

Teaching and Training in Patient Safety

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To Err is Human

- The Institute of Medicine (IOM) released a report in 1999 entitled *“To Err is Human: Building a Safer Health System”*.
- The report stated that errors cause between **44 000** and **98 000 deaths** every year in American hospitals, and over one million injuries.
- The IOM report called for **a 50% reduction** in medical errors over 5 years.
- **Its goal** was to break the cycle of inaction regarding medical errors by **advocating** a comprehensive approach to **improving patient safety**.

- The **2010** Helsinki Declaration for Patient Safety in Anaesthesiology states "Education has a key role to play in improving patient safety, and we fully support the **development, dissemination and delivery** of patient safety **training**".

- Patient Safety is not a side-effect of good patient care by skilled clinicians.
- Patient safety is a subject on its own, which was traditionally not taught to medical personnel.

What is Patient Safety?

- **Patient Safety:** the reduction of risk of unnecessary harm associated with health care to an acceptable minimum (WHO-ICPS, 2009).



Aim & Objectives

- Teaching patient safety aims at understanding the issues and causes that result in patient harm/safety.
- There must be understanding of the medical environment in which they occur as **well as the underlying cognitive processes** that lead patient harm/safety.

The teaching and training approach depends on learning from experiencing errors.

- This approach starts with:
 - 1- inducing errors,
 - 2- identifying an error and then
 - 3- responding to the error by taking actions to counter and recover from the error.

- Patient safety training is a **multidisciplinary topic** and enterprise, which requires us to cooperate with safety experts from different fields (e.g. psychologists, educators, human factor experts).

Course: Fundamentals in Patient Safety

Topic: What is Patient Safety?

- Patients can be harmed from health care, resulting in **permanent injury**, **increased lengths of stay** in hospital and even **death**.
- Many and varied types of health-care providers are involved.
- It can be difficult to ensure safe care, unless the system is designed to facilitate the delivery of quality and safe services.



Course: To Err is Human

Topic: Why applying human factors is important for patient safety

- The study of human factors examines the relationship between **human beings** and **the systems** with which they interact.
- It focuses on improving **efficiency, productivity, creativity** and **job satisfaction**, with the goal of minimizing errors.



Course: To Err is Human

Topic: Systems and the effect of complexity on patient care

- Patients depend on many individuals doing the right thing at the right time.
- Safely requires an **understanding of the complex interactions** and relationships that occur in health care.
- Such awareness can **help practitioners identify the opportunities for mistakes** that can harm patients and take steps to prevent them.



