

CHARACTERIZATION OF HANDOVER FROM THE SURGICAL CENTER TO THE INTENSIVE CARE UNIT

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ABSTRACT: The handover process must contain all the necessary information for continuing care. Ineffective handover process, with loss of information can be a risk to patient safety. The present study aimed to characterize the handover process from the Surgical Center and the Intensive Care Unit. Descriptive cross-sectional study conducted at an adult Intensive Care Unit of a teaching hospital in the city of de Goiânia – Goiás, from May to August 2014. Data was collected through a checklist divided into four categories containing information related to patient identification, procedure performed, clinical status and postoperative care. A great deal of information of the checklist was not transferred to the Intensive Care Unit staff. We expect that the data provided here contribute to the creation of safe strategies and strengthen the commitment of health professionals with the quality of the information transmitted during the handover process.

DESCRIPTORS: Communication; Nursing; Patient Safety; Intensive Care.

CARACTERIZAÇÃO DA PASSAGEM DE PLANTÃO ENTRE O CENTRO CIRÚRGICO E A UNIDADE DE TERAPIA INTENSIVA

RESUMO: A passagem de plantão deve conter todas as informações indispensáveis para continuidade da assistência. Falhas nesse processo podem prejudicar a segurança do paciente, levando a um tratamento inadequado e com potencial perigo. O objetivo deste estudo foi caracterizar a passagem de plantão entre o Centro Cirúrgico e a Unidade de Terapia Intensiva. Estudo descritivo e transversal, realizado na Unidade de Terapia Intensiva adulto de um hospital escola no município de Goiânia – Goiás, no período de maio a agosto de 2014. Os dados foram coletados por meio de um *checklist* dividido em quatro categorias contendo informações referentes à identificação, procedimento realizado, condições clínicas e cuidados pós-operatórios. A maioria das informações do *checklist* não foi repassada para a equipe da Unidade de Terapia Intensiva. Espera-se que os dados apresentados contribuam para criação de estratégias seguras e fortaleçam o comprometimento dos profissionais com a qualidade das informações transmitidas durante a passagem de plantão.

DESCRIPTORIOS: Comunicação; Enfermagem; Segurança do paciente; Cuidados intensivos.

CARACTERIZACIÓN DEL CAMBIO DE GUARDIA ENTRE EL CENTRO QUIRÚRGICO Y LA UNIDAD DE TERAPIA INTENSIVA

RESUMEN: El cambio de guardia debe contener todas las informaciones indispensables para continuidad de la asistencia. Errores en ese proceso pueden perjudicar la seguridad del paciente, llevando a un tratamiento inadecuado y con potencial peligro. El objetivo de este estudio fue caracterizar cambio de guardia entre el Centro Quirúrgico y la Unidad de Terapia Intensiva. Estudio descriptivo y transversal, realizado en la Unidad de Terapia Intensiva de adultos de un hospital escuela en municipio de Goiânia – Goiás, en el periodo de mayo a agosto de 2014. Los datos fueron obtenidos por medio de un *checklist* dividido en cuatro categorías que contienen informaciones referentes a identificación, procedimiento realizado, condiciones clínicas y cuidados posoperatorios. La mayoría de las informaciones del *checklist* no fue comunicada al equipo de la Unidad de Terapia Intensiva. Es esencial que los datos presentados puedan contribuir para la creación de estrategias seguras y fortalezcan el comprometimiento de los profesionales con la cualidad de las informaciones comunicadas durante el cambio de guardia.

DESCRIPTORIOS: Comunicación; Enfermería; Seguridad del Paciente; Cuidados Intensivos.

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INTRODUCTION

The handover process is related to the exchange of specific information about the patient and may occur in many situations: admission, handovers between physicians, shift changes, transfer of patients from one unit to another, postoperative period and even at discharge or referral to another hospital/institution⁽¹⁾.

It should be stressed that effective communication in the handover process must include all the necessary information for ensuring continuing care, and the information must be communicated in a clear, precise and objective manner, to prevent misinterpretations and ensure an effective handover⁽²⁾.

Poor communication can cause gaps in the continuity of care, leading to incorrect treatment and potential risk to the patient, and is considered of international concern⁽³⁾.

