

Awareness, Knowledge and Perception of Safe Surgery Checklist and its Implementation in Jos University Teaching Hospital, Plateau State, Nigeria

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Abstract

Surgery-related complications and mortality have remained unbearably high, particularly in developing countries. Consequently the WHO, developed a Safe Surgery checklist (SSC) to improve the safety of surgeries and reduce mismanagement in surgery. This study was designed to assess the knowledge, attitude and perception of theatre staff about the SSC.

A cross sectional study involving theatre staff of Jos University Teaching Hospital, Nigeria was employed. Information on socio-demographic characteristics, Knowledge and awareness of the SSC, Perception towards safety culture and team work, Willingness and attitude of participants to use the SSC and Challenges affecting the implementation of the SSC in JUTH operating theatres were collected, using a semi-structured questionnaire.

A total of 68 theatre staff participated in the study. Majority 63 (92.5%) had heard about the safe surgery checklist. About 47.0% mentioned they did not usually have enough time for safety preparation, (72.1%) noted that there was not enough resources put in place to ensure safety. Majority (92.7%), indicated that they wanted the checklist to be used for all surgical procedures. and also improve communication and collaboration between operating room staff. Only 13.3% agreed that the checklist is easy to use. More than half (54.4%) felt that the checklist may not bring any extra value to existing safety procedures already in place. Lack of commitment from the Management (16.2%), Lack of interest of health worker (14.7%), Shortage/lack of manpower (20.6%), Lack of team spirit (23.5%) and Inadequate supply of consumable instruments and other equipment/facilities (22.0) were pointed out by the participants as challenges that can affect the implementation of the safe surgery checklist.

Keywords: surgery, safe surgery checklist, theatre, knowledge, perception

Introduction

Surgery is an integral area of medical care, and sometimes the only option to saving a patient's life, reducing pain or managing a disability. According to the World Health Organisation (WHO), about 234 million operations are carried out each year worldwide (WHO, 2009). Among these, medical mistakes and surgical errors in the operating rooms have continued to occur, resulting in 3-16% known complications and 0.4 – 0.8% known death which is approximately 7 million disabling complications and 1 million deaths. After major surgery, the reported crude mortality rate is usually 0.5-5%; complications after inpatient surgeries occur in about a quarter of patients; in economically advanced countries, and almost 50% of all adverse events in hospitalized patients are related to surgery; at least half of the cases in which surgery led to harm are considered preventable while mortality from general anaesthesia can be as high as 60% in Africa (WHO, 2009).

Surgical crises can be very risky and life threatening if immediate attention is not received. In order to reduce these, the WHO, developed a safety checklist with the intention of improving the safety of surgeries, reducing deaths and medical mismanagement in surgery. The practice of

using checklists in surgery, was borrowed from high-risk industries such as aviation where checklists have been tested in simulated settings and shown to improve performance during unpredictable crisis events. It is on this note that the Safe surgery saves lives initiative was formed by the World Alliance for Patient Safety. It is part of the World Health Organization's efforts to cut down the number of surgery related deaths across the world, its aim is to reinforce accepted safety practices and ensure enhanced communication and teamwork between surgical team workers. The initiative encompasses a set of safety checks focusing on surgical site infection prevention, Safe anesthesia, Safe surgical teams and Measurement of surgical services (WHO, 2008). Contribution from anesthesiologists, nurses, surgeons, patient safety experts, patients, and other professionals were used in the development of this tool. Its use has been demonstrated in a pilot study and also in some other countries that has adapted the intervention. Reports from the study and other participatory countries have associated 'Safe surgery' with significant decrease in complication and death rates in different hospital settings, thereby improving the compliance to basic standards of care (IHI, 2015, Harvardgazzette, 2009, Haynes et al., 2009; . de Vries EN et al., 2010, van Klei et al., 2012, Neily et al., 2010) and is rapidly becoming a standard of care. (Birkmeyer et al., 2010) When doctors, nurses and surgical staff follow a written safety checklist, they miss a critical clinical step nearly at only 25%, according to a study supported by the Agency for Healthcare Research and Quality (AHRQ), in the United States of America.

