Quality management model to promote patient safety in the hospitals of the Ministry of Health in Hidalgo, Mexico

Modelo de calidad para promover la cultura de la seguridad del paciente en los hospitales de la Secretaría de Salud del Estado de Hidalgo

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Abstract:

Patient safety is a priority in health care, each person involved in the process serves as a key factor to efficient care; elements such as safe and timely procedures and security in the organization environment correspond to a quality service and an integral safety model. National and international initiatives have been carried out to highlight the importance of this topic. Generating a program that standardizes and promotes a culture of safety in the care procedures throughout the organization's environment strengthens a strategy of the Ministry of Health in the State of Hidalgo with its 16 hospitals and encourages the commitment to a safe, efficient and quality care. In the development of this article it will be described the educational strategy implemented, which aims to create a culture of safety in the environment of the organization to join efforts and align policies to the vision of zero preventable deaths.

Keywords:

Patient safety, quality, education, awareness

Resumen:

La seguridad del paciente es prioritaria en la atención a la salud, cada involucrado en el proceso funge como una pieza clave para una atención eficiente; elementos como procedimientos seguros y a tiempo y seguridad en el entorno de la organización corresponden a una prestación de servicio de calidad y a un modelo integral de seguridad. Iniciativas a nivel nacional como internacional se han llevado a cabo para resaltar la importancia de este tema. El generar un programa que estandarice e impulse la cultura de la seguridad en los procedimientos de atención en todo el entorno de la organización, consolida una estrategia de la Secretaría de Salud en el Estado de Hidalgo con sus 16 hospitales y fomenta el compromiso con una atención segura, eficiente y de calidad. En el desarrollo del presente artículo se da a conocer la estrategia educativa implementada, cuyo objetivo es crear una cultura de seguridad en el ambiente de la organización para sumar esfuerzos y alinear políticas a la visión de cero muertes prevenibles.

Palabras Clave:

Seguridad del paciente, calidad, educación, concientización

INTRODUCTION

The World Health Organization, during its 2002 assembly, adopted patient safety as a part of its resolutions and in 2004, implemented, together with 140 countries, some programs to solve problems that demand attention to guarantee safety in procedures. Such initiatives are relevant according to statistics: in developed countries, one of each ten patients suffer some damage during its

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stay in hospitals; of each 100 hospitalized patients, 7 in developed countries and 10 in developing countries, will get an infection related to health attention; however, the frequency of such infections can be reduced in more than 50% by implementing simple actions. There are 1.5 million of different medical devices, the majority of the population does not have an adequate access to them, and more than a half of these devices do not have national regulations on health technology. Each year, 234 million surgeries are performed entailing a considerable risk. Fifty percent of the complications could be avoided. There is a bad health expenditure, between 20 and 40% of the budget is wasted because of a deficient attention to patients. The probability that a patient can suffer some adverse event in a hospital is 1 in 300.[1] All the world face a challenge trying to avoid safety accidents or omissions in health care. Health professionals have a banner: "the first thing is not to harm"; and as the Joint Commission states: the first thing is to recognize the reality we are facing, to reject the status quo that is acceptable and take measures to correct the problems that contribute to unsafe attentions.[2]

Nowadays, solutions to improve patient safety have transcended and have a more constructive approach, which involves greater teamwork force, effective communication among the health professionals and with the patients, and the unification of attention processes, today, we have to create and spread the solutions to reach the prevention of a deficient attention.[2]

Multiple alliances have emerged after the publication of the problems previously discussed, whose main objective is to coordinate, disseminate and accelerate strategic improvements to promote patient safety throughout the world. In 1951, the Joint Commission was founded, whose vision is for people to experience safer health care, with higher quality and with the best value.[3] In 2005, the WHO launched the Global Alliance for Patient Safety and identified 6 fields of action.[2] In 2012, in the United States of America, the Patient Safety Movement was born, a movement that aims to bring together all those involved in patient safety.[4] Mexico, in 2017, through the General Health Council, published in the Federal Official Journal, an agreement that establishes that all members of the

National Health System have to consider as mandatory the "Essential Actions for Patient Safety".[5] Specifically, the patient's essential actions in Mexico are: identification of the patient, effective communication, safety in the medication process, safety in the procedures, reduction of the risk to get infections associated with health care, risk reduction of falling, registration and analysis of sentinel and adverse events, quasi-failures and patient safety culture.[6]

Because worldwide actions had been taken to promote patient safety, in Hidalgo, the Ministry of Health had been committed to improved quality in terms of health care and has forged objectives whose strategic axes are essential actions aligned to the culture of patient safety.

