A Descriptive Comparative Analysis of the Strategies Used by Health-Care Professionals at a Rural Hospital in Jamaica to Promote Patient Safety

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A R T I C L E I N F O	A B S T R A C T
Article type: Original Article **Article history:** Received: 2-Mar-2016 Accepted: 18-Apr-2016 **Keywords:** Healthcare delivery Hospital survey on patient safety culture instrument Medical errors Patient safety culture	**Introduction:** This study aimed to compare the principal strategies used by the healthcare providers at a rural hospital in Jamaica (JA) with the data published in the Hospital Survey on Patient Safety Culture report in the United States (2014) regarding the promotion of patient safety. **Materials and Methods:** This cross-sectional study was conducted during two months via the non-probability sampling method. Data of 240 healthcare providers were collected using the Hospital Survey on Patient Safety Culture (HSOPSC). Comparative data analysis was performed using IBM SPSS Version $_{21}$, Excel TM software, and the Hospital Survey on Patient Safety Culture report (United States, 2014). **Results:** Response rate of the survey was 25%. Composite scores of the Excel TM software determined the most prominent strategies of patient safety promotion in hospitals, as follows: "supervisor/manager expectations and actions to promote patient safety" (JA: 78%, US: 76%), "teamwork within units" (JA: 77%, US: 81%), and "organizational learning/continuous improvement" (JA: 72%, US: 73%). However, dimensions of "staffing" (JA: 47%, US: 55%) and "non-punitive response to error" (JA: 37%, US: 44%) required improvement in both countries. Positive perception of the patient safety culture was higher in the United States (66%) compared to Jamaica (59%). **Conclusion:** According to the results of this study, further improvement is required in the aspects of open communication to report medical errors, supervisory/healthcare management, and collaboration of all stakeholders to enhance the quality of care delivery and patient safety across the world.

Introduction

Failure of healthcare providers in maintaining the highest standards of care is considered a major challenge against the promotion of the patient safety culture, which might lead to medical errors adversely affecting patient outcomes. In a study conducted by Harvard School of Public Health (United States), it was concurred that medical errors due to inadequate practices in patient care delivery are a major cause of morbidity and mortality across the world (1).

Moreover, the Robert Wood Johnson Foundation (United States) contended that the most effective approach to improve the quality of care is to eliminate or reduce medical errors, which are the undesirable consequences influencing patient outcomes (2). Some of these adverse events are fall-related injuries, hospital-acquired infections, medication and procedural errors, medical device malfunctioning, diagnostic errors, and failure to follow-up on examination results (3).

According to the World Health Organization (WHO), patient safety involves the protection of patients against the "harm caused by healthcare errors and system failures" (P. 81) (4). In this regard, the Harvard report suggested that annually, a minimum of 42.7 million cases of medical errors are reported around the world, involving approximately 421 million hospitalized

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patients. Correspondingly, medical errors due to inadequate healthcare practices are considered a major cause of morbidity and mortality on a global scale (6). Medical errors are occasionally fatal and mostly associated with lack of proficiency and constant training to enhance the quality of care. Therefore, permanent implementation of educational programs by healthcare managers plays a pivotal role in the promotion of the patient safety culture (7).

Patient safety culture encompasses the shared perceptions toward the value of patient safety within an organization, which is reflected in the behaviors, attitudes, and expectations of the healthcare providers (11). As such, the most feasible approach to build the patient safety culture involves engaging healthcare providers in the prevention of medical errors.

In this regard, Taylor, Lawton, Slater, and Foy (12) aimed to apply the "Theoretical Domains Framework" to promulgate the value of strategic implementation of effective interventions in order to prevent medical errors. Despite the high efficacy of this model, it proved insufficient in the elimination of medical errors.

Providing an environment where the patient safety culture could be administered properly requires the efforts of all healthcare providers through educational interventions, improving open communication to encourage reporting adverse events, collaboration, teamwork, and commitment to the enhancement of the quality of care delivery.

On the other hand, adverse medical events could be averted through implementing strategies to increase patient involvement, developing appropriate protocols and guidelines, and training of healthcare providers on the promotion and maintenance of the patient safety culture. Furthermore, checklists are widely used to evaluate patient safety since medical errors are commonly resulted from poor communication and inconsistent care procedures (10).