Two schools of thought

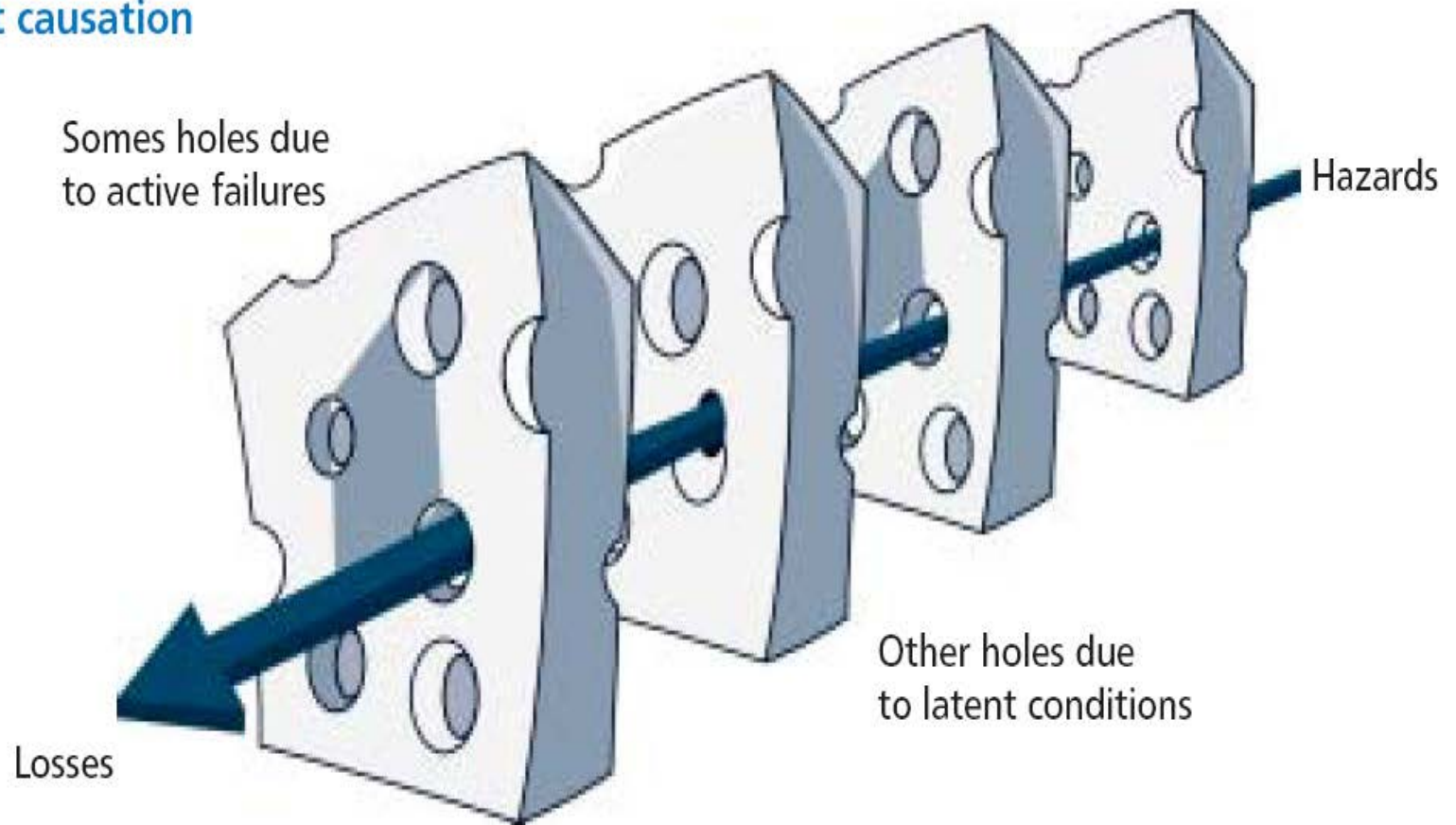
1. The traditional approach (Blame)

- This approach is to **blame** and **shame** the health-care professionals involved in caring for the patient at the time of an adverse event or error.
- **It is unhelpful and counterproductive.**

2. The new approach (Systems)

- It is hard to change aspects of complex systems, and
- It is even harder to change the behaviour of human beings, in terms of errors.
- **Improve the design of the system** so that errors are prevented from occurring and/or their consequences minimized.

Reason's "Swiss cheese" model of accident causation



Successive layers of defences, barriers & safeguards

Course: To Err is Human

Topic: Being an effective team player

- The importance of **effective teams** is increasing due to factors such as:
 - (i) the increased incidence of complexity and specialization of care;
 - (ii) increasing co-morbidities;
 - (iii) the increasing incidence of chronic disease;
 - (iv) global workforce shortages; and
 - (v) initiatives for safe working hours.



Course: To Err is Human

Topic: Engaging with patients and carers

- Modern health care claims to be **patient-centred**, but the reality for many patients is very different.
- **When health-care organizations fail to integrate patient involvement in managing risk, they lose access to important patient knowledge.**



Course: Patient Safety Solutions

Topic: Improving medication safety

- Remember that using medications to help patients is not a risk-free activity.
- Medication errors are common and cause preventable human suffering and financial cost.
- **Know your responsibilities and work hard to make medication use safe for patients.**



The 5 Rs for medication safety:

- right drug
- right route
- right time
- right dose
- right patient

Course: Patient Safety Solutions

Topic: Patient safety and invasive procedures

- This topic outlines the value of **protocols and checklists** in reducing errors and minimizing adverse events.
- Protocols can prevent the **wrong patient** from receiving the **wrong treatment**, as well as **facilitate better communication** among team members, including the patient.



Surgical Safety Checklist



Patient Safety
A World Alliance for Patient Safety

Before induction of anaesthesia

(with at least nurse and anaesthetist)

Has the patient confirmed his/her identity, site, procedure, and consent?

- Yes

Is the site marked?

- Yes
 Not applicable

Is the anaesthesia machine and medication check complete?

- Yes

Is the pulse oximeter on the patient and functioning?

- Yes

Does the patient have a:

Known allergy?

- No
 Yes

Difficult airway or aspiration risk?

- No
 Yes, and equipment/assistance available

Risk of >500ml blood loss (7ml/kg in children)?

- No
 Yes, and two IVs/central access and fluids planned

Before skin incision

(with nurse, anaesthetist and surgeon)

Confirm all team members have introduced themselves by name and role.

