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ASSESSMENT OF PATIENT SAFETY SYSTEMS, STRUCTURES AND PRACTICES IN SUNYANI MUNICIPAL HOSPITAL, GHANA

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Abstract: **The WHO recognizing the importance of patient safety in healthcare, adopted Resolution WHA55.18 of 2002 which outlined the responsibilities of the WHO in providing technical support to Member States in developing reporting systems, reducing risk, formulating evidence-based policies, fostering a culture of safety, and encouraging research on patient safety Objective: To review the structures, systems and practices of patient safety at the Sunyani Municipal Hospital.**

Methods: Eleven out of the 12 WHO patient safety action areas were used to assess the hospital. A six point Likert scale of scores between 0-5 was awarded to each indicator met by the hospital as per the standard requirements. The Health Service Administrator and the Nursing Administrator 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 appropriate indicator met by the hospital.

Results: At the end of the study, the hospital had a mean block score of 2.7(representing fair) implying that the patient safety systems, structures and practices were below the minimum score of 3.0. However, waste management in the hospital scored the highest and the best mark of 5.0 implying the hospital was doing excellently well in waste management. The hospital scored 2.8 on medication safety. One of the strengths of the hospital on medication safety was a functional Drug and Therapeutic Committee that ensured that drug use was of optimum quality. On safe surgical care, the hospital had a block score of 2.0(Fair).

Keywords: **Patient Safety, Safe Surgical Care, Medication Safety, Medical Errors, Partnership, Knowledge and Learning.**

1. INTRODUCTION

Patient safety is a worldwide public health issue affecting all types of health care systems whether in developed or developing countries. The World Health Organization (WHO) defines patient safety as the reduction of risks of unnecessary harm associated with healthcare to an acceptable minimum (WHO, 2009). The World Health body also defines patient safety practices as 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. Patient safety aims at making health care safe for both clients and health service staff. Patient safety is a system process and the foremost attribute of quality of care. As such, it is a concern for organizational, managerial and economic consideration.

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Even though statistics on patients that are harmed through health care are not readily available, the morbidity, mortality and economic burden is expected to be heavier in developing countries, including the African region, due to inadequate infrastructure, technological and human resources. Patient safety is therefore a global public health problem, which calls for appropriate actions.

In the past, patients were often passive recipients of healthcare and did not play any significant role in the determination of their care and treatment. 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 well as the increasing awareness of patients of their rights. Media exposé of wrongdoing and infringement of patient rights by health workers have also featured prominently on airwaves and created an avenue for public outcry for the need to protect and ensure patient safety.

WHO launched a Patient Safety Programme in October 2004 in response to World Health Assembly Resolution WHA55.18 to coordinate, facilitate and accelerate patient safety improvements around the world. Several actions have therefore been undertaken to improve the safety of health care for patients in all WHO Member States. In African, some initiatives have been introduced to address patient safety issues such as hand hygiene procedures, anti-microbial resistance, and safer injection procedures. The African Partnerships for Patient Safety (APPS) was set up to build patient safety partnerships amongst hospitals in the WHO African Region and elsewhere. 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$19 billion annually (WHO).

Ultimately, all stakeholders including the general society, patients, individual nurses, nursing tutors, health administrators, health researchers; doctors; governments including legislative bodies and regulators; professional associations, and accrediting agencies are responsible to see to it that no harm occurs to patients at all levels of care.

Research Objective:

The main objective of the research was to review the existing structures, systems and practices of patient safety in the Sunyani Municipal hospital in line with WHO standards as well as make appropriate recommendations for improvement.

2. MATERIALS AND METHODS

A self-constructed assessment tool was prepared using 11 out of the 12 WHO action areas of patient safety. Eleven was used because the first action area focuses on national policy but at the hospital level, they do not formulate policies but rather implement. The 11 action areas were regrouped into sub-indicators which were assessed using a Likert scale of 0-5. The indicators 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. A six point Likert scale of scores between 0-5 was awarded to each indicator met by the hospital as per the standard requirements. 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 relevant documents, equipment and other related materials of patient safety using a checklist. The Health Service Administrator and the Nursing Administrator were engaged over 2 hour's discussions during the assessment of the indicators and in the end a Consensus-Based Assessment (CBA) score was awarded. For example on Health system development, the hospital was assessed on the availability and display of organogram at vantage areas of the hospital. The researcher went round to verify that the chart has been displayed in offices, clinical areas as well as for the public notices. A descriptive statistical analysis was done using excel spread sheet. Data was analysed by determining mean scores of the sub-indicators of each of the WHO action area. 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 patient safety perormance. A score below 3.0 meant patient safety structures, systems and practices at the facility were not receiving adequate attention. A score of 3.0 indicated that the hospital was doing well in patient safety issues.