Objective: To share with each person involved in health care, the need for a culture of safety in all hospital services, to emphasize the responsibility that falls in each moment and factor involved in the process of attention, the need for reliable and safe care of people who demand a service, to consider legal concepts that demand or defend the actions of health care personnel as well as the analysis of errors through the reporting of adverse events aiming to prevent errors.

MATERIALS AND METHODS

It was developed an observational cross-sectional descriptive study of a comparative nature, based on the registry of information on adverse events on the Adverse Events Registration System during the years 2016, 2017 and the increase reported in 2018 while a training program was developed.

The development of the study is based on the participation in the Patient Safety Movement, which is an international movement with an online platform (www.patientsafetymovement.org) that includes the participation of 43 countries; its participation scheme consists on registering annual commitments related to the 16 Actionable Patient Safety Solutions (APSS) aligned with the world's essential actions of patient safety aiming at: zero preventable deaths. As a strategy in the Ministry of Health in Hidalgo, in January 2018, 16 hospitals in Hidalgo were registered in the Patient Safety Platform with

90 and more than 90 hospital beds: General Hospital of Pachuca and General Hospital of Tulancingo; with 60 hospital beds: Regional Hospital of Valle del Mezquital and General Hospital of Tula-Centro Oncológico, in which services of basic specialties are included (gynecology and obstetrics, surgery, pediatrics, and internal medicine), critical care for adults and newborn, specialties such as: gastroenterology, psychology, neonatology, neurology, odontology, ophthalmology, cardiology, traumatology, and orthopedics, urology and oncology, among others, with specialized imaging diagnosis and treatment; with 30 hospital beds: Regional Hospital of La Huasteca, General Hospital of Actopan, General Hospital of Huichapan, General Hospital of Apan, Hospital of Obstetrics, Psychiatric Hospital Villa Ocaranza, in which services of basic specialties are included (gynecology and obstetrics, surgery, pediatrics and internal medicine) and some others, depending on the hospital requirements and with medium level medical devices for diagnosis and treatment; finally, with 12 hospital beds: Integral Hospital of Atlapexco, Integral Hospital of Jacala, Integral Hospital of Cinta Larga, Integral Hospital of Tlanchinol, Integral Hospital of Huehuetla, and Integral Hospital of Otomí Tepehua where services of basic specialties are included (gynecology and obstetrics, surgery, pediatrics and internal medicine) and with low level medical devices for diagnosis and treatment, that is why most of the patients are transferred to some other hospitals because of the limited resources. All hospitals offer services 24 hours a day, 365 days a year, having morning, evening, night, special and weekend shifts.

The 2 commitments or Actionable Patient Safety Solutions (APSS) registered are aligned to the main gaps identified within the institution are: a) Culture of Safety (APSS 1) and b) Optimization of Obstetric Safety (APSS 11).

The strategy: Due to the need of implementing improvements in the attention processes, initially it was necessary to evaluate the strengths, opportunities, deficiencies and threats of our system to establish tools to identify the gaps and needs in all the involved areas (resources, time, cost and infrastructure). To develop this analysis, meetings with the directors of the different

hospitals were carried out, where they exposed not only some of the strategies that were already carried out in their units, but also the deficiencies and problems they face in practice; afterwards, a discussion forum was opened where authorities in charge of the financing and operation were included as stakeholders, to be able to concretize a strategy that was viable for all hospitals, by exposing ideas successfully executed in the units. This was important and interesting for the generation of new ideas with different perspectives. This was a key factor to plan real safety solutions for the patient in collaboration with group works of the sectors involved, to make well-documented and new action plans not only to strengthen the existing programs and consolidate a strategic plan but also to homogenize processes and learn from mistakes.