Damage resulting from lack of communication were the main causes of sentinel events⁽⁴⁾. A sentinel event is an unexpected occurrence involving death or serious physical or psychological injury, or risks to patients and family members in accredited institutions, with or without sequelae, indicating that the quality of the care facility needs to be improved, and that structural or care failures are causing damage to users. The adverse events concern medical errors, complications, incidents with or without damage to the patient due to organizational, human or technical failures⁽⁵⁾.

Of the 25,000 to 30,000 preventable adverse events that led to permanent disability in Australia, 11% resulted from communication problems, and 6% from technical inability of health professionals⁽⁶⁾.

Handover process problems are partly associated to the type of training of health professionals (in team and communication skills training), to the lack of good models and to a health care system that encourages autonomy and individual performance⁽⁷⁾.

Communication between the nursing staff enables the delivery of humanized care, because of the better interaction between the caregiver and the patient. This communication should be encouraged since the patient must be considered the subject of the care process⁽⁸⁾.

The Intensive Care Unit (ICU) is a very complex unit, which aims to provide advanced and

adequate support of life to critically ill patients, according to their therapeutic needs (9). Patients undergoing surgical procedures, particularly complex procedures, are referred to the ICU for recovery from anesthesia and hemodynamic stabilization⁽¹⁰⁾.

Intra-hospital transfers of surgical patients are frequent between the ICUs and the Surgical Center (SC) and can potentially be a risk to the patient safety, either during transport or during the handover process, in the exchange and acquisition of information⁽¹¹⁾.

According to the literature, the handover process should be performed in four ways: verbal, written, taped and bedside. However, no method is better than any other method. In order to ensure continuing care and patient safety, the selection of the most appropriate method will depend on the specific conditions of the ICU and the patients⁽¹²⁾.

Patient safety is a global challenge. In view of the need to minimize the impact of damage caused to users of health care systems, the World Health Organization (WHO) launched, in 2004, the World Alliance for Patient Safety aimed to enhance the political commitment to improve care⁽¹³⁾.

Every two years, the Alliance proposes global challenges to promote and arouse the attention of member states on topics and areas that deserve attention for their potential risk to patient safety. In 2009, the second challenge for patient safety titled "Safe Surgeries Save Lives" was launched. It is focused on the practice of safe surgery. One goal of this challenge is effective communication between the team and the exchange of information to ensure patient safety⁽¹⁴⁾.

The Joint Commission International (JCI) also proposed the following new goals: achieving patient safety, improvement and effectiveness of communication between the professionals involved in care⁽¹⁵⁾.

The implementation of the culture of safety in health establishments is a tool that assists managers in strengthening safety practices. It can be characterized as a set of rules, routines, assessments and common perceptions among professionals of health facilities. It also establishes the manner in which health professionals must work as a team and their relationships and communication⁽¹⁶⁾.

In view of the aforementioned, studies on

patient safety and risk management propose measures that can be combined in the work process in order to facilitate and systematize communication and the care provided to the client. One of the measures proposed is the creation of protocols and checklists to enhance communication safety⁽¹¹⁾.

Protocols are tools used to standardize procedures, improve efficiency, measure improvements, reduce errors and ensure that nothing is forgotten, only optimized⁽¹⁶⁾. The protocols improve communication and allow greater team collaboration, as they share common goals⁽⁹⁾.

The checklists, used in combination with the protocols, are tools aimed to assist in complex routine tasks, increasing safety, reducing expenses and optimizing staff time⁽¹⁶⁾.

During the transfer of the patient from the surgical center to the ICU relevant information should be exchanged to ensure continuing care and patient safety, given the highly complex procedures to which these patients are subjected⁽¹⁷⁾.

The quality of the handover process enhances the safe practice of actions and provides a foundation for nursing care. The development of a tool may assist the nursing staff in this transition of care, preventing loss of information and reducing the risk of failure in communication.

Therefore, the present study aimed to characterize the handover process from the Surgical Center to the ICU.

METHODS

Descriptive cross-sectional study performed at an adult ICU of a teaching hospital in the city of Goiânia - Goiás. All the information obtained during the handover process from the Surgical Center to the ICU, Monday through Friday, from 7:00 to 19:00, during the period of May-August 2014 was included in the study.