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3. RESULTS AND DISCUSSION

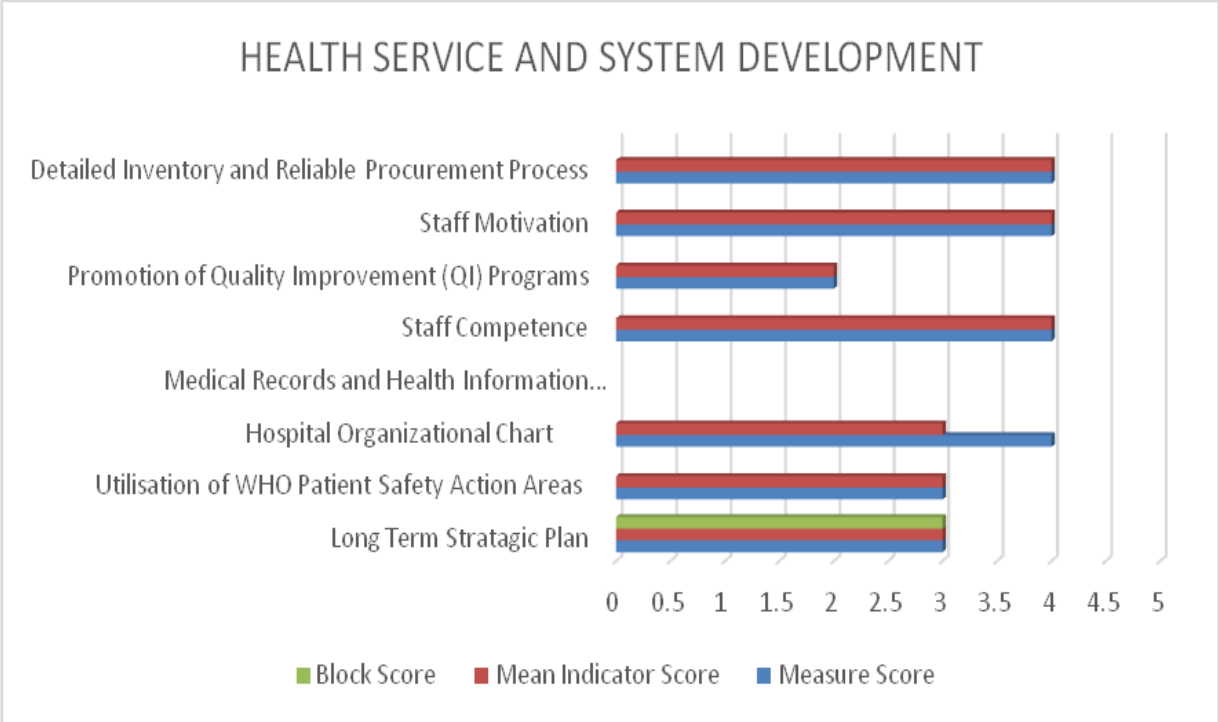

Figure 1: Health Service and System Development in Patient Safety

The above figure measures service and system development at the hospital. This main indicator had eight sub-indicators that were assessed. They included: presence of long term strategic plan for the hospital, utilization of at least 5 WHO action areas on patient safety, presence and utilization of organizational chart, use of inventory and procurement processes, 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. The hospital had a mean block score of 3.0 for this indicator representing good. 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 hospital had the hospital organizational chart displayed for public viewing and so had 5.0 score. This practice provides information for patients and the public regarding the hierarchy and channel of authority. The hospital scored 0.0 on staff motivation. The researcher assessed this indicator to know whether or not the hospital conducts staff satisfaction surveys. The study revealed that the hospital has never conducted a staff satisfaction survey to assess the degree of satisfaction of their workers. Staff satisfaction surveys are relevant and critical to patient safety. 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).

Upon validation of the hospital computers, the hospital scored 2.0 under the use of modern IT solutions in managing hospital records. It was observed that the hospital computers were inadequate and obsolete and needed replacement with high and modern specifications. This will help improve efficiency and effectiveness and improve on data and information management.

