Assessment of Patient Safety Culture in Abu Arish General Hospital, Jazan, Saudi Arabia

Ali Essa Tawhari (1)
Maged El-Setouhy (2,3)
Abdullah Ibrahim Sabai (4)
Ahmed Yahia Abdaly (5)
Abdullah Abdo Holal (6)
Abdulaziz Mohamed Humedi (7)
Ahmad Alhassan Mokli (8)
Abdulmajeed Ahmed Dayili (9)
Abdulrahman Beshi Hakami (10)

(1) Family Medicine Resident, Joint Program of Family Medicine, Jazan, Saudi Arabia
(2) Department of Family & Community Medicine, Faculty of Medicine, Jazan University, Jazan, Saudi Arabia
(3) Department of Community, Environmental & Occupational Medicine, Faculty of Medicine, Ain Shams University, Cairo. Egypt
(4) Preventive Medicine & Public Health Consultant, Ministry of Health, Jazan, Saudi Arabia
(5) Family Medicine Consultant, Ministry of Health, Jazan, Saudi Arabia
(6) General Practitioner, Ministry of health, Jazan, Saudi Arabia
(7) Family Medicine Resident, Security Forces Hospital, Riyadh, Saudi Arabia
(8) Dermatology Resident, Ministry of health, Jazan, Saudi Arabia
(9).Urology Resident, Ministry of health, Jazan, Saudi Arabia
(10) Orthopedics Resident, Ministry of health, Jazan, Saudi Arabia

Corresponding author:
Dr. Ali Essa Tawhari
Email: al_tohary@hotmail.com

Received: March 2022 Accepted: April 2022; Published: May 1, 2022.
Citation: Ali Essa Tawhari et al. Assessment of Patient Safety Culture in Abu Arish General Hospital, Jazan, Saudi Arabia. World Family Medicine. 2022; 20(5): 71-78. DOI: 10.5742/MEWFM.2022.9525043

Abstract

Background: The concept of patient's safety culture refers to the work and the joint actions of the members of an institution or organization with respect to their ability to detect errors and address and avoid them in the future and learn from them.

Objectives: To assess safety culture in "Abu Arish" General Hospital to provide a starting point from which action planning begins and patient safety changes emerge.

Methodology: The methodology of this study was based on the guidelines provided by the Agency for Healthcare Research and Quality (AHRQ). Data were collected using the Hospital Survey on Patient Safety Culture Form. Analysis of data was by Microsoft Excel and the Statistical Package for Social Sciences (SPSS) programs. A survey questionnaire was distributed in "Abu Arish" General Hospital to 207 health care providers, including nurses, technicians, managers and medical staff.

Results: The patient safety composites with the highest positive scores were teamwork within units (72%), organizational learning and continuous improvement (70%) and the composites with the lowest scores were non-punitive response to error (22%), staffing (32%), Handoffs & Transitions (38%), frequency of events reported (40%), communication openness (43%), hospital management support for patient safety (43%) and Teamwork Across Units (43%).

Conclusions: This study provides an overall assessment of perceptions of safety among hospital staff in a general hospital. There are areas of strengths and weakness in the patient safety culture dimensions. There are several areas for improvement, including non-punitive response to errors, staffing, hospital handoffs & transitions and error reporting.

Keywords: Patient safety, Saudi Arabia.

Introduction

The concept of patient's safety culture refers to the work and the joint actions of the members of an institution or organization with respect to their ability to detect errors and address and avoid them in the future and learn from them. The Agency for Healthcare Research and Quality (AHRQ) in the USA supports the development of patient safety culture assessment tools for hospitals, nursing homes, and ambulatory outpatient medical offices. In 2004, the AHRQ released the Hospital Survey on Patient Safety Culture, a staff survey designed to help hospitals assess the culture of safety in their institutions (1).

Patient safety is a critical component of health care quality. As health care organizations continually strive to improve, there is a growing recognition of the importance of establishing a culture of safety. Hence, patient safety culture has been applied by several countries, such as in Belgian acute hospitals (2), China (3), Taiwan (4), Italy (5), Germany (6), Iran (7), Palestine (8) (9), Lebanon (10), and Egypt (11). However, there are limited studies in Saudi Arabia, that assessed patient safety culture in Riyadh's Hospitals (12)(13). Another study assessed nurses' perceptions and attitudes of patient safety culture (14).

