Effect of the national early warning score on monitoring the vital signs of patients in the emergency room*

Efeito do national early warning score no monitoramento dos sinais vitais de pacientes no pronto-socorro

Efecto del national early warning score en el monitoreo de los signos vitales de los pacientes en urgencias

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ABSTRACT

Objective: To verify the effect of using the National Early Warning Score (NEWS) system on the compliance of the vital signs monitoring interval with those recommended for patients in the emergency room. **Methods:** This is a quasi-experimental, before-and-after study, performed in an emergency room with 280 adult patients selected by convenience. The effect of NEWS on the compliance of the vital signs monitoring interval with those recommended by the system was analyzed by linear regression. **Results:** In the Pre-NEWS phase, 143 patients were analyzed (mean age ± standard deviation: 54.4 ± 20.5; male: 56.6%) and, in the Post-NEWS phase, 137 patients (mean age ± standard deviation: 55.5 ± 20.8; male: 50.4%). There was compliance of the vital signs monitoring interval with what is recommended by NEWS in 92.6% of vital signs records after adopting this instrument. This compliance was 9% (p < 0.001) higher in the Post-NEWS phase. **Conclusion:** The use of the NEWS system increased the compliance of the vital signs monitoring intervals with the ones recommended, but this compliance decreased when the NEWS score pointed to a shorter interval in the monitoring of vital signs.

DESCRIPTORS

Vital Signs; Early Warning Score; Clinical Deterioration; Nursing Care; Emergency Service, Hospital.

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INTRODUCTION

Surveillance of vital signs is a simple, low-cost practice and one of the most important ways to identify signs of clinical deterioration in hospitalized patients[1–2]. The recognition of altered vital signs must be performed and correctly recorded by professionals who provide patient care[3–4].

Delays in identifying signs of clinical deterioration increase the risk of unplanned admission of the patient to the Intensive Care Unit (ICU) and death[5–6]. Proper monitoring of vital signs in the emergency room should consider that the location concentrates different profiles of patient demand and complexity[3,7]. The literature notes that, in emergency rooms, the documentation and interpretation of vital parameters remains incomplete[8]. An Australian study analyzed vital signs records in inpatient and emergency units and found that, in approximately 80% of the series, an abnormality was documented in one or more of the patients' physiological parameters; however, the researchers observed that the record of the interpretation of these abnormalities was identified in only 19.7% of the cases, showing that the nursing records were flawed in the assessment of vital parameters[8]. The authors also highlighted the importance of these results, considering that the adequate interpretation and intervention must be performed primarily by nurses[8]. Another study, carried out in Brazil, evaluated the nursing records in the emergency environment and showed that the note of the conduct taken was recorded in only 22.5% of the medical records with altered vital signs[7].

Early detection systems for clinical deterioration emerged as tools used at the bedside to assist the health team in the detection of altered vital signs and guide the relevant conduct for each case[4,9]. In 2012, in England, the Royal College of Physicians (RCP) created a scale for the early detection of clinical deterioration based on the assessment of vital signs, called the National Early Warning Score (NEWS)[9]. NEWS is used throughout the English healthcare system, the National Health Service (NHS), and in several European countries. An important feature of NEWS is that the score, obtained from the assessment of vital signs at a given moment, indicates appropriate conduct for the patient's condition and guides the time interval at which a new assessment of vital signs should be performed[9]. Thus, the frequency of checking vital signs is determined by the clinical situation of the patients, and not by routines standardized by the services. Systems for the early detection of clinical deterioration, in general, have also proved to be useful tools for a more precise and objective communication by nurses in the evaluation of patients with signs of clinical deterioration[10].

