

Patient safety in surgery



**ASSIGN
BUSTER**

The purpose of this assignment is to conduct a literature review on a chosen topic which is a healthcare/nursing intervention related to a chosen clinical setting. A rationale will be given on why the particular intervention was chosen and also a brief description of the intervention will be outlined. The author will also identify the search strategy used to give the readers understanding of how the literature was researched and chosen. This will be followed by a summary of the findings from the relevant literature in relation to the chosen intervention.

Aveyard (2008) describes a literature review as the comprehensive study and interpretation of literature that relates to a particular subject.

The authors elective placement was spent in a surgical theatre in a large hospital trust. The theatres largely comprised of gynaecological procedures and Gastro-intestinal surgery where up to 25 procedures could be performed each day dependent upon the number of available beds within the trust. The age range of the patients that were seen were 16 years of age and above. For more than a century, surgery has been an essential component of public health. As longevity increases worldwide, its role is increasing rapidly (WHO 2009) with around 230 million people undergoing surgery each year.(Lancet 2008). Surgical complications are common and data suggests that many deaths and injuries due to a surgical procedure are avoidable.(Gawande AA et al 1999). Therefore the author has chosen to review a tool from the initiative ‘ Safe Surgery Saves Lives’, known as the ‘ Who Surgical Checklist’. The checklist has been chosen as it was used in the authors surgical placement area.

For this literature review a literature search of electronic databases using The Cumulative Index of Nursing and Allied Health Literature (CINAHL) and OVID Medline was conducted the search was limited to English Language articles and date limitations were set between 1990 – 2010 using Key words including ‘ Patient safety in surgery’ which resulted in 493618 papers, this search result was too broad and so then was started using the words ‘ Surgical safety’ which resulted in 44 papers some of which weren’t relevant to the chosen topic so the phrase ‘ Safety checklists’ were added in to the search which resulted in nine papers. I found it difficult when searching for literature on the chosen subject as it is a fairly new initiative and only became mandatory in 2010.

Data recorded from 56 countries identified that in 2004 the annual volume of major surgery was an estimated 187-281 million operations, or approximately one operation annually for every 25 human beings alive. (Weiser TG, et al).

Surgical care very often can prevent loss of life or limbs, it is also associated with posing a considerable risk of complications and death (Haynes AB et al). Major morbidity following surgery occurs in 3 to 25% of patients being treated in a hospital setting and mortality rates following surgery range between 0. 4% and 10%. It is not just the morbidity rates that are affected , health-care costs increase substantially for patients with surgical site infections. In the United Kingdom alone, the excess cost has been calculated to be about £1594 per infection (Coello R et al 2005).

Confronted with evidence from countries all over the world of the substantial public health harm due to inadequate patient safety, the World Health Assembly (WHA) in 2002 adopted a resolution urging countries to strengthen the safety of health care and monitoring systems across different areas of healthcare systems and surgery was one of the areas listed. The resolution also requested that WHO take a lead in setting norms and standards and supporting country efforts in preparing the patient safety policies and practices. (WHO, 2009)

The goal of the intervention is to address safety issues within the surgical setting, this includes improving communication within a surgical team, improving anaesthetic safety practices, avoiding surgical site infections and ensuring correct site surgery. The tool can be applied to accommodate all countries and health settings and is a step by step reminder of important safety checks.

The WHO launched the challenge in June 2008 The challenge was launched in 2007-2008 by the World Health Organisation (WHO), guidelines were published identifying multiple recommended practices to ensure the safety of patients worldwide (WHO 2008) and the National Patient Safety Agency (NPSA) made it mandatory that all NHS hospitals in England and Wales implement an adapted version by 1 February 2010. (NPSA 2009)

The guidelines were set in the form of a checklist, set out to be similar to an operations manual which most small and large organisations have. Often Checklists, used at a crucial point to confirm that vital actions are complete, are familiar to many high pressured occupations such as pilots, who assume

that such actions have already occurred as part of clearly defined procedures. A member of a surgical team can be compared to a pilot and surgical procedure compared to a flight – both need important checks and validations to ensure a smooth ‘flight’.

The WHO based checklist consists of an oral confirmation by surgical teams of the completion of the basic steps for ensuring safe delivery of anaesthesia, prophylaxis against infection, effective teamwork, and other essential practices in surgery (Hynes AB et al). With three stages to the checklist – ‘sign in’ – Before operation, ‘Time out’ – Before skin incision and ‘Sign out’ – Before the patient leaves the operating room. (DoH)

Through 38 interviews Giles et al (2006) found that most surgeons had experience of wrong site surgery. Wrong site surgery and near misses are not as uncommon as maybe they should be. Between September 2007 and August 2008, 728 cases of wrong site patient safety incidents were reported to the Reporting and Learning System (RLS) database (Catchpole et al 2009). And in a different study there were 427 reported wrong site surgery near-misses or interventions found that patient positioning, anaesthesia before a time-out, verification of consent or site marking and a proper time-out process are all frequently not done (Clarke, Johnston & Finley 2007).

