

## Recording Vital Signs: A Neglected Nursing Practice?

Bellini Rosa Leda, Damasceno Marilia M, Restituti Ana Carla PL\* and Machado Mara M

*IQG Health Service Accreditation in Brazil*

### \*Corresponding author

Restituti Ana Carla PL, survey in IQG Health Service Accreditation– Rua Nelson Gama de Oliveira, 311–10 andar–São Paulo–Brazil, Tel: +551137722098; E-mail: gestao@iqg.com.br

**Submitted:** 15 Nov 2018; **Accepted:** 21 Nov 2018; **Published:** 01 Dec 2018

### Abstract

*Vital signs are patient's health status indicators and their measurement and interpretation at opportune moments contribute to the early diagnosis of clinical deterioration and implementation of interventions.*

*The IQG surveyors observed the lack of registration of vital signs during their visits, noting the need to evaluate this practice in IQG's Health Services Accreditation Programs. The objective of this study is to verify the recording of vital signs in the patient's chart considering the completeness at the opportune moments. The data was obtained between April 2017 and March 2018 by IQG surveyors during national and international accreditation visits to 141 hospitals participating in Health Services Accreditation Programs. The recording completeness of the eight vital signs (blood pressure, respiratory rate, heart rate, body temperature, pain, pulse oximetry, level of consciousness and urinary output) was checked by hospital. At each visit, between 05 and 07 records of patients admitted to open clinical and surgical care units were randomly examined. In the absence of registration of vital signs in one of the medical records, it was considered that the hospital does not present completeness. Evidence for the recording of vital signs at the appropriate moments (hospitalization, transfer of care, immediate postoperative period, nursing prescription and risk score result) defined the completeness criterion in a sample of 141 hospitals.*

*The data were collected from 141 hospitals. At appropriate times, heart rate and blood pressure was recorded in 96% of hospitals and heart rate, blood pressure and body temperature in 81%. The completeness of vital signs at opportune moments was evidenced in 65% of the hospitals. The next challenge of IQG will be to understand the reasons that lead the nursing team to neglect the measurement, recording and interpretation of vital signs in clinical practice.*

**Keywords:** Vital Signs; Practice Nursing; Monitoring Vital Signs; Recording Vital Signs; Clinical Deterioration

numerous national and international studies have demonstrated the incompleteness of these parameters in their analyzes [2].

### Introduction

Monitoring vital signs is a fundamental practice of the nurse's independent domain. Assessments of heart rate, respiratory rate, blood pressure, and body temperature of the patient should be accurately performed and accurately recorded so that they can be analyzed and interpreted by the nurse for clinical decision making and, where necessary, change of care plan [1].

Clinical reasoning is the process by which nurses collect data, process information to identify the patient's health problem or condition, plan and implement nursing interventions, evaluate outcomes, and re-plan care according to patient's conditions and needs. Effective clinical reasoning depends on the nurses' ability to collect the right data, make the right decisions for the right patient, at the right time, and for the right reason.

The registration of vital signs must be accurately performed in the patient's medical records during their journey in health institutions;

The complexity of the clinical condition of patients in hospital and outpatient settings has drawn attention to the importance of joint analysis of vital signs to identify patients who may be at risk of clinical deterioration and adverse events [3]. Quality management programs are increasingly emphasizing the prevention and early detection of such potential events [4].

Despite the importance of vital signs for the early detection of the worsening of the clinical condition of patients and adverse events, the debate about the utility of the predictive ability of these parameters to assess the risk and clinical deterioration of the patient is still ongoing. Of the vital signs commonly measured, the respiratory rate has been indicated as the best indicator of imminent deterioration of the patient [5].

The Health Services Accreditation (IQG) evaluators during the visits of the national (National Accreditation Organization ONA) and international methodology (Qmentum) observed the absence of

completeness of vital signs registration, especially respiratory rate, drawing attention to the need to verify the practice of gauging and registration of vital signs in Brazilian institutions participating in IQG Accreditation Programs.

The importance of measuring vital signs is not only in the early identification of signs of clinical instability, but also provides the opportunity for the nurse to interact with the patient and improve the care plan by identifying additional needs.

The Health Services Accreditation (IQG) evaluators during the visits of the national (ONA) and international methodology (Qmentum) observed the absence of completeness of vital signs registration, especially respiratory rate, drawing attention to the need to verify the practice of gauging and registration of vital signs in Brazilian institutions participating in IQG Accreditation Programs.