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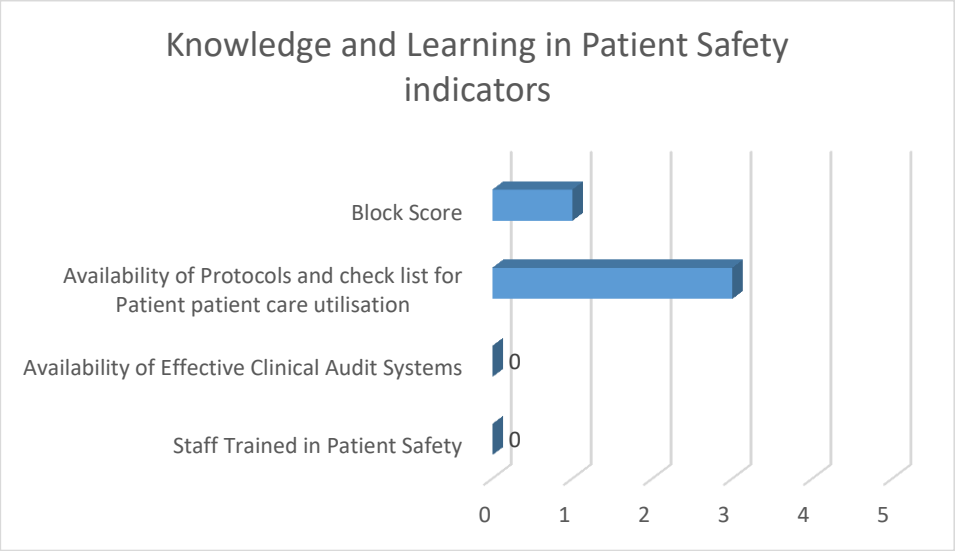

Figure 2: Knowledge and Learning in Patient Safety

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. Three sub-indictors were measured and assessed as per figure 2 above. The hospital had a block mean score of 1.0 representing poor performance but had 3.0 for availability and utilization of protocols and checklists for patient care.

Provision of guidance on the concepts and safe practices and procedures for patient safety is an important intervention. 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(Chag et al, 2011).

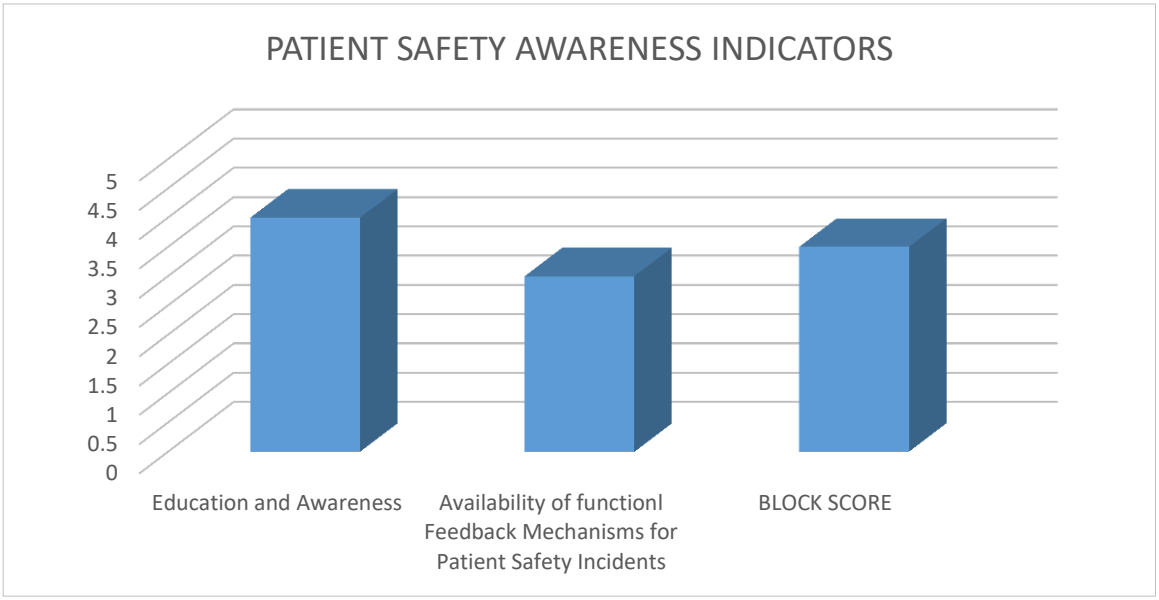

Figure 3: Patient Safety Awareness Raising

Two sub-indicators were assessed under patient safety awareness raising: i) Patient Safety Awareness Raising for patients and ii) Availability of functional feedback mechanisms for Patient Safety incidents, existence of Patient Charter which must be conspicuously displayed in vantage places in the hospital, presence of mechanism within to educate patients in the hospital on their rights and responsibilities (Public Address System, leaflets, posters etc), mechanisms in place to inform patients and family about Patient Safety, mechanism in place to sensitize hospital staff on importance of patient safety were the assessment factors measured under education and awareness.