In Nigeria, the surgical experience is not any better, Chukuezi and Nwosu, 2010 in Southeastern Nigeria, reported an overall death per admission crude mortality rate of 9.14% in a five year review of the mortality pattern in surgical wards of a federal medical center. In a previous survey study in, over 53% of survey participants reported high proportions of medical errors in their hospital facilities (Ente, et al., 2010). It has also been reported that many surgical units have little guidance or structure for fostering effective team work, thus, to minimize risk to surgical patient is still far. Also the majority of the patient safety and quality improvement efforts have been made at the global level while such improvement or monitoring programs are actually lacking in local facility levels. The need remains to find out basically what surgical team members know about the checklist, their attitude and perception towards its usage. This is what has necessitated this study; it aims to understand the awareness, knowledge and perception of safe surgery practice among surgical care practitioners.

Problem statement

In the developing regions of the world, including Nigeria, there is scanty evidence of local initiatives put in place in health facilities to ensure patient care is efficient, suitable, and safe (WHO, 2011). According to Carpenter et al., patient safety and quality of care information from the region is still —infrequent and limited in scope|| (Carpenter, et al., 2010). Understanding the depth and breadth of the WHO safety checklist within the health care-delivery system in Africa, may be the first step to establishing sufficient urgency for change and reduction of surgical errors. The utilization of checklists is rapidly becoming a standard of surgical care, however, the impact of using them during a surgical crisis has not been thoroughly investigated (Arriaga et al., 2013).

Significance of study

The absence of data on surgery in WHO health metrics has undeniably led to the failure to recognize the many episodes of surgery at a global level and also its role to preventable disability and death (Weiser et al., 2008). This work will provide evidence-based information about the implementation and usage of this promising strategy in Nigeria. The data obtained will inform the stakeholders, health practitioners, about priority areas to focus so as to effect an improvement and reduce incidences of patient harm. It is anticipated that this study would generate data that is

needed to rigorously describe the knowledge, attitude and perception of surgical health workers about the checklist and also highlight priority areas that would need more attention during adaptation, modification and implementation of the surgical checklist in JUTH and by extension, other Nigerian hospitals.

Specific objectives

1. To assess the general knowledge of the participants about the safe surgery checklist
2. To assess the perception of the participants towards safety culture and team work as it influences the use of the safe surgery checklist
3. To ascertain the attitude and willingness of the participants to use the safe surgery checklist
4. To explore possible challenges that may come up in the implementation of the safe surgery checklist in the study hospital
5. To identify areas for change in the roles of the hospital administration towards implementation of the safe surgery checklist

Methodology

Study Site

Jos University Teaching Hospital: Jos University Teaching Hospital, Jos is located in Jos North LGA, Jos, Plateau state. It has 632 beds for inpatients. It offers various clinical services including surgery. There are 11 operating Rooms including the satellite centres in Gindiri and Zamko. Surgery is performed in nine disciplines including General surgery and Obstetrics and Gynaecology.

Study Population

All Operating Theatre Users of Jos University Teaching Hospital, Jos. These comprises of Surgeons, Residents, Perioperative Nurses, Anaesthesiologist and Nurse Anaesthetist currently using the theatre. All theatre users who gave their written informed consent were recruited in to the study.

Study design

It is a descriptive, cross-sectional study which involved the use of a pre-tested questionnaire targeted at theatre users.

Study period

1 month (May, 2015)

Sample size determination

All theatre users who were available during the period of recruitment were given the questionnaire however only 68 completed the questionnaires.

Sampling method

All professionals using the theatres in Jos University Teaching Hospital, Jos.

Inclusion criteria

All theatre Users of Jos University Teaching Hospital, Jos who gave written and informed consent.

Exclusion criteria

All theatre Users of Jos University Teaching Hospital, Jos who refused consent, or was ill or absent during the period of recruitment

Instrument

Pre-tested self-administered questionnaire comprising of both open-ended and **closed**-ended questions divided into 5 sections was used to obtain information from the participants. The questionnaire was designed in English language. Pre-test of the questionnaires was carried out using 5 perioperative nurse tutors who are also theatre users from other public hospitals. Secondly an observation checklist was used to obtain information on surgical vital statistics and equipment.

Statement of Confidentiality of Data Collected from the Subjects

All information obtained from this study has been kept confidential and will not be linked to the participants in anyway. They were not assigned any identification numbers neither nor identified by their names.

Data Collection Techniques

Data was obtained using pre-tested, structured questionnaires.