Confirm the patient's name, procedure, and where the incision will be made.

Has antibiotic prophylaxis been given within the last 60 minutes?

- Yes
 Not applicable

Anticipated Critical Events

To Surgeon:

- What are the critical or non-routine steps?
 How long will the case take?
 What is the anticipated blood loss?

To Anaesthetist:

- Are there any patient-specific concerns?

To Nursing Team:

- Has sterility (including indicator results) been confirmed?
 Are there equipment issues or any concerns?

Is essential imaging displayed?

- Yes
 Not applicable

Before patient leaves operating room

(with nurse, anaesthetist and surgeon)

Nurse Verbally Confirms:

- The name of the procedure
 Completion of instrument, sponge and needle counts
 Specimen labelling (read specimen labels aloud, including patient name)
 Whether there are any equipment problems to be addressed

To Surgeon, Anaesthetist and Nurse:

- What are the key concerns for recovery and management of this patient?

This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.

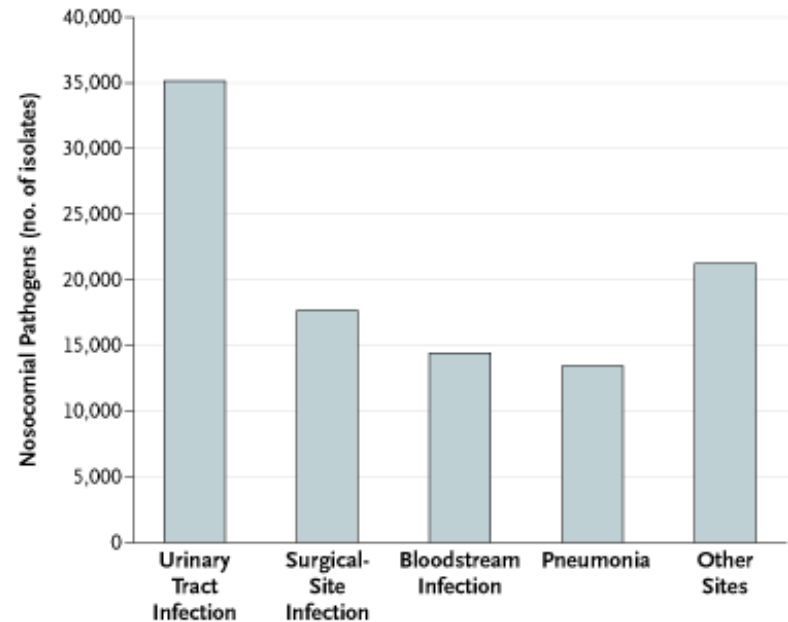
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Course: Patient Safety Solutions

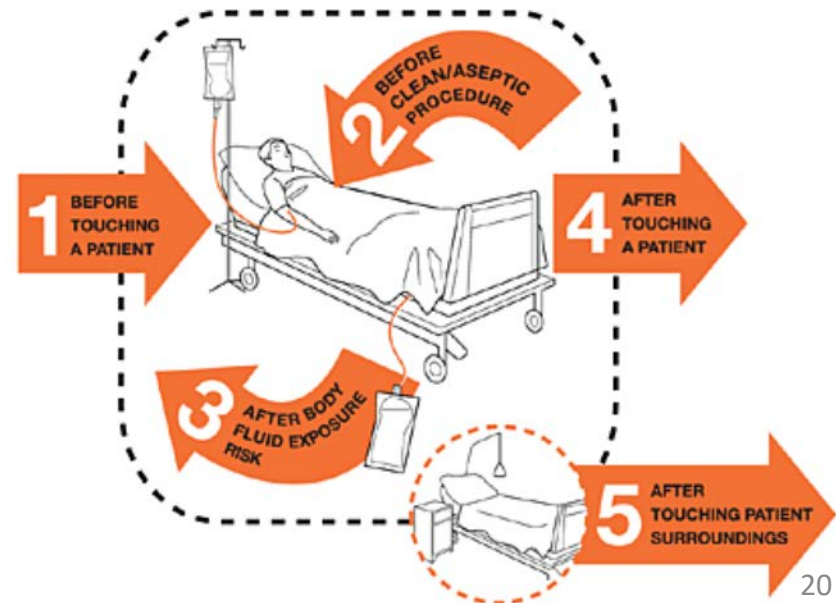
Topic: Infection prevention and control

- Health care-associated Infection (HCAI) is as an infection acquired in a hospital by a patient who was admitted for a reason other than that infection.
- HCAI may appear after discharge, as well as
- Occupational infections among health-care staff.