The planning:

During the process of commitment registration in the platform, the challenges, aligned with the Patient Safety Movement strategy and its published guidelines, were defined (www.patientsafetymovement.org). The evaluation of hospitals conditions and its feasibility of implementation was a priority through the unification of knowledge to achieve the strategic approach in time and scope. Particularly, each hospital sought to design and adapt the model, to constitute actions according to the needs, deficiencies of its services and common mistakes in the attention. Not all hospitals, depending on their size, offered services, number of patients, staff, among other factors, face the same problems of patient safety, self-knowledge of the processes and deficiencies that were observed over time allowed each hospital to define specific lines of training for the staff or even other specific actions to be undertaken to avoid errors following the established state strategic lines:

1. Promotion, awareness, and training in a regional and particular way by the hospital,

2. Definition of priority lines in patient safety (self-knowledge),

3. Definition of key performance indicators,

4. Report of adverse events,

5. Control board for monitoring adverse events.

The previous axes are supported by the Adverse Events Registration System, a software provided by the General Department of Health Quality Assurance (DGCES) and serves as the main technical resource to make the detailed record of such events, aiming to standardize the strategies in order to improve the safety conditions of attention.

The stratification of information:

The patient's safety culture as well as the optimization of obstetric safety, must be shared with all the staff who are directly or indirectly related to patient care. For that, medical, administrative and support personnel attended regional training meetings where topics such as the importance of the participation of each person involved in the attention process, the need for a reliable and safe care of people who demand a service promoting empathy, basic concepts and definitions of patient's safety, risk scenarios and legal implications that demand or defend the actions of the health care personnel as well as the analysis of errors to reach learning, were approached. These meetings were held on March, 2018 and included the following regions: Tulancingo (Hospital Tulancingo, Huehuetla, Otomí Tepehua and Apan); Ixmiquilpan (Valle del Mezquital Hospital, Jacala, Actopan and Huichapan); Huejutla (Hospital Huejutla, Tlanchinol and Atlapexco); Tula (Hospital Tula, and Cinta Larga) and Pachuca (Hospital Pachuca, Obstetric, Villa Ocaranza and Central Offices). Subsequently, training was carried out in various events, like a Nursing Congress, Patient Safety Committees, Hospital Anniversaries, and it was highlighted the use of tele-education technology through digital media.

As part of the training process for health care professionals, a remote educational platform was implemented on the Moodle domain, named: "Movement for patient safety", which hosts the tele-education of 128 people, with 2 health professionals as speakers, the included modules are: patient safety, solutions for patient safety and adverse events. During the second semester, a second series of regional training was carried out, which purpose was the continuous monitoring and analysis of the identified errors through the analysis of the root cause.

RESULTS

After sharing the importance of patient safety during the first and second semester of 2018, the result was 4,800 people (3823 face-to-face and 977 virtually) in topics related to the culture of patient safety, such as: Hand washing, Adverse events system, Essential patient safety actions, Quality indicators in health, Infections associated with health care, Clinical record, Use of medications, Critical patient care, Biohazard waste, Red car, Accreditation with a focus on patient safety, Clinical Nursing Records, Fall Hazards, Cesarean Section Reduction, Obstetric Triage, Cesarean and puerperium, Obstetric Patient, Mater Code, and Life protection of the binomial.

Training regarding the importance of safety, as well as the use of technological resources for its use, has resulted in the reporting of 238 adverse events from January 1 to December 31, 2018 in the Adverse Events Registration System, provided by DGCES.

While studying the records of 2018, it was observed a significant report of falls, followed by medication errors, infections associated with health care, errors associated with medical devices, among the most important ones, as shown in Figure 1.
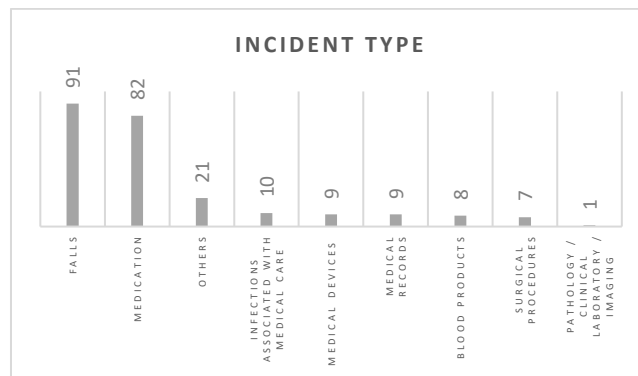

Figure 1. Classification by type of incident during 2018.

It was important to associate the damage severity to the adverse events, not only to recognize how the damage was associated with errors, but also to understand in a big scale the impact of patient safety on the quality of attention. It was found that 110 of the adverse events had no harm, followed by low harm, moderate harm, serious harm, and 5 cases of death (Figures 2 and 3).

Figure 2. Harm severity in reported adverse events.

Figure 3. Annual increase in adverse events report from 2016 to 2018.