Data analysis

SPSS version 16.0 was used for data analysis. Descriptive statistics has been used to summarize the data while Chi square was used to test association between categorical variables, all analysis were done at a 5% level of significance ($p < 0.05$) with 95% confidence interval.

Limitation

There may be low response rate and some missing data considering the disadvantage of self-administered questionnaire.

Ethical consideration

Ethical approval was obtained from the Jos University Teaching Hospital, Jos research ethical review committee.

Informed consent was also obtained from the proposed participants before they participated in the study as participation was entirely voluntary. The participants were told that they could withdraw at anytime in the study and that their wishes would be respected.

Confidentiality was maintained as participants were not identified by their names or the premise where they work. The study exposes the participants to no risk or harm. The proposal was not translated into any local language because the study population is proficient in English language.

Results

Characteristics of the study population

A total of 68 questionnaires were filled and returned, out of 100 that were shared. The mean age of the study population was 40.1 ± 7.34 . There were 26 (38.2%) females and 42 (61.2%) males. About 29.9% of the respondents were peri-operative nurses, 28.4% were resident doctors, 19.4% were nurse anesthetists, 17.9% were surgeon and 4.5% were anesthesiologists. When asked about work experience, a little more than half (58.8%) had been working for about 15 years while about 38.5% had worked 16 years and above.

They were also asked about the number of surgical procedures performed each year, many (68.6%) indicated that they perform about 600 surgeries annually. About one-third (31.7%) of the respondents had at least one additional educational qualification.

Knowledge and awareness of the safe surgery checklist among the respondents

Majority 63 (92.5%) said they had heard about the safe surgery checklist before, among these, 15 (22.0%) indicated that they heard about it from literature on the internet, 23 (34.0%) and 4 (6.0%) heard from colleagues and books respectively. Other places mentioned are shown in the table below. More than half (55.0%) also indicated that they had seen the Safe surgery checklist before, when asked where, various options were noted; these are illustrated in Table 1 below. Their knowledge about SSC was assessed using 10 questions which cut across the content, utilization, implementation and application of the SSC. Correctly answered questions were marked and scored on a 10-point scale. This was further graded into good and poor knowledge. Poor knowledge was for correct responses between 1 - 4, while good knowledge was given to anyone who correctly answered between 5 – 10 questions. Generally, majority (75.0%) had good knowledge while a lesser quartile (25.0%) had poor knowledge. This information is presented in the table below.

Table 1. Knowledge and awareness of the safe surgery checklist among the respondents

| Variable | Frequency (percentage) |
|---|------------------------|
| Have you heard of the SSC before? | |
| Yes | 63(92.5) |
| No | 5 (7.5) |
| If Yes, where did you hear about SSC? * | |
| Literature on the internet | 11 (17.4) |
| From colleagues | 21 (33.3) |
| Publicity at the hospital | 5 (7.9) |
| Training course | 17 (27.0) |
| From books | 3 (4.8) |
| Cannot say/No response | 13 (20.6) |
| Have you ever seen the SSC? | |
| Yes | 38 (55.9) |
| No | 25 (36.8) |
| No response | 5 (7.4) |
| If Yes, where did you see the SSC? * (n=38) | |
| Abroad | 2 (5.3) |
| Another teaching hospital | 9 (23.7) |
| Academic presentations in JUTH | 6 (15.8) |
| Online/Internet/Books | 10 (26.3) |
| A private hospital | 1 (2.6) |
| No response | 10 (26.3) |
| Knowledge of respondents on the SSC (n=68) | |
| Poor (≤ 4) | 17 (25.0) |
| Good (≥ 5) | 51 (75.0) |
| Mean knowledge score | 5.1 \pm 1.40 |

Note: Multiple response included*

Perception of the participants towards safety culture and team work as it influences the use of the safe surgery checklist in their surgical procedures

A greater number (76.5%), (94.1%) and (86.8) indicated that there was widespread adherence to rules and clinical guidelines in their Operating room, Patient safety is the responsibility of all operating room staff and Patient safety is a high priority in their operating rooms. About 57.3% of the participants mentioned that they did not know their staff members by first and last name. About 47.0% did not agree that they had enough time for safety preparation in their operating

room. Also more than half (58.8%) of the respondents disagreed with the fact that there was generally a good team spirit among their staff. When asked if there was enough resources put in place to ensure safety (e.g. staff, utilization of information systems, machines and equipments), majority (72.1%) were of the contrary opinion; a similar response was observed when respondents were asked if everyone's opinion was usually heard to, or listened to, many 68.0% indicated that this was not the case. About 55.8% and 60.3% negated the fact that their physicians and nurses work together as a well co-ordinated team; and that disagreement is expressed in a constructive manner in their theatre. A large number (76.4%) affirmed that as staff they were encouraged to report any safety concerns we encounter, a little below half (47.0%) disagreed with the fact that surgical team members were usually eager to help one another.