In the clinical practice of nurses, systems for early detection of clinical deterioration allow measurements of vital parameters and their interpretations to be performed in a systematic manner and at intervals consistent with the patient's clinical situation. In Brazil, there is still no regulation that guides the health team in the frequency of monitoring vital signs while the patient remains in the emergency unit, and it is likely that, in many services, this frequency is predominantly defined by the unit's routine[1,7]. In a heterogeneous environment like the emergency room, the application of NEWS can be interesting because it guides the time interval of vital signs control based on the scores obtained from the evaluation of the physiological parameters of each patient according to their need, with potential impact on the nursing practice regarding the assessment of vital signs and patient safety. With the assumption that the adoption of an early detection system of clinical deterioration can contribute to the frequency of assessment of vital signs being guided by the patient's conditions, this study aimed to verify the effects of using the NEWS system on the compliance of the vital signs monitoring interval with those recommended by NEWS for patients in the emergency room.

METHOD

TYPE OF STUDY

This is a quasi-experimental, before-and-after study, carried out in an emergency room of a secondary-level university hospital located in the city of São Paulo, Brazil, with 178 beds, which exclusively adopts the Brazilian Unified Health System (SUS) in its care provision. In the emergency room, before the adoption of NEWS, the vital signs monitoring routine used six-hour intervals for all patients. This phase of the study was called Pre-NEWS and took place between August and September 2019. The Post-NEWS phase took place between March and April 2020 and was characterized by the use of NEWS including the recommendation of the time interval for the subsequent evaluation.

POPULATION

Patients aged 18 years or older admitted to the emergency room were eligible to take part in the study.

SELECTION CRITERIA

Patients admitted to one of the ten beds with multiparametric monitorization in the emergency room participated in the study. The choice of patients admitted to beds with a multiparametric monitor was made considering that, in these beds, the following vital signs are monitored: heart rate (HR), respiratory rate (RR), blood pressure (BP), temperature (T°), and oxygen saturation (SpO$_2$). For patients admitted on extra beds, the unit did not have a portable oximetry device and, therefore, the assessment of this physiological parameter was not part of the routine. Patients whose medical records were illegible or erased and patients who evaded or were in palliative care were excluded, totaling 20 exclusions. Patients admitted more than once during the study period were considered on their first admission to the unit.

STUDY SAMPLE

The convenience sample consisted of 280 patients, 143 in the Pre-NEWS phase and 137 in the Post-NEWS phase.

STUDY INTERVENTION

The intervention in this study was the adoption of NEWS by the nursing team in monitoring vital signs, as instructed by the instrument. NEWS assesses six physiological parameters: RR, SpO$_2$, HR, BP, T°, level of consciousness (LC) and oxygen use and, according to established criteria for acceptable variations,

each parameter receives a score ranging from zero to three. The sum of the scores is then categorized into five categories, each of which offers a recommended time interval for subsequent vital signs monitoring, as well as applicable clinical procedures[9]. The recommended intervals for monitoring vital signs according to NEWS scores are: category zero – every 12 hours; category one to four – between four and six hours; category five or more, or score three on one of the parameters – every hour; and category seven or more – continuous monitoring of vital signs. Nursing team were trained according to the guidelines of the RCP manual updated in 2017[9], and guidelines for the use of NEWS in English and Portuguese were available at the unit. A literal translation of NEWS was carried out without any change in the scores, as per RCP[9] guidelines.

The nursing team professionals took part in a program to prepare them for the use of NEWS and were invited to answer the professional profile questionnaire. The program to prepare the use of NEWS was carried out during the work shift and the meetings took place individually, in pairs, or in trios at the unit, only once and lasting approximately forty minutes. During the meetings, the following aspects of the NEWS preparation program were addressed: the importance of vital signs for the identification of early clinical deterioration in the emergency room; the characteristics of NEWS and their relationship with the monitorization of vital signs; and the presentation of the use of NEWS, in addition to the exercise of applying the NEWS in a hypothetical case typical of the emergency room, including its documentation. During the study period, the nursing team consisted of 48 nursing professionals, including one head nurse, 11 baccalaureate nurses, and 36 nursing technicians and assistants.

