



A COMPARATIVE ASSESSMENT OF PATIENT SAFETY STRUCTURES AND SYSTEMS OF SUNYANI REGIONAL HOSPITAL AND WENCHI METHODIST DISTRICT HOSPITAL IN GHANA

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KeyWords

Medication Safety, Patient Safety, Quality, Medical Errors, Safe Surgical Care, Safety Culture, Team Work

ABSTRACT

Introduction: Unsafe medical practices and care can be the cause of dis bling injuries, infections and death. Every day millions of patients visit healthcare facilities to seek treatment of various ailments. In other words, healthcare professionals regularly hold in their hands the lives of others making it very delicate service and reason why healthcare have been given the status as essential services. According to the World Health Organization (WHO, 2010) patient safety is defined as practices and processes or structures that reduce the probability of adverse events resulting from exposure to the health care system across a range of diseases and procedures. **Objective:** The main objective of the study was to assess risks and preparedness of Ghana Health Service(GHS) and Christian Health Association of Ghana(CHAG) hospitals for policy intervention on Patient Safety(PS). **Methods:** A mixed but non-intervention approach was employed with qualitative and quantitative approaches. A Descriptive but comparative cross-sectional survey design was used for the study. A Consensus-Based Assessment was used to rate the hospitals on WHO 12 Patient Safety Action Areas. **Results:** Comparatively, the Sunyani Regional Hospital(SRH) had an average overall score point of 3.7 whilst Wench Methodist Hospital(WMH) had 2.9 using the WHO 12 Action Areas but 11 of them were assessed. **Conclusion and Recommendations:** The research has provided the impetus for understaning patient safety related issues in the two facilities as well as making the management aware of the need to prioritise and fund activities related to Patient Safety. It is recommended that the assessement tool should be adopted and scaled up for other hospitals nationwide

INTRODUCTION

The concept of safety culture originated from the research of safety in hazardous industries (Chen & Li, 2010; Sorra & Dyer, 2010). Much of what is known about patient safety culture is based on an extensive literature search by experts taking their reference from industries such as the aviation industry, shipping, and nuclear industry. Over the past decades, these industries have significantly improved their level of safety. A study on aviation safety found an association between cultures of safety and reduced pilot error (Pronovost et al., 2003).

Multiple and varied definitions of safety culture have emerged in the literature. It has been observed that some studies use the terms patient safety climate and culture interchangeably. There has been considerable debate about the relationship between safety culture and safety climate. It has been accepted generally that these two concepts are interlinked and that safety climate include the surface elements of the safety culture (Fleming, 2005). When using questionnaires to study group-level perceptions, the most appropriate term to use is climate. Climates are more readily measurable aspects of safety culture (Sexton et al., 2006).

Safety culture is widely defined as an outcome of individual and group values, their attitudes and perceptions, competencies and patterns of behavior that determine the commitment, the style, and proficiency of an organization's health and safety management (Fleming, 2005). Safety climate, on the other hand, is defined as shared perceptions regarding the events, practices and procedures, as well as the kind of behavior that gets rewarded, supported, and expected in a particular organizational setting (Alahmadi, 2010). Patient Safety practices refers to the processes or structures when applied, could reduce the possibility of adverse events coming from exposure to the healthcare delivery system among a range of diseases and procedures from health workers.

A good safety culture is an integral appendage of a successful patient safety system, which is a strong starting point for hospitals to strive to become learning organizations of excellence. In a strong safety culture, the health facility a high commitment and efforts for patient safety and to avoid harm. Among the most critical responsibilities of hospital leaders is to establish and maintain a strong safety culture systems and structures within their hospitals (Ruchlin, et al, 2004).

Every patient has the right according to the patient charter of Ghana as contained in the Public Health Law (Act 851, 2012) to be well treated using the best and safest medical technology available in our health facilities. This means freedom from unnecessary or potential harm associated with health care would be maintained. Therefore, all healthcare professionals and institutions have obligations to provide safe and quality healthcare systems and structures to prevent unintentional and malfeasance harm to patients.

Medical errors could result in numerous preventable injuries and deaths if proper systems and structures are not put in place and allowed to function effectively and efficiently without compromise. Leadership engagement in patient safety and quality initiatives is imperative because 75% to 80% of all initiatives that require people to change their behaviors fail in the absence of leadership managing the change.

Without the support of hospital leaders, hospital wide changes and improvement initiatives are difficult to achieve. Thus, leadership should take on a long-term commitment to transform the hospital. (Chassin, M. R., & Loeb, J. M., 2013). The safety culture of a hospital is the result of individual orientation and group beliefs, values, attitudes, perceptions, competencies, and patterns of behavior that determine the organization's commitment to quality and patient safety care. Hospitals that practice a robust safety culture system and processes are deemed to be based on a founded on mutual trust which is shared by all. Having a safety culture encourages a working environment where many factors are taken into consideration which is known to contribute to an incident or to the events leading up to it.

STUDY OBJECTIVES

1. To assess and compare the current existing structures, systems and processes of patient safety of both hospitals
2. To assess patients' perception and knowledge on potential risks factors and incidents/accidents at both hospitals
3. To assess health workers' perception, knowledge on patient risks and safety practices in both hospitals for policy interventions

PROBLEM STATEMENT

The WHO defines patient safety as the reduction of risks of unnecessary harm associated with healthcare to an acceptable minimum (WHO, 2009). In the past, patients were often passive recipients of healthcare and did not play any significant role in the determination of their treatment. Explanations of disease conditions, diagnostic tests, surgical procedures, administration of medications were usually not understood by patients. As a patient, you dare not ask your doctor any question regarding your condition or else the doctor or nurse may deny you proper care and attention particularly when it got to do with questioning against a procedure the patient find harmful to him or her. This phenomenon is common in modern day Ghana based on my personal experience with patient care.