How to minimize the incidence of HCAI?

- **know the main guidelines** in each of the clinical environments
- **accept responsibility** for minimizing opportunities for infection transmission;
- **apply standard** and transmission-based **precautions**; including **Hand hygiene**.
- let staff know if **supplies** are inadequate or depleted;
- **educate patients and their families/visitors** about clean hands and infection transmission.



Course: Knowledge is the Enemy of Unsafe Care

Topic: Learning from error

- Medical error is a complex issue, but error itself is an inevitable part of being human
- Learning from error can occur at both an **individual and an organizational level** through **incident reporting and analysis**.
- **Barriers to learning** from error include the existence of a **blame culture** that applies a person-centred approach to investigation.
- **A systemic approach** is required for organizational learning and system change.



Learning from error (Cont')

Situations associated with increased risk of error

- Inexperience
- Time pressures
- Are there Contingency teams (emergent or specific events)
- Inadequate checking
- Poor procedures
- Inadequate information

1) Incident reporting

Individual factors that predispose health-care providers to errors

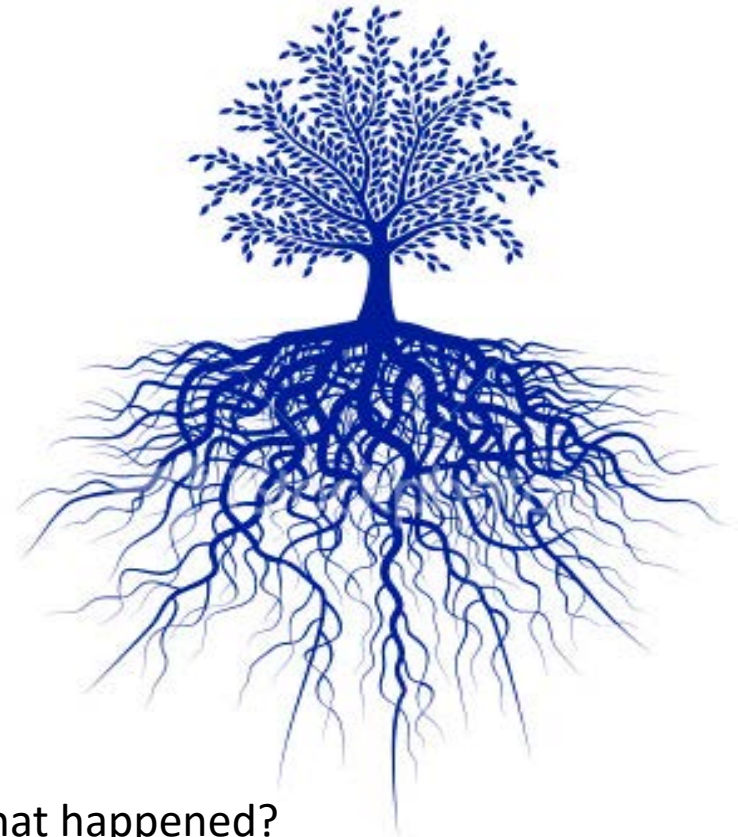
- ***Limited memory capacity***
(follow guidelines, checklists and protocols).
- ***Fatigue***
- ***Stress, hunger, illness***
- ***Language*** (Communication errors)
- ***Hazardous attitudes***

2) Root Cause Analysis

Course: Knowledge is the Enemy of Unsafe Care

Topic: Root Cause Analysis

- **Root cause analysis (RCA)** is a highly structured systemic for the most serious patient harm episodes.
- **RCA** focuses on the particular incident and the circumstances surrounding it.
- **RCA** is used to uncover the primary causes.
- **RCA** aims to prevent similar incidents in the future.



- What happened?
- Who was involved?
- When did it happen?
- Where did it happen?
- How severe was the actual or potential harm?
- What is the likelihood of recurrence?
- What were the consequences?

Course: Knowledge is the Enemy of Unsafe Care

Topic: Understanding and managing clinical risk

Clinical risk management deals mostly with improving the quality and safety of health-care, by:

- **identify** the risk;
- **assess** the frequency and severity of the risk;
- **reduce** or eliminate the risk;
- **assess the costs saved** by reducing the risk or the costs of not managing the risk.