Table 2. Perception of the participants towards safety culture and team work as it influences the use of the safe surgery checklist in their surgical procedures

| Opinion | Strongly agree n(%) | Agree n(%) | Disagree n(%) | Strongly disagree n(%) | NR n(%) | Total |
|--|---------------------|------------|---------------|------------------------|---------|-------|
| There is widespread adherence to rules and clinical guidelines in our Operating room | 25 (36.8) | 27 (39.7) | 14 (20.6) | 1 (1.5) | 1 (1.5) | 68 |
| Patient safety is the responsibility of all operating room staff | 47 (69.1) | 17 (25.0) | 2 (2.9) | 1 (1.5) | 1 (1.5) | 68 |
| Patient safety is a high priority in our operating rooms | 38 (55.9) | 21 (30.9) | 7 (10.3) | 1 (1.5) | 1 (1.5) | 68 |
| In our unit, we all know our staff members by first and last name | 9 (13.2) | 18 (26.5) | 29 (42.6) | 10 (14.7) | 2 (2.9) | 68 |
| There is enough time for safety preparation in our operating room | 8 (11.8) | 27 (39.7) | 29 (42.6) | 3 (4.4) | 1 (1.5) | 68 |

Information on the willingness and attitude of participants towards the use of the SSC was also sourced for, a large number (92.7%), indicated that they wanted the checklist to be used for all their surgical procedures. Many (83.2%), (72.0%) and (83.9%) disagreed with the fact that the checklist seems like an unnecessary tick box, that they can operate efficiently without having to use the checklist and the list might waste time and can make our operating theatres less efficient.

Almost all (91.1%) and (94.2%) said using the checklist will make them have more confidence and also improve their communication and collaboration between operating room staff. About one-fifth (20.5%) thought the checklist may not be very important as it has its own handicaps. Only 13.3% agreed that the checklist is easy to use, about 85.3% agreed that it is important to use the checklist in every case. More than half (54.4%) felt that the checklist may not bring any extra value to existing safety procedures already in place in the theatre before its implementation.

Participants were asked whether they would like the checklist to be used during their own surgery, about (86.9%) said they would want the list to be used. They were also asked who among the operating room staff is more suitable in taking charge of the checklist; many (66.7%) indicated that the Nurses would be more suitable in taking charge of the checklist; some others (25.0%) were of the opinion that Surgeons would be more suitable while a few others (18.3%) thought that the Anaesthesia would be more suitable. Table 3 summarizes the willingness and attitude of the participants to use the SSC.