Patient viewed their healthcare professionals as all knowing, competent and good. However, in recent times the dynamics have changed as a result of the fact that most healthcare facilities and professionals work to fulfill certain obligations imposed on them by their professional regulatory bodies as the increasing awareness of patients of their rights. Media exposé of wrong doing and infringement of patient rights by health workers have also created an avenue for public outcry for the need to protect and ensure patient safety. According to the World Health Organization(WHO), it estimated that in developed countries, as many as 1 out of 10 patients are harmed while receiving hospital care and off every hundred (100) hospitalized patients seven (7) in developed and 10 in developing countries will acquire healthcare associated infections. WHO also reports that hundreds of millions of patients are affected by this worldwide each year (www.who.int/features/factfiles/patient_safety,8/6/2015@11:03pm).

Safety studies show that additional hospitalization, litigation cost, infections acquired in hospitals, disability, lost productivity and medical expenses cost some countries as much as US\$19billion annually(WHO,2010).

The aviation industry where it is perceived to be a high risk area rather has a much better safety record than the healthcare industry. It has also been said that there is a 1out of 1,000,000 chance of a traveler being harmed while in an aircraft whereas, there is 6 a 1 out of 100 chance of a patient being harmed during healthcare. (www.who.int/features/factfiles/patient_safety,8/6/2015@11:03pm). The situation in Ghana is even alarming despite the fact that there are no official records to justify this claim.

However, public outcry in the media over some reported cases of harmful medical treatment of patients speaks volume of the fact that there are many such unreported cases across the country. Patients and relatives sometimes are reluctant to report these unsafe care and treatment due to fear of victimization of health workers. Ghana is yet to officially establish and adopt a national policy on the WHO resolution WHA55.18 on patient safety.

MATERIALS AND METHODS

The study compares a select example of health and safety practice among one of Ghana's strong representation in the health Sector. That is the Christian Health Association of Ghana(CHAG) with that of Ghana Health Service(GHS) representing a Public facility both located in the Brong Ahafo Region of Ghana. The Sunyani Regional Hospital was chosen as the Public facility while Wenchi Methodist Hospital which is also a district hospital represented the CHAG facility. A Descriptive but comparative cross-sectional survey design was used for the study to assess patient safety structures, systems and processes of both hospitals using the eleven (11) out of the twelve (12) WHO action areas for patient safety.

A self-constructed check list was developed and used to collect information from Management of both hospitals on a Consensus-Based Assessment(CBA) approach. The 12 WHO action areas included; Health Service and System Development, Knowledge and Learning in Patient Safety, Patient Safety Awareness Raising, Healthcare Acquired Infections, Health Worker Protection, Healthcare Waste Management, Safe Surgical Care, Medication Safety, Patient Safety Partnerships, Patient Safety Funding and Patient Surveillance and Research. The Action areas were regrouped into sub-indicators which were scored using a Likert scale of 0-5. The action areas were sub-grouped into other sub-indicators as per table 1 below:

Table 1. WHO 12 PATIENT SAFETY ACTION AREAS

MAIN INDICATOR	SUB-INDICATORS
Patient Safety & Health Services/System Development	<ul style="list-style-type: none"> - Use of Strategic Plan - Number of Patient Safety Action Areas being used in the Hospital - Functional Organizational Chart - Use of Inventory and Procurement Procedures - Use of Modern IT solutions in record management - Staff Development - Existence of Quality Improvement(QI) Structures and Teams - Staff Satisfaction - Number of court/out of court settlement cases
Knowledge and Learning in Patient Safety	<ul style="list-style-type: none"> - Number of staff Trained in Patient Safety in the last three years - Availability of Effective Clinical Audit Systems - Availability of Protocols and check list for Patient care utilization
Patient Safety Awareness Creation	<ul style="list-style-type: none"> - Education and Awareness - Availability of functional feedback mechanisms for Patient Safety incidents
Healthcare-Associated Infections	<ul style="list-style-type: none"> - Availability of Structures and Systems for IPC - Availability and Utilization of Policies and Protocols - Monitoring and Evaluation of IPC Activities/Programmes
Health Worker Protection	<ul style="list-style-type: none"> - Existence of Policies and practices of health worker protection - Use of protective equipment by health workers - % of Staff Immunized against Hepatitis B
Health-Care Waste Management	<ul style="list-style-type: none"> - Availability and utilization of Policies and Protocols - Effective and Efficient Waste Management Systems
Safe Surgical Care	<ul style="list-style-type: none"> - Availability and utilization of policies and protocols on safe surgical care - Availability and usage of WHO safe surgical check list - Percentage of Functional Theatre Equipment - Number of staff Work Force at the theatre
Medication Safety	<ul style="list-style-type: none"> - Availability and utilization of Policies and Protocols of Medication Safety - Percentage of Staff Trained in Medication Safety - Implementation of Best Practices in Medication Safety - Systems and Processes of Feedback Mechanisms
Patient Safety Partnerships	<ul style="list-style-type: none"> - Level of Involvement of Community in Patient Safety activities
Patient Safety Funding	<ul style="list-style-type: none"> - Main Source of Funding - Percentage of Funding for Patient Safety activities/compensations
Surveillance & Research	Implementation of Research Activities in Patient Safety

A score of 0.0 meant Very Poor/ Unacceptable, 1.0 meant Poor/Insufficient, 2.0 meant Fair/More room for improvement, 3.0 meant Good/Room for improvement, 4.0 meant Very Good/On Right Path and 5.0 meant Excellent/Keep it up. Validation and observation was also done to confirm the availability or absence of some documents, equipment and other related materials of patient safety using a checklist.