Methods and research designs applied to study patients' safety culture vary from one study to another, according to resources of times, persons and cost. The commonest study design is the cross-sectional, while the most effective are randomized control trials. They measure the effects of a team-based assessment and intervention on patient safety culture in general practice (2).

Language, work area, and profession were identified as important safety culture predictors. Years of experience in the hospital were shown to have a small effect on safety culture perceptions (2). Patient safety grade deteriorated and the number of events reported increased with long working hours, which had an impact on 'staffing' and 'teamwork within units' in Japan, the US and Taiwan (4).

Attitude surveys provide a method for assessing safety culture in surgery, for evaluating the effectiveness of training initiatives, and for collecting data for a hospital's quality assurance program (5). Intervention practices showed better reporting of patient safety incidents, reflected in a higher number of incident reports and incident reports of higher quality (6).

To achieve a safety culture, we should understand the beliefs, values and principles around it, and we also need to regulate the behaviors related to patient safety. The safety culture of an organization is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management. Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures (1).

Moreover, the team Strategies and Tools to Enhance Performance and Patient Safety (STEPPS), acts as a training program that has been developed and disseminated by the Department of Defense and the Agency for Healthcare Research and Quality. It focuses on importance of teamwork and team training in the prevention of medical errors through communication and other teamwork skills and that teamwork is essential to achieving high reliability in healthcare organizations improving patient safety (15).

Methodology

The present study was conducted in "Abu Arish" General Hospital on 207 health care providers, following a cross-sectional study design. The study hospital has a total of 130 beds and 19 clinics. The validated English and Arabic versions of the Patient Safety Culture Questionnaire (1; 16) were used for data collection.

The inclusion criteria were hospital staff who have direct contact or interaction with patients (e.g., nurses), or nonclinical staff (e.g., unit clerks); hospital staff who may not have direct contact or interaction with patients but whose work directly affects patient care (e.g., staff in the pharmacy, or laboratory/pathology units); hospital-employed physicians who spend most of their work hours in the hospital (e.g., emergency department physicians, pathologists); in addition to hospital supervisors, managers, and administrators. Physicians who have privileges at the hospital, but are not hospital employees but may spend the majority of their work time in non-hospital, outpatient settings were excluded.

The survey measured the following unit-level aspects of safety culture:

- Supervisor/Manager Expectations & Actions Promoting Safety: Organizational learning—continuous improvement, teamwork within units, communication openness feedback and communication about error, non-punitive response to error and staffing.
- Hospital-level aspects of safety culture: hospital management support for patient safety (3 items), teamwork across hospital units (4 items), and hospital handoffs and transitions (4 items).
- Four outcome variables: Overall perceptions of safety; frequency of event reporting; patient safety grade (of the hospital unit); and number of events reports.

Collected data were analyzed using a specially design Microsoft Excel file that was developed by AHRQ.

Ethical considerations:
The ethical approval was obtained from the regional ethical committee at "Abu Arish" General Hospital authority and written informed consent was obtained from all participants.

Results

Table (1) shows that the highest participations were for healthcare providers at Medicine, Surgery and Obstetrics departments (10.6%, 9.7% and 9.7%, respectively). The majority of participants (88.9%) interact with patients. Participants' experience in the current units, the study hospital, and experience in their current specialty were mainly short (i.e., less than one year or 1-5 years). Most participants (61.8%) had 40-59 hours' work per week.

Table (2) shows that participants' responses regarding patients' safety culture component ranged from 22% to 72%. The main points of strengths for the hospital were teamwork within units (72%), organizational learning/continuous improvement (70%), feedback and communication about errors (60%) and supervisor, manager expectations and actions promoting patient safety. The main points which needed improvement were non-punitive response to errors (22%), staffing (32%), hospital handoffs & transitions (38%) and frequency of events reported (40%).

Table (3) shows that the overall perception of patient safety culture assessed by four questionnaire items was rated as excellent or very good by 72%, acceptable by 22% and failing or poor by 7%. The respondents generally thought that patient safety is never sacrificed to get more work done (18%) and their procedures and systems are good at preventing errors from happening (16%). On other side, about (29%) of respondents thought that it is just by chance that more serious mistakes do not happen in their hospital. In addition, (39%) of respondents indicate that they have patient safety problems in their unit.

Figure (1) shows that the number of events reported in the study hospitals were generally higher than those in the AHRQ database.