The proposal for adopting NEWS, considering the dynamics of the sector, was for baccalaureate nurses, after admitting the patient to an observation bed with multiparametric control, to apply the input admission NEWS score and indicate the time interval for the subsequent control of vital signals as recommended for the category of the score obtained. In addition, it was expected, with the adoption of NEWS, that the baccalaureate nurse would be responsible for its interpretation and indication of the frequency of vital signs control during the patient's stay in the unit. The team was notified that the baccalaureate nurse would be responsible, based on the scores obtained, for scheduling the periodicity of vital signs control during the patient's stay in the unit. NEWS was treated as an ordinal variable, and the score was established for each measurement of vital signs, according to the instructions for applying the instrument[9].

Data Collection

As mentioned above, for each NEWS category, a vital signs monitoring interval is recommended. The main variable of this study was the compliance of the interval between two sequential measurements of vital signs with the one recommended by NEWS. For example, if the NEWS at 7 am for a given patient resulted in the indication of measuring vital signs every hour, there would be compliance with what is recommended if, at 8 am, there was a new record of these parameters. If, in this case, the record had only taken place before or after that time, there would be no compliance with the NEWS recommendation, as the interval would be lower or higher than recommended.

Therefore, the variable compliance of the vital signs monitoring interval was categorized into: according to NEWS; interval shorter than NEWS; and interval longer than NEWS. All records that the patient had while on observation were computed to calculate the frequencies of these categories. In cases where the NEWS recommendation was for continuous monitorization, records made every hour were considered to be in compliance. Despite the risk of inaccuracy of vital signs recordings in the patient's chart, the time of vital signs monitoring was assumed to be the time recorded in the annotation.

In the Pre-NEWS phase, the category of compliance was assigned by the researcher based on the values of vital signs recorded in the medical records every six hours, according to the unit's routine. The uses of nasal catheter, oxygen mask, or positive pressure ventilation to calculate NEWS were identified in the vital signs control form and nursing notes. In the absence of HR, RR, BP, T°, SpO_2, and LC records, the parameter was considered and computed within the normal ranges. In the Post-NEWS phase, the score of this instrument was calculated at the moment of the measurement of vital signs by the professional nurses prepared for its use. If it was not possible to measure any vital sign (for example, LC in sedated patients), it was considered normal for the calculation of the score. During the study, data were also collected on the patients' profile (age, sex, Charlson comorbidity index – CCI[11], chief complaint, and medical specialty) and, in the Post-NEWS phase, information on the nursing staff (age, sex, professional category, and education in years of study) were recorded.

Patients' vital signs were collected throughout their stay in the emergency department. Data collection for the Pre-NEWS phase took place between August and September 2019, and for the Post-NEWS phase, between March and April 2020. Patient data collection was performed by the researcher and a trained research assistant, an undergraduate nursing student. A pilot was carried out with ten medical records to adjust the procedures. Data collected in the pilot were included in the study sample.

The characterization data of the nursing professionals at the study site were collected using a questionnaire created for this purpose. The questionnaire was given to the professional at the training on NEWS to be filled out and returned at the participant's convenience. Thirty-one of the 48 professionals from the emergency room nursing team answered the questionnaire. Female nursing professionals (23; 74.2%) and nursing technicians (19; 61.3%) predominated, with 45.2 years (SD = ± 9.6) as the mean age and 12.5 (SD = ± 2.8) years as the mean schooling.

All data were directly recorded in a database created in the *Research Electronic Data Capture* (REDCap) software[12]. The tools used were electronic data collection, dynamic data management, and data export. The CCI used was the one already existing in the collection of research instruments from the REDCap virtual library[12].

Data Analysis and Treatment

The data stored in the REDCap system were transferred to a Windows Excel spreadsheet and analyzed in the statistical program R version 4.1.1 by a professional statistician. Descriptive

statistics with measures of central tendency and dispersion were performed to present the study variables.

To compare the characteristics of patients in the groups (Pre-NEWS and Post-NEWS), the Pearson's chi-square and Wilcoxon-Mann-Whitney tests were used, according to the type of variable analyzed. The Cochran-Mantel-Haenszel test was applied to verify if there was a significant difference in the frequencies of the intervals recommended by NEWS and in the compliance with the recommendations before and after the application of the instrument.