Teamwork, collaboration, and effective communication among healthcare providers are considered essential in interventions aiming to promote the quality of treatment and accelerate the recovery of high-risk patients. Failure in these crucial areas of care may lead to disorganization, poor care provision, and patient dissatisfaction. Therefore, cultivation of the patient safety culture to prevent medical errors is of paramount importance in all hospitals and healthcare facilities (8).

One of the main challenges in this regard is the under-reporting of medical errors in healthcare organizations due to the punitive response of supervisors. Although the "Patient Safety and Quality Improvement Act of 2005" offers immunity in the case of error report, this problem still prevails in medical facilities (9). Self-reporting of medical errors by healthcare providers has been shown to increase organizational learning to enhance patient safety.

To date, no extensive studies have focused on the strategies employed by healthcare providers to promote patient safety in Jamaica. However, a research was conducted at two hospitals in Jamaica to determine the level of knowledge, compliance, and practice among healthcare providers with regard to occupational infection control (5). According to the results, although the healthcare staff were aware of the risk of infection transmission, they had inadequate compliance with universal precautions in this regard.

Findings of the mentioned research highlighted the need for improving the knowledge and practice of healthcare providers in terms of patient safety, as well as clear guidelines and proper educational programs in order to ensure the compliance of healthcare personnel with the universal precautions of infection control.

In this article, we aimed to further explore the current strategies used by healthcare professionals to improve patient safety in global healthcare delivery. In their qualitative meta-analysis of the literature focusing on the theoretical framework of the patient safety culture in healthcare, Sammer, Lykens, Singh, Mains, and Lackan (13) concluded that the development of effective models to promote the patient safety culture is a challenging process. The main reason was reported to be the inability to control or determine the behavior of healthcare providers in this regard.

With this background in mind, the present comparative-descriptive analysis of the strategies employed by the healthcare providers in Jamaica and the United States could be largely beneficial in enhancing the quality of healthcare practice worldwide through transforming the attitudes and behaviors toward the promotion of patient safety.

This study aimed to determine the strategies used by healthcare providers to promote the patient safety culture in a rural hospital in Jamaica and further analyze the trends in healthcare practices to improve patient outcomes.

It is hoped that the findings of this study contribute to bridging the gap between the knowledge and practice of healthcare providers in the effective promotion of patient safety and encourage the constant evaluation of current global strategies in this regard in order to increase the quality of care provision (15). Improving the clinical practice of healthcare administrators, managers, and personnel is expected to enhance the efficiency of healthcare management and ensure patient safety (2, 14).

Materials and Methods

This quantitative-descriptive study was based on a cross-sectional survey conducted on a targeted sample size consisting of 240 healthcare providers employed at a rural hospital in Jamaica.

Data were collected using the Hospital Survey on Patient Safety Culture (HSOPSC) during three months (February 3-May 30, 2014). Due to the time constraints in accommodating the survey, convenience sampling was performed to ensure greater participation by the healthcare providers. Eligible participants included

nurses, physicians, dieticians, physiotherapists, laboratory technicians, nursing administrators, patient care assistants, and enrolled assistant nurses who were in direct interaction with patients to provide essential care services. Moreover, participants had to be aged 21 years or above with a minimum clinical experience of six months at the time of the study.

The hospital in Jamaica was strategically selected as the main rural public healthcare facility in this country, offering multiple care services to the patients in the region. Recruitment of the participants was performed using invitations in the form of flyers and administrative memos. Target population represented various healthcare disciplines in order to ensure the internal validity of the study. Participants were not required to document their names on the research instrument to maintain confidentiality terms. In addition, minimal personnel were involved in the survey in order to ensure anonymity.

Prior to data collection, research proposal was reviewed and approved by the Andrew Taylor Still University Institutional Review Board. Moreover, required permit to conduct the study in Jamaica was obtained from the hospital and the Southern Regional Health Authority, which governs the healthcare sector in this region of Jamaica.

Informed consent forms were available (Appendix A), and voluntary consent was obtained from the participants, which was kept secure upon the completion of the survey. Data collection was carried out anonymously in order to respect the privacy of the participants. Study procedure involved no risks since there were no patients or interventions, and the survey instrument was administered with the consent of the participants.

HSOPSC has been developed by the Agency for Healthcare Research and Quality (AHRQ) and is accessible in the public domain (Appendix D) (16). This instrument evaluates the attitudes of healthcare providers toward creating a safe environment for patients within hospitals. HSOPSC consists of 12 dimensions and subscales to assess the effects of patient safety interventions on the development of the patient safety culture (17).