The Management team were engaged over 2hours in a discussion with regards to the assessment indicators and in the end a Consensus-Based Assessment (CBA) score was awarded to the specific sub-indicator.

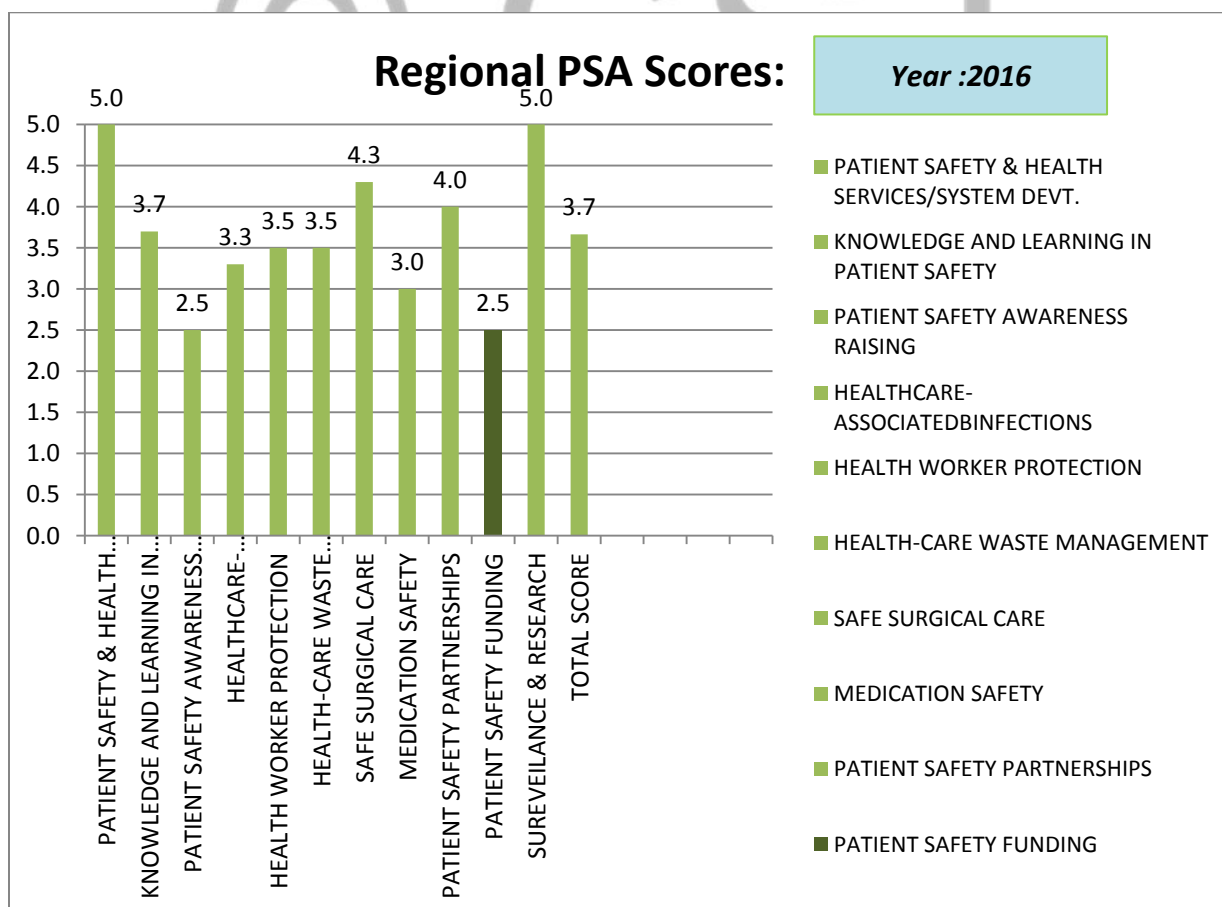
Data were analysed by determining averages of the sub-indicators for each of the WHO action area using Excel sheet. A mean score of the sub-indicators were used to determine the block score representing the overall score obtained by the hospital with regards to the patient safety acton area. A score below 3.0 meant patient safety structures, systems and practices at the facility were not receiving adequate attention.

RESULTS AND DISCUSSIONS

Sunayi Regional Hospital

Using Likert scale of five, the hospital performance in each indictor was determined. The highest indictors scored were in Patient Safety and Health Services Development and Patient Safety Surveillance and Research with each score point of 5.0. The next highest score was safe surgical care with a score point of 4.3. However, the lowest indicators scores were in patient safety awareness creation and patient safety funding with same scores of 2.5 respectively. The overall mean score for the eleven indicators was 3.7 representing Good and above the set standard of 3.0

Fig. 1 Sunyani Regional Hospital PSA results



Wenchi Methodist Hospital

Similar engagement with management of Wenchi Methodist Hospital revealed the status of patient safety performance of the hospital. The hospital scored 4.0 in two indicators namely patient safety and health development and healthcare waste management representing the highest scored points but scored 1.8 in medication safety being the lowest score point. In addition to the medication safety, patient safety awareness, health worker protection and patient safety partnerships recorded lower scores of 2.5, 2.3 and 2.0 respectively. The hospital recorded an overall mean score of 2.9 representing Fair. Figure 2 below shows the details:

