Research Paper | Medical Science

Communication Audit in an Intensive Care Unit of a Government Teaching Hospital

Dr Sania Shahbaz Hasnain	MBBS, Resident MD (Hospital Administration), AFMC, Pune
Dr Sameer Mehrotra	MBBS MD DNB (Hospital Administration), PGDHM Assistant Professor, AFMC, Pune
Dr R K Ranyal	VSM, MBBS MD (Hospital Administration), Prof and Head of Department, AFMC, Pune- 411040
Dr Sunil Basukala	MBBS, Resident MD (Hospital Administration), AFMC, Pune

ABSTRACT

Background: Safe patient handovers require that accurate, reliable and relevant information is unambiguously communicated between healthcare providers

Aim & objectives: To carry out communication audit during patient hand overs in an intensive care area of a tertiary care teaching hospital.

Study design and methods: An observational, cross-sectional and descriptive study in an Intensive Care Unit (ICU) of a Tertiary Care Hospital which includes both medical and surgical beds conducted over a period of 4 months.

Results: Multiple shift change, high patient turn over, adverse staffing ratio and the lack of regular training practices were the root causes identified as barriers to successful communication.

Conclusion: Multidisciplinary strategies involving physicians, nurses, and other health care professionals with a special focus on communication and education should be targeted.

KEYWORDS : Audit, Communication, Handoffs

INTRODUCTION

Healthcare in today's world is a multifaceted phenomenon where a single patient is cared for by various healthcare personnel nevertheless endeavoring to provide safe and high quality medical service. Handovers play a key role in ensuring the continuity, quality, and safety of patient care [1].

Safe patient handovers require that accurate, reliable and relevant information is unambiguously communicated between healthcare providers. Improperly conducted handovers lead to wrong treatment, delays in medical diagnosis, life-threatening adverse events, patient complaints, increased healthcare expenditure, increased hospital length of stay and a range of other effects that impact on the health system [2–6].

Failures in communication account for over 60% of root causes of sentinel events reported to the Joint Commission on Accreditation of Healthcare Organizations [7]. The few studies to date which have examined the hand-off process confirm that it is variable, unstructured, and prone to error [8, 9].

The British Medical Association in its guidance on clinical handover "Safe Handover – Safe Patients" recommends the use of standardized proformas and relevant IT support for clinical handover [10]. The Royal College of Surgeons of England in its guidance "Safe Handover" set out minimum data necessary for safe handover [11].

For a long time, high-risk organizations, such as air traffic control and nuclear power plants, have standardized their communications through the use of a formal language and/or written standardized materials in the form of checklists to improve safety. Following this trend, the Joint Commission has recommended a standardized approach of handoff communications, which is now scored as a standard [12]. Similarly, the WHO has recently recommended the use of a checklist in operating rooms. Most of the tools including checklists are poorly used mainly because the design of these tools remains far removed from the reality of the environment in which it is used in complex systems [13, 14]

The ICUs particularly encounter critically ill patients, over worked healthcare providers, anxious families awaiting scores of answers, vague and complex information being disseminated in all directions, myriad equipment beeping endlessly. The milieu is virtually chaotic, with many other tasks occurring in tandem rendering the ICU extremely prone to errors such as omissions, miscalculations or repetition.

The study was conducted to identify the process where errors may occur due to a failure in communication and illustrate the need for standardizing the same.

AIM: To carry out communication audit during patient hand overs in an Intensive Care Area of a tertiary care teaching hospital.

OBJECTIVES:
➤ To identify processes where errors may occur due to communication failure during patient handover in the Intensive Care Areas of a tertiary care teaching Hospital.
➤ To carry out a Root Cause Analysis to identify causes for communication failure if any.
➤ Recommend tools for standardization of communication in the Intensive Care Areas if any lacunae evidenced.