Data was collected through a checklist by the researchers and by four previously trained collectors. The referred checklist was completed during the handover process, which was made by telephone: the nursing technician of the Surgical Center passed all the information on the perioperative period of the patient to the ICU nursing staff. The Surgical Center is located on the same floor and about 100 meters from the ICU of the study, and the time spent for

patient transport is in average 10 minutes. The checklists of patients from the obstetric center, the hemodynamic service, the emergency room and clinical units were excluded.

The checklist was divided into four categories. Category 1: Patient identification (name, age, primary diagnosis and surgical procedure); category 2: surgical procedure performed (intercurrences during the surgical procedure); category 3: clinical conditions in the Post-Anesthesia Care Unit (SRPA) (use of oxygen therapy, face mask, endotracheal tube or tracheostomy, Invasive Blood Pressure (IBP), and the presence of drains; and category 4: postoperative care (decubitus restriction (right lateral, left or dorsal decubitus), restriction to measure noninvasive blood pressure in the limbs (right or left upper limb, right or left lower limb), care for dressing (maintenance of gauze/tape dressing for 72 hours, use of special products), limbs should maintained warm (upper or lower limbs).

This study is part of the project titled: "*Promovendo a segurança do paciente no perioperatório*" (Promoting patient safety in the perioperative period) and was approved by the Research Ethics Committee of Hospital das Clínicas da Universidade Federal de Goiás (CEP/HC/UFG), under protocol no 018/2011.

The information obtained was organized in an electronic database, in Microsoft Excel 2010, Windows 2007 and subjected to descriptive analysis mediated by absolute and relative frequency tables.

RESULTS

In total, 90 patients were admitted. Of these 71 could be registered at the checklist. However, 19 were admitted at the ICU without the handover process, and, thus, were excluded from the study.

In category 1, patient identification, most patients were registered by name, but age and primary diagnoses were not informed. In category 2, 6 checklists registered whether or not there have been interurrences during surgery, without informing the type of interurrence registered. In category 3, clinical conditions, the most commonly exchanged information concerned the use of oxygen therapy and Invasive Blood Pressure (IBP). Information about the use of vasoactive drugs was also not transferred to the ICU team and there was one record of warning about the presence of drain. In category 4, there was no record of

postoperative care.

Of the 71 checklists analyzed, 50.7% informed the patient's name, 42.3% warned about the presence or not of IBP, 33.8% informed the type of oxygen therapy used, 29.6% informed the type of procedure performed in the Surgical Center, only 4.2% informed the patient's primary diagnosis, 2.8% were able to inform the age and only 1.4% informed on the existence or not of drain, but could not inform the type of drain (Table 1).

Although they are not included in the checklist, 32.4% of the medical records contained information that the patient would be "extubated" before transfer to the ICU. Such information is not useful because there are several noninvasive forms of oxygen supply, and 31% of the records included information about when the patient would be transferred to the ICU.

It should be stressed that the handover communication between the nursing staffs of the units in this study was not face-to-face. In all the cases, it was done by telephone, and the patient was transported from the operating room to the ICU by the stretcher carrier and the anesthesiologist, to be under the responsibility of the intensivist. At that time, the nurse collects additional information and analyzes the patient's record.

DISCUSSION

Communication in the health care are is very complex and dynamic because it contains extensive information used by the multidisciplinary team involved in patient care. Failures in the communication process between the health care teams favor the occurrence of errors⁽¹⁸⁾.

The handover process requires commitment with continuing and safe care from health professionals, and the quality of this information contributes to the systematization of nursing care.

A great deal of information is neglected by the nursing staff during the handover process, which maximizes the occurrence of adverse events, jeopardizing patient safety.

