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Clinical audit on patient hand over at NEMMH PACU

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Mitiku Desalegn
College of Medicine and Health Sciences Department of Anesthesia, Wachemo University, Ethiopia

Correspondence: Mitiku Desalegn, College of Medicine and Health Sciences Department of Anesthesia, Wachemo University, Ethiopia, Tel +251 926247602, Email mitikudesalegn44@gmail.com

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Background

Handover is „the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.[1] Relates to the process of passing patient-specific information from one caregiver to another, from one team of caregivers to the next, or from caregivers to the patient and family for the purpose of ensuring patient care continuity and safety.[2]

Patient care hand-overs occur in many settings across the continuum of care, including admission from primary care, physician sign-out to a covering physician, nursing change-of-shift reporting, nursing report on patient transfer between units or facilities, anesthesiology reports to post- anesthesia recovery room staff, emergency department communication with staff at a receiving facility during a patient‟s transfer, and discharge of the patient back home or to another facility.[3]

Postoperative handovers between anesthesia providers and post anesthesia care unit (PACU) nurses provide critical information about the patient; create an environment for mutual information exchange between the anesthesia provider(Sender) and PACU nurse (receiver), and efficiently and effectively transfer patient care and responsibilities while adhering to organizational standards that promote patient safety.[4] There must be formal handover of patients by the responsible anesthetist to PACU practitioners.[5] This includes identification of the patient as well as details of the procedure and anesthesia management. This handover process is only completed once the PACU practitioner has indicated that they are comfortable to continue the ongoing management of the patient without the responsible anesthetist being physically present.[6]

Concern has been raised that the transition of care between providers during handoffs will continue to be problematic as research indicates that “only 8 percent of medical schools teach how to hand off patients in formal didactic session”, creating a large educational gap in new professionals and persistence of traditional models.[7] Observational studies of postoperative handovers have found evidence of ineffective communication between the anesthesia provider and the PACU nurse. Potentially important items, such as estimated blood loss and changes in blood pressure, were not reported during handovers. The study found that 66% of patient-specific and 67% of anesthetic-specific information was transferred during handovers.[8-10] Another study on the quality of handovers from anesthetists to PACU nurses by querying PACU nurses via a questionnaire; revealed that 67% of anesthetists failed to deliver the 5 points of information considered essential, preoperative status, premedication details, operation details, intraoperative course and complications, and intraoperative course and anesthesia-related complications and intraoperative analgesia.[11]

The use of sign-out sheets for communication between physicians is a common practice, yet one study found errors in 67 percent of the sheets. The errors included missing allergy and weight, and incorrect medication information.[15] However, a survey of 276 handoffs conducted in a post anesthesia care unit (PACU) revealed 20 percent of postoperative instructions were either not documented or written illegibly.[16] Ineffective hand over usually results from distractions, lack of or illegible documentation, lack of utilization of transfer forms, incomplete medical records, lack of medication reconciliation, and lack of easy accessibility to information. Even with vigilance, however, surgical patients are more vulnerable to handover errors than are patients in other clinical areas because of the combined acuity and transition.[17] A study of incidents reported by surgeons found communication breakdowns were a contributing factor in 43 percent of incidents, and two-thirds of these communication issues were related to handoff issues.[12] Communication failures have been uncovered as the root cause of over 60% of sentinel events reported to the Joint Commission in the United States of America between 1995 and 2006.

When information is inadvertently omitted, gaps in patient care and breaches in patient safety can occur. Delays in treatment caused by omission of information have potentially deleterious effects on patient outcomes. Of major concern are poor-quality transfers of patient information that lead to increased morbidity and mortality, increased length of hospital stay, increased healthcare costs, and poor patient satisfaction.[8-10]

Of the 25 000 to 30 000 preventable adverse events that led to permanent disability in Australia, 11% were due to communication issues, in contrast to 6% due to inadequate skill levels of practitioners.[13] Ineffective handoffs can contribute to gaps in patient care and breaches (i.e., failures) in patient safety, including medication errors.[14] Nagpal et al, found that developing and implementing pre-established (existing) standardized tools and checklists improved efficiency of handovers, enhanced current high-quality care practices, and decreased sentinel events surrounding the perioperative period.[8] Implementation of the Perioperative Handoff Tool for information transfer from the OR to

PACU improved information sharing, increased provider satisfaction, and decreased distractions during the handover process.[18]

Justification

What?

Conducting clinical audit on adherence to standards of patient handover between anesthesia provider and post anesthesia care unit nurses at NEMMH.