Under the second sub-indicator the following factors were assessed; Presence of functional complaint unit, presence of complaint procedures for patients, system of obtaining patient consent before procedures, blood transfusion procedures, medication, invasive procedures etc), mechanism to provide feedback to patients after incidents and accidents existence, system and strategy for improvement in place.

It was observed and verified that all units/departments and vantage places in the hospital had patient charter conspicuously displayed to the public. Consent forms for surgical procedures were available but not for blood transfusion and other invasive procedures. There was an information desk at the front of the OPD where patients and the public could access and make complaints. The hospital did not have a complaint form but there was a complaint register at the front desk. Suggestion boxes were also available at vantage areas of the hospital. The hospital had a block mean score of 3.5

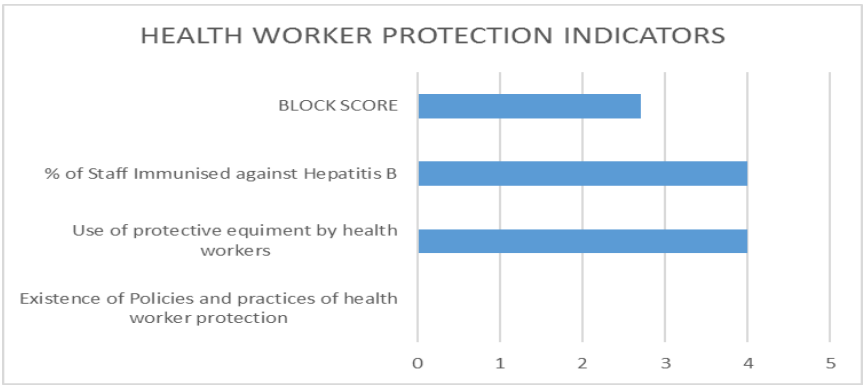

Figure 4: Health Worker Protection

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. The facility did not have any policy on health worker safety and so scored 0.0, scored 4.0 for the use of protective equipment and 4.0 for immunization of staff against Hepatitis B. The hospital had a mean block score of 2.7 During the study it was noted that despite there was no policy on health worker immunization, 70-80% of the staff were immunized against Hepatitis B. There was also the need to provide adequate equipment and health commodities to health workers to protect them from contact with discharges, and blood products. Personal protective gown must be provided to hospital staff to wear where there are risks of infection. This will also contribute to effective infection prevention among health workers and patients.

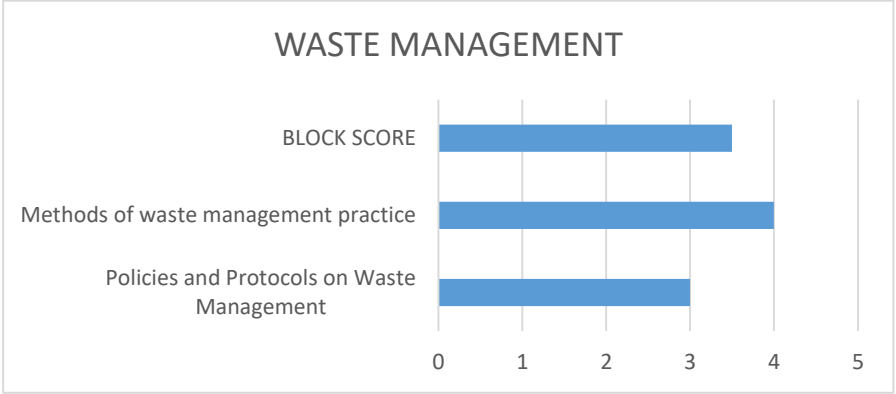

Figure 5: Healthcare Waste Management

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According to the WHO patient safety document, 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. Under this block, two indicators were assessed; i) existence of effective and efficient waste management systems and ii) availability and utilization of waste management policies and protocols. The hospital had a mean score of 3.5 indicating that the hospital waste management system was good but with more room for improvement. As part of efforts to manage waste in the hospital, the management had outsourced the collection of solid waste to a waste management company called Zoomlion thereby shifting responsibility of final waste disposal to the company. The company has storage containers placed at strategic points in the hospital for immediate waste disposal. Liquid wastes are however disposed through drainage systems that is linked to the main drains of the township.