Reliability of the dimensions in this instrument has been confirmed at the Cronbach's alpha of 0.60, with reliability coefficient range of 0.63-84. In addition, validity of HSOPSC has been determined based on a composite score calculated for each respondent in the dimensions of patient safety culture, with each item graded based on a five-point Likert scale (16). In this study, HSOPSC was modified by adding a category for healthcare providers, which had no effects on its internal validity and reliability.

Data analysis was performed in IBM SPSS Statistics version 21 and Excel TM software developed by Premier. Excel TM software is a data entry and analysis tool specifically designed for HSOPSC, which is accessible to the public (18, 19).

Collected data in this study were stored on a password-protected computer. All interval and ratio variables were evaluated using univariate analysis (distribution, measures of central tendency, and measures of dispersion). Moreover, composite average scores were obtained using the Excel TM software and the Hospital Survey on Patient Safety Culture report published in the United States (2014).

Results

In total, 61 participants completed the survey, the majority of whom were female (n=56; 92%), and African-American (n=53; 87%). In one employment area, the majority of respondents were engaged in the surgical ward (n=11; 18%), and registered nurses (n=23; 37.7%) constituted the largest number of the participants.

Healthcare providers enrolled in this study were within the age range of 21-60 years, with a median of 33 years. The longest tenure at the hospital in different fields was 23 years, with a median of seven years. In addition, maximum duration of the clinical experience of participants was 27 years, with a median of seven years (Table 1).

Table1: Age, Tenure in facility, and Time in Profession

Characteristics		Median	Minimum	Maximum	N
	Age	33.0	21	60	61
Tenure in the facility	Months	0	0	8	61
	Years	7	0	27	61
Time in the Profession	Months	0	0	10	61
	Years	7	0	23	58

With respect to the level of interaction with patients, direct contact was reported by 93% of the healthcare providers, and 7% had indirect weekly interactions. Moreover, 75% of the participants worked 40-59 hours per week.

According to the information in Figure 1, 42% of the respondents believed that patient safety practices were of good quality within their units.
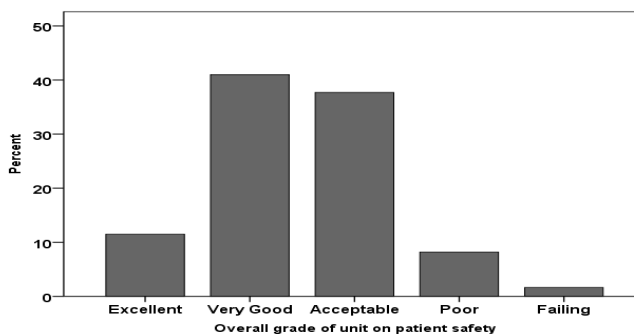

Figure 1: Overall perception of the respondents on patient safety in the units at the hospital.

In terms of medical error reports, no occurrence of incidents was reported by 72% of the respondents, 1-2 events were reported by 26%, and 3-5 events were

reported by 2% of the healthcare providers (Figure 2). On the other hand, 10% of the nursing personnel and 8% of non-nursing respondents claimed that medical errors would be prevented and corrected before affecting the patient. Based on the composite average scores, three main strategies initially emerged as the strengths of the hospital in Jamaica in terms of maintaining the patient safety culture. These strategies were "supervisor/manager expectations and actions to promote patient safety" (78%), "teamwork within units" (77%), and "organizational learning/continuous improvement" (72%). On the other hand, practical strategies in this regard included "hospital management support for patient safety" (64%), "teamwork across hospital units" (60%), and "hospital hand-offs and transitions" (i.e., level of accurate dissemination of patient care data across hospital units during shift changes) (59%). Furthermore, potential strategies for the improvement of patient safety were determined as "staffing" (47%), "communication openness" (44%), "frequency of reporting adverse events" (39%), "feedback and communication about errors" (38%), and "non-punitive response to error" (i.e., level of perceived penalty by healthcare providers in case of error report) (37%).
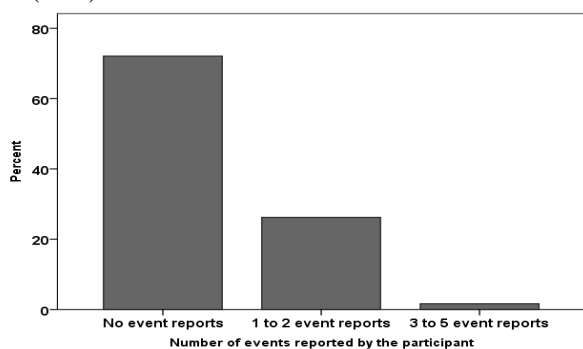

Figure 2: Summary of the number of reported adverse events at the hospital by the respondents.

