**SIMULTANEOUS ISSUES OCCURRING DURING OPERATION**

**Critical incident analysis**

**Introduction**

At this point, an incident with different features, as detailed in the appendix section will be thoroughly highlighted using a variety a reflective framework that will bring to light the incident (case of a missing boney-toothed forceps). At the same time majoring attention on the communication, process of reporting an incident and finally dwelling on the roles and responsibilities of the scrub practitioner as the assistant of the surgeon and supervisor of the trainee nurse. To ensure confidentiality of the incident, the author abides by the Data Protection act of 1998 for pseudonym and other laws that restricts the confidentiality like the amendment of Health and Care Professions Council in 2012 on section (a) confidentiality (Nicolini, Waring and Mengis, 2011: p 217). The consent is sought from the subject to give approval on a consent form in order to enhance disclosure of the information.

**Reflective framework analysis**

Reflection is simply a process of thinking or evaluating on the process or occurrences that you did some time back. Reflection in nursing practice is usually contemplated and used frequently and is actively changing from time to time (Pritchard and PMP, 2014). The importance of it in nursing practice is that it allows analysis in new in depths of knowledge while at the same timework harmoniously with the nursing practice in through the incorporation of evidence in support (evidenced dependent learning). Reflection however can be categorized into two forms, namely reflection in action and reflection on action. While reflection in action portrays the incorporation of behaviour during an incident, reflection in action states the process of behaviour incorporation as a result of an already occurred incident and is majorly dedicated to the health providers (Rosen et al. 2012: p 243). Nursing moreover requires a critical form of reflection. Critical reflection aims to bring theory and practice into a close proximity in that the two can be closely related and identified it also aims bring to terms on the practitioners actions vis-à-vis what is required on them and at the same time promote and instil professional competence. It is essential for caregivers because it works to give room for proper study and adoption of the different and related disciplines (surgeon and scrub nurses) approach and practices bestowed on them through the use of evidence based evaluation of an incident with the aim of achieving optimal practice. It them becomes mandatory for health practitioners to re-evaluate their actions and abide by the values as prescribed in the in their profession mandate and codes of conduct (Davidoff et al., 2015). Something to consider also in critical reflection in practice is that reflection needs to be positive and not negative. This is because, positive reflection is associated with better values that are essential in boosting good practices and dispensing knowledge.

In order to effectively undertake a reflective process pertaining an incident, the use of frameworks is inevitable. For this reason, there are several frameworks with the likes of, Kim’s reflective framework, Gibb’s reflective framework and Kolb’s reflective framework (Crossley and Vivekananda-Schmidt 2009). All these frameworks are considered and can be applied in analysis of any incident. However, the process and procedures that underline it narrows down to a particular incident that can best work on. For instance, Kim’s reflective framework incorporates the detail use of guidelines as set by the nursing body and does not take into action the use of questions when trying to re-align description, critical steps and even in reflection (Ilie and Ciocoiu, 2010: p 10). Even though the framework allows explanation by the party reflecting on it, it poses a challenge to those who are inclined to a more detailed approach. This approach will surely not work in analysing the incident in the appendix. On the other hand, Kolb’s reflective framework encompasses more of experiment and alludes its process as a cycle of learning. The cycle revolves around four phases, that is, observation, concept theory, reflection and action (Mann, Gordon and MacLeod 2009: p 595). The problem with this framework is that, as much as it has an outlined sequence of phases, each phase is permanently dependent of each other that cause a wide scope of analysis for reflection. This is a junk of work to the reflector. The other issue of contention with this framework is on its design. The framework works in such a way that conclusions are derived from the initial incident; this provides a serious implication when giving logical and concluding answers. This framework is not also suitable with the incident in the appendix.