Fig. 2 Wenchi Methodist Hospital(WMH) Assessment Result

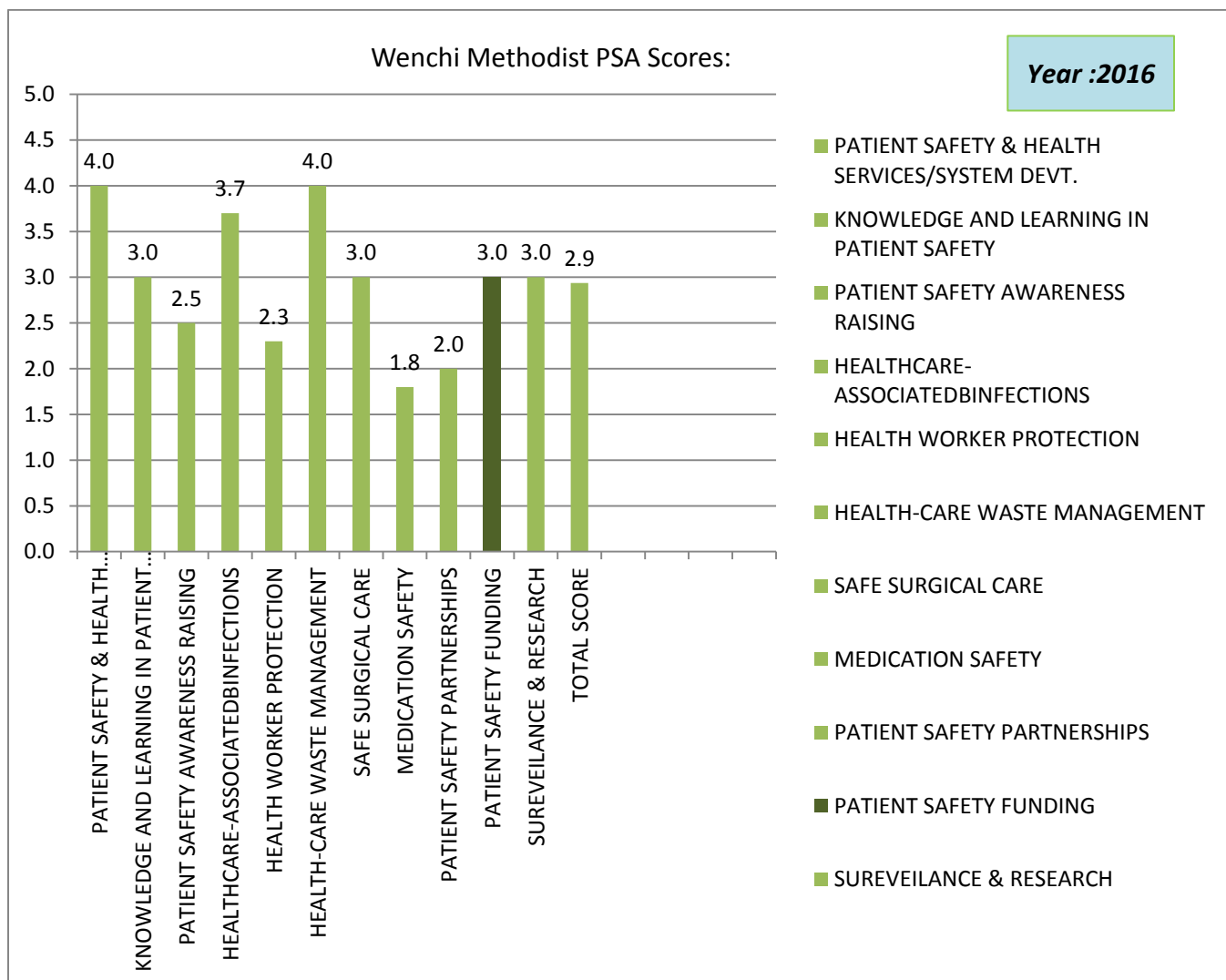
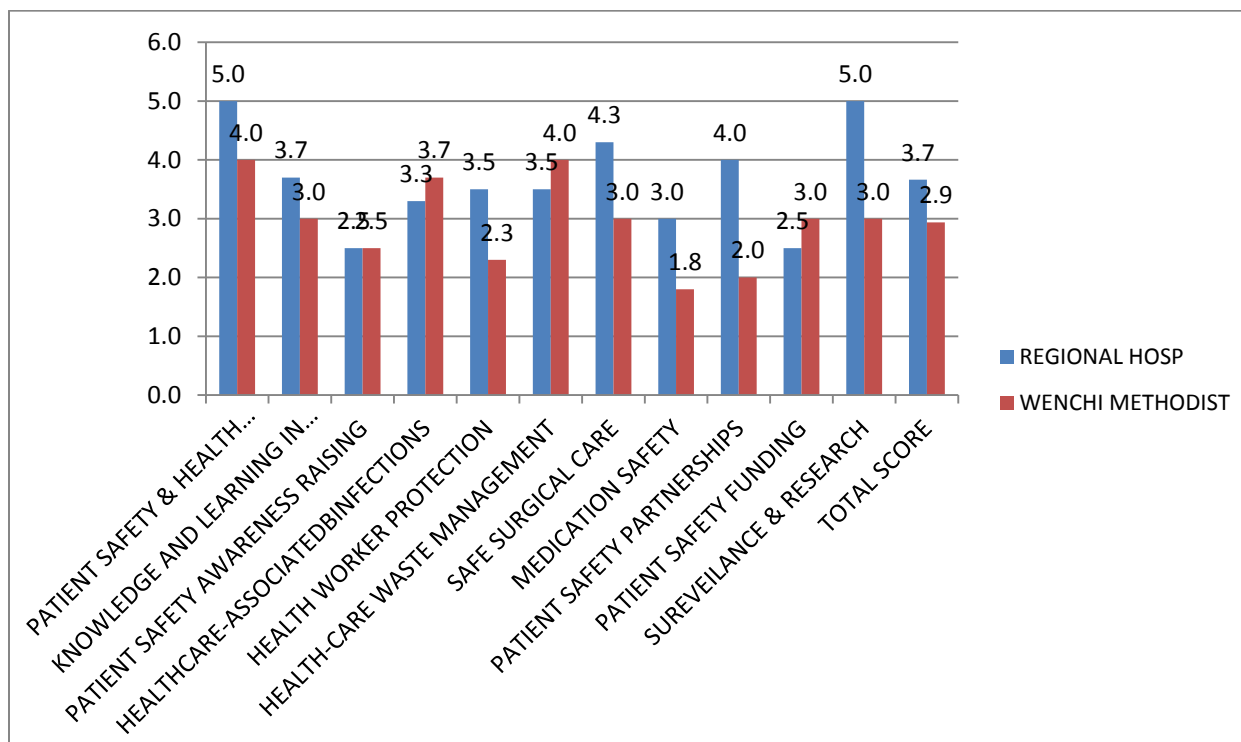