Table 1: Background characteristics of the study participants (n = 207)

Items	No.	%
Work Area/Unit		
• Medicine (non-surgical)	22	10.6
• Surgery	20	9.7
• Obstetrics	20	9.7
• Laboratory	17	8.2
• Intensive care unit (any type)	16	7.7
• Emergency department	15	7.2
• No specific unit	14	6.8
• Radiology	12	5.8
• Pediatrics	11	5.3
• Rehabilitation	9	4.3
• Pharmacy	7	3.4
• Anesthesiology	3	1.4
• Others	41	19.8
Interaction with patients		
• Yes	184	88.9
• No	19	9.2
Time worked in their current hospital work area/unit		
• <1 year	84	40.6
• 1-5 years	64	30.9
• 6-10 years	28	13.5
• 11-15 years	11	5.3
• 16-20 years	10	4.8
• ≥21 years	10	4.8
Years of experience in the hospital		
• <1 year	94	45.4
• 1-5 years	72	34.8
• 6-10 years	16	7.7
• 11-15 years	11	5.3
• 16-20 years	6	2.9
• ≥21 years	8	3.9
Experience in their current specialty or profession		
• <1 year	65	31.4
• 1-5 years	65	31.4
• 6-10 years	40	19.3
• 11-15 years	17	8.2
• 16-20 years	8	3.9
• ≥21 years	12	5.8
Typical hours worked per week		
• <20 hours per week	14	6.8
• 20-39 hours per week	25	12.1
• 40-59 hours per week	128	61.8
• 60-79 hours per week	29	14.0
• 80-99 hours per week	4	1.9
• ≥100 hours per week	7	3.4

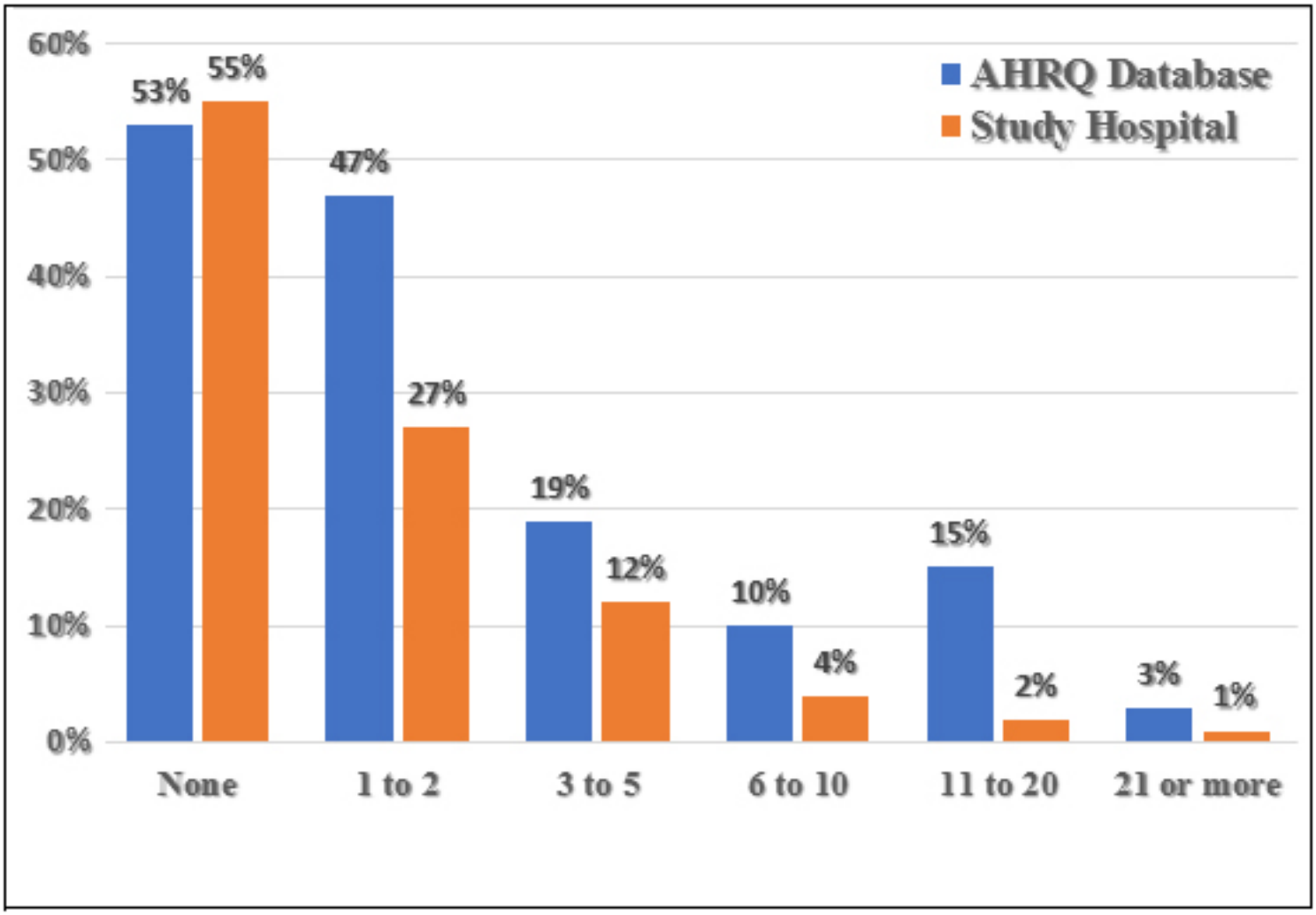
Table 2: Composite scores (mean% positive) for dimensions of patient safety culture for all participants (n =207)

