | Tehran   | Cross sectional    | 325         | Nurses   | Nurses had poor attitudes towards patient safety dimensions  |
| Tabibi (24)        | 2011                | Tehran   | Cross sectional    | 212         | Nurses, physicians, managers, paraclinical staff | Participants had poor attitudes towards patient safety.  |
| Gavili (25)        | 2017                | Sanandaj | Cross sectional    | 72          | Emergency medical services                       | Medical emergency staff had poor attitudes towards patient safety.   |
| Niknejad (26)      | 2019                | Esfahan  | Cross sectional    | 217         | Operating room staff                             | Half of participants had good-excellent, and the other half had moderate-poor attitudes towards patient safety.  |
| Etemadinezhad (27) | 2019                | Babol    | Cross sectional    | 325         | Nurses   | A reduction in job-related psychological and physical demands, as an important intervention, could upgrade nurses' attitudes towards patient safety.   |
| Mahfoozpour (28)   | 2012                | Tehran   | Cross sectional    | 225         | Medical assistants, nurses, para-medical staff   | Participants had good attitudes towards teamwork, safety, and acknowledge transfer via teamwork.   |
| Samaei (29)        | 2015                | Kerman   | Cross sectional    | 244         | Nurses   | Regarding the relationship between safety attitude and job incidences, managers can boost staff's attitudes towards patient safety by upgrading their knowledge on safety, implementing incentive systems, cooperation management, upgrading staff's safety, coping with job stress, and recognizing the factors affecting patient safety. |
| Azimi (30)         | 2012                | Tehran   | Quasi-experimental | 110         | Hospital managers                                | Education can positively affect hospital managers' attitudes towards patient safety.   |

The results of the present review showed that patient safety attitude was unfavorable in other health care workers. The results of Huang *et al.* in Taiwan showed that nurses and physicians had different attitudes toward patient safety. In fact, nurses experienced high workplace stress and challenges that were negatively associated with their understanding of patient safety culture. Therefore, in order to create a better patient safety culture, hospital managers should take appropriate measures to boost patient safety in hospital staff [38]. The results of another study in Taiwan showed that hospital staff had positive attitudes towards patient safety culture [39]. Alshammari *et al.* in Saudi Arabia reported that health care workers had positive views of patient safety culture [40]. On the other side, the results of some studies have been inconsistent with our observations, describing positive attitudes towards patient safety among health care workers. Since all health care workers are not equally engaged with patients and the fact that some health care providers may be in indirect contact with patients, they may have positive attitudes towards this concept, which can be a possible reason justifying the mentioned inconsistency among the results of difference studies. Among other possible reasons for this discrepancy may be differences in the place of study, the culture of studied populations, and competencies of health care systems.

### Limitations

Since different studies have used different tools to assess patient safety attitude, and the fact that there was discrepancy between the title of the article and the reported results, we decided to include only the studies that used the SAQ in order to homogenize the data and provide more accurate results. This item can be considered as a limitation of the present study.

### Conclusion

The results of the present review showed that most health care workers had unfavorable patient safety attitudes. As patient safety is one of the most important factors affecting the quality of health care, and the fact that these individuals are directly or indirectly involved in providing patient care services, it is necessary to improve their attitudes towards this concept in order to upgrade patient safety in hospitals. Therefore, it is recommended that health care organizations provide regular patient safety training to their staff who are in direct and indirect contact with patients both at the beginning of employment and in-service.

**Authors' contributions:** All authors equally contributed to the design, search, analysis, and writing of this manuscript. All authors read and approved the manuscript.

**Conflict of interest:** The authors declare that they have no conflict of interest

**Ethical Permisiom:** All principal ethic issues were considered in this study .

**Funding:** This study did not receive any funding

### References

1. Munro CA. The development of a pressure ulcer risk-assessment scale for perioperative patients. *AORN J*2010;92(3):272-87.
2. Clarke S. Safety culture: under-specified and overrated? *Int.J.Manag. Rev.* . 2000;2(1):65-90.
3. Organization WH. World alliance for patient safety: forward programme 2008-2009. World Health Organization, 2008.
4. Abdel-Sattar S, Abdelhamid Z. Work Environment Perception as a Predictor of Patient Safety Culture among Nurses at Al-Ahrar Teaching Hospital. *J. Nurs. Healthc. Res.* 2018;7(2):73-83.
5. Henry B. Quality of care, health system errors, and nurses. Wiley Online Library; 2006.
6. Henry B. Quality of care, health system errors, and nurses. *J. Adv. Nurs.*. 2000;32(4):773-.
7. Alenius LS, Tishelman C, Runesdotter S, Lindqvist R. Staffing and resource adequacy strongly related to RNs' assessment of patient safety: a national study of RNs working in acute-care hospitals in