The importance of measuring vital signs is not only in the early identification of signs of clinical instability, but also provides the opportunity for the nurse to interact with the patient and improve the care plan by identifying additional needs.

Although it is an institutional policy practiced by all countries that wish to provide a safe care, the calibration, real-time recording and interpretation of vital signs remain a major challenge to the nursing staff. The infrequency of registration compromises the communication between the professionals about the health status of the patient and makes it difficult to identify early clinical instability. It is important to consider that the increase in morbidity and mortality has an impact on the sustainability of the health system and the measurement and recording of vital signs in clinical practice can contribute to better patient outcomes and, consequently, to the quality of care provided by health institutions.

### Goal

The objective of this study was to verify the registration of the vital signs in the patient's chart considering the completeness at the opportune moments.

### Method

Between April 2017 and March 2018, senior IQG evaluators collected data related to the measurement of vital signs during national and international accreditation visits of 141 public and private hospitals of medium and high complexity of care located in several Brazilian states and participants in Health Services Accreditation (IQG) Accreditation Programs.

The records of patients admitted to nursing homes were a data source and the completeness of recording the four vital signs (blood pressure, respiratory rate, heart rate and temperature) was verified by the senior evaluators per hospital.

The IQG evaluative method provides for the examination of 05 and 07 medical records of patients hospitalized in clinic and surgical care wards, randomly selected at each visit. The absence of registration of vital signs in one of the medical records was considered as incompleteness in the hospital evaluated. The timely moments of vital signs assessment considered in this study were: admission, transfer of care, immediate postoperative period, nursing prescription and risk score result. The evidence for recording vital signs at these opportune moments defined the criterion of completeness.

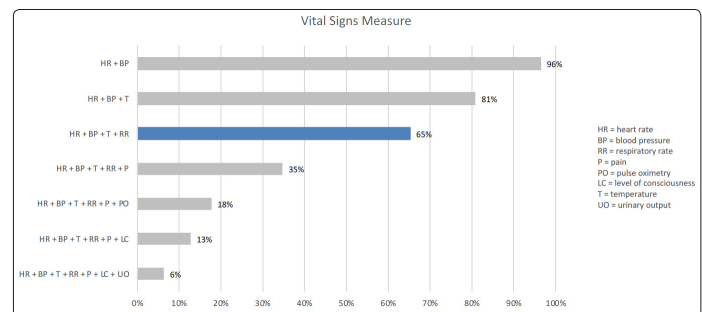
The practice of vital signs verification is part of the IQG evaluation method/criteria. A link was developed for insertion and storage of the data collected by the senior evaluators at the end of the last day of the evaluation process.

The names of the health institutions and patients involved in data collection were protected under a confidentiality agreement between IQG and the participating research institutions.

### Results

The sample consisted of data collected from 141 hospitals, 30 in the process of preparing for accreditation, 22 in Level 1 (Safety Management), 27 in Level 2 (Process Management), 45 in Level 3 (Management Excellence) and 15 with international accreditation level Diamond Qmentum.

At appropriate times, heart rate and blood pressure was recorded in 96% of hospitals and heart rate, blood pressure and body temperature in 81%. The completeness of vital signs at opportune moments was evidenced in 65% of the hospitals (graph 01).



Graph 01: Percentage of vital signs measurement

At all appropriate times, respiratory rate was the least documented vital sign.

Of the total number of hospitals evaluated, the completeness of vital signs was observed in 15 (50%) hospitals in preparation for accreditation, in 10 (45%) certified Level 1, 19 (70%) Level 2, 34 (74%) in Level 3 and 14 (93%) with international certification.

### Discussion

Despite the importance of monitoring vital signs, the results indicate that these parameters are not consistently evaluated, recorded or used for the early identification of signs of clinical instability. Several national and international studies have demonstrated the lack of measurement of vital signs in the hours immediately prior to potentially lethal adverse events or intensive care hospitalization [6,7]. The study conducted in 75 intensive care units of Brazilian hospitals showed a high mortality due to septic shock (65.30%). In view of the problem, the main challenge for health service providers is to implement, in an intentionally managed way, programs that bring the best available scientific evidence to the bedside in order to guarantee the best care practice [8]. Considering that sepsis is identified early through clinical parameters, such as temperature, heart rate, respiratory rate, blood pressure and leukocytosis or leucopenia. Registration and interpretation of vital signs are essential. A part of the current effort in combating sepsis is based on early diagnosis and increased perception of health professionals. Ideally, these patients should be recognized at an early stage and not only when the dysfunction is already in place. Given the economic

and social impact of this disease, it is necessary to engage the professionals in the interpretation of the vital signs to begin the intervention to prevent the most severe form of the disease [8].