Fig. 3 Comparative Scores



Comparatively, the Sunyani Regional Hospital (SRH) had an average overall score point of 3.7 whilst Wenchi Methodist Hospital (WMH) had 2.9 putting the regional hospital ahead in terms of the performance in patient safety structures, systems and processes. Considering the individual indicators, it was clear that the regional hospital performed better in 9 out of the 11 indicators compared to Wenchi Methodist Hospital that did better in just two indicators (healthcare waste management and hospital acquired infections) than the Regional Hospital. It is also in one instance only that the two hospitals had the same score (2.5) for patient safety awareness raising indicator.

Discussions

Health Service and System Development in Patient Safety

This action area had eight sub-indicators that were used to assess both hospitals to arrive at the average score of 5.0 for SRH compared to 4.0 in WMH. They include: presence of long term strategic plan for the hospitals, utilization of at least 5 WHO action areas on patient safety, presence and utilization of organizational chart, use of inventory and procurement processes, and use of modern IT hospital solutions, staff competences, staff motivation and promotion of quality improvement programs. These sub indicators if properly utilized and practiced have a bearing on patient safety.

According to WHO (2012) guidelines, each health institution would be expected to develop an annual plan for patient safety improvement activities and also develop written patient safety policy and protocols aligned with national policy on Patient Safety. On utilization of organizational chart, it was observed during the study that all departments and vantage areas of the two hospitals had the hospital organizational charts displayed for public viewing.

This practice provides information for patients and the public regarding the hierarchy and channel of authority. Motivation of staff is another important issue if errors could be minimized in healthcare facilities.

If the staff are well motivated and satisfied with their job and working environment, it will translate into efficient and effective patient care and safety.

This assertion was corroborated in a study conducted by Rathert et al. (2007) on health care worker environments, employee satisfaction, and patient safety: Care provider perspectives, their findings revealed that 'Nurses who perceived their work units as more patient centered were significantly more satisfied with their jobs than were those whose units were perceived as less patient centered. Those whose work units were more patient centered reported that medication errors occurred less frequently in their units and said that they felt more comfortable reporting errors and near-misses than those in less patient-centered units'. (Rathert et al, 2007).

Organizational system problems have been highlighted as basic cause of safety issues within the health care system (Institute of Medicine, 1999; Nolan, 2000). It is argued that patient safety incidents are more likely to occur when there is failure in organizational safeguards that are usually put in place (Reason 2000). According to Nolan (2000) when designing systems of care to be safer, organizations should focus on the following three key areas: (1) the system should prevent errors, (2) ensure procedures to make errors visible when they do occur so that they may be intercepted, and (3) design procedures for mitigating the adverse effects of errors when they are not detected and intercepted.

Knowledge and Learning in Patient Safety

Three sub-indicators were measured and assessed under this main indicator; i) availability of protocols and check list for patient care ii) availability of effective clinical audit system and iii) staff trained in patient safety.

Intensive sensitization campaigns on the prevention of adverse events arising from patient care is very critical and a basis of minimizing errors by healthcare providers. Special training programs ought to be developed to provide proper understanding of the potential causes of errors. Health facilities are expected to collaborate with other medical facilities to improve gathering of information in the country using existing channels. When healthcare workers have the opportunity to share their knowledge and experiences regarding patient incidents and accidents, they will confidently generate change ideas to deal with eminent weaknesses in the system.

Whereas the SRH had an average mean score of 3.7 for this action area, WMH had 3.0 representing Good. Medical error reporting and learning systems ought to be developed at institutional and national levels based on the existing national health information system. In a study titled social capital and knowledge sharing: effect on patient safety by Chang et al (2011), their findings revealed that Registered Nurses' perceptions of trust and shared vision have statistically significant and direct effects on knowledge sharing and in addition showed that, knowledge sharing is significantly and positively associated with patient safety (Chang et al, 2011).

Patient Safety Awareness Raising

Two sub-indicators were assessed under patient safety awareness raising; i) Patient Safety Awareness Raising and ii) Availability of functional feedback mechanisms. There should be mechanism within to educate patients in the hospital on their rights and responsibilities using Public Address System, leaflets, posters etc, Mechanisms must be in place to inform patients and family about Patient Safety. Mechanism to provide feedback to patients after incidents and accidents should be in existence. Welcoming entrances and reception areas provides best practice guidance on how to enhance the experience of those visiting hospitals. The front desk at a clinic or hospital creates the first and the last impressions in their minds. An efficient and friendly customer care service or staff can make all the difference in creating a comfort level for the clients.