Why?

a) Ineffective patient hand over results in patient morbidity and mortality

b) Evidences show use of standardized patient hand off tools minimized patient morbidity and improved patient care.

c) Many associations of anesthesia recommend the use of standardized checklist during patient hand over at PACU.

d) Currently we don‟t have structured patient hand off tool in NEMMH

e) The purpose of this audit is to observe the information discussed (handoff process) between anesthesia provider and PACU nurses during patient hand over and check with the standard guidelines.

What benefits for the patient?

a) Minimize and avoid morbidity and mortality related to ineffective patient hand over at PACU

b) It decrease unnecessary hospital stay and cost

c) Ensure best possible care for patient is provided

Aim

a) To improve quality of patient handover at PACU

Objectives

a) To measure patient handover appropriately practiced

b) To identify the gaps/errors in patient handover

c) To determine whether patient hand over practice in NEMMH meet the standards or not

Standards and criteria

Patient hand over standards adopted from‟‟‟ Royal college of Anesthetists(RCoA), Australian and New Zealand college of Anesthetists(ANZCA), American society of Anesthesiologists(ASA), American association of Nurse Anesthetists(AANA). See on Annex.

Methodology

Audit population

All elective patients operated and transferred to PACU from July 19-23/21 at NEMMH

Audit sample size and sampling

Sample size is calculated by using Raosoft online sample size calculator. By considering 50% response rate, 95% confidence level, 5% margin of error. From situational analysis the total audit population is 60 during audit period.

Then the sample size is 53 patients. Consecutive sampling technique is used.

Inclusion criteria:

All (adult, pediatric, major-minor and elective) patients from different specialties‟‟: who undergone operation both under General anesthesia and Regional anesthesia and admitted to Surgery/ OBY/GYN/Ortho PACU during data collection period was audited.

Data collection method and tool

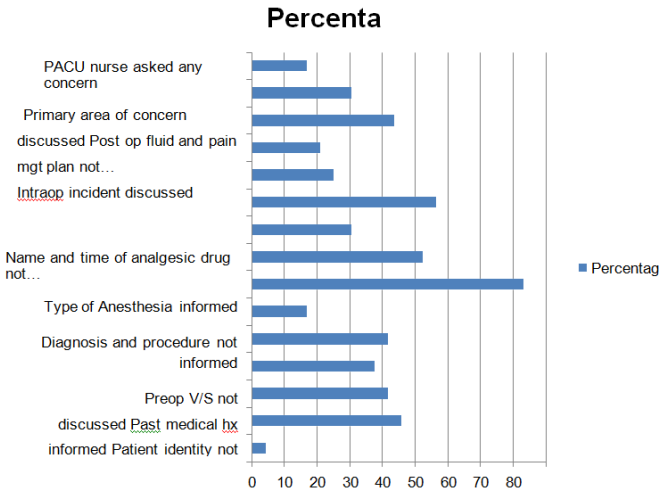
Data was collected by direct observation of the handover process between Anesthetists and PACU nurse. Prospective observation of patient hand over was used. The data was collected by already developed patient handover checklist developed from ANZCA, AANA, ASA, RCoA guidelines and the discussion between anesthetists and PACU nurses during handover is recorded at Nigist Elleni Mohamed Memorial Hospital PACU.24 anesthetists and 8 PACU nurses are involved on handover process.

Data analysis

Data was analyzed by MS excel

Main results

A total of 53 patient handover process was observed by data collector in Surgical, GYN/OBS and Orthopedic PACU while the PACU nurse receive patient from Anesthesia provider.



Standard I: Staff and patient identification

According to this standard before handing off details of patient‟‟s condition, it‟‟s expected from PACU nurse and anesthesia providers to get know each other in terms their name and profession. About 45% of handoff process didn‟‟t include staff identification and 41.7% didn‟‟t include patient‟‟s identification. Nearly 95% of chart review process by PACU Nurse is carried out after patients are already admitted to PACU.

Standard II: Preoperative patient status

During handoff process, PACU nurses are notified about patient‟‟s preoperative medical condition only 37.5% of times. Nearly half of handoff process missed the report on patient‟‟s preoperative vital sign, but relatively the diagnosis and planned procedure was better reported to PACU nurse which was 75%.

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Standard III: Intraoperative patient management

During 83.3% handoff process, anesthesia providers informs the PACU nurse about the type of anesthesia administered, but the type and volume of fluid infused during intraoperative period was missed nearly 30% of time.

Standard IV: Intraoperative patient condition

Most of anesthesia providers (75% of time) have reported patients‟ intraoperative vital sign, but whether there is occurrence of intraoperative incident is notified only 20% of times. The amount of urine output and estimated blood loss during intraoperative period was reported only 34% of times.