The compliance assessments of the intervals between vital signs measurements of the same patient were summarized in terms of proportions. To calculate these proportions, the variable compliance of the vital signs monitoring interval was dichotomized into yes (according to NEWS or interval shorter than NEWS) or no (interval longer than NEWS). The proportion of compliance for each patient was calculated considering in the numerator the total of intervals in the yes category and, in the denominator, the total of intervals that were analyzed for that patient. The index created provided the proportion of NEWS compliance for each patient, which ranged from zero to 100%.

The effect of using NEWS on the compliance of the monitoring interval of vital signs as recommended was analyzed by linear regression, and the coefficient of determination (R^2) was applied to verify the quality of the model. The independent variables were: study phase, NEWS admission categories, medical specialty, age, sex, and CCI. All variables were entered simultaneously in the model. The Generalized Variance Inflation Factor (GVIF) with a cut-off point of 2 was used to verify possible multicollinearities between the predictor variables. The significance level adopted in the analyses was 5%.

ETHICAL ASPECTS

The study was approved by the Research Ethics Committee of the Hospital Universitário, Universidade de São Paulo on May 24, 2019, with opinion 3,345,487, in accordance with Resolution no. 466/2012 of the National Health Council. The inclusion of patients and members of the nursing team took place by the signing of the Informed Consent Form.

RESULTS

The data in Table 1 show the demographic and clinical characteristics of the 280 patients who participated in the study. One can observe that the number of appointments for surgery specialty was significantly higher (p = 0.002) in the Post-NEWS phase (101; 73.7%) compared to Pre-NEWS (80; 56.0%). The main complaint also differed between groups (p = 0.023).

In total, patients had their vital signs recorded 1,667 times (54.0% in the Pre-NEWS phase and 46.0% in the Post-NEWS phase). In the Pre-NEWS phase, the mean was 6.3 checks per patient (900 checks; 143 patients) and, in the Post-NEWS phase, 5.6 (767 checks; 137 patients). Table 2 shows a significant difference between the Pre and Post-NEWS phases in the frequencies of the intervals recommended by NEWS (p ≤ 0.001) and in the distribution of vital signs monitoring according to compliance categories (p ≤ 0.001). The vital signs of the group of patients analyzed in the Post-NEWS had a higher frequency of recommendation of shorter time intervals (6 hours or less). Furthermore, in Post-NEWS, monitoring intervals as recommended by the instrument were more frequently observed.

Table 3 shows that the Post-NEWS phase and the NEWS admission categories were predictors of monitoring vital signs in

Table 1 – Sociodemographic and clinical characteristics of the participants according to the study phases – São Paulo, SP, Brazil, 2019–2020.

Variables		Pre-NEWS (n = 143)	Post-NEWS (n = 137)	P-value
Sex, n (%)	Female	62 (43.4)	68 (49.6)	0.293*
	Male	81 (56.6)	69 (50.4)	
Age, years	Minimum-maximum	19–94	18–97	
	Mean ± SD	54.4 (20.5)	55.5 (20.8)	0.614†
	Median	55	58	
	95%CI	51.1–57.8	52.0-58.9	
Comorbidities (CCI)	Minimum-maximum	0–10	0–7	0.637†
	Mean ± SD	1.6 (2.3)	1.4 (2.1)	
	Median	0	0	
	95%CI	1.2–2.0	1.1–18	
Main complaint, n (%)	Pain	59 (41.2)	60 (43.8)	0.023*
	Trauma	30 (21.0)	43 (31.4)	
	Dyspnea	27 (18.9)	9 (6.6)	
	Neurological	15 (10.5)	13 (9.5)	
	Others	12 (8.4)	12 (8.7)	
Medical specialty	Internal medicine	63 (44.0)	36 (26.3)	0.002*
	Surgery	80 (56.0)	101 (73.7)	

*Pearson's chi-square test; † Wilcoxon-Mann-Whitney test; NEWS: National Early Warning Score; SD: standard deviation; 95%CI: 95% confidence interval; CCI: Charlson comorbidity index.