The third framework is Gibb’s reflective framework, and just like Kolb’s reflective framework, this too works with a series of stages and utilizes the use of cue questions. It has six stages in a row with the first and the last stage relate to each other thereby forming a circle (Johns and Freshwater 2009: p 10). The framework works that, in stage one, the incident is described before anything else is undertaken by the reflector. After exhaustively describing the incident, the reflector ushers in step two and three. Within these two steps, the reflector critically identifies the advantages and the disadvantages of the incident. Stage four provides an in depth scrutiny of the incident with the prefectural use of evidence to normalize the process. Stage four sets a base for stage five and the final stage. Stage five analyses the incident into a logical conclusion and outline the conclusions (O'mahony et al., 2011: p 746). Stage six is the final stage and it encompasses the plans to be taken in action of the incident. In simple terms therefore, this framework provides a systematic practical approach to actions and solutions that can be easily tackled by even a novice reflector.

From the three outlined frameworks, Gibb’s framework is by far best suited to address my incident, as it will help me to have an image, to conceptualize, articulate and solve the incident through making sound decisions basing on the information that it provides (Yanow and Tsoukas 2009: p 1339). Therefore, this framework will be useful to me.

**Critical incident analysis**

Critical incident is an analysing technique used to analyse an incident. The term is mostly best described by separating it into two, critical and incident. Critical refers to anything that is important, and incident is defined as a well-stipulated period in time when an occurrence took place (Wopereis, Sloep and Poortman, 2010: p 245). Critical incident therefore takes two forms, it can be either a positive incident or a negative incident. In trying to associate with this forms therefore, critical incident analysis (CIA) will strive to look into the exact details of the incident and if need be will also look for the root cause and provide a correction to avoid future similar incidences in the practice. The choice of Gibb’s framework is well fitted with critical incident analysis because CIA can be related to the use of the same technique as used in reflection. The other important aspect of CIA is that it recognizes different forms of perspectives that are so pivotal in conceptualizing the varying emotional reactions, the effect of personal achievement on practice and providing a ground for building evidence which are geared towards future decision making of the health practice (Kelly et al., 2010: p 1046).

**Root cause analysis**

Critical incidences sometimes come in varying range and complexity. Root cause analysis therefore is used as a tool to measure factors that contribute to the incident. Root cause analysis (RCA) is therefore a technique used to solve problems, it works by identifying the origin of the problem which in this case is the origin of the incident (Atkinson and Nixon-Cave 2011: p 416). RCA utilizes the data collection method, the assessment of the incident, prescribed corrective actions, outlines information and suggest for evaluation. The use of RCA is consistent with Gibb’s reflective framework and therefore goes in handy when trying to analyse incidents of this nature. The other important aspect is that it provides tools for alternative approach. The most commonly used tools in nursing practice however are, the five whys tool, the contributory factors framework and Ishikawa fishbone. From the word five whys, this technique uses the concept of asking the question why to the point at which the origin of the cause is arrived at, this s the most simple tool in RCA. On the other hand, contributory factor framework is a designed framework that aims at guiding the investigator in a proper channel that will eventually lead to a standard critical search and drafting of the report (Moon 2013).

 The third tool, which is the Ishikawa fishbone, is a framework in form of a diagram that resembles a fish ripped off its flesh remaining with skeleton shape. Which begins with one line that runs horizontally, the line represents the effect of the incident while the other lines branching from the main horizontal line represents the factors that aid the incident and it goes on forming until a the final factors are found out and analysed. The Ishikawa framework is the likely tool for RCA to this incident because of its nature of approach that includes identifying and analysing factors. Factors to which are present in this incident and include: overfamiliarity of the instruments, initial count done in haste, the surgeon might have been in a hurry for instrument and likely to have affected the count (Bloodworth, 2011: p 98). The author was a scrub trainee student and therefore might have been novice to the practice or maybe the instrument were arrange in a different set of layout).

Ishikawa framework can be applied to the critical incident in question that is as stated below.

**Description**

A full explanation of the critical incident in question which involves a case of a missing boney’s toothed forceps during a routine elective obstetric case is illustrated in  the appendix section.