The patient-provider experience creates the best opportunity for patients to be educated on patient safety practices. Providing the platform for to understand issues of patient safety as well as the importance of asking questions, and creating the sense of comfort surrounding asking is good step in involving more patients in these types of error-prevention strategies.

Vincent and Coulter (2002) proposed a collaborative approach to bringing patients into the Patient Safety advocacy so they can have a say in their care. Patient involvement has been an integral part of a number of local and global patient safety campaigns. For example, in 2004, the WHO officially launched their patient safety campaign with member countries emphasizing the engagement of patients as a priority (World Health Organization, 2012).

Health Worker Protection

There were three indicators that were assessed under this action area. They included; i) existence of policies and practices of health worker protection, ii) percentage use of protective equipment by health workers and iii) percentage of staff immunized against Hepatitis B. During the assessment of both hospitals management, it was noted that despite there was no policy on health worker immunization by both hospitals, SRH reported that 70-80% of the staff were immunized against Hepatitis B initiated by the hospital but in WMH less than 40% of their staff received Hepatitis B immunization. This was contrary to responses provided by the health workers when they responded to the questionnaire. On Hepatitis B immunization, respondents of WMH (85.48%) said they were immunized against Hepatitis B infection, whereas 68.82% in SRH said they were also immunized.

In a study by Prüss-Üstün, A., Rapiti, E. and Hutin, Y., (2005) on estimation of the global burden of disease attributable to contaminated sharps injuries among health-care workers showed that overall, 16,000 HCV, 66,000 HBV and 1,000 HIV infections may have occurred in the year 2000 globally among health workers as a result of occupational exposure to percutaneous injuries. The study concluded that exposure to percutaneous injuries could be the major source of infection from blood borne pathogens among healthcare workers (Prüss-Üstün, et al 2005)

Healthcare Waste Management

According to the WHO, each institution ought to develop and disseminate written protocols and procedures for health care waste management that are aligned with the national policy. Each institution is also to ensure that all health staff are trained on health care waste management. According to a study by Ananth, A.P., Prashanthini, V. and Visvanathan, C., (2010) the risks related to healthcare waste and its management has received attention worldwide both local and international forums as well as summits. Meanwhile, the need for proper healthcare waste management has received some attention but a slow pace due to the huge disease burdens associated with poor practices, including exposure to infectious agents and toxic substances. In spite of the degree of the problem, practices, capacities and policies in many countries to tackle waste disposal, especially developing countries, is inadequate and requires intensification (Anant et al, 2010)

Safe Surgical Care

The study assessed three indicators under this action area which included: i) availability and utilization of policies and protocols ii) Percentage of functional theatre equipment at the hospital and iii) Percentage of Technical and professional staff working in the theatre. The WHO has introduced a couple of global and regional initiatives to address safe surgical care. This initiative was born out of the WHO Second Global Patient Safety Challenge dubbed "Safe Surgery Saves Lives". The aim of this initiative was to improve the safety of surgical care around the world by setting of core safety standards that could be applied in all WHO Member States. Surgical interventions account for an estimated 13% of the world's total disability-adjusted life years (DALYs). In spite of the fact that surgical procedures are aimed at saving lives, unsafe surgical care can also cause substantial harm. The reported crude mortality rate after major surgery is 0.5-5%; complications after inpatient operations occur in up to 25% of patients in industrialized countries, nearly half of all adverse events in hospitalized patients are related to surgical care; at least half of the cases which led to harm are considered preventable; mortality from general anaesthesia alone is reported to be as high as 1 in 150 in some parts of sub-Saharan Africa (World Health Organization, 2009.)

The WHO also published two important resource materials in safe surgical care. They are the safe surgery checklist (SSCL) implementation guidelines and guidelines for safe surgery (WHO, 2009).

The goal was to improve surgical outcomes for patients irrespective of the circumstances or the environment. Each health institution is expected to adopt the SSCL and its implementation strategy through written protocols and training of staff. The SSCL was expected to be used at all times, through pre-operative and post-operative monitoring of activities and patient charts on discharge.

Medication Safety

Medication error occur as an error in the process of prescribing, dispensing, preparing, administering, and monitoring or providing medicine advice regardless of whether any harm has occurred. Institutions have a duty to ensure that patients are free from medication errors as much as possible. The study assessed four indicators: i) existence of policies and protocols on medication safety, ii) Number of staff trained in medication safety practices and M&E on medication safety. Of the four indicators, SRH had a block mean score of 3.0 compared to 1.8 by WMH.

In a study by Timothy S. Lesar and others (2005), to quantify the type of frequency of identifiable factors related to medication prescription errors, the results showed that overall rate of errors was 399 errors per 1,000 medication orders (Laser et al, 2005). A similar study by Kenneth N. Barker and others (2002) to identify the prevalence of medication errors in 36 healthcare facilities, the results revealed that 19% of the doses were error related. The study further revealed that the most common occurrence error was wrong time (43%), followed by Omission (30%) and wrong dose (17%) (Baker, 2002). Again, another study conducted by Mayo and others (2004), to assess nurse perceptions of medication errors showed that there were differences in the perception of nurses about the cause of and reporting of medications. The study revealed that the causes of medication errors included; illegible hand writing of physicians, tiredness, distraction and exhaustion. The study also revealed that only 45.6% of the nurses surveyed believed that drugs errors were reported (Mayo et al, 2004). In this particular study, when health workers were asked to state their priority as far as safety was concerned, both hospitals placed medication safety as their priority (86.36% for WMH, 87.25% for SRH). The results of the various studies mentioned above indicate that medication safety is very critical component of Patient Safety. It could result in a huge financial burden to the health service as well as to the patients.