- Sweden. *BMJ Qual Saf* 2014;23(3):242-9.
8. Wang KY, Chou CC, Lai JCY. A structural model of total quality management, work values, job satisfaction and patient-safety-culture attitude among nurses. *J Nurs Manag.* 2019;27(2):225-32.
  9. Sorra J, Khanna K, Dyer N, Mardon R, Famolaro T. Exploring relationships between patient safety culture and patients' assessments of hospital care. *J Nurs Adm.* 2014;44(10 Suppl):S45-53.
  10. Aiken LH, Sermeus W, Van den Heede K, Sloane DM, Busse R, McKee M, et al. Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *Br Med J.* 2012;344. doi: <https://doi.org/10.1136/bmj.e1717>
  11. Park J, Park M. Knowledge, attitude, and confidence on patient safety of undergraduate nursing students. *The J Korean Acad Soc Nurs.* 2014;20(1):5-14.
  12. Hamaideh SH. Safety culture instrument: A psychometric evaluation: University of Cincinnati; 2004.
  13. Turunen H, Partanen P, Kvist T, Miettinen M, Vehviläinen-Julkunen K. Patient safety culture in acute care: A web-based survey of nurse managers' and registered nurses' views in four Finnish hospitals. *Int J Nurs Pract.* 2013;19(6):609-17.
  14. Henning JB, Stufft CJ, Payne SC, Bergman ME, Mannan MS, Keren N. The influence of individual differences on organizational safety attitudes. *Saf Sci.* 2009;47(3):337-45.
  15. Kiani F, Samavtyan H, Poorabdiyan S, Jafari E. How safety trainings decrease perceived job stress: the effects of improvement in employees attitude toward safety issues. *Far East J Psychol Bus.* 2012;6(4):46-58.
  16. Brasaite I, Kaunonen M, Martinkenas A, Suominen T. Health care professionals' attitudes regarding patient safety: cross-sectional survey. *BMC Res. Notes.* 2016;9:177. doi: 10.1186/s13104-016-1977-7.
  17. Moher D, Liberati A, Tetzlaff J, Altman DG, Group P. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Br Med J.* 2009; 339 doi: <https://doi.org/10.1136/bmj.b2535>.
  18. Tourani S, Khodayari Zarnaq R, Arabloo J, Esmaili A, Taghizadeh S, Khosravizadeh O. A survey on patient safety using the farsi version of the safety attitudes questionnaire in Iran. *Journal of Payavard Salamat.* 2016;10(1):82-92. [persian].
  19. Vandembroucke JP, von Elm E, Altman DG, Gøtzsche PC, Mulrow CD, Pocock SJ, , STROBE Initiative. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *Int J Surg.* 2014;12(12):1500-24.
  20. Briggs J. Critical Appraisal Tools: Checklist for Quasi-Experimental Studies. Joanna Briggs Institute; 2017. p. 1-7.
  21. Khalilzadeh H, Hemmati Maslakpak M, Mohaddesi H, Zare Fazlollahi Z. Attitude among Urmia Medical University health workers about patient safety. *Nursing And Midwifery Journal.* 2013;11(8):0-. [persian]
  22. SHirali G, Afravi M, Nezamoldini Z. Comparison between safety attitudes of CCU nurses in the educational and non educational hospitals of Ahvaz. *Iran Occupational Health.* 2016;12(6):89-97. [persian]
  23. Saberi M, Jamshidi E, Rajabi F, Seydali E, Bairami F. Attitude of nurses toward the patient safety culture: a cross-sectional study of the hospitals in Tehran, Iran *Patient saf. qual. improve. j.* 2017;5(3):554-60.
  24. Tabibi J, Nasiripour A, Maleki M, Raessi P, Mohammoudi M, Azimi L. Survey of employees' safety attitude in a teaching hospital Tehran 2010. *Iran Occupational Health.* 2011;7(4):25-31. [persian]
  25. Gavili H, Fathi M, Zarezadeh Y, Yaghoobi M, Roshani D. Attitudes toward safety and its affecting factors in Sanandaj emergency medical services staffs, in 2017. *Scientific Journal of Kurdistan University of Medical Sciences.* 2019;24(1):134-45. [persian]
  26. Niknejad R, Akbari M, Bagheri M, Hashemi M, Ghaedi Heidari F, Aarabi A. Attitudes of health-care professionals toward patient safety in the operating room. *Iran Journal of Nursing.* 2019;32(117):80-90. [persian]
  27. Etemadinezhad S, Taban E, Bagheri Hosseinabadi M, Ghalenoei M, Tirgar A, Samaei SE. Influence of Demographic Characteristics, Shift Work, and Job Demands on Nurses Safety Attitude. *Journal of Mazandaran University of Medical Sciences.* 2019;29(173):146-52. [persian]
  28. Mahfoozpour S, Mojdekar R. Attitudes of health care providers toward teamwork, safety climate and knowledge. *Advances in Nursing & Midwifery.* 2012;21(76):35-41. [persian]
  29. Samaei SE, Raadabadi M, Khanjani N, Heravizadeh O, Hosseinabadi MB, Pirani S. Safety attitudes among nurses and its relation with occupational accidents: a questionnaire based survey. *Int. j. occup. Hyg* 2015;7(4):177-86.
  30. Azimi L, Bahadori M. The Effect of Safety Culture Education on Improvement of Managers' Attitudes towards Patients' Safety *Int J Collab Res Intern Med Public Health.* 2012;4(3):217-226..
  31. Sahebi A, Golitaleb M, Jahangiri K. Survey of critical standards of patient safety in Hospitals of Iran: A systematic review and meta-analysis. *Int J Prev Med* 2021;12:34
  32. Salih SA, Abdelkader Reshia FA, Bashir WAH,