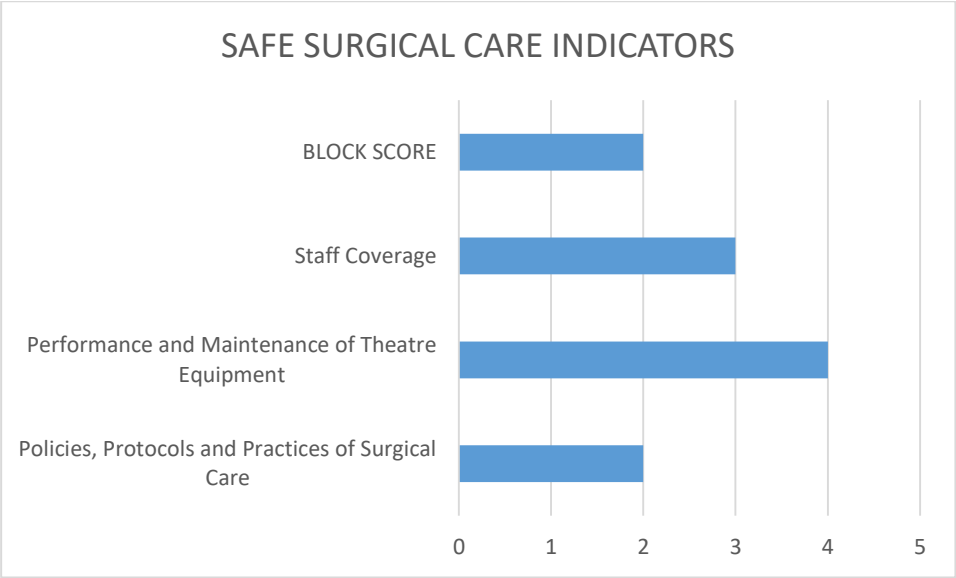

Figure 6: Safe Surgical Care

The WHO has introduced a couple of global and regional initiatives to address safe surgical care across countries. 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 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.

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 hospital scored 2.0, 4.0 and 3.0 respectively thereby obtaining a block mean score of 2.0 which indicates fair performance. It was observed that the hospital did not have the safe surgical checklist which had nineteen questions to be filled on the form. Management surprisingly said they had not even heard about the checklist.

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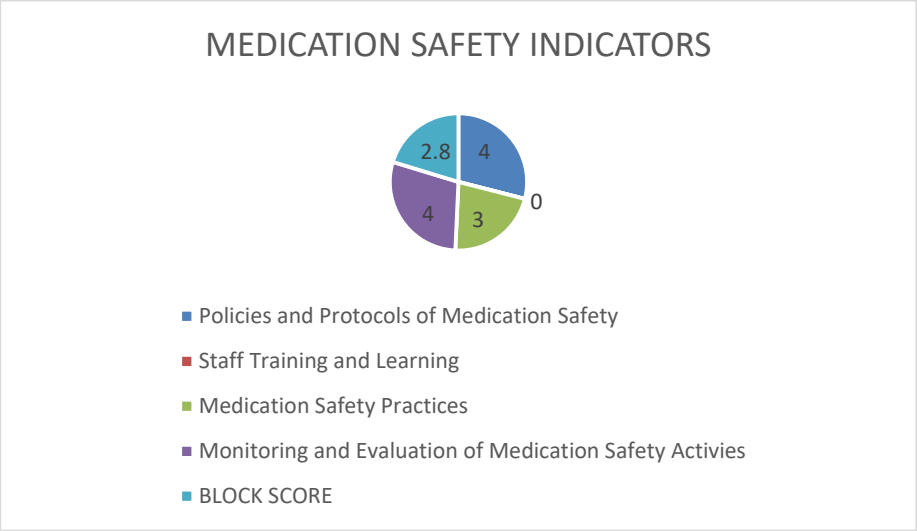

Figure 7: Medication Safety

The National Patient Safety Agency (NPSA) of the U.K defines a medication error 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, the hospital had a block mean score of 2.8 representing a fair performance. It was noted that there were no key policy statement or document on medication safety however some protocols for treatment of some emergency diseases were conspicuously displayed on the nurses' station for use. Unfortunately, no staff had been trained on the concept of medication safety. One of the strengths of the hospital was that they had a functional Drug and Therapeutic Committee as well as well functioning procurement unit. These areas are critical in ensuring that quality and efficacious medicines are procured and administered well.