Course: Knowledge is the enemy of unsafe care

Topic: Using quality improvement methods to improve care

- The goal of improving quality of care and safety involves changing the ways health-care providers and systems function, **in order to achieve better patient outcomes.**
- Quality and safety are not controlled at the end of the line, but rather **throughout the entire process.**



Course: Knowledge is the Enemy of Unsafe Care

Topic: Quality improvement methods

- **Quality of care improves patient safety and**
- **errors are minimized, when health-care providers use quality improvement methods and tools.**
- **Such methods and tools can be applied in any setting—a rural, remote health-care centre or a busy hospital in a large city.**



Tools for assessing underlying problems and progress

1. Flowcharts

- allow a health-care team to understand the steps involved in the delivery of a service to patients.

2. Cause and effect diagrams

also called an **Ishikawa** or **fishbone** diagram.

3. Pareto charts

- is used to describe a large proportion of quality problems being caused by a small number of causes.

4. Run charts

- graphs of data collected over time that can help determine whether a change or enhancement in a clinical practice has resulted in true improvement over time
- or whether the observed results represent a random fluctuation.

10 things Universities & Academics can do now to improve patient safety

- ☐ Recognize that patient safety can act as an effective entry point to health systems strengthening
- ☐ Encourage and enable innovative research projects in patient safety improvement
- ☐ Incorporate patient safety teaching into undergraduate health-care professional education
- ☐ Use any influence at the national level to include patient safety in the national research agenda and health-care policies.
- ☐ Learn about the current state of patient safety across the health-care system within your country
- ☐ Assist hospitals in your country to carry out evaluations of patient safety projects
- ☐ Support the implementation of patient safety projects with academic expertise
- ☐ Identify an Academic Patient Safety Champion to pioneer priority changes in national policies and research
- ☐ Collaborate with institutions within your own nation and abroad to share research and learning in patient safety
- ☐ Act as a bridge between industry and donors to fund patient safety research and evidence generation

WHO (African Partnerships for Patient Safety) November 2011 Improvement Series

Conclusion

- Patient safety is self-evident and **paramount**.
- In fact, practical ways to teach patient safety; focus on **recovery** rather than error avoidance.
- Finally, it is recommended to follow and adopt the European Council statement:
"**Education for patient-safety should be introduced at all levels within health-care systems**"

References

- Kohn L T, Corrigan J M, Donaldson MS (Institute of Medicine) To err is human: building a safer health system. Washington, DC: National Academy Press, 2000.
- Max Green (2015). 100 patient safety benchmarks. July 06, 2015.<http://www.chfg.org/wp-content/uploads/2012/03/Vincent-Essentials-of-Patient-Safety-2012.pdf>
- Jannicke Mellin-Olsen, Sven Staender, David K. Whitaker and Andrew F. Smith. The Helsinki Declaration on Patient Safety in Anaesthesiology . Eur J Anaesthesiol 2010;27:592–597 April 2010.
- [Stelfox](#) HT, [Palmisani](#) S, [Scurlock](#) C, [Orav](#) EJ, and [Bates D W.](#) The “*To Err is Human*” report and the patient safety literature. Qual Saf Health Care. 2006 Jun; 15(3): 174–178.doi: [10.1136/qshc.2006.017947](https://doi.org/10.1136/qshc.2006.017947), PMID: PMC2464859.
- WHO (2012). <http://www.who.int/about/licensing/en/index.html> .
- WHO (2015).Patient Safety Curriculum Guide, Multi-professional Patient Safety Curriculum Guide.

Publications from Africa

- WHO Patient Safety: No 8, October 2011 WHO Patient Safety Newsletter : Patient Safety: Focus on Africa.
- WHO (2009). African Partnerships for Patient Safety.
- **WHO ()Evaluating patient safety education in Africa**
- VanGeest J. B., and Cummins D. S. An Educational Needs Assessment for Improving Patient Safety Results of a National Study of Physicians and Nurses. National Patient Safety Foundation®
- [Wong BM¹](#), [Etchells EE](#), [Kuper A](#), [Levinson W](#), [Shojania KG](#). **Teaching quality improvement and patient safety to trainees: a systematic review.** [Acad Med](#). 2010 Sep;85(9):1425-39. doi: 10.1097/ACM.0b013e3181e2d0c6