**Evaluation**

In this occurrence, there were the positive and the negative aspects, with an adverse effect being on the negative as per the incident are the missing Boney’s toothed forceps. Even though it is not well documented in the UK state law about the accountability of the tools, it is and has always been the duty of the health practitioner to ensure proper care of the patient and which includes accounting for every tool that was used in operation (Kolb and Kolb, 2012: p 1215). The missing forceps was a cause of alarm to the team because it likely meant that the tool had been left inside the body and more so because this was the last skin closure. It was a good course for the time to raise the alarm through an effective communication from the scrub practitioner who was taking the count to the surgeon performing the operation and prompting for proper scrutiny of the tools at hand and those which have been disposed. The incident took place before the final skin closure and therefore the surgeon had to stop the final procedure in order to account for the missing forceps (Clark, 2009: p 213). This action however, posed a risk to the patient because the wound was susceptible to infection as it was still open. Finding the forceps took a longer time because the team had to embark on a serious search that included searching for all the disposal bins. The time taken was so traumatic to the patient who was naïve thinking that maybe the boney toothed forceps had been left inside the body, at some point he began feeling on the wound as part of aiding in the search mission.

The search resulted to an extended period of the operation that is also a negative impact because it jeopardized the issue of time cautiousness and efficiency; this meant that there were delays in the consequent operations. The entire search event was on a teamwork strength as there was no commanding figure and this resulted to calm from every member resulting to effective search of the missing tool (Gibbs et al., 2013). As an assistant scrub practitioner and novice to the practice, my checks took quite a bit of time before I realized the missing forceps; this too was a contributing factor because maybe if I were my supervisor and a resident scrub practitioner I would have realized it from the first count immediately before the first level wound closure.

As much as the negative part is concerned, there were also the positive sides of the incident. It was lucky enough that the boney toothed forceps had not been left inside the body and rather had been wrongly disposed into the sharps bin, a bin that is only destined for the sharp objects such as the suture needles, insulin needles and capillary tubes (Moon, 2013). The mood within the operating room was generally good, this was made possible by a good rapport between the time players that resulted to a good communication. The thorough search and effective collaboration regardless of the hierarchy resulted in less time taken to find the missing object, this was crucial to the patients mental and physical safety. After finding the missing boney toothed forceps, a critical assertion was also done to ascertain on all other tools before the final skin closure was done. The incident case was reported to the entire members of staff with the aim of highlighting the risk and avoiding for future occurrences of the same nature. Finally, the incident was documented in order to assist in learning that has to do with extended and risk incidents of such behavior (Husebø, O'Regan and Nestel, 2015: p 368). The incident was a success and therefore preventing a “serious, preventable and costly medical error” otherwise known as the ‘never event.’

**Analysis**

The incident encompassed a series of factors that has been captured in the root cause analysis and has outlined in the appendix section. The factors can be generalized as missing boney toothed forceps, communication, novice scrub practitioner duties and responsibilities and the reporting of the incident.

Luckily enough, the missing tool was not found in the body of the patient and therefore it did not implicated any physical harm to the patient while they were trying to retrieve it. If the tool had been left unintentionally inside the wound of the patient, it would have resulted as a ‘never event.’ If an unfortunate case of a never event would have occurred (In this incident the never event would have been the retention of the boney toothed forceps inside the body of the patient) the consequences lies squarely with the organization which is the hospital (Bannigan and Moores, 2009: p 342). The consequences range from financial penalties to settle and compensate the patient to penalties of improvement on patient’s safety measures that include investment in evaluation and scrutiny measures. The operating team is also compelled to report both the ‘never event’ incident and the corrected near event incident. This incident represents a corrected or prevented near event incident because the missing tool was not found to have been left inside the body of the patient (Collin, Paloniemi and Mecklin, 2010: p 46). The advocacy of encouraging the reporting of each incident is to allow the determination of approaches that are effective and those that need proper scrutiny in the practice.