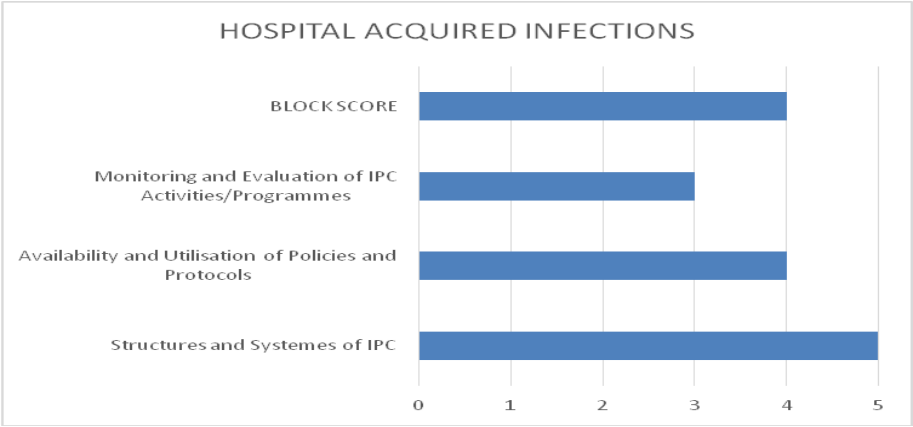

Figure 8: Healthcare Acquired Infections (HCAI)

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 facility scored 5.0, 4.0, and 3.0 respectively for each indicator thereby scoring a block mean of 4.0nDuring the study it was noted that the hospital had a functional multidisciplinary IPC team, had active IPC leader, IPC Goals and Strategies were available. Responsibilities of IPC were clearly defined, IPC team were part of relevant hospital wide committees and also had full management support. However, the IPC team had not yet put any annual plan in place for 2016. Adherence to simple procedures and practices such as improved hygiene conditions, healthcare waste management, and safe use of injections, invasive devices, and safe blood transfusions will minimize health care associated infections. Hand hygiene has the very high impact on morbidity and mortality and is the most effective infection prevention and control measure. During the study, it was observed that veronica buckets were placed at vantage points of the hospital for use by patients and other people visiting the hospital. However, the staff complained of irregular running of the hospital taps which could predispose to ineffective infection prevention and control practices at the hospital.

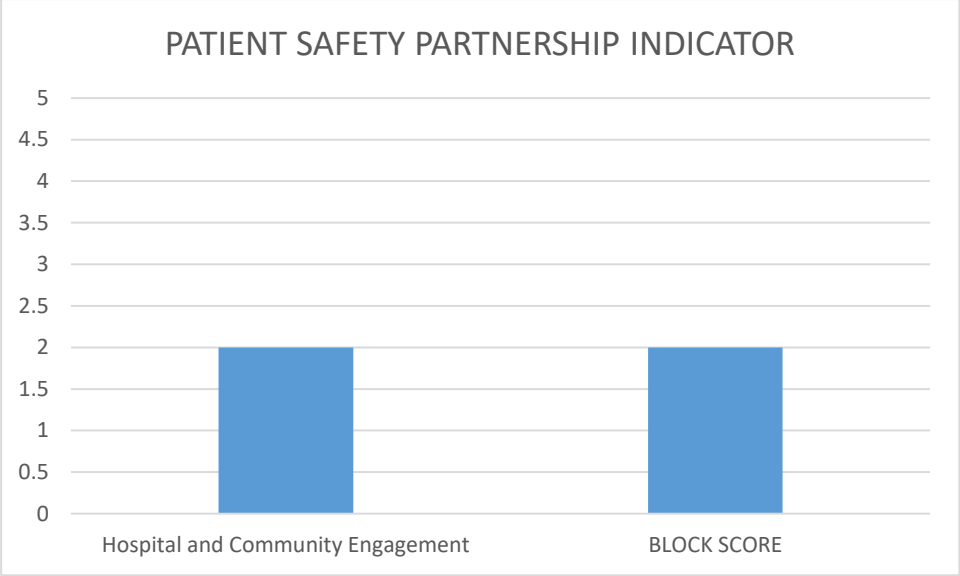

Figure 9: Patient safety partnership

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. Only one indicator was assessed under this action. The level of involvement of the community on patient safety was very low. The hospital scored 2.0 representing Fair