Communication failures account for 32% of the errors associated to the administration of medication, emerging admissions and transfer or the wrong patients to the ICUs⁽¹⁹⁾. In view of the aforementioned, appropriate handover communication depends on the ability of the professional who conveys the information, on the

Table 1 – Distribution of the items and categories of the checklist, according to the occurrence or not of handover process. Goiânia, GO, Brazil, 2014

Checklist items	Yes		No	
	(n)	%	(n)	%
Category 1				
Patient's name	36	50,7	35	49,3
Age	2	2,8	69	97,2
Primary diagnosis	3	4,2	68	95,8
Category 2				
Surgical procedure	21	29,6	50	70,4
Intercurrences	6	8,4	65	91,6
Category 3				
Use of oxygen therapy	24	33,8	47	66,2
Use of vasoactive drugs			71	100
Use of IBP*	30	42,3	41	57,7
Chest drain	1	1,4	70	98,6
Category 4				
Decubitus restriction			71	100
Restriction to measure BP**			71	100
Care with dressing			71	100
Limbs maintained warm			71	100

*Invasive blood pressure **Blood pressure

time available and on the team's involvement with the quality of information⁽²⁰⁾. This information must be exchanged in a timely manner to ensure continuing care to the patient.

The Code of Ethics for nurses, the COFEN Resolution no 311, of 2007, in its article 41 of Section II describes the duties and responsibilities of nursing professionals: "Provide written and verbal, complete and reliable information necessary to ensure continuing care^(21:15)". Based on the collected data, it was found that the information provided in the handover process was not complete, which violates the code of ethics and undermines the delivery of continuing quality care.

Therefore, we highlight the importance of the safety culture and its set of values, attitudes, competencies and behaviors committed with the management of health and safety aimed to replace guilt and punishment for learning⁽¹¹⁾.

The main issues involved in the handover communication process include lack of time to perform the activity, insufficient records and lack of clarity of the information⁽²⁰⁾. A study conducted in Australia reported 459 accidents caused by failure in the communication process. The main

failures were patient transfer without an adequate handover process: 28.8% (132); omission of information on the patient's clinical status: 19.2% (88), omission of information on the management care for the patient: 14.2% (65)⁽²²⁾.

Thus, it should be stressed that the Surgical Center and the ICU are highly complex sectors that require greater clarity and more accurate information on their activities. The present study showed that most information exchanged was summarized and incomplete, maximizing the occurrence of errors during the follow-up of nursing care.

Identification failures result in result in several adverse events related to the administration of medication, transfusion of blood and blood products, mistaken surgical procedures, diagnostic tests and discharge of infants to the wrong families⁽²³⁾. There were few records of information related to the identification of patients in the checklists.

The JCI proposes the standardization of the identification of patients in the health units, including at least two pieces of data, such as name and birth date. Bed number should not be considered a piece of data⁽²¹⁾.

During the surgical procedure, patient management is subject to failures. The Second Alliance for Patient Safety proposes that the patient is identified, the avoidance of damage during anesthetic induction, staff training for facing the occurrence of blood and airway loss. It is also recommended that the staff is aware of allergic reactions, prevent surgical site infections, prevent the retention of surgical instruments and dressing, improve communication between teams to prevent complications in the surgical procedure⁽¹⁴⁾. There is great concern with communication of these complications (intercurrences), since they were not informed to the ICU in most cases: there were only six records of such communications.

Postoperative patients may show various disturbances inherent to surgery, such as cardiovascular, lung and kidney disorders. Such dysfunctions must be recognized and treated immediately to avoid complications after surgery. Therefore, nursing evaluation in the postoperative period should focus on patient safety in order to prevent unnecessary damage⁽²⁴⁾.

Postoperative patients should be encouraged as early as possible to move, but in some cases movement is restricted due to the type and extent

of the surgery⁽²⁵⁾. Based on our findings, it can be seen that a great deal of important information on the clinical status of patients and on continuing care was not communicated to the nursing staff of the ICU.

Regarding the perioperative period, the lack of information can lead to unnecessary stress situations to the ICU and surgical center teams, and, thus, delay in care planning.

CONCLUSION

It should be stressed that the creation of protocols and instruments of the handover communication process can help maximize time and ensure that key information is not lost during this process. These instruments should be adapted to the routines and characteristics of the sector.

The handover process from the surgical center to the ICU must be improved, since information on perioperative complications, previous allergic reactions, clinical status, recommended postoperative care are not being transferred to ICU nursing professionals.