DISCUSSION

Safety culture assessments are tools that can be used to measure organizational conditions that lead to adverse events and harm to the patient; as well as to develop and evaluate safety. Improvement interventions in hospitals provide a metric of shared implicit understandings in the training and awareness phase of health care professionals; it has been detected that technical errors are the major cause of adverse events, errors are not the result of individual actions, but the consequence of a series of actions. Errors are not published for a fear of punishment; that is why, strategies of integral plans that include team work motivation, open communication, training strengthen, voluntary errors report, among others, suggest the improvement in patient safety[7]. For instance, in the National Institute of Cardiology, safety measures applied to the patient, where compliance with international goals in patient safety was reported by 24%; however, after training, 67% compliance was reported, which denotes that training improves interventions in patient safety.[8] The considerable increase in the reporting of adverse events in the Hospitals of the Ministry of Health in Hidalgo, from 39 (2016), 88 (2017) to 238 (2018), allows to detect that the institution's safety culture has spread out information in order to increase patient safety through the educational strategy, which subsequently will be followed by the analysis of the collected information, aiming to monitor and improve the strategies already implemented to promote patient safety.

CONCLUSIONS

The first phase of the implementation of the model to promote safety culture inside hospitals of the State of Hidalgo, corresponds to a task that involved tools for an educational process and to raise the awareness for a culture of patient safety, which is relevant to prevent health harms and to prevent an increase in mortality, aiming at increasing care quality and learning from mistakes.

The execution of regional and local training was a fundamental piece to provide valuable information to health care professionals not only who are directly involved with health attention, but also supporting professionals who have indirect contact with patients. It was a priority that each hospital unit had a particular strategic plan adapted to the needs of their services, aligned to the state strategy. The analysis and implementation of prevention programs and quality assurance models allows visualizing a higher quality care as the learning curve increases by knowing the impact on patient safety, risk scenarios to which the patient as operative personnel can be exposed, the knowledge of basic concepts of patient safety, legal repercussions, among others; it encouraged the participation of the people involved in the learning process and in the creation of a safety culture based on awareness and training, which are the base to transform the culture of patient safety in hospitals, specifically by the continuous report of adverse events, to improve medical care and prevent the increase in mortality due to preventable errors.

REFERENCES

1. Organización Mundial de la Salud. Datos sobre Seguridad del Paciente. [Document on the internet]. Year unknown. [cited 5th Nov

18]. Available from: http://www.who.int/features/factfiles/patient_safety/patient_safety_facts/es/index7.html

2. Organización Mundial de la Salud. Preámbulo a las soluciones para la seguridad del paciente. [Document on the internet]. 2007. [updated May 2007; cited 5th Nov 18]. Available from: http://www.who.int/patientsafety/solutions/patientsafety/PatientSolutionsSPANISH.pdf?ua=1

3. The Joint Comission. History of The Joint Commission [Document on the internet]. Year unknown. [Cited on 5th Nov. 18]. Available from: https://www.jointcommission.org/about_us/history.aspx

4. Patient Safety Movement. The Patient Safety Movement Mission [Document on the internet]. Year unknown. [Cited on 5th Nov. 18]. Available from: https://patientsafetymovement.org/about/#history

5. Diario Oficial de la Federación. Acuerdo por el que se declara la obligatoriedad de la implementación, para todos los integrantes del Sistema Nacional de Salud, del documento denominado Acciones Esenciales para la Seguridad del Paciente [Document on the Internet]. 2017. [Updated on 7 Sept 17; cited on 5th Nov. 18]. Available from: https://dof.vlex.com.mx/vid/acuerdo-declara-obligatoriedad-implementacion-692895241

6. Secretaría de Salud. Conoce las Acciones Esenciales para la Seguridad del Paciente [Document on the internet]. 2018. [updated on 18 Apr 18; cited on 5th Nov. 18]. Available from: https://www.gob.mx/salud/articulos/conoce-las-acciones-esenciales-para-la-seguridad-del-paciente?idiom=es

7. Moguel-Parra G, Amor-Santoyo S, Barragán-Pérez E. Seguridad de los pacientes, prioridad del Hospital Infantil de México: punto de vista del médico como paciente. Bol. Med. Hosp. Infant. Mex. 2008; 65: 407-411.

8. Castro-Hernández F, Zavala-Suárez E, Ramírez-Hernández C, Villela-Rodríguez E. Identificación de las medidas de seguridad aplicadas por enfermería en un hospital de segundo nivel. Rev CONAMED 2013; 18(2) 59-63.