METHODOLOGY

This is an observational, cross-sectional and descriptive study conducted at an Intensive Care Unit (ICU) of a Tertiary Care Hospital which includes both medical and surgical beds. The study was conducted over a period of 4 months as per the following schedule. A Simple Random Sampling Technique was used and 620 hand offs were witnessed, while 150 patients were observed in the Intensive Care Area during the study period. Questionnaires were given to 100 patients to assess the level of communication and satisfaction of receiving information relevant to their stay in the ICU.

LIMITATIONS OF STUDY:
➤ Change in behavior pattern of the healthcare providers when under observation.
➤ The study was not able to assess objective impacts on patient outcomes.

RESULT & DATA ANALYSIS:

During the 03 months period a total of 150 patients were observed, wherein 120 transfers were planned and 30 were emergency transfers. 360 handoffs between nurses and 260 handoffs between physician and nurses were witnessed; giving a total 620 hand offs. A validated checklist was used to assess the prevailing communication practice.

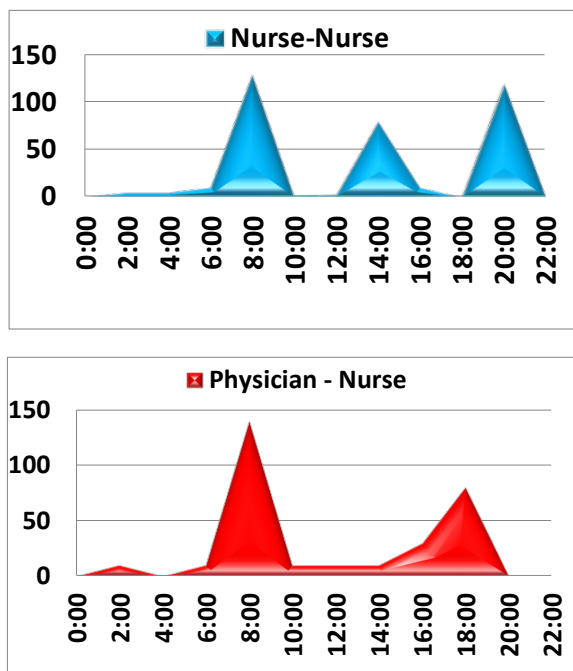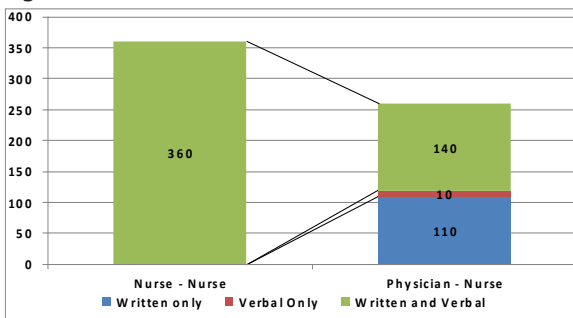**Fig 1 DIURNAL VARIATION IN PATIENT HANDOFFS**

Figure 1 shows the diurnal variation of hand offs, wherein maximum transfer of information is seen to occur during change of shift of the healthcare workers. The nurses' shifts changed at 0800 hrs, 1400 hrs and 2000 hrs, while that of doctors changed at 0800 hrs and 1800hrs.

Fig 2 METHOD OF COMMUNICATION DURING HANDOFF

While the nurses customarily used a dual mode of communication during patient handover; the doctors considerably varied in their approach. (Fig 2) The nurses handed patients over to each other both verbally as well as in written; whereas a laxity was observed during physician-nurse communication.

FIG 3a INFORMATION PROVIDED
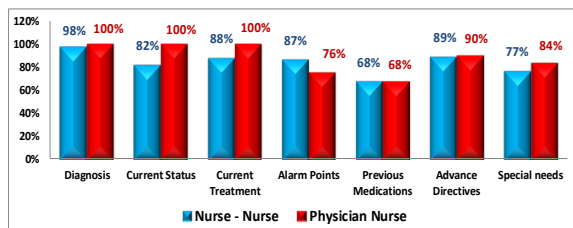
The checklist also assessed the type of information passed on during

hand overs and the effectiveness of communication. Figure 3 a, shows the dissimilarities in the level of correspondence between nurse-nurse and physician-nurse revealing maximum gap in handing over of previous medication (68% compliance), followed by special needs of a patient (77% for Nurse – Nurse interaction and 84% for Physician – Nurse interaction) and alarm points (better communicated between nurses, 87%, than between physician and nurses, 76%) . It was also observed that diagnosis, current status and treatment of the patients were never missed during physician-nurse communication, but a lacuna was found in the handover between the nurses.