The data obtained in this study allowed identifying weaknesses/shortcomings in the communication process, which can lead to the creation of safe strategies of communication and greater commitment of health professionals with the quality of the information exchanged during the handover process.

One limitation of this study was that the handover communication was made by telephone. Face-to-face handover communication is recommended in future studies.

REFERENCES

1. World Health Organization (WHO). Communication during patient hand-overs. Patient safety solutions. Joint Commission International. [Internet] 2007;1 solution 3. [acesso em 13 de nov 2013]. Disponível: <http://www.who.int/patientsafety/solutions/patientsafety/PS-Solution3.pdf>
2. World Health Organization (WHO). WHO guidelines for safe surgery. Geneva. 2009. [acesso em 13 de nov 2013]. Disponível: http://whqlibdoc.who.int/publications/2009/9789241598552_eng.pdf?ua=1
3. Agência Nacional de Vigilância Sanitária (ANVISA). Boletim Informativo: Segurança do paciente e qualidade em serviços de saúde. [Internet] 2011; 1(1)12p. [acesso em 13 de jun 2014] Disponível: <http://portal.anvisa.gov.br/wps/wcm/connect/>

f72c20804863a1d88cc88d2bd5b3ccf0/BOLETIM+I.PDF?MOD=AJPERES

4. Joint Commission International (JCI). Sentinel Event Data. Root causes by event type. [Internet] 2004 – 2014. [acesso em 02 de nov 2014]. Disponível: http://www.jointcommission.org/assets/1/18/Root_Causes_by_Event_Type_2004-2014.pdf

5. Organização Nacional de Acreditação (ONA). Glossário e termos técnicos. [Internet] 2006. [acesso em 28 de jun 2015]. Disponível: <http://www.anvisa.gov.br/servicosauade/acreditacao/manual/glossario.pdf>

6. Zinn C. 14000 preventable deaths in Australian hospitals. *BMJ* [Internet] 1995;310(6993). [acesso em 02 de nov 2014]. Disponível: <http://dx.doi.org/10.1136/bmj.310.6993.1487>

7. Sadala MLA, Stefanelli MC. Avaliação do ensino de relacionamento enfermeira-paciente. *Rev Latino-Am Enfermagem*. [Internet] 1996; (4). [acesso em 13 de jun 2014]. Disponível: <http://dx.doi.org/10.1590/S0104-11691996000700014>

8. Broca PV, Ferreira MA. Equipe de enfermagem e comunicação: contribuições de enfermagem. *Rev Bras Enferm*. [Internet] 2012; 65(1) [acesso em 22 de nov 2013]. Disponível: <http://www.scielo.br/pdf/reben/v65n1/14.pdf>

9. Fernandes HS, Pulzi Júnior, Costa Filho R. Qualidade em terapia intensiva. *Rev Bras Cli Med*. [Internet] 2010;8. [acesso em 13 de nov 2013]. Disponível: <http://files.bvs.br/upload/S/16791010/2010/v8n1/a009.pdf>

10. Balsanelli AP, Zanei SSSV, Whitaker IY. Carga de trabalho de enfermagem e sua relação com a gravidade dos pacientes cirúrgicos em UTI. *Acta Paul. Enferm*. [Internet] 2006; 19(1). [acesso em 13 de nov 2013]. Disponível: <http://dx.doi.org/10.1590/S0103-21002006000100003>

11. Wachter RM. Erros na transferência de pacientes e na troca de informações. *Compreendendo a segurança do paciente*. 2. ed. Porto Alegre: Artmed, p.123-45, 2013.

12. Miller C. Ensuring continuing care: styles and efficiency of the handover process. *Australian Journal of Advanced Nursing*. 1998; 16(1):23-27.