Composite average scores of the study and the Hospital Survey on Patient Safety Culture report (United States, 2014) are presented in Table 3.

According to the information in this table, the majority of respondents in Jamaica perceived supervisor/manager expectations and actions as the most beneficial strategy employed at the hospital to promote the patient safety culture. According to the results of this study, 17% of the nursing staff believed that the managers complimented the personnel when a duty was thoroughly addressed in compliance with the established patient safety procedures. This was endorsed by 10% of the non-nursing healthcare providers as well. Teamwork was the second strategy perceived to be significantly beneficial in promoting the patient safety culture by the healthcare providers in Jamaica. Correspondingly, 18% of the nursing healthcare providers stated that the staff cooperated with each other in case of urgent incidents, which was confirmed by 10% of non-nursing healthcare providers as well. In the viewpoint of the participants, the third

effectual strategy in the promotion of the patient safety culture was "organizational learning/continuous improvement". However, 12% of nursing participants and 8% of non-nursing staff believed that hospital managers paid attention to patient safety only in case of adverse events. In comparison, data published by the Hospital Survey on Patient Safety Culture report (United States, 2014) share similarities in some aspects of patient safety with the study conducted in Jamaica. Demographic findings of the study in the United States indicated that in 653 hospitals that submitted data, 63% were non-teaching hospitals, and 79% were non-governmental care facilities. Total number of the participants in the mentioned survey was 405,281 hospital staff. The survey was conducted via the internet (76%) and using paper forms (69%). The three main hospital units evaluated in the study included "other" (31%), "medicine" (11%), and "surgery" (10%). Moreover, the three main staff positions were "registered nurses" (35%), "other" (22%), and "technicians" (11%).

According to our research, the three most effective strategies in promoting patient safety were the same in both countries, while the order of significance was variable. These strategies included "teamwork within units" (81%), "supervisor/manager expectations and actions to promote patient safety" (76%), "organizational learning/continuous improvement", and "hospital management support for patient safety" (73%). Furthermore, potential areas to improve patient safety were "staffing" (55%), "hospital hand-offs and transitions" (47%), and "non-punitive response to error" (lowest score) (44%) (20).

Table2: The Percentile (%) Composite Average Scores of Positive Responses on Patient Safety Culture Survey for Jamaica and the US in 2014

Safety Culture Composites	Jamaica	U. S.
Strength	%	%
Teamwork within Units	77	81
Supervisor/Manager Expectations & Actions Promoting Patient Safety	78	76
Organizational Learning--Continuous Improvement	73	72*
Need for Improvement Non-punitive Response to Error	39	44
Hospital Hand-offs & Transitions	59°	47
Staffing	47	55
Feedback & Communication About Error	38	67
Frequency of Events Reported	39	66•
Hospital Management Support for Patient Safety	64	72*
Teamwork Across Hospital Units	60	61
Overall Perceptions of Safety	59°	66•

Note. The summary of the % (percentages) of the patient safety culture composite scores was done using the Premier Excel TM software designed by Agency for Health Care Research and Quality. Symbols * and • indicate that both scores are similar for the US Symbol ° indicates that both scores are similar for Jamaica.

Discussion

In a study, Ulrich and Kear (21) contended that patient safety and patient safety culture cannot be achieved without effective healthcare delivery. Furthermore, they believed that the "National Patient Safety Goals" could be attained when healthcare management and administrations place the highest emphasis on the fact that patients always feel safe and experience no harm during hospitalization. Therefore, effective promotion and maintenance of the patient safety culture is only possible through the implementation of strategies involving the continuous training of healthcare professionals, adequate staffing, interdisciplinary collaboration, and efficient communication to prevent medical errors. However, findings of Sammer, Lykens, Singh, Mains, and Lackan (13) indicated that attaining patient safety goals is challenging since it is difficult to control the behavior of healthcare providers under all circumstances. Results of the present research confirm these findings to a certain degree.

According to the findings of the current study, strategies used by healthcare providers in Jamaica and the United States have similarities and differences based on the percentile composite average scores of the surveys. Similarities in the strategies employed by both countries to enhance patient safety mainly encompass the utilization of teamwork within units and promotion of organizational learning and continuous improvement. On the other hand, the findings indicated that healthcare providers in the rural hospital in Jamaica provided feedback and exploited communication regarding medical errors less often compared to those in the healthcare facilities of the United States. This highlights the need for further improvement in the frequency of incident reports, communication openness, feedback and communication about error, non-punitive response to error, and staffing.