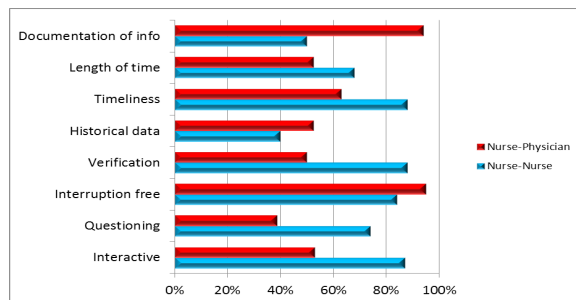**Fig 3 b Effectiveness of Communication**

Fig 3 b, despite the chaotic environment prevalent in the ICU, the correspondences between nurses and physicians were essentially interruption free. A stark difference was found in the interaction between nurses (87%) as compared to the physician-nurse correspondence (53%).

Fig 4 Patient Communication & Satisfaction Questionnaire

| Information topics	Informed		Not informed	
Reason for admission	120	80%	30	20%
Informed about diagnosis	94	63%	56	37%
Previous medications verified	81	54%	69	46%
Relevant clinical findings	69	46%	81	54%
Complete medication info on discharge	90	60%	60	40%
Adequately prepared for transfer/discharge	129	86%	21	14%
Satisfied with decision to transfer	120	80%	30	20%
Different providers communicate well	90	60%	60	40%
Opportunity to talk and raise questions	81	54%	69	46%
Involvement with treatment plan	77	51%	73	49%
Information about medication	103	69%	47	31%
Dietary instruction	107	71%	43	29%
Recommended & Restriction	120	80%	30	20%
Info on follow up	103	69%	47	31%
NOK informed	116	77%	34	23%
Satisfaction with information provided	111	74%	39	26%

(Of a patient sample size of 150)

Patients transferred into the ICU during the study period were also given questionnaires to assess the level of communication and the data was tabulated on an excel sheet to illustrate the following.

DISCUSSION:

A Root Cause Analysis (Fig 5) was carried out which showed multiple shift change, high patient turn over, adverse staffing ratio and the lack of regular training practices to be some of the causes for ineffective transition of care. Among other causes found were a lack of medication reconciliation, repetitive work, unwritten protocols, and lack of checklists to avoid missing information. Handoffs are far more convoluted than we might originally think and multiple factors come together leading to errors in communication.

Fig 5 Root Cause Analysis
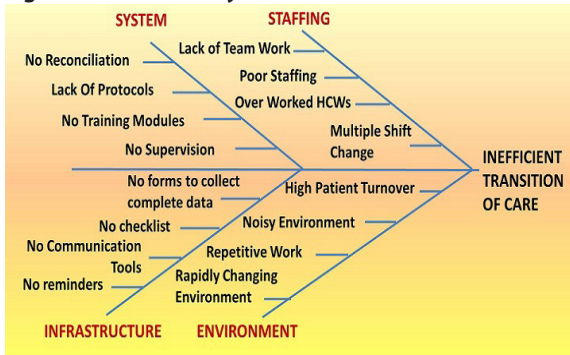
Improvement in communication will therefore need a multimodal and multidisciplinary approach targeted at healthcare workers as well as the institution to reinforce correspondence in all dimensions.