13. World Health Organization (WHO) .World Alliance for patient safety. Forward programme. [Internet] 2004. [acesso em 13 de nov 2013]. Disponível: http://www.who.int/patientsafety/en/brochure_final.pdf

14. Organização Mundial da Saúde (OMS). Segundo desafio global para a segurança do paciente: Manual – cirurgias seguras salvam vidas. Rio de Janeiro, 2009. 29p. [acesso em 10 de out2014]. Disponível: http://bvsms.saude.gov.br/bvs/publicacoes/seguranca_paciente_cirurgia_salva_manual.pdf

[paciente_cirurgia_salva_manual.pdf](http://bvsms.saude.gov.br/bvs/publicacoes/seguranca_paciente_cirurgia_salva_manual.pdf)

15. World Health Organization (WHO). WHO/JC. Joint Commission International: Patient identification. WHO Collaborating for Patient Safety Solutions. Patient Safety Solution. [Internet] 2007;(1) solution 2. [acesso em 13 de nov 2013]. Disponível: <http://www.who.int/patientsafety/solutions/patientsafety/PS-Solution2.pdf>

16. Réa-Neto A, Castro JEC, Knibel MF, Oliveira MC. GUTIS – Guia da UTI segura. Associação de Medicina Intensiva Brasileira – AMIB. 1º ed, São Paulo, 2010. [acesso em 13 de nov 2013]. Disponível: http://static.hmv.org.br/wp-content/uploads/2014/07/Orgulho_GUTIS.pdf

17. Agência Nacional de Vigilância Sanitária (ANVISA). Assistência segura: uma reflexão teórica aplicada à prática. Série: Segurança do paciente e qualidade em serviços de saúde. [Internet] 2013;172p. [acesso em 13 de nov 2013]. Disponível: http://www20.anvisa.gov.br/segurancadopaciente/images/documentos/livros/Livro1-Assistencia_Segura.pdf

18. Almeida ACG, Neves ALD, Souza CLB, Garcia JH, Lopes JL, Barros ALBL. Transporte intra-hospitalar de pacientes adultos em estado crítico: complicações relacionadas à equipe, equipamentos e fatores fisiológicos. *Acta Paul Enferm*. [Internet] 2012; 25(3). [acesso em 13 de jun 2014]. Disponível: <http://dx.doi.org/10.1590/S0103-21002012000300024>

19. Pronovost PJ, Thompson DA, Holzmueller CG, Lubomski LH, Dorman T, Dickman F, et al. Toward learning from patient safety reporting systems. *Journal of Critical Care*. [Internet] 2006; (21). [acesso em 13 de nov 2013]. Disponível: <http://www.ncbi.nlm.nih.gov/pubmed/17175416>

20. Silva EE, Campos FL. Passagem de plantão na enfermagem: revisão da literatura. *Cogitare enferm*. [Internet] 2007; 4(12). [acesso em 13 de nov 2013]. Disponível: <http://dx.doi.org/10.5380/ce.v12i4.10077>

21. Conselho Federal de Enfermagem. Resolução n. 311 de 08 de fevereiro de 2007. Código de Ética dos Profissionais de Enfermagem. Rio de Janeiro: COFEN; 2007. [acesso em 17 de out 2014]. Disponível: <http://se.corens.portalcofen.gov.br/codigo-de-etica-resolucao-cofen-3112007>

22. Thomas MJW, Schultz TJ, Hannaford N, Runciman WB. Failures in transition: learning from incidents relating to clinical handover in acute care. *J Healthc Qual*. [Internet] 2013;35(3). [acesso em 02 de nov 2014]. Disponível: <http://dx.doi.org/10.1111/j.1945-1474.2011.00189.x>

23. Joint Commission Internacional (JCI). Patient safety solutions preamble preámbulo a las soluciones para la seguridad del pacient mayo 2007. [acesso em 10 de out 2014]. Disponível: <http://www.who.int/patientsafety/>

24. Popov DCS, Peniche ACG. As intervenções do enfermeiro e as complicações em sala de recuperação pós-anestésica. Rev. Esc. Enferm. USP. [Internet] 2009; 43(4). [acesso em 22 de nov 2013]. Disponível: <http://dx.doi.org/10.1590/S0080-62342009000400030>

25. Stracieri LDS. Cuidados e complicações pós-operatórias. Medicina (Ribeirão Preto). [Internet] 2008; 41(4). [acesso em 02 de nov 2014]. Disponível: http://revista.fmrp.usp.br/2008/VOL41N4/SIMP_4Cuidados_e_complicacoes-posoperatorias.pdf