Patient safety culture composite	Average % positive response
Teamwork within units	72
Organizational learning/continuous improvement	70
Supervisor, manager expectations and actions promoting patient safety	60
Feedback and communication about errors	60
Overall perceptions of safety	53
Teamwork across hospital units	43
Communication openness	43
Hospital management support to patient safety	43
Frequency of events reported	40
Hospital handoffs & transitions	38
Staffing	32
Non-punitive response to errors	22

Table 3: Percentages of overall safety perception, frequency of event reporting and patient safety grades

Overall Perceptions of Safety	Positive	Neutral	Negative
• It is just by chance that more serious mistakes don't happen around here	44	27	29
• Patient safety is never sacrificed to get more work done	69	13	18
• We have patient safety problems in this unit	40	29	31
• Our procedures and systems are good at preventing errors from happening	60	23	13
Frequency of Event Reporting			
• How frequently a mistake is made, caught and corrected before affecting the patient?	39	29	32
• When a mistake is made, but has no potential to harm the patient, how often is this reported?	35	34	30
• When a mistake is made that could harm the patient, but does not, how often is this reported?	47	25	29
Patient safety grade (of the hospital unit)	72	22	7

Number of events reported in the study hospital during the last 12 months compared with the AHRQ database



Introduction

Results of our study showed that patient safety composites with the highest positive scores were teamwork within units, organizational learning/continuous improvement, feedback and communication about errors, in addition to supervisor, manager expectations and actions promoting patient safety. However, a few points needed improvement such as non-punitive response to errors, staffing, hospital handoffs & transitions and frequency of reported events.

Similarly, in Saudi Arabia, Alahmadi reported that the highest mean composite positive score of patient safety culture was for the organizational learning for continuous improvement, followed by teamwork; the lowest mean score of patient safety culture was for the dimension of non-punitive response to error. Response to errors is an important determinant of safety culture in healthcare organizations. In order for healthcare organizations to create a culture of safety and improvement, they must eliminate fear of blame and create a climate of open communication and continuous learning (12).

In Lebanon, El-Jardali noted that the dimensions with the highest positive ratings of patient safety culture were teamwork within units, hospital management support for patient safety, and organizational learning and continuous improvement, while those with lowest ratings included staffing and non-punitive response to error (10).

In comparison to the systematic review of Albalawi et al., there were similarities in points of weakness like ineffective leadership, a blame culture, workload/ inadequate staffing and poor communication between units and positive points of teamwork within units and Organizational Learning Continuous Improvement. Conversely, 'strength' points of patient safety culture were supportive organizational attitudes to learning/continuous improvement, good teamwork within units and support from hospital management for patient safety (17).

According to the AHRQ database, the composite of safety culture with positive score more than 70% is considered as a point of strength and the composite with scores less than 50% as a point of weakness (1).