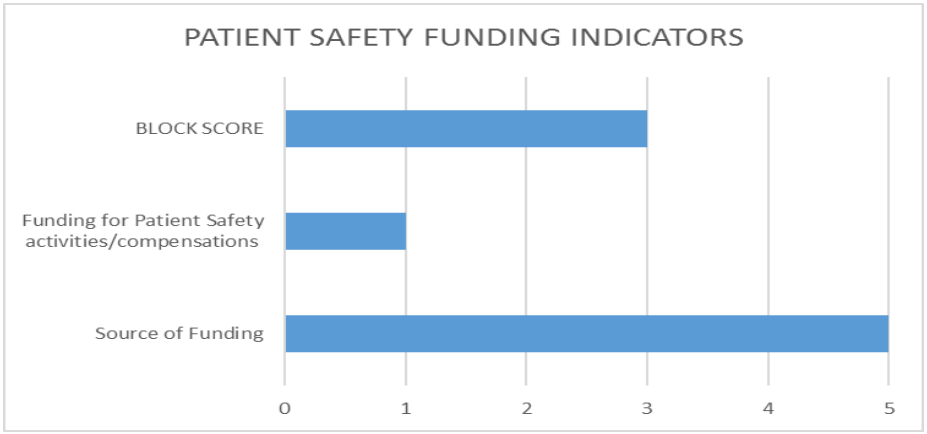

Figure 10: Patient Safety Funding

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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. According to the WHO it is expected that each institution is to ensure that the basic principles of public–private partnerships for patient safety will be explored as part of professional development. Each institution will ensure that a set of basic performance indicators on patient safety will be considered in institutional financing. Two indicators were measured. That is Main Source of Funding and Percentage of Funding allocated for Patient Safety activities/compensations. According to management the hospital allocates funds indirectly into activities that improve on patient care. There were no specific earmarked funds for patient safety activities. The hospital had a block score of 3.0 representing 'Good.

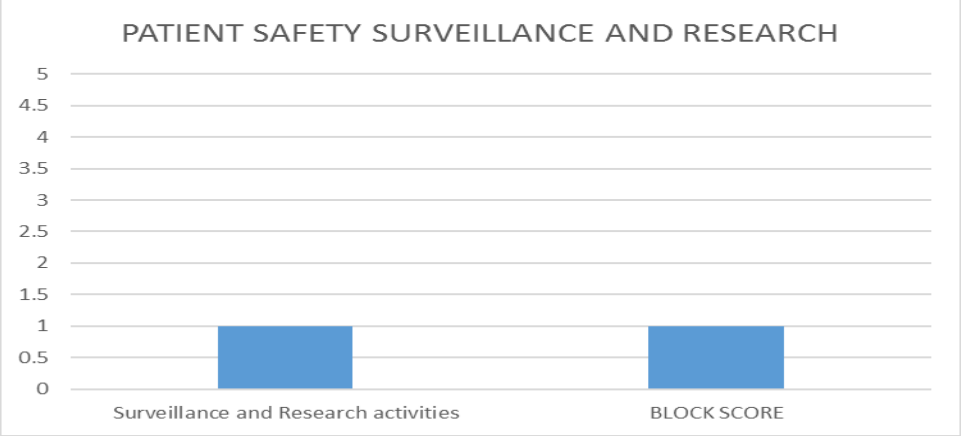

Figure 11: Patient Safety Surveillance and Research

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 and for that matter facilities are encouraged to conduct operational research into some problems identified. The study was interested in knowing whether there was; Hospital Research Team, Research Team has annual POW, Research Team have Priority Patient Safety areas, Budget for research approved by Management for 2016, Research has been carried out on patient safety for the last one year, Training in research principles for research team done, Management supports culture of science and research and Documentation of best patient practices of safety. The hospital had a block mean score of 1.0 indicating a poor performance in this indicator.