Table 3. Willingness and attitude of participants to use the SSC

| | Strongly Disagree n(%) | Disagree n(%) | Strongly Agree n(%) | Agree n(%) | NR n(%) | TOTAL |
|---|-------------------------------|----------------------|----------------------------|-------------------|----------------|--------------|
| I want the checklist to be used for all our surgical procedures | 2 (2.9) | 2 (2.9) | 41 (60.3) | 22 (32.4) | 1 (1.5) | 68 |
| The checklist seems like an unnecessary tick-box | 34 (50.0) | 22 (32.4) | 4 (5.9) | 7 (10.3) | 1 (1.5) | 68 |
| We can operate efficiently without having to use this checklist | 19 (27.9) | 30 (44.1) | 2 (2.9) | 15 (22.1) | 2 (2.9) | 68 |
| The Checklist might waste time and can make our operating theatres less efficient | 22 (32.4) | 35 (51.5) | 6 (8.8) | 3 (4.4) | 2 (2.9) | 68 |
| Using the checklist will make us have more confidence | 1 (1.5) | 3 (4.4) | 36 (52.9) | 26 (38.2) | 2 (2.9) | 68 |
| The checklist will improve communication and collaboration between staff in the operating room | - | 3 (4.4) | 39 (57.4) | 25 (36.8) | 1 (1.5) | 68 |
| The checklist may not be very important as it has its own handicaps | 16 (23.5) | 37 (54.4) | 2 (2.9) | 12 (17.6) | 1 (1.5) | 68 |
| The checklist is easy to use | 1 (1.5) | 8 (11.8) | 17 (25.0) | 40 (68.8) | 2 (2.9) | 68 |
| It is important to use the checklist in every case | 1 (1.5) | 8 (11.8) | 24 (35.3) | 34 (50.0) | 1 (1.5) | 68 |
| Surgical Safety Checklist causes irritation between staff members | 11 (16.2) | 37 (54.4) | 4 (5.9) | 15 (22.1) | 1 (1.5) | 68 |
| Surgical Safety Checklist contains ambiguous statements | 13 (19.1) | 38 (55.9) | 2 (2.9) | 13 (19.1) | 2 (2.9) | 68 |
| Implementing the Safety surgery checklist is a good decision | 2 (2.9) | 3 (4.4) | 32 (47.1) | 25 (36.8) | 6 (8.8) | 68 |
| The checklist may not bring any extra value to existing safety procedures already in place in the theatre before its implementation | - | 28 (41.2) | 31 (45.6) | 6 (8.8) | 3 (4.4) | 68 |
| If I were having an operation I would want the checklist to be used (n = 61) | | | | | | |

| | |
|--|--------------|
| Yes | 53 (86.9) |
| No | 8 (13.1) |
| Among the operating room staff, who do you think would be more suitable in taking charge of the checklist? (n =60) | |
| Surgeon | 15 (25.0) |
| Nurse | 40 (66.7) |
| Anaesthesia | 11 (18.3) |
| Any other staff, you think would be more suitable in taking charge of the checklist? (n =5) | |
| A dedicated theatre staff for the purpose | 2 (40.0) |
| All operating team members | 1 (20.0) |
| Anybody available at the given time | 1 (20.0) |
| Porters | 1 (20.0) |

Possible challenges/advice/suggestion towards the implementation of the safe surgery checklist in JUTH operating theatres

Lack of commitment from the Management (16.2%), Lack of interest/will/attitude of health worker (14.7%), Shortage/lack of manpower (20.6%), Lack of team spirit (23.5%) and Inadequate supply of consumable instruments and other equipment/facilities (22.0) were the pointed out by the participants as possible challenges that can affect the implementation of the safe surgery checklist in their operating theatres. Table 4 shows the other issues that were indicated and their frequency among the participants.

Table 4: Possible challenges/advice/suggestion towards the implementation of the safe surgery checklist in JUTH operating theatres

| Kindly indicate any challenges you think might affect the implementation of the checklist in JUTH * (n =68) | |
|--|-----------|
| Administrative bottleneck/bureaucracy | 8 (11.8) |
| Lack of awareness or knowledge | 8 (11.8) |
| Commitment of staff to duty | 1(1.5) |
| Co-operation among staff | 8 (11.8) |
| Inadequate supply of consumable instruments/other equipment/facilities | 15 (22.0) |
| Inadequate time to carry out the checklist | 3 (4.4) |
| Lack of commitment from the Management | 11 (16.2) |
| Lack of incentive among theatre workers | 1 (1.5) |
| Lack of interest/will/attitude of health worker | 14 (20.6) |
| Shortage/lack of manpower | 16 (23.5) |
| Lack of team spirit | 10 (14.7) |
| Corruption | 1 (1.5) |
| Lack of good communication | 1 (1.5) |

Note: Multiple response included*

Attitude towards role of hospital administration and management in implementation and use of the checklist

From Table 5, Participants’ attitude towards the role of hospital administration and management in implementation and use of the checklist was also assessed. About (44.1%), indicated that having the Administrative Heads (e.g CMD, CMAC, ADNS), Clinical staff (73.5%) and giving a mandatory date/time to commence the use of the checklist by management (54.4%) would enhance the implementation of the safe surgery checklist in this hospital to a large extent.

In the same vein, many of the participants, also believed that the support of the CMD (64.7%), CMAC (63.2%), Head of Departments and Consultants in Surgery (70.6%), Anesthesiology (76.5%), Nursing (76.5%) and Operating Theatre Manager (77.9%) would also enhance the implementation of the safe surgery checklist in this hospital to a large extent.