Table 2 – Comparison of vital signs monitoring before and after the adoption of the National Early Warning Score, according to the frequency recommended by the instrument and compliance with the recommended interval – São Paulo, SP, Brazil, 2019-2020.

Variable	Pre-NEWS (n = 900) n (%)	Post-NEWS (n = 767) n (%)	P-value
NEWS recommended intervals for monitoring vital signs			<0.001*
Every 12 hours	575 (63.9)	282 (36.8)	
4-6 hours	291 (32.3)	377 (49.2)	
Every hour	33 (3.7)	85 (11.0)	
Continually	1 (0.1)	23 (3.0)	
Compliance of the vital signs monitoring interval with the one recommended by NEWS			<0.001*
According to NEWS	181 (20.1)	710 (92.6)	
Shorter interval	607 (67.5)	20 (2.6)	
Longer interval	112 (12.4)	37 (4.8)	

*Cochran-Mantel-Haenszel test. NEWS: *National Early Warning Score*.

Table 3 – Linear regression model for the proportion of compliance of monitoring patients' vital signs (n = 280) – São Paulo, SP, Brazil, 2019–2020.

Model: NEWS compliance	Coefficient	SE	95%CI	P-value	GVIF
Intercept	0.96	0.03	0.90–1.02	<0.001	
Post-NEWS Phase	0.09	0.02	0.05–0.13	<0.001	1.11
NEWS on admission 1 to 4	−0.10	0.02	−0.14−−0.06	<0.001	1.03
NEWS on admission 5 to 6	−0.15	0.04	−0.23−−0.07	<0.001	
NEWS on admission 3	−0.73	0.06	−0.85−−0.61	<0.001	
NEWS on admission 7 or more	−0.11	0.04	−0.20−−0.02	0.010	
Internal medicine	0.01	0.02	−0.03–0.05	0.594	1.13
Male	−0.02	0.01	−0.05–0.01	0.263	1.01
Age	0.00	0.00	−0.00–0.00	0.634	1.25
CCI	0.00	0.00	−0.00–0.01	0.491	1.27

R^2: 0.426; Adjusted R^2: 0.407.
SE: standard error; 95%CI: 95% confidence interval; NEWS: *National Early Warning Score*; CCI: Charlson comorbidity index. GVIF: *Generalized Variance Inflation Factor*.

accordance with NEWS (p < 0.001). In the Post-NEWS phase, vital signs monitoring compliance was 9% higher (coefficient = 0.09) compared to Pre-NEWS. Vital signs monitoring compliance decreased when admission NEWS was non-zero. If the admission NEWS was from 1 to 4, the compliance decreased by 10% (p ≤ 0.001; coefficient −0.10); if the admission NEWS was 5 to 6, there was a 15% drop (p ≤ 0.001; coefficient −0.15) in compliance; NEWS of 3 in one of the parameters meant a decrease in compliance of 73% (p ≤ 0.001; coefficient −0.73); and the decrease was 11% (p = 0.010; coefficient −0.11) if admission NEWS was equal to 7 or more. The regression model explained 42.6% of NEWS compliance. There was no evidence of multicollinearity of the predictors for the model tested (Table 3).

DISCUSSION

This is the first Brazilian study that evaluated the effect of using NEWS on the frequency of vital signs monitoring as recommended by the NEWS system for the emergency environment. The instrument can be an alternative for evaluating physiological parameters in the routine of vital signs monitoring, but further studies are needed to verify the use of NEWS in the Brazilian context. The findings of this research should be interpreted considering the characteristics of patients in both phases. The fact that the Post-NEWS phase had a sample with a higher frequency of trauma as the main complaint and of surgery specialty as the type of care (Table 1) may explain possible differences in the demand for assessment of vital signs between these two groups. This difference, which cannot be controlled because it is a before-and-after study, may have contributed to the increase in the frequency of monitoring vital signs every six hours, every hour, and continuously in the Post-NEWS phase (Table 2). It is possible that, with these characteristics, the sample of the Post-NEWS phase was more severe and clinically unstable than that of the Pre-NEWS phase. Nevertheless, as the severity or risk index was not evaluated[13], we do not have data to support this possibility.