Standard V: Postoperative patient management plan

According to this standards recommendation, anesthesia provider must notify whether the patient has any history of allergy and contact precaution, but this message was delivered to PACU nurse during only 8.7% of handoff process. Anesthesia providers mentioned postoperative fluid and pain management plan only 26% of times. 47% of handoff process didn‟t include the duration of anesthesia and surgery. Nearly 70% of handoff process was carried out without giving information for PACU nurse about the primary area of concern. At the end of handoff process.

PACU nurse are expected to ask Anesthesia provider „„what other concern do you have"", but they did it only 16.7% of times.

Chart review before patient arrival	Yes	4.3%
	No	95.7%
Anesthesia provider announce his/her identity	Name and profession	33.3%
	Only name	0%
	Only profession	20.8%
	None	45.8%
Anesthesia provider announce patient identity	Name and age	45.8%
	Only name	8.3%
	Only age	4%
	None	41.7%
Informing hx of past medical history	Yes	37.5%
	No	62.5%
Reporting of Preoperative V/S	PR and BP	45.8%
	Only PR	8.3%
	Only BP	4%
	None	41.7%
Notifying diagnosis and performed procedure	Diagnosis and planned procedure	75%
	Only Diagnosis	8.3%
	Only performed procedure	0%
	None	16.7
Notifying Type of anaesthesia	Yes	83.3%
	No	16.7%
Reporting Name and time of analgesic drug administered	Name and time	34.8%
	Only name	13%
	Only time	0%
	None	52.2%
Reporting of type and volume of fluid infused	Type and volume	39.1%
	Only type	0%
	Only volume	30.4%
	None	30.4%
Reporting of Intraoperative UOP and EBL	UOP and EBL	34.8%
	Only UOP	0%
	Only EBL	8.7%
	None	56.5%
Notifying Patients intraoperative vital sign	PR,BP,SPO2	75%
	Atleast one	0%
	None	25%
Informing the occurrence of Intraoperative incident	Yes	20.8%
	no	79.2%
Notifying Presence of any contact precaution and allergy	Yes	8.7%
	No	91.3%
Informing Intraoperative position and Mentioning post op plan	Yes	21.8%
	No	79.2%
Postoperative fluid and pain management plan	Fluid and pain	26.1%
	Only fluid	26.1%
	Only pain	4.3%
	None	43.5%
Reporting of Duration of Anesthesia and surgery	Anaesthesia and surgery	26.1%
	Only Anaesthesia	13%
	Only surgery	13%
	None	47.8%
Notifying Presence of postoperative treatment plan and continuing drug	Yes	33.3%
	No	66.7%
Informing primary area of concern	Yes	30.4%
	No	69.6%
PACU nurse asks Anesthesia provider"" What other concern do you have""?	Yes	16.7%
	No	83.3%

Discussion

Cross-unit patient handover is a crucial process of patient care in the healthcare systems. The main goal of patient handover is accurate transfer of information about the patient‟s state to ensure the safety and continuity of patient care. In addition, it is an interactive communication allowing the opportunity for questioning between the patient senders and receivers of patient‟s information. Moreover, handover is also one of the most frequent and influential moments of the patient‟s passage through hospital as it plays a vital role in determining the management plan of the patient.

The major findings from this audit demonstrate that patient handover at PACU is substandard. There were no audit elements that could improve the practice in the hospital. However there are some items considered as good practice like Type of Anesthesia 83.3%, Diagnosis and procedure 75%, intraoperative vital sign 75% even if it doesn‟t meet the target 100%. The better performance on this specific area might be related with clinical trend practiced at PACU.

The rest of handover items are communicated with PACU nurse poorly. Those items with very poor practice are chart review 4.3%, contact precaution and allergy 8.7%, past medical hx 37%, patient identification 45%, Staff identification 33.3%, preoperative vital sign 45%, intraoperative position and postop plan 21.8%, Analgesic drug name and timing of administration 34.8%, Duration of anesthesia and surgery 26.1%, informing PACU nurse primary are of concern 30.4%, Post op fluid and pain management plan 26.1%, intraoperative fluid type and infused volume 39.1%, UOP and EBL 34%. This might be related with Absence of preformed patient handover checklist, Lack of easy information accessibility and use of traditional patient handover practice.

Conclusion

Over all, the practice of patient handover at PACU was very poor. Most of handover procedure missed very important information

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which might result in an increase of patient morbidity and mortality. The readiness of PACU nurse to receive patient"s information from Anesthesia provider was also poor. Ineffective patient handover practice in our hospital might be related with

a) Absence of preformed patient handover check list

b) Negligence

c) Poor trend

d) Poor curricular readiness

e) Knowledge and practice gap

f) Poor documentation practice

g) Distraction during handoff process

h) Lack of easy information accessibility

Acknowledgments

None.

Conflicts of Interset

None.

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