The results of this study deserve a reflection on the maturity of Brazilian institutions, the qualification of nurses and the work environment to address the great challenge of valuing and recording vital signs in order to improve the quality of care. Recognition of the importance of interpreting vital signs in the prevention and identification of worsening of the patient's clinical status can impact on morbidity, mortality and consequently on hospital costs. Current analyzes on the subject of this study suggest that compliance with vital signs monitoring protocols is often poor, with incomplete and infrequent observations [9].

Studies that explore the reasons for vital signs and respiratory rate in particular not being measured and recorded consistently are scarce [10]. Factors that lead the nursing professional not to evaluate the completeness of vital signs may be related to lack of time due to workload and the need to complete important tasks, absence of equipment for gauging and interruption of activity.

The reasons why nurses neglect to measure vital signs, record and interpret these parameters reliably for clinical evaluation of the patient should be identified and analyzed in order to improve care practice and its results. The work environment impacts directly on the process in the care and institutional result. A favorable work environment increases error interception as well as patient safety. Trainings that guide nurses to recognize and manage acute clinical deterioration of the patient may also assist in improving care but should be concurrent with actions to assess the lack of time and to address the lack of basic equipment for assessment [11]. The assistance in repositioning nurses in the organizational structure of the health institution to assume its role as care coordinator is one of the IQG strategies for improving the quality of care practice. The nurse has subsidies for conducting clinical judgment, providing a qualification of care practice based on evidence-based knowledge, thinking and clinical decision-making.

Today's nurses and hospital administrators also need to improve the nursing work environment, and this mandate is driven by unprecedented national and international efforts to address the interrelated issues of quality of health care and provision of nursing care, as well as evaluation security and identification of institutional needs [12].

## Conclusion

The completeness of vital signs was not observed in 1/3 of the hospitals analyzed. Even the hospitals with the highest maturity in the accreditation program did not show 100% completeness of vital signs. Given the results obtained, the next challenge of the IQG will be to analyze the reasons that lead the nursing team to neglect the measurement, recording and interpretation of vital signs in clinical practice.

## Acknowledgement

We thank IQG Health Service Accreditation for providing us with this study and senior evaluators for data collection.

## References

1. Kyriacos U, Jelsma J, Jordan S (2011) Monitoring vital signs using early warning scoring systems: a review of the literature. *Journal of Nursing Management* 19: 311-330.
2. Ahrens T (2008) the most important vital signs are not being measured. *Aust Crit Care* 21: 3-5.
3. Elliott M, Coventry A (2012) Critical care: the eight vital signs of patient monitoring. *British Journal of Nursing* 21: 621-625.
4. Storm-Versloot MN, Verweij L, Lucas C, Ludikhuizen J, Goslings JC, et al. (2014) Clinical relevance of routinely measured vital signs in hospitalized patients: a systematic review. *Journal of Nursing Scholarship* 46: 39-49.
5. Philip K, Richardson R, Cohen M (2013) Staff perceptions of respiratory rate measurement in a general hospital. *British Journal of Nursing* 22: 570-574.
6. Agency for Healthcare Research Quality (2011) 5 Million Lives Campaign: Institute for Healthcare Improvement, AHRQ.
7. Sandroni C, Cavallaro F (2011) Failure of the afferent limb: a persistent problem in rapid response systems. *Resuscitation* 82: 797-798.
8. <http://www.ilas.org.br/assets/arquivos/ferramentas/livro-sepse-um-problema-de-saude-publica-cfm-ilas.pdf>
9. Thomson R, Luettel D, Healey F, Scobie S (2007) safer care for the acutely ill patient: learning from serious incidents. NPSA, London. National Patient Safety Agency.
10. McQuillan P, Pilkington S, Allan A, Taylor B, Short A, et al. (1998) Confidential inquiry into quality of care before admission to intensive care. *BMJ* 316: 1853-1858.
11. Philip K, Richardson R, Cohen M (2013) Staff perceptions of respiratory rate measurement in a general hospital. *Br J Nurs* 22: 570-574.
12. <https://www.americannursetoday.com/improving-the-nursing-work-environment/>

**Copyright:** ©2018 Restituti Ana Carla PL, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.