Publications from Middle East

- Abdelhai, Shaimaa B. Abdelaziz and Nashwa S. Ghanem. Assessing patient safety culture and factors affecting it among health care providers at Cairo university hospitals. *J Am Sci* 2012;8(7):277-285. (ISSN:1545-1003). Available at:http://www.jofamericanscience.org/journals/am-sci/am0807/043_9638am0807_277_285.pdf . [Administered in Egypt, used Arabic translation.]
- Aboshaiqah A, Baker O. Assessment of nurses' perceptions of patient safety culture in a Saudi Arabia hospital. *J Nurs Care Qual* 2013; 1-9. [Administered in Saudi Arabia, used English version.]
- Al-Ahmadi TA. Measuring patient safety culture in Riyadh's hospitals: a comparison between public and private hospitals. *J Egypt Public Health Assoc* 2009;84(5-6):479-500. [Administered in Saudi Arabia, used English version.]
- Alahmadi HA. Assessment of patient safety culture in Saudi Arabian hospitals. *Qual Saf Health Care* 2010 Oct;19(5):e17. [Administered in Saudi Arabia, used English version.]
- Bahrami MA, Montazeralfaraj R, Chalak M, et al. Patient safety culture challenges: survey results of Iranian educational hospitals. *Middle-East J Sci Res* 2013; 14(5): 641-649. Available at:<http://www.idosi.org/mejsr/mejsr14%285%2913/8.pdf> . [Administered in Iran, used English version.]
- Bodur S, Filiz E. A survey on patient safety culture in primary healthcare services in Turkey. *Int J Qual Health Care* 2009;21(5):348-55. Available at: <http://intqhc.oxfordjournals.org/content/21/5/348.full.pdf+html> [Administered in Turkey, used Turkish translation.]
- El-Jardali F, Dimassi H, Jamal D, et al. Predictors and outcomes of patient safety culture in hospitals. *BMC Health Serv Res* 2011 Feb 24;11:45. Available at: <http://www.biomedcentral.com/1472-6963/11/45/> . [Administered in Lebanon, used Arabic translation.]
- El-Jardali F, Jaafar M, Dimassi H, et al. The current state of patient safety culture in Lebanese hospitals: a study at baseline. *Int J Qual Health Care* 2010 Oct; 22(5):386-95. Available at:<http://intqhc.oxfordjournals.org/content/22/5/386.long> [Administered in Lebanon, used Arabic translation.]
- Hamdan, M and Alra'ouf Saleem, A. Assessment of patient safety culture in Palestinian public hospitals. *Int J Qual Health Care* 2013 Feb; 25(2):167–175. doi: 10.1093/intqhc/mzt007. [Administered in Palestine, used Arabic translation.]
- Kabir M, Heidari A, Jafari N, et al. The perspectives toward patient safety culture among staff in educational hospitals in Gorgan in 2011. *Iranian J Health Sciences* 2013; 1(1): 75-83. Available at:http://jhs.mazums.ac.ir/files/site1/user_files_d258bd/roostamifaridehhsr-A-10-25-32-00bee6a.pdf . [Administered in Iran, used Farsi translation.]
- Moghri J, Arab M, Saari AA, Nateqi E, et al. The psychometric properties of the Farsi version of “Hospital Survey on Patient Safety Culture” in Iran's hospitals. *Iranian J Publ Health* 2012; 41(4): 80-86. Available at:<http://ijph.tums.ac.ir/index.php/IJPH/article/view/2107/1880> [Administered in Iran, used Farsi translation.]
- Mohammadreza A, Sogand T, Omid B. Measuring safety culture and setting priorities for action at an Iranian hospital. *Al Ameen J Med Sci* 2010;3(3):237-45. [Administered in Iran, used Persian translation.]
- Mozafari J, Fahimi MA, Masoumi K, Darian AA, Forouzan A. Emergency medicine residents perception about patient safety culture. *Adv Biol Res* 2013; 7(5):155-58. [Administered in Iran]
- Sagioglu T, Oğuz S, Yağcı MA, et al. Evaluation of patient safety culture: single-center non-randomized, cross-sectional study, Department of General Surgery, Faculty of Medicine, Trakya University, Turkey experience. *Scientific Research and Essays* 2013; 8(10):398-403. Available at: <http://www.academicjournals.org/sre/PDF/pdf2013/11Mar/Sagioglu%20et%20al.pdf> . [Administered in Turkey, used Turkish translation.]
- Tabrizchi N, Sedaghat M. The first study of patient safety culture in Iranian primary health centers. *Acta Medica Iranica* 2012; 50(7): 505-510. Available at: http://journals.tums.ac.ir/upload_files/pdf/_/21708.pdf . [Administered in Iran, used Persian translation.]

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