Regarding the vital signs used by NEWS, we observed that the assessment of the level of consciousness is not yet a

systematic practice incorporated into the assessment of physiological parameters in Brazilian hospitals. To use NEWS, the neurological assessment is performed using the acronym CVPU (confusion, verbal, pain, unresponsive), and a high agreement between participants (Kappa = 0.978) in the neurological assessment using this acronym was observed in a recent national study of cross-cultural adaptation of the *National Early Warning Score* 2 for Brazilian Portuguese, which may demonstrate that its use is simple and easy to understand in the application of the scale to the Brazilian context[14].

The collection and proper recording of vital signs depend on the nursing commitment, judgment, and adherence to recognizing the importance of monitoring these parameters[15]. In this study, the Post-NEWS phase presented 92.6% compliance with the protocol, which suggests that the nursing team was able to adopt NEWS in monitoring vital signs according to the time interval determined by the scale itself. In this phase, there was a general decrease in the average frequency of monitoring of vital signs per patient (from 6.3 to 5.6, p ≤ 0.001) and an increase in the frequencies of measurement of vital signs with shorter intervals. This result shows that the use of NEWS does not necessarily imply an increase in the frequency of monitoring, although it should be considered that differences in patient characteristics between phases may also have contributed to these results.

The compliance or not of the interval between measures of vital parameters with that recommended by NEWS has been analyzed in other studies[16,17] with different operationalizations, but the results, in general, show that the compliance decreases as the intervals recommended by NEWS decrease. In a Belgian study[16], the authors considered the cases in which there were complete records of vital signs in the past 12 hours to be in compliance with NEWS, as recommended by the score itself. The researchers[16] observed that, after the adoption of NEWS, there was an increase in the frequency of recording of all parameters in the assessment of vital signs, as well as a reduction in the frequency of vital signs monitoring of more stable patients; and that compliance with NEWS was present in 47.7% of the 1,590 medical records evaluated. A Danish study that analyzed the implementation of a modified version of NEWS in a university hospital observed that there was 90% adherence in monitoring vital signs when monitoring twice a day was indicated[17]. Adherence to the recommended intervals for monitoring vital signs was lower when it was indicated more than twice a day[17]. Continuous monitoring of vital signs is a possible solution to overcome barriers to adherence to monitoring protocols. However, a recent systematic review that evaluated the impact of continuous versus intermittent monitoring of vital signs outside the intensive care setting did not demonstrate robust benefits[18].

In this study, the use of NEWS increased the compliance of vital signs monitoring intervals by 9% compared to the Pre-NEWS phase (Table 3). This result was expected, but the absence of similar studies makes it difficult to interpret its magnitude. In any case, with the assumption that the monitoring intervals recommended by NEWS considered the patient's situation, it is reasonable to assume that there was an improvement in this practice at the study site. Despite this positive result, Table 3 shows that, as the NEWS score categories progress, indicating recommendations for increasingly shorter vital signs measurement intervals, the lower is the compliance. This means, in short, that the shorter the recommended measurement interval, the lower the compliance with the recommendation. When the nurse realizes that there is an excess of work with the monitoring of vital signs, other activities are prioritized instead of following the guidance of the protocol for the early detection of clinical deterioration in the monitoring of vital signs with a shorter interval[19]. In addition, the professional's adherence to the use of an early detection system of clinical deterioration related to the high demand of patients, the scarcity of human resources, and the limitation of time to carry out the activities were considered barriers to non-adherence to the monitoring frequency recommended by the clinical deterioration early detection systems, in the perception of Danish nurses[20].

Nursing plays a key role in monitoring vital signs and early identification of signs of clinical deterioration. The results of this study showed that the adoption of NEWS in an emergency unit can positively affect the monitoring of vital signs. Whether monitoring at intervals more consistent with the clinical situation of each patient has an impact on health outcomes relevant to patients is an open question.