Failure in providing timely feedback and open communication regarding medical errors by healthcare providers, especially in Jamaica, hinders the identification of solutions to effectively address the problems associated with patient safety. Furthermore, development and implementation of effective interventions to primarily address healthcare challenges against open communication and understaffing is of paramount importance.

Understaffing and under-reporting of medical errors were recognized as the main obstacles against the promotion of the patient safety culture in both countries, which continues to impact the quality of care delivery and patient outcomes if it is not effectively addressed. Moreover, failure in the collaboration of all stakeholders is likely to impede achieving the highest quality of care. In another study, Healy (23) concurred that improvement of patient safety requires a multifaceted approach through the regulation of the healthcare system. The Hospital Survey on Patient Safety Culture report (United States, 2014) supports the literature in this regard, confirming the high priority of the constant drive of the Joint Commission (22) in order to endorse the "National Patient Safety Goals". The primary aim of this drive is to overcome the challenges against healthcare staffing, communication openness, and failure to report adverse incidents due to the fear of non-punitive responses.

Possible repercussions associated with the failure of maintaining patient safety include law suits against hospitals by the family of patients, increased morbidity and mortality rates, high healthcare costs and expenditure, reduced productivity due to illness or absenteeism due to poor health, and declined quality of life due to lowered socioeconomic status within nations (24, 25).

With this background in mind, continuous evaluation of hospital policies and regulations to promote patient safety through the implementation of effective interventions seems crucial. Additionally, consistent execution of interventions to further uphold the patient safety culture within hospitals by the management and administrations to prevent medical errors is of paramount importance (26).

Some of the limitations of the present study were the small sample size, which restricted the generalizability of the results, self-reporting by participants, and time constraints of potential participants in completing the research instruments. Furthermore, fear of repercussions might have affected the level of participation in this study. Among the other drawbacks of the study were short duration and limited number of healthcare personnel, which might have influenced the results.

As a pilot study, data of the current research could lay the ground for future studies in this regard. It is suggested that further investigations be performed on larger target populations from all the parishes in Jamaica in order to achieve external validity, which requires adequate time and resources to encourage and educate the healthcare providers on the benefits of participating in similar studies.

Medical error disclosure remains a significant challenge for healthcare providers around the world, which must be overcome through practical interventions and strategies in order to promote the patient safety culture (27).

Conclusion

This study aimed to compare the principal strategies used by the healthcare providers of a rural healthcare facility in Jamaica with the United States in the promotion of patient safety through preventing medical errors in 2014.

According to the findings, three main strategies were perceived as beneficial in endorsing patient safety in both countries, including "supervisor/manager expectations and actions to promote patient safety",

"teamwork within units", and "organizational learning/continuous improvement".

On the other hand, the two potential strategies to enhance patient safety in both countries were determined as "staffing" and "non-punitive response to error".

Overall, findings of this study indicated that the perceptions of healthcare providers in the United States toward the patient safety culture in hospitals were superior to the healthcare staff engaged in the rural hospital in Jamaica.

Findings of this study substantiate the need for further global improvement in the open communication of healthcare providers to report medical errors, as well as the promotion of healthcare management and collaboration of all stakeholders to effectively improve the quality of care delivery and uphold patient safety.

As such, interventions to encourage the patient safety culture must ultimately aim to prevent medical errors, reduce the length of hospital stay and recovery, and avert the escalation of healthcare costs (28).

Enhancement of the quality of care could only be achieved through the adoption of effectual strategies to increase positive patient outcomes and client satisfaction, thereby reducing healthcare costs and expenditure (2).

Therefore, special attention must be paid to ensuring the highest quality of care through effective interventions in order to promote the patient safety culture.

References

1- Harvard School of Public Health. The global burden of unsafe medical care: Analytic modeling of observational studies.BMJQualSaf.2013; 22, 809-815.

2- Bielaszka-DuVernay C. Health Policy Brief: Improving quality and safety.Health Affairs2011; 34 (8).

3- Anghelută C. Adverse events – dangerous but preventable.Journal of Management in Health2010; 14 (4):23-29.