- Omar AM, Ahmed Elwasefy S. Patient safety attitude and associated factors among nurses at Mansoura University Hospital: A cross sectional study. *Int. J. Africa Nurs. Sci.* 2021;14:100287. <https://doi.org/10.1016/j.ijans.2021.100287>
33. Alzahrani N, Jones R, Abdel-Latif ME. Attitudes of doctors and nurses toward patient safety within emergency departments of two Saudi Arabian hospitals. *BMC Health Serv. Res.* 2018;18:736, doi: 10.1186/s12913-018-3542-7
  34. Habahbeh AA, Alkhalaileh MA. Effect of an educational programme on the attitudes towards patient safety of operation room nurses. *Br J Nurs.* 2020;29(4):222-8.
  35. Ongun P, Intepeler SS. Operating room professionals' attitudes towards patient safety and the influencing factors. *Pak J Med Sci.* 2017;33(5):1210-1214.
  36. Kim FJ, author da Silva RD, Gustafson D, Nogueira L, Harlin T, and David L. Paul DL. Current issues in patient safety in surgery: a review. *Patient Saf Surg.* 2015; 9: 26. doi: 10.1186/s13037-015-0067-4
  37. Park S-J, Choi E-H, Lee K-S, Chung K. A study on perception and nursing activity for patient safety of operating room nurses. *Journal of the Korea Academia-Industrial cooperation Society.* 2016;17(11):332-9.
  38. Huang C-H, Hsin-Hung W, Cindy Yunhsin C, Huayong D, Yii-Ching L. The perceptions of physicians and nurses regarding the establishment of patient safety in a regional teaching hospital in Taiwan. *Iran J Public Health.* 2018;47(6):852-860
  39. Chen I-C, Li H-H. Measuring patient safety culture in Taiwan using the Hospital Survey on Patient Safety Culture (HSOPSC). *BMC Health Serv Res.* 2010;10:152. doi: 10.1186/1472-6963-10-152.
  40. Alshammari F, Pasay-an E, Alboliteeh M, Alshammari MH, Susanto T, Villareal S, et al. A survey of hospital healthcare professionals' perceptions toward patient safety culture in Saudi Arabia. *Int. J. Africa Nurs. Sci.* 2019;11:100149 <https://doi.org/10.1016/j.ijans.2019.100149>