The fact that this study was carried out in a single location, that it evaluated the effect of adopting NEWS only in the practice of monitoring vital signs, and that the sample consisted of patients admitted to beds with multiparametric monitor limits the generalization of its results. It is also necessary to consider as a limitation the fact that the manual records of vital signs in the patients' charts may not reliably portray the periods in which the signs were monitored, highlighting the possibility of monitoring without proper recording.

CONCLUSION

The use of NEWS increased the compliance of the vital signs monitoring intervals with those recommended; however, this compliance decreased as the NEWS score recommended a shorter interval for monitoring vital signs. The use of NEWS allowed the monitoring of vital signs in an individualized way in the Post-NEWS phase, which can contribute to the early identification of signs of clinical deterioration in patients.

RESUMO

Objetivo: Verificar o efeito do uso do sistema *National Early Warning Score* (NEWS) na conformidade do intervalo de monitoramento dos sinais vitais com o recomendado em pacientes no pronto-socorro. **Método:** Estudo *quasi*-experimental, do tipo antes e depois, realizado em um pronto-socorro com 280 pacientes adultos selecionados por conveniência. O efeito do NEWS na conformidade do intervalo de monitoramento dos sinais vitais com o recomendado pelo sistema foi analisado por regressão linear. **Resultados:** Na fase Pré-NEWS, foram analisados 143 pacientes (idade média ± desvio-padrão: 54,4 ± 20,5; sexo masculino: 56,6%) e, na fase Pós-NEWS, 137 pacientes (idade média ± desvio-padrão:

55,5 ± 20,8; sexo masculino: 50,4%). Houve conformidade do intervalo de monitoramento dos sinais vitais com o recomendo pelo NEWS em 92,6% dos registros de sinais vitais após adoção desse instrumento. Essa conformidade foi maior na fase Pós-NEWS em 9% (p < 0,001). **Conclusão:** O uso do sistema NEWS aumentou a conformidade dos intervalos de monitorização dos sinais vitais com o recomendado, porém essa conformidade diminuiu quando o escore NEWS apontou para intervalo menor no monitoramento dos sinais vitais.

DESCRITORES

Sinais Vitais; Escore de Alerta Precoce; Deterioração Clínica; Cuidados de Enfermagem; Serviço Hospitalar de Emergência.

RESUMEN

Objetivo: Verificar el efecto del uso del sistema *National Early Warning Score* (NEWS) sobre el cumplimiento del intervalo de monitoreo de los signos vitales conforme a lo recomendado a pacientes en urgencias. **Método:** Estudio *casi* experimental, de tipo antes y después, realizado con 280 pacientes adultos seleccionados por conveniencia en un servicio de urgencias. Con el uso de la regresión lineal se analizó el efecto del NEWS sobre el cumplimiento del intervalo de monitoreo de los signos vitales conforme a lo recomendado por el sistema. **Resultados:** En la fase Pre-NEWS se analizaron 143 pacientes (edad media ± desviación estándar: 54,4 ± 20,5; sexo masculino: 56,6%) y, en la fase Post-NEWS, 137 pacientes (edad media ± desviación estándar: 55,5 ± 20,8; sexo masculino: 50,4%). El 92,6% de los registros de signos vitales después de la adopción de este instrumento presentaron cumplimiento del intervalo de monitoreo de los signos vitales conforme a lo recomendado por el NEWS. Este cumplimiento fue mayor en la fase Post-NEWS con un 9% (p < 0,001). **Conclusion:** El uso del sistema NEWS tuvo un incremento del cumplimiento de los intervalos de monitoreo de los signos vitales conforme a lo recomendado, pero este cumplimiento disminuyó cuando el puntaje NEWS apuntó a un intervalo más corto en el monitoreo de los signos vitales.

DESCRIPTORES

Signos Vitales; Puntuación de Alerta Temprana; Deterioro Clínico; Atención de Enfermería; Servicio de Urgencia en Hospital.

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