Wong et al (2006) found 1, 627 problems in 464 procedures and although most problems were perceived as having been resolved, one-third were never discussed with the operating team so nothing could be learned about the cause or correction for future cases to prevent re-occurrence. De- Briefs were not common practice within the trust where the authors placement due

to time constraints, surgeons would usually send for the next patient before the current patient had finished therefore leaving no time in between as surgical staff were getting the theatre ready or scrubbing up. But it has been cited that briefing and de-briefing can give team members the chance to share knowledge of a case and resolve discrepant assumptions of how a case would proceed. A percentage of staff also felt that the checks duplicate checks already undertaken by others eg anaesthetic room pre op checklist by anaesthetic nurse, but the lack of communication and briefings within an operating theatre and staff actually highlights the need for a checklist that involves the whole team.

Another barrier with the implementation of a checklist is duplicity. Many of the team members are unsure of when some things should be done eg some anaesthetists thought that many of the items in time-out should be done in sign-in.

It has been identified by the author after reading the relevant literature that those furthest from surgical practice seem to be the ones who are embracing the new WHO surgical checklist most enthusiastically. Thus, it is ironic that Atul Gawande's book *The Checklist Manifesto* is reviewed by a physician rather than a surgeon

Although it has been promoted internationally by WHO and in the UK by the National Patient Safety Agency the surgical staff still believe is little more than a distraction and in fact it does little in the way of ensuring the surgical staff are capable of performing their roles in an adequate way. However, results from a thousand patients in eight separate pilot sites worldwide has

shown that use of the checklist has actually increased adherence to these standards of care from 36% to 68% and in some hospitals to levels approaching 100% resulting in reductions in complications and death in this group” (DoH)

A study of the preintervention and postintervention periods was conducted across 8 hospitals which represented a wide variety of economic circumstances and diverse populations between October 2007 and September 2008. Data was collected on clinical processes and outcomes from 3733 enrolled patients who were all 16 yrs and over. During the study data was also collected on 3955 enrolled patients after the introduction of the safety checklist. The end point was the rate of morbidity and mortality during hospitalization within the first 30 days post operation. Once the study was completed data was collected and the rate of death was 1.5% of patients before the checklist was introduced this declined to 0.8% after the introduction. Complications occurred in 11.0% of patients at baseline and in 7.0% after the introduction of the checklist. Results of this pilot project showed significant reductions in the mortality and morbidity rates. (Haynes AB et al 2009)

A growing body of evidence also links teamwork in surgery to improved outcomes, with high functioning teams achieving significantly reduced rates of adverse events. Hogg and Vaughan (1995) believe that individuals occupying different roles in a group need to co-ordinate their actions through communication but putting this in to action within a busy surgical environment is not an easy task.

In 2008 a UK pilot experience was carried for 6 months in which two operating theatres from one hospital were selected to represent the bulk of procedures carried out within the NHS. Operating theatre staff were interviewed individually, in small groups and through a wide hospital forum.

During this pilot it was proposed that the checklist process should be led by nurses to flatten hierarchy and support shared teamwork. The Nursing and Midwifery Council (NMC) Code (2008) emphasises that nurses need to deliver care based on the best available evidence or best practice. Sackett (1996) described evidence-based practice as ‘conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients’ (Aveyard, 2008 p7).

It has been argued that interpersonal dynamics and steep hierarchical structures in the operating room contribute to error by creating an environment in which persons who could prevent an error are reluctant to speak up (WHO 2009). With Nurses being given the role of enforcing the checklist and being the only constant through complicated pre, during and post surgical procedures.

In the first two weeks of the pilot a representative from the research team was present to train and encourage staff and to also answer any questions. After the first two weeks compliance fell resulting in the return of the research team to further promote use of the checklist, this reflects the fact that the use of the checklist has to be actively driven by the research team (Lingard I et al 2005) By helping teams work together, the checklist

establishes a higher standard of baseline performance in the Operating theatre.(Hales BM et al 2006)

At the end of the study no significant changes in overall morbidity or mortality were found but there was noticeable improvement in timely use of prophylactic antibiotics which rose from 57% to 77% of operations after the checklist was introduced.

Modification needs to be done as some participants thought that some of the items were not relevant to UK operating theatres. However it is important to prevent the list from becoming too exhaustive as too many items to check may result in things being overlooked.

Looking through the relevant literature it does show that improvements have been made by using the checklist and it encourages team work and positivity for staff members who in the past may have been unheard by superior members of staff may now be heard.

Although not everyone within the surgical teams embrace the checklist instead they view it as more of a hindrance than a key component to every surgical procedure just as a flight check list is to a pilot. We wouldn't be allowed to take off on holiday without the key flight checks having been made and most people would not really want to have a surgical procedure without a similar checklist being carried out? But implementation of the checklist seems to be key in ensuring it works, a proven way of achieving this is by utilizing a nurses' role with the surgical procedure and opening lines of communication between all key surgical staff.

The WHO checklist is not a final product but an intelligent tool that can be adapted with time and effort (Lingard L et al 2005). Safety of surgical care can be easily accomplished with the checklist if proper planning and commitment from all members of the Multidisciplinary Team is given. The key factor is that it must be workable and acceptable to all staff