Table 5. Attitude towards role of hospital administration and management in implementation and use of the checklist

| In your opinion, to what extent will the following enhance the implementation of the safe surgery checklist in this hospital? | Very great extent n(%) | To Some extent n(%) | Little extent n(%) | Very little extent n(%) | NR n(%) |
|--|-------------------------------|----------------------------|---------------------------|--------------------------------|----------------|
| Having the Administrative Heads (e.g CMD, CMAC, ADNS) as leaders of the implementation team | 30 (44.1) | 14 (20.6) | 11 (16.2) | 7 (10.3) | 6 (8.8) |
| Having the Clinical staff (those engaged in day to day running of the theatre) as leaders of the implementation team | 50 (73.5) | 8 (11.8) | 3 (4.4) | - | 7 (10.3) |
| Giving a mandatory date/time to commence the use of the checklist by management | 37 (54.4) | 14 (20.6) | 8 (11.8) | 1 (1.5) | 8 (11.8) |
| Support of the following: | | | | | |
| Chief Medical Director | 44 (64.7) | 9 (13.2) | 2 (2.9) | 2 (2.9) | 10 (14.7) |
| Chairman Medical Advisory Committee | 43 (63.2) | 14 (20.6) | - | - | 11 (16.2) |
| Head of Department and Consultants in Surgery Department | 48 (70.6) | 6 (8.8) | 2 (2.9) | 1 (1.5) | 11 (16.2) |
| Head of Department and Consultants in Anesthesiology Department | 52 (76.5) | 5 (7.4) | 1 (1.5) | - | 10 (14.7) |
| The Head Nursing Department | 52 (76.5) | 5 (7.4) | 1 (1.5) | - | 10 (14.7) |
| Operating Theatre Manager | 53 (77.9) | 6 (8.8) | - | - | 9 (13.2) |

Discussion

Knowledge and awareness of the safe surgery checklist among the respondents

From this study, participants had high awareness of the SSC among the respondents; this awareness is similar to that in previous study in the Guatemala (Hurtado et al., 2012) and UK (Watts et al., 2010). The internet was the most mentioned source of information, this could be explained by the recent upsurge in information technology and social networking, and it also

points to the fact that the theatre staff has good knowledge-seeking behaviour, this should be encouraged. Although their knowledge score was also impressive and in line with prior findings, however there is still the need to further educate the operating room staff about the objectives and components of the SSC, some (39.7%) could not mention at least one objective of the SSC, many (95.6%) could not correctly mention the three phases of the SSC in the order they are to be followed and only 32.4% could identify the three fundamental issues in the SSC. This was similar to the findings from the Guatemala study. This underscores the need for proper training and education of the surgical team members on the full knowledge of the SSC.

Perception of the participants towards safety culture and team work as it influences the use of the safe surgery checklist in their surgical procedures

The widespread adherence to clinical guidelines observed in this study is indicative of the fact that the hospital would be receptive to current guidelines; it shows the readiness of the staff to embrace new principles including the SSC in clinical practice if available. This is in line with similar studies' findings (Abdel-Galil et al., 2010), Gueguen, 2011, Patterson et al., 2009)

There is also the need to improve upon safety principles in the surgical unit of this hospital generally, the contrary opinion among the respondents about having enough resources put in place to ensure safety is of great concern; they also indicate that people's opinion is not usually listened to similar perception was observed, this indicates that the SSC and its components is not being applied or rather not in use, in this hospital since almost all these areas is included and should be considered if the SSC was actually in use. There was also a recommendable attitude towards the safety of patients among the staff, which also shows that the participants have a good disposition about the interest of their clients.

However there remains the need for improvement in terms of team work, since more than half of the respondents did not know their staff members by first and last names, about the same proportion indicated that they did not have a good team spirit among them and that their physicians and nurses work together as a well co-ordinated team; many even disagreed about eagerness to help one another among the surgical team. All these show the level of interaction and social understanding among the theatre staff and reflects some level of dichotomy, there should be better friendliness and associations among the staff, this will go a long way to bridge the gap that usually exists between the different professional categories and fosters co-operation which in turn improves service delivery.

Some studies by Cullatiet al., 2013 and Pickering et al., 2013, also supported the finding in this study that there is not enough time for safety preparation in their operating room.

