Chinese Whispers in the Post Anaesthesia Care Unit (PACU)

Abstract:
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Abstract
We audited verbal handover of information by anaesthetists to recovery room nurses based on Situation, Background, Assessment and Recommendation. In Audit A, 100 handovers for elective procedures were included. For audit B, a second cohort of 100 patients was examined post educational session. There was an improvement in handover of medical background (46.15% Audit A, 77% Audit B, p=0.001) and allergy status (42% Audit A, 55% Audit B, p=0.048). Handing over immediate postoperative instructions remained unchanged (58% Audit A, 59% Audit B) and there was a 4% decline in verbal handover of instructions for ward care. Nurse satisfaction with handovers improved by 12%. We conclude that a structured process of information transfer, led to improved handover of immediate care. Further education focussed on the importance of instructions for the ward to maintain continuity of care is recommended.

Introduction
There have been numerous papers on the quality, content and communication process involved in handing over patients at admission to or discharges from ICU and at change of a duty shift. In anaesthesia there is a routine transition of care from an anaesthetist to the recovery room (PACU: Post Anaesthesia Care Unit) nurse. A recent review of literature identified 31 papers dealing with handovers in the postoperative period with many recommendations suggested. However, only 4 of these studies, all dealing with postoperative handover to ICU mainly in the paediatric population, introduced an intervention and assessed its impact on, quality of handover or teamwork. The Association of Anaesthetists of Great Britain and Ireland guidelines state that the anaesthetist must formally handover care of a patient to a recovery room nurse or other appropriately trained member of staff. The anaesthetist is responsible for ensuring that this transfer is accomplished safely. This ensures safety and continuity of care for patients. The document, however, fails to mention the essential content that this handover must contain. Despite best intentions, various activities in the dynamic recovery room environment distract from a smooth transfer of information and care. The information transfer process is usually informal, with the anaesthetist and nurses differing on the time and content of handover.

In the AIMS study, 1 in 20 incidents recorded occurred during recovery. Kluger and Bullock claimed that poor communication contributed to 14% of the 419 incidents. The Closed Claims Study in the United States and Mines et al have cited recovery room mishap rates of 5-23.7%. This highlights the problem that exists and a potential area of improvement. The aim of our audit was to assess the quality of current anaesthetic handover to nurses in the recovery room and to evaluate the short term effect of a structured framework for transfer of information, on the quality of handover.

Methods
The audits were conducted in the recovery room of Beaumont Hospital, Dublin where the routine nurse: patient ratio is 2:1. The audits were registered with the hospital clinical governance and audit committee. A questionnaire based on the Situation Background Assessment and Recommendation (SBAR) system was formulated. Recovery nurses completed this questionnaire after the anaesthetist had handed over the patient and left the recovery. The responses were based on information voluntarily imparted by the anaesthetist. The anaesthetists were unaware of both the content of the questionnaire and timing of the audit. Following Audit A, the results were presented to the department and use of a structured framework, based on the SBAR, advised. We further suggested conducting handovers in recovery followinga defined process Connect, Observe, Listen, Delegate (COLD) as recommended by Professor Mari Bottiet et al. Educational sessions were in the form of an audiovisual presentation, electronic reminders, posters at hospital meetings and memory aid at recovery bays.

After an interval of one month, audit B, was conducted to assess change in quality of handover and subjective nurse assessment of satisfaction with handover process. To prevent operator bias, handovers were audited on randomly selected days. Pearson’s chi 2 test was applied and p<0.05 was taken as statistically significant. A difference of >10% was taken as clinically significant.

Results
Audits were conducted over a period of 2 months each (February 2012 to June 2012) at a monthly interval. To ensure that data was anonymous, patient demographics, transfer anaesthetists grade and the recording nurses identification were omitted.

Situational data
In Audit A, more than 90% anaesthetists handed over information regarding type of surgery the patient had undergone which was similar in Audit B (p=0.62). 62% patients in audit A were handed over to the recovery nurses by name in audit A and data was anonymous, patient demographics, transfer anaesthetists grade and the recording nurses identification were omitted.
In audit A 42% of handovers included information on allergy status and 46% on medical background of patients. Compared to Audit A, 14% more anaesthetists mentioned allergy status (p=0.48) and 31% (p<0.001) more included medical background in audit B which were both statistically significant.

Assessment data
This included information regarding anaesthesia type, type of airway used, difficult airway issues and intraoperative complications. Nearly 11% more handovers included this information in Audit B compared to audit A. After educational sessions the improvement of the information in audit B was led by 15% increase in handover of information regarding administration of antibiotics, antiemetics and fluids, respectively. Handover of analgesics administered intraoperatively, remained unchanged at 85%. These changes were, however, not statistically significant (see Table 2).