Healthcare Acquired Infections (HCAI)

Health care-associated infections, otherwise called “nosocomial” and “hospital” infections, are infections acquired by patients while in the hospital which may manifest on admission or after the patient is discharged. The infections are not limited to only patients but may also be acquired or transmitted by health workers to patients or from patients or among themselves. According to the WHO on health care-associated infections, out of every 100 patients hospitalized at any given period, 7 in developed and 10 in developing countries will acquire at least one health care-associated infection. It further states that surgical site infection is the leading infection in high-income countries, but for settings with limited resources, it affects up to one-third of operated patients; this is up to nine times higher than what pertains in developed countries.

In high-income countries, approximately 30% of patients in intensive care units (ICU) are affected by at least one health care-associated infection whereas in low- and middle-income countries the frequency of ICU-acquired infection is at least 2–3 fold higher than in high-income countries. (<http://www.who.int/gpsc/country>). Three indicators were measured under this action area. That is i) Structures and Systems of IPC at the hospital, ii) Availability and iii) Utilization of Policies and Protocols on IPC and Monitoring and Evaluation of IPC Activities/Programmes. The SRH had a mean score of 3.3 compared to 3.7 score by WMH. This score shows some satisfactory levels of how the two hospitals attach importance to Hospital Acquired Infections.

A study by Roberts, Rebecca R. MD and others (2010) to estimate the cost of attributable costs to healthcare acquired infections revealed that among 1,253 patients analysed, 159(12.7%) developed Healthcare Acquired infections (HAI). Based on different methods, the arrived at an attributable total cost of HAI ranging from \$9,310 to \$21,013 with variable costs also ranging from \$1,581 to \$6,824 (Roberts, et al. 2010).

Patient Safety Partnership

Healthcare partnership is now a key strategy for enhancing participation of relevant stakeholders such as patients, family, health professionals, Civil Society Organizations and policy makers in creating meaningful contributions towards patient safety. Institutions should therefore provide the platform for community participation and ensuring an effective feedback mechanism in managing patients.

Patient Safety Funding

Allocation of resources/funds for patient safety activities by institutions is supposed to eventually save the cost of patient treatment. It was discovered during the study that over 90% of the hospital funds came from Internally Generated Funds (IGF) with little from central government. Each institution is to ensure that patient safety funding for health facilities are maintained and earmarked for intended activities. There were no specific earmarked funds for patient safety activities in both hospitals. Whereas SRH had block score of 2.5, WMH had 3.0

Patient Safety Surveillance and Research

Evidenced based care (EBC) has become the standard of healthcare delivery and for that matter health system research. Health system research forms part of the nine building blocks of the health system strengthening in Africa and for that matter facilities are encouraged to conduct operational research into some problems identified.

The study was interested in knowing whether i. The Hospital had a Research Team, Research Team had annual Program of Work, Research Team had Priority Patient Safety areas, budget for research approved by management for 2016, research had been carried out on patient safety for the last one year, whether training in research principles for research team was done, Management supports culture of science and research and documentation of best patient safety practices. At the end of the assessment, SRH had a mean score of 5.0 whereas WMH scored 3.0

CONCLUSIONS

Patient safety culture could be described as a relatively new area and the current thinking for improving patient safety in health care organizations is mainly focused on creating a culture of patient safety. Several tools have been developed for the assessment and evaluation of patient safety culture. It is expected that the impact of a positive patient safety culture in changing behavior among healthcare workers could be stronger than any rules or regulations.

The outcome of this assessment could serve as the basis for more work to be done in both public and other healthcare facilities to measure the state of affairs in order to inform national policies that protect all patients receiving care. Based on the outcome of this research, it was revealed that irrespective of the category or level of a healthcare facility, patient safety culture and practice is key and must be given priority in funding.

Two important approaches must be considered in ensuring patient safety. That is, person-centred analysis and prevention approach and the systems-centred approach. In the person centred approach, individuals must assume personal responsibility to prevent incidents while the system approach ensures that working conditions do not promote individuals to commit medical errors.

Recommendations: Patient Safety Strategies Should be integrated into the National Quality Health Strategy. Similarly, a Nationwide Patient Safety Assessment should be carried out with urgency using the WHO Patient Safety Action Areas for policy intervention.