Our findings about teamwork within units was less than that reported by Alahmadi in Saudi Arabia in 16 hospitals (84%) (12), that reported by El-Jardali et al. in Lebanon (82.3%) (10), and that of the AHRQ database (80%) (1). However, it was higher than that reported by Al-Ahmadi in Saudi Arabia (69.9%) (13) and that reported in Palestine by Hamdan (71%) (9).

The composite score of "Abu Arish" General hospital in Organizational Learning-Continuous Improvement domain was less than those of previous studies reported by Alahmadi (87%) (12), Al-Ahmadi (75.9%) (13), that reported by El-Jardali et al. in Lebanon (78.3%) (10) and also that of AHRQ database (72%) (1). However, it was higher than that reported in Palestine by Hamdan (62%) (9).

The Supervisor/Manager Expectations & Actions Promoting Patient Safety domain score in our study was (60%) and it was less than that reported by Alahmadi (70%) (12), Al-Ahmadi (64%) (13), in Lebanon by El-Jardali et al. (66.4%) (10) and database of AHRQ (75%) (1). However, it was more than that reported by the study conducted in Palestine by Hamdan (56%) (9).

The composite score of Abu Arish General hospital regarding Feedback & Communication about Error domain was (60%). This was less than that reported by Alahmadi study (77%) (12), Al-Ahmadi study (63.3%) (13), El-Jardali et al. (68.1%) (10) and the AHRQ database (64%) (1).

The Overall Perceptions of Patient Safety domain score was (53%). This was less than that that reported by Alahmadi (59%) (12), El-Jardali et al. (72%) (10) and the database of AHRQ (66%) (1). However, it was more than that reported by the study of Al-Ahmadi (51.4%) (13).

The composite score of "Abu Arish" General hospital in Communication Openness domain was (43%) and this was less than that in H A Alahmadi study (60%) (12), Talal A. Al-Ahmadi study (44.2%) (13), Lebanon by El-Jardali et al. (57.3%) (10), and the AHRQ database (62%) (1). But it was more than the study conducted in Palestine by Hamdan (36%) (9).

Our percent score about Teamwork Across Units was (43%). This was less than that reported by Alahmadi (66%) (12), Al-Ahmadi (56.3%) (13), El-Jardali et al. (56%) (10) and the database of AHRQ (58%) (1).

The composite score of "Abu Arish" General hospital in Management Support for patient safety domain was (43%). This was less than the that reported by Alahmadi (74%) (12), Al-Ahmadi (65.4%) (13), El-Jardali et al. (78.4%) (10), and the database of AHRQ (72%) (1). However, it was higher than that reported by the study of Palestine hospitals by Hamdan (37%) (9).

Our findings about Frequency of Events Reported was (40%). This was less than that reported by Alahmadi (63%) (12), Al-Ahmadi (56.2%) (13), El-Jardali et al. (68.2%) (10), and the database of AHRQ (63%) (1). However, it was more than that reported by the study of Palestine hospitals by Hamdan (35%) (9).

The Handoffs & Transitions domain score was (38%). This was less than that reported by Alahmadi (61%) (12), Al-Ahmadi (47.6%) (13), El-Jardali et al. (49.7%) (10) and the database of AHRQ (45%) (1).

Our results about Staffing was (32%). This was less than that reported by the studies conducted in Lebanon by El-Jardali et al. (36.8%) (10), Palestine by Hamdan (38%) (9), and also of the AHRQ database (56%) (1). However, it was more than those reported by studies conducted by Alahmadi (27%) (12), Talal A. Al-Ahmadi (31.2%) (13).

The composite score of "Abu Arish" General hospital in Non-punitive Response to Error domain was (22%) and this was similar to a study conducted by Alahmadi (12) and less than the studies conducted in Lebanon by El-Jardali et al. (24.3%) (10), and that of the AHRQ database (44%) (1). However, it was more than the study conducted by Al-Ahmadi (21.1%) (13) and that in Palestine by Hamdan (17%) (9).

Ismail et al. stressed that patient safety culture still has many areas for improvement that need continuous evaluation and monitoring to attain a safe environment both for patients and health-care providers (11).

In conclusion, this study provides an overall assessment of perceptions of safety culture among hospital staff in a general hospital in Saudi Arabia. There are points of strengths of safety culture dimension, such as the teamwork within units and organizational learning/ continuous improvement. Staff support each other in the units, work together as a team to get the work done and make changes to improve patient safety. All of these lead to this observed strength. The points of weakness were related to punitive response to error that most participants worry that mistakes they make are kept in their personal files leading to under-reporting of errors. Problems often occur in cooperation and exchange of information across hospital units. Generally, there exists a punitive and blame culture, under-reporting of events, under-staffing, handoffs & transitions, lack of communication openness and inadequate management support.