Willingness and attitude of participants to use the SSC

This study shows that almost all the surgical team members of JUTH are willing and have a positive attitude towards the use of the SSC, they believed the SSC would improve the clinical outcomes in their surgery practice and majority (86.9%) said they would want the SSC to be used for their own surgery; however the indifferent disposition expressed by more than half of the respondents as to whether the checklist may bring any extra value to existing safety procedures already in place in the theatre before its implementation needs to be further assessed, one of the reasons might be that the full benefits and components of the SSC in terms of Safety is not yet fully understood by the participants. Similar result was observed in Switzerland (Fourcade et al., 2012) but contrary to findings from another similar study (Cullati et al., 2014). It is also obvious that majority were of the opinion that Nurses would be more suitable in taking charge of the checklist than any other operating room staff, although on-fourth though the surgeons were more suitable.

Possible challenges/advice/suggestion towards the implementation of the safe surgery checklist in JUTH operating theatres

Lack of team spirit or dichotomy among the surgical staff was a major challenge identified, this has been a major bottle-neck in Nigeria. Recently, conflicts and disagreements among Doctors, and other health professionals have seriously affected medical service and health care delivery negatively. There have been strikes and slowdowns which have led to shutting down government hospitals for long periods and which unarguably has led to deaths which could have been prevented and meltdown of the health sector services. It is not surprising then, that majority of the participants in this study has pointed out this issue as being a serious challenge that might also affect the implementation of the safe surgery checklist in JUTH operating theatres since in the surgical units we also have Doctors and other health professionals working together in a team.

Secondly, inadequate supply of consumable instruments and other equipment/facilities and Shortage or lack of manpower were indicated as the next major challenges, without the structures, instruments and staff, cutting-edge strategies like the SSC would be difficult to implement; these findings are in line with prior results from a previous study (Thomassen, et al. 2011). Lack of commitment from the Administration or Management unit, the management has always been known to greatly influence the implementation of new policies and strategies in an establishment, the hospitals is not to be left out in this case. The leadership of any establishment plays a major role in adoption of new ideas, this is in line with the results in a previous studies (Kariyoi et al., 2013, Vats et al, 2010 and Edmondson, 2003). Also if the administration or management of this hospital considers the SSC as priority, it is easier to obtain funds to train the surgical staff and purchase instruments or other equipment that must be in place to ensure the kick-off of the use of the SSC.

Attitude towards role of hospital administration and management in implementation and use of the checklist

In terms of management and administration, majority thought that having the Clinical staff (those engaged in day to day running of the theatre) as leaders of the implementation team would go a long way enhancing the implementation of the SSC in the study center, this is in comparison to having the administrative heads or proposing a mandatory policy by the hospital management. This is indicative that although the administrative or management unit of a hospital has an influence on the implementation of new strategies or policies in a health care establishment, it is however very important to ensure the partnership and involvement of the staff or professionals who will actually be the ones to make use of the strategy, in this case the SSC checklist. Thus the need to involve all those engaged in the day to day running of the theatre from the planning to the implementation stage of the use of the SSC, cannot be over-emphasized if this strategy is to be well accepted and properly infused into surgical practice.

This could also be the same reason why most of the participants thought the operating theatre manager and the Head of Department, Nursing were thought to be more influential towards the implementation of the safe surgery checklist in this hospital. Other reasons should be further looked in to; as earlier mentioned previous studies have highlighted similar issues ((Kariyoi et al., 2013, Vats et al, 2010 and Edmondson, 2003).

Conclusion

There is a high awareness and good knowledge of the SSC among the surgical team members of JUTH, however complete knowledge about the components and application is not fully known. In conclusion the Efforts should aim to more awareness and complete knowledge on why and how the checklist should be used. Patient safety was perceived to be of high priority

however team work should be improved upon. Generally the surgical staff were willing and have a positive attitude towards the implementation of the strategy if all other influencing factors are put in place. Challenges highlighted should be looked into and internally solutions should be sought to reduce or totally eradicate these problems, otherwise the implementation of new strategies like the SSC would remain unachievable.

Finally the role of administration in the planning and implementation of the SSC cannot be over-emphasized, there should be a collaboration of all unit heads particularly the nursing unit and operating management for a successful implementation. There is also need for training and frequent re-training of all the surgical team members, this will foster a good understanding and implementation of the SSC.

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