Recommendation data
Though, in audit B, 6% more anaesthetists verbally handed over advice regarding analgesia for the recovery room than in audit A, there was no change in the numbers handing over instructions regarding other drug therapy in recovery. Nurse satisfaction with the quality of handover improved from 56% in audit A to 68% in audit B which was statistically significant (p<0.08). 11% fewer anaesthetists issued verbal instructions regarding fate of invasive monitoring lines in audit B.

Discussion
Handovers have an important role to play in transfer of information regarding patients progress and maintaining continuity of care, organisation of care with respect to immediate post op care and a learning opportunity for all involved. In clinical anaesthesia, clinical anaesthetists dealing with patients frequently require the transfer of some or all aspects of care of a patient to another person or professional group on a temporary or permanent basis. Hence transfer of information must be quick, coherent and complete in 100% of handovers. A recent publication from Boston, suggests that poor quality handovers may be responsible for a longer stay in recovery which in turn impacts on theatre effectiveness. This held true even when the authors corrected for pain intensity and severity of illness. Smith et al had commented in their paper that this important link in a patient's care pathway was conducted in an informal manner despite the patient having been under close observation of an anaesthetist just minutes before. Smith et al indicated that he may still be under residual effects of anaesthesia. It could also be used by nurse in prenegations, where the senior recovery nurse made alternate arrangements to gather information and provide adequate care rather than challenge an unsatisfactory standard of care were prevalent.

Recovery has a dynamic environment, plenty of distractions, a venue where both intra and inter professional handovers are the routine and has a high turnover of patients. Such a situation is fraught with errors arising from miscommunication or omission of information transfer. There are multiple guidelines for standards of post anesthesia care but content of handovers has been a largely neglected part of training and assessment. All the transferred information may not be necessarily recalled. Hence it is prudent on the part of the parties involved to not only ensure a smooth transfer of care, but also to stop and listen.

Audit A demonstrated that the quality of handover observed in our recovery room was in keeping with that reported in other publications. Anwari surveyed 278 patient handovers in a single centre in Riyadh. He assessed the handovers by assigning score for data, anaesthetists behaviour and nurse satisfaction. In his audit, 40% anaesthetists verbally reported the ASA status of the patient, 36% informed recovery nurses about premedication used and 64% about intraoperative analgesia. 15% of anaesthetists in that survey informed nurses about course of surgery and complications during anaesthesia and 21% about the surgical procedure. 80% of anaesthetists gave clear post op instructions. Nearly half of the handovers were judged as satisfactory by the nurses. As in Anwaris study, handover on intra operative analgesia was the most commonly included information at 85% of handovers in audits A and B. This most likely reflects anaesthetists attitude of responsibility for provision of analgesia. Clear instructions for post operative care in recovery was given in 70% of handovers in Audit A, and 75% in Audit B. 50% of handovers in audit A and remained largely unchanged in audit B. In audit A, nurse satisfaction with the handover, was in keeping with Anwaris findings. With education, this improved to 68% which was not statistically significant although it was clinically significant. However, nurse satisfaction is subjective hence, observed bias and influenced by various human factors such as interpersonal skills, habits and manners. Post education, there was significant increase in the handover of ASA grading and medical and allergy history. This may be the result of anaesthetists’ concept of "important information" for appropriate care of patients.

Anaesthetists involved may become aware of the ongoing audit and change practice in the short term, thus introducing bias. An attempt was made to overcome this by random selection of days when handovers were audited. Since the repeat audit was undertaken after a short interval of a month, we cannot comment on long term validity of results.

Furthermore, we did not attempt to look at the contribution of poor handovers towards incidents or length of stay in the recovery. It has been previously suggested that introducing a formal structure to the handover process would facilitate transfer of information. This in turn may reduce adverse events from lack of communication which in an Australian survey was found to have a 14% contribution towards incidents or length of stay in the recovery room.

We introduced SBAR format for handover to lend a formal structure to handovers in the recovery. The repeat audit demonstrated a change in focus of information transfer to the situational, background and intra operative areas of the handover. Even though verbal handover of instructions for the ward showed a downward trend, recovery nurses were more satisfied with the information they received. We attribute this to presence of written post op instructions, which the anaesthetists used as a checklist on our SBAR format. This may be a reason for increased nurse satisfaction. Audit B showed a trend towards improved transfer of information, but the numbers were not significant. Interestingly, in our handover learning phase, handovers in both audit A and B improved by the same margin. However, Weinger et al reported that in 981 handover, simulator based training resulted in a statistically significant improvement in handover to recovery nurses. Handovers by participants who had received simulator based training were judged more positive. Kallman et al. got similar results from training medical students in the art of handovers in simulated inpatient settings. At present formal training in handovers for anaesthetists is sadly lacking.

We conclude that though anaesthesia is recognised as a safety conscious speciality, we do not recognise recovery handovers as an important link in the chain of safe care. In our opinion, introducing a formal structure to handovers, simulation based training and daily use of SBAR based handovers will ensure adequate transfer of information and continuity of care.

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