Therefore, it is to be noted that the first step toward elimination of harm and improvement of patient safety and learning from mistakes is error reporting. Hospital organization must reduce the fear of blame culture and create a climate of open communication and continuous learning improving non-blaming "just culture" in the hospital to facilitate the reporting of errors and learning from them, and it must provide effective strategies to facilitate exchange of information across units. Moreover, hospitals need more manpower to face overload. It is recommended to use team Strategies and Tools to Enhance Performance and Patient Safety (STEPPS).

References

1. Agency for Healthcare Research and Quality. Quality and Patient Safety [Internet].2022 [cited 2022, Jan 8th]. Available from: http://www.ahrq.gov/.
2. Vlayen A, Schrooten W, Wami W, Aerts M, Barrado LG, Claes N HJ. Variability of Patient Safety Culture in Belgian Acute Hospitals. J Patient Saf. 2013;

3. Nie Y, Mao X, Cui H, He S, Li J, Zhang M. Hospital survey on patient safety culture in China. BMC Heal. Serv Res. 2013; 13:228.
4. Fujita S, Seto K, Ito S, Wu Y, Huang C-C, Hasegawa T. The characteristics of patient safety culture in Japan, Taiwan and the United States. BMC Health Serv. Res 2013; 13:20.
5. Prati G, Pietrantoni L. Attitudes to teamwork and safety among Italian surgeons and operating room nurses. Work 2014; 49(4):669-77. doi: 10.3233/WOR-131702.
6. Hoffmann B, Müller V, Rochon J, Gondan M, Müller B, Albay Z, et al. Effects of a team-based assessment and intervention on patient safety culture in general practice: an open randomized controlled trial. BMJ Qual Saf. 2013; 10:1136.
7. Abdi Z, Delgoshaei B, Ravaghi H, Abbasi M HA. The culture of patient safety in an Iranian intensive care unit. J Nurs Manag. 2013; 10:1111.
8. Hamdan M. Measuring safety culture in Palestinian neonatal intensive care units using the Safety Attitudes Questionnaire. J Crit Care. 2013; 5:886.
9. Hamdan MSA. Assessment of patient safety culture in Palestinian public hospitals. Int J Qual Heal. Care. 2013; 2:167–75.
10. El-Jardali F, Jaafar M, Dimassi H, Jamal D, Hamdan R. The current state of patient safety culture in Lebanese hospitals: a study at baseline. Int. J. Qual. Health Care 2010; 22(5):386–95. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20699233.
11. Ismail NA, Elarab HSE, Wassif GO. Assessment of patient safety culture among health- care providers at a teaching hospital in Cairo, Egypt. East. Mediterr. Heal. J. 2012; 18(4).
12. Alahmadi HA. Assessment of patient safety culture in Saudi Arabian hospitals. Qual. Saf. Health Care; 19(5): e17.
13. Al-Ahmadi TA. Measuring Patient Safety Culture in Riyadh's Hospitals: Aboshaiqah AE BO. Assessment of nurses' perceptions of patient safety culture in a Comparison between Public and Private Hospitals. J Egypt Public Heal. Assoc. 2009; 84(5-6):479-500.
14. Aboshaiqah AE, Baker OG. Assessment of nurses' perceptions of patient safety culture in a Saudi Arabia hospital. J Nurs Care Qual. 2013; 3:272–80.
15. Coburn AF, Croll ZT. Improving Hospital Patient Safety through Teamwork: The Use of Teamstepps in Critical Access Hospitals. Portland, ME: Flex Monitoring Team; 2011. (Policy Brief #21).
16. Najjar S, Hamdan M, Baillien E, Vleugels A, Euwema M, Sermeus W, et al. The Arabic version of the hospital survey on patient safety culture: a psychometric evaluation in a Palestinian sample. BMC Health Serv. Res. BMC Health Services Research; 2013; 13(1):193.
17. Albalawi A, Kidd L, Cowey E. Factors contributing to the patient safety culture in Saudi Arabia: a systematic review. BMJ Open. 2020; 10(10):e037875. doi: 10.1136/bmjopen-2020-037875.