4- World Health Organization. Patient safety curriculum guide: Multi-professional guide. Geneva: World Health Organization, 2011(cited 2015 September 14). Available from: http://www.who.int/patientsafety/education/curriculum/tools-download/en/

5- Foster TM, Lee MG, Mcgaw CD, Frankson M A. Knowledge and practice of occupational infection control among healthcare workers in Jamaica.W Indian Med J. 2010; 59 (2): 147-152.

6- Jhal A K, Larizgoitia I, Audera- Lopez C, Prasopa-Plazier N, Waters H, Bates D. The global burden of unsafe medical care: Analytic modeling of observational studies.BMJQualSaf.2013; 22: 809-815.

7- Groene O, Kringos D, Sunol R. Seven ways to improve quality and safety in hospitals: An evidence-based guide. Duque Collaboration 2014: 1-65.

8- McCaughan D, Kaufman G. Patient safety: threats and solutions. Nursing Standard, 2013; 27(44): 48-55.

9- Edwards MT. Engaging physicians in patient safety through self-reporting of adverse events. Physician Exec.2012; 38 (4): 46-52.

10- Health Research & Educational Trust. Checklists to improve patient safety. Chicago: IL. Illinois. Health Research & Educational Trust. 2013.

11- Hughes LC, Chang Y, & Mark B A. Quality and strength of patient safety climate on medical–surgical units.Health Care Manage Rev. 2009; 34 (1):19-2.

12- Taylor N, Lawton R, Slater B & Foy R. The demonstration of a theory-based approach to the design of localized patient safety interventions.Implementation Science.2013: 8:123.

13- Sammer CE, Lykens K, Singh KP, Mains DA, Lackan NA. What is patient safety culture? A review of the literature.Journal of Nursing Scholarship.2010; 42 (2): 156-165.

14- Cawich SO, Harding HE, Crandon IW, McGaw CD, Barnett AT, Tennant I, et al. Leadership in surgery for public health sector hospitals in Jamaica: Strategies for operating room. Permanente Journal. 2013; 17 (3): e121-125.

15- World Health Organization. Patient safety research: A guide for developing training programmes.Geneva: World Health Organization.2012: 1-81.

16- Agency for Healthcare Research and Quality. Pilot study for the hospital survey on patient safety culture: A summary of reliability and validity findings, 2004(cited 2015 September 14). Available from: http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/hospital/userguide/hospcult.pdf.

17- Witters D, Harter J, Agrawal S, Kanitkar K. The best ways to keep hospital patients safe.Gallup Management Journal Online 2013: 1.

18- Agency for Healthcare Research and Quality. Hospital Survey on Patient Safety Culture, 2012 (cited 2015 September 14). Available from: http://www.uofmhealth.org/quality-safety/patient-safety-culture.

19- Premier Safety Institute. AHRQ Hospital Survey on Patient Safety Culture (HSOPSC). Rockville, MD: Agency for Healthcare Research and Quality. 2007: 1-22.

20- Agency for Healthcare Research and Quality. Hospital survey on patient safety culture: 2014 user comparative data report, 2014 (cited 2015 September 14). Available from: http://www.ahrq.gov/professionals/quality-patient-%20safety/patientsafetyculture/hospital/2014/hsops14pt1.pdf

21- Ulrich B, Kear T. Patient safety and patient safety culture: Foundations of ex-cellent health care delivery. NephrolNurs J. 2014; 41(5): 447-456, 505.

22- The Joint Commission. National Patient Safety Goals effective January 1, 2015. Washington, DC: The Joint Commission. 2015: 1-17.

23- Healy J. Improving patient safety through responsive regulation. Wilkesboro: The Health Foundation, 2013: 1-7.

24- Andel C, Davidow S L, Hollander M, Moreno D A. The economics of health care quality and medical errors. J Health Care Finance2012; 39 (1): 39-50.

25- Gailey F, Cachia P. Patient safety: Cost implications of adverse health events.NES Patient Safety Multidisciplinary Steering Group.2011; 1-11.

26- Morell RT, Lowthian JA, Barker AL, McGinnes R, Dunt D, Brand C. Strategies for improving patient safety culture in hospitals: A systematic review. BMJQualSaf. 2013; 22 (1): 11-18.

27- Ghalandarpoorattar SM, Kaviani A, Asghari F. Medical error disclosure: The gap
between attitude and practice. Postgrad Med. 2012; 88 (1037): 130-1355.

28- National Conference of State Legislatures. Health care provider patient safety: Health cost containment. Denver: National Conference of State Legislatures. 2015: 1-4.