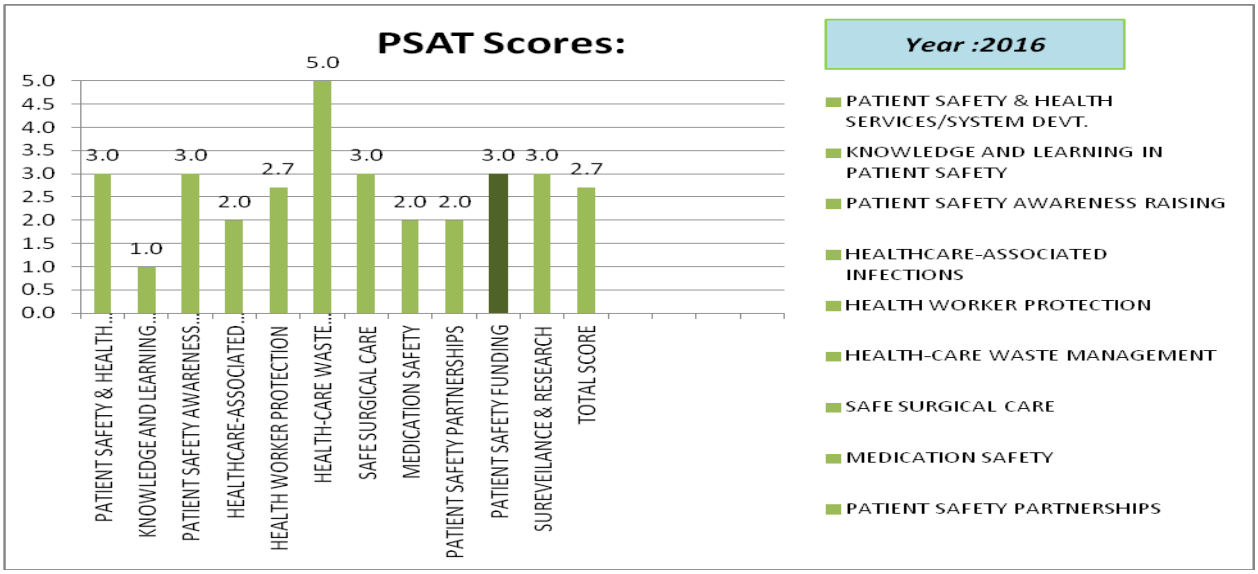

Figure 12: Overall Patient Safety Indicators Mean Scores

The overall scores for the main indicators are shown in figure 12. The hospital had a mean block score of 2.7 representing fair. This score (2.7) meant that the hospital performance in structures, systems and processes of patient safety was fair and below the standard rate of 3.0 and above. However, the hospital did very well in healthcare waste management with a highest score of 5.0. Meanwhile, its weakest link identified was knowledge and learning, healthcare associated infections, health worker protection, medication safety and patient safety partnership. Areas that the hospital was also doing satisfactorily well included; patient safety and health system development, patient safety awareness, safe surgical care, patient safety funding and surveillance and research.

Study Limitations:

The inability of the Medical Superintendent to take part of the discussion affected the collection of additional information. Similarly, the regular intermittent disruptions of the Health service administrator and Nurse Administrator prolonged the interaction and coherency of the discussion.

4. CONCLUSION

It was concluded that the performance of the hospital in ensuring patient safety could be described as fair, implying more room for improvement. The findings implied that the hospital systems, structures and practices of Patient safety needed more attention since failure for management to improve on the indictors could cost the hospital huge sums of money to respond to future legal suits as well as dent the image of the hospital if major incidents/accidents occur. The hospital must take issues of patient safety very seriously. Consensus-based assessment survey creates the room for an honest and objective process of measuring performance and must be encouraged for patient safety issues in the healthcare setting.

5. RECOMMENDATION

It is recommended that the management should place more premiums on patient safety issues and make deliberate attempt to deal with all weaknesses identified during the study under the following indicators: safe surgical care, medication safety, patient safety policies, healthcare acquired infections, healthcare worker protection and patient safety partnership. More commitment and efforts must be maintained at ensuring that all staff who are newly employed receive the appropriate immunization of preventable vaccine diseases such as Hepatitis B. The management must ensure that each department has copies of the following documents: Patient Complaint Form, Quality Assurance/Quality Improvement Policy document and Policy on Health Worker Protection. Management must start working on a strategic plan for the hospital which should include patient safety strategic intervention policies. The plan will provide proper direction of the hospital. Despite the fact that there is no any policy document on patient safety, the authority should use the quality assurance committee to draft an internal one to suite their peculiar environment. The hospital should consider introducing the WHO checklist of Safe Surgery. Staff Satisfaction Surveys should also be considered alongside the patient satisfaction survey.

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