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References

- [1] Ananth, A.P., Prashanthini, V. and Visvanathan, C., 2010. Healthcare waste management in Asia. *Waste Management*, 30(1), pp.154-161.
- [2] Baker, G Ross, Norton, Peter G, & Flintoft, Virginia. (2004). Canadian adverse events study. *Canadian Medical Association Journal*, 171(8), 834-834-a.
- [3] Barker, K.N., Flynn, E.A., Pepper, G.A., Bates, D.W. and Mikeal, R.L., 2002. Medication errors observed in 36 health care facilities. *Archives of internal medicine*, 162(16), pp.1897-1903.
- [4] Battles, J. B., & Lilford, R. J. (2003). Organizing patient safety research to identify risks and hazards. *Quality and Safety in Health Care*, 12(suppl 2), ii2-ii7.
- [5] Beckmann, U., Bohringer, C., Carless, R., Gillies, D. M., Runciman, W. B., Wu, A. W., & Pronovost, P. (2003). Evaluation of two methods for quality improvement in intensive care: facilitated incident monitoring and retrospective medical chart review. *Critical care medicine*, 31(4), 1006-1011.
- [6] Burke, M.J., Sarpy, S.A., Smith-Crowe, K., Chan-Serafin, S., Salvador, R.O. and Islam, G., 2006. Relative effectiveness of worker safety and health training methods. *American journal of public health*, 96(2), pp.315-324.
- [7] Camiré, Eric, Moyen, Eric, & Stelfox, Henry Thomas. (2009). Medication errors in critical care: risk factors, prevention and disclosure. *Canadian Medical Association Journal*, 180(9), 936-943.
- [8] Chassin, M. R., & Loeb, J. M. (2013). High-reliability health care: getting there from here. *The Milbank Quarterly*, 91(3), 459-490.
- [9] Donaldson, Liam. (2007). Reducing harm from radiotherapy. *BMJ: British Medical Journal*, 334(7588), 272.
- [10] Donaldson, Liam J, & Noble, Douglas J. (2010). The need for risk profiling in patient safety. *Journal of patient safety*, 6(3), 125-127.
- [11] Donaldson, Liam, & Philip, Pauline. (2004). Patient safety: a global priority. *Bulletin of the World Health Organization*, 82(12), 892-892.
- [12] Donaldson, Sir Liam. (2004). Patient safety: The international dimension. *The International Journal of Risk and Safety in Medicine*, 16(3), 207-208.
- [13] Donaldson, SR. (2008). Towards safer radiotherapy. The Royal College of Radiologists, Society and College of Radiographers: Institute of Physics and Engineering in Medicine, Patient Safety Agency, British Institute of Radiology.
- [14] Edwards, I Ralph. (2005). The WHO World Alliance for Patient Safety. *Drug safety*, 28(5), 379-386.
- [15] Fleming, Mark. (2005). Patient safety culture measurement and improvement: a "how to" guide. *Healthc Q*, 8(Spec No), 14-19.
- [16] Gilmour, Joan M. (2006). Patient safety, medical error and tort law: an international comparison. Retrieved December, 20, 2007.
- [17] Heath, Janie, Johanson, Wanda, & Blake, Nancy. (2004). Healthy work environments: a validation of the literature. *Journal of Nursing Administration*, 34(11), 524-530.
- [18] Hofoss, Dag, & Deilkås, Ellen. (2008). Roadmap for patient safety research: approaches and roadforks. *Scandinavian journal of public health*, 36(8), 812-817.
- [19] Human, To Err Is. (2000). Building a safer health system. *Institute of Medicine*, 112.
- [20] Kapur, Ajay, & Potters, Louis. (2012). Six Sigma tools for a patient safety-oriented, quality-checklist driven radiation medicine department. *Practical radiation oncology*, 2(2), 86-96.
- [21] Kohn, Linda T, Corrigan, Janet M, & Donaldson, Molla S. (2000). *To err is human:: building a Safer Health System* (Vol. 6): National Academies Press.
- [22] Latham, Tom, Malomboza, Olive, Nyirenda, Loveness, Ashford, Paul, Emmanuel, Jean, M'baya, Bridon, & Bates, Imelda. (2012). Quality in practice: implementation of hospital guidelines for patient identification in Malawi. *International Journal for Quality in Health Care*, mzs038.
- [23] Leape, L.L. and Berwick, D.M., 2005. Five years after To Err Is Human: what have we learned? *Jama*, 293(19), pp.2384-2390.
- [24] Lesar, T.S., Briceland, L. and Stein, D.S., 1997. Factors related to errors in medication prescribing. *Jama*, 277(4), pp.312-317.
- [25] Lewin, Marion Ein, & Altman, Stuart. (2000). *America's Health Care Safety Net:: Intact but Endangered*: National Academies Press.
- [26] Nieva, VF, & Sorra, J. (2003). Safety culture assessment: a tool for improving patient safety in healthcare organizations. *Quality and Safety in Health Care*, 12(suppl 2), ii17-ii23.
- [27] Nursing, National Council for the Professional Development of, & Midwifery. (2010). Clinical outcomes-promoting patient safety and quality of care: implications for nurses and midwives.
- [28] Mayo, A.M. and Duncan, D., 2004. Nurse perceptions of medication errors: what we need to know for patient safety. *Journal of nursing care quality*, 19(3), pp.209-217.
- [29] Organization, World Health. Quality of care: patient safety—resolution WHA55. 18. Geneva: WHO, May 18, 2002.

- [30] Pittet, Didier, & Donaldson, Liam. (2006). Challenging the world: patient safety and health care-associated infection. *International Journal for Quality in Health Care*, 18(1), 4-8.
- [31] Potters, Louis, & Kapur, Ajay. (2012). Implementation of a "No Fly" safety culture in a multicenter radiation medicine department. *Practical radiation oncology*, 2(1), 18-26.
- [32] Prüss-Üstün, A., Rapiti, E. and Hutin, Y., 2005. Estimation of the global burden of disease attributable to contaminated sharps injuries among health-care workers. *American journal of industrial medicine*, 48(6), pp.482-490.
- [33] Reason, James. (1990). The contribution of latent human failures to the breakdown of complex systems. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 327(1241), 475-484.
- [34] Reid, Jane, & Catchpole, Ken. (2011). Patient safety: a core value of nursing-so why is achieving it so difficult? *Journal of Research in Nursing*, 16(3), 209-223.
- [35] Roberts, R.R., R Douglas Scott, I.I., Hota, B., Kampe, L.M., Abbasi, F., Schabowski, S., Ahmad, I., Ciavarella, G.G., Cordell, R., Solomon, S.L. and Hagtvedt, R., 2010. Costs attributable to healthcare-acquired infection in hospitalized adults and a comparison of economic methods. *Medical care*, 48(11), pp.1026-1035.
- [36] Sammer, C. E., Lykens, K., Singh, K. P., Mains, D. A., & Lackan, N. A. (2010). What is patient safety culture? A review of the literature. *Journal of Nursing Scholarship*, 42(2), 156-165.
- [37] Safety, W. P., & World Health Organization. (2009). WHO guidelines for safe surgery: 2009: safe surgery saves lives.