Our observations illustrate a dynamic, rapidly changing environment where staff has to care for critically ill patients. Lack of adequate communication in such a set up may lead to ineffective transition of care (inappropriate treatment, medication errors, increased costs and length of stay, delayed diagnosis and so on). This study reveals the lacunae in communication present in a healthcare setting due to the introduction of shift patterns of working, in order to reduce the working hours of junior doctors, and nurses. This has affected the working practice of the medical profession the world over.

CONCLUSION:

The ICUs particularly encounter critically ill patients, over worked healthcare providers, anxious families awaiting scores of answers, vague and complex information being disseminated in all directions, myriad equipment beeping endlessly. The milieu is virtually chaotic, with many other tasks occurring in tandem rendering the ICU extremely prone to errors such as omissions, miscalculations or repetition.

Bedside handover (written plus verbal), use of check lists, double loop telephonic conversation, SBAR, patient involvement (SPEAK UP campaign) are some of the tools that may be used to improve communication in the ICU. Cognitive aids such as checklists have been studied as a means to improve provider cognition that can be impaired by internal stress, environmental factors, and human factors [15, 16].

REFERENCES

[1]. Arora V, Johnson J. A model for building a standardized hand-off protocol. Jt Comm J Qual Patient Saf 2006; 32: 646–55 | [2]. Joint Commission on Accreditation of Healthcare Organizations. Root causes of sentinel events. http://www.jointcommission.org/ SentinelEvents/Statistics/ (accessed 10 Sep 2012). | [3]. Cohen MD, Hilligoss PB. The published literature on handoffs in hospitals: deficiencies identified in an extensive review. Qual Saf Health Care 2010;19:493–7. | [4]. Philibert I. Use of strategies from high reliability organisations to the patient handoff by resident physicians: practical implications. Qual | Saf Health Care 2009;18:261–6. | [5]. Arora V, Johnson J, Lovinger D, et al. Communication failures in patient sign-out and suggestions for improvement: a critical incident analysis. Qual Saf Health Care 2005;14:401–7. | [6]. Gandhi TK. Fumbled handoffs: one dropped ball after another. Ann Intern Med 2005;142:352–8. | [7]. Joint Commission on Accreditation of Healthcare Organizations. Sentinel event statistics. Available at: http://www.jcaho.org/ accredited+organizations/sentinel+event/sentinel+event+statistics.htm (accessed 1 May 2005). | [8]. Roughton VJ, Severs MP. The junior doctor handover: current practices and future expectations. J R Coll Physicians Lond 1996;3:213–4. | [9]. Bomba DT, Prakash R. A description of handover processes in an Australian public hospital. Aust Health Rev 2005;29:68–79. | [10]. British Medical Association: Safe Handover: Safe Patients – Guidance on Clinical Handover for Clinicians and Managers. 2004 [http://www.bma.org.uk/ap.nsf/AttachmentsByTitle/PDFsafe handover/$FILE/safehandover.pdf]. | [11]. Royal College of Surgeons of England: Safe Handover: Guidance from the Working Time Directive working party. 2007 [http://www.rcseng.ac.uk/publications/docs/publication.2007-05-14.3777986999/?searchterm=safe%20handover]. | [12] The Joint Commission. 2010 comprehensive accreditation manual for hospitals: the official handbook. Oakbrook Terrace, IL: Joint Commission Resources ; 2009. | [13] Woods DD, Hollnagel E. Joint cognitive systems: patterns in cognitive systems engineering. New York: CRC/Taylor & Francis; 2006. | [14] Nyssen AS, De Keyser V, Renan S, Ve´ ronique DK. Improving training in problem solving skills: analysis of anesthetists' performance in simulated problem situations. Le travail Humain 1998; 61:387–401. | [15]. Kuhlmann S, Piel M, Wolf OT. Impaired memory retrieval after psychosocial stress in healthy young men. J Neurosci. 2005;25:2977–2982. | [16]. Thomassen O, Espeland A, Softeland E, et al. Implementation of checklists in health care; learning from high-reliability organisations. Scand J Trauma Resusc Emerg Med. 2011;19:53. |