An obstetric case in its sense refers to a period of delayed labour with largely associated painful contractions with a leakage in fluids for a lengthy period. The probability of which is that the mother will not be able to have a normal pregnancy induced from the normal procedures (Larsson et al., 2011). The other case that can induce an obstetric case is the health history of the mother and if the mother has had a relatively conditional health history with the case of hypertension and a history of abortions, the likely form of birth will be caesarean section or the obstetric induction. The procedure involves cutting through the various linings of the body to the uterus (Meredith et al., 2011: p 89). The first cut is the skin followed by the rectus sheath that is the final cutting to the uterus. When closing up the procedure, the surgeon begins by stitching the inner layer which is the rectus sheath followed by the outer layer skin. Incidences of retention of tools is predictable within this operation especially with the factors that result from an apparent change in surgical procedure, this occurs if the surgeon is forced to divert from the surgery in which he or she was intended to perform. Cases such as this result when the procedure presents or opens up another issue that needs to be addressed urgently (Standing, 2009: p 20). For instance, if the surgeon wrongly cuts through another part of the internal organs, he will be compelled to restructure the organ. In the event, a different procedure will come up and will need other surgical instruments causing a mix up and confusion which can result in retention of other tools inside the body of the patient. The other action that can bring up such an incident of retention is the sudden change in the team that was undertaking the surgical operation (Quick, 2011: p 387).    The operation or the procedure involves the use of several tools and any action that relates to the deviation of the procedure will certainly lead to mix up and unfortunate case of retention.

The root cause analysis indicate a case of a novice scrub practitioner who might have not performed a proper account of the tools and also a case of pressure from the surgeon who hurriedly threw the boney toothed forceps to the sharps bin, a bin that is used to dispose the sharp objects like the needles (Robb,  2013: p 301). Boney toothed forceps are supposed to be placed at the tool tray that hosts all the tools that are not disposed and are rather sterilized for re use. The process of retrieving it lead to a wastage of time and prolonged the period at which the patient was on anaesthesia.

**Conclusion**

The critical incident clearly portrayed the various incidences that are likely occurrences in an operation room. The critical cycle has been articulated through the incorporation of several actors that are aimed to explain the incident (Serrat, 2017). The actors include the Gibb’s reflective framework, the root cause analysis (RCA) and finally the incorporation of Ishikawa model. RCA was an important actor for the effective communication, the case of the missing boney toothed forceps and the responsibilities of the scrub practitioner and reporting on the incident. The actors were so helpful in the reflective cycle with each actor taking a prolific impact. For instance, communication was so fruitful and contributed more to finding the missing tool and lastly to explaining the occurrences.

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**Appendix**

The incident involved a case of missing boney’s toothed forceps during a routine elective obstetric case. An experienced theatre practitioner had scrubbed for the case along with a student operating department practitioner as her mentee and acting as second scrub practitioner. The author had circulated for scrub nurse under the supervision of his mentor. Although UK statute law does not dictate what system or method of accountable items, swab, instrument and needles counts should be performed within a perioperative environment, as health care practitioners, the law is quite clear in that we all have a ‘duty of care’ to the patient (AfPP, 2012). Unintended retained objects are considered a preventable occurrence, and careful counting and documentation can significantly reduce, if not eliminate these incidents. As per the trust policy, and audible count of accountable items , swabs, instruments and needles between two theatre personals , of which one should be a registered i:e an RN or an ODP. The trust policy was followed and the count took place at the beginning of the case before commencement of surgery, immediately prior to the first level wound closure, before closure of rectus sheath and a final count before skin closure. The missing Boney’s toothed forceps was realised during the final skin closure. It is the responsibility of the scrub practitioner to implement the checking procedure in order to be able to state categorically that all equipment is accounted for. The primary surgeon was informed and a search was done to find the missing instrument. After 15 minutes , the Boney’s toothed forcep was found in the sharps bin.

Points to consider for root cause analysis:

• Overfamiliarity of instruments shown by scrub practitioner. Initial count done in haste

• Different layout of instruments as new sets delivered from different trust .

• Surgeon was hurrying for instruments which may have impacted the count

• Include other human factors like author was novice and still learning the instruments, presence of multidisciplinary team(midwives) was distracting etc.