ISSN-e [2675-5602]

Global Academic Nursing Journal

ORIGINAL ARTICLE

Development of health management tools and indicators: patient safety experience

Desarrollo de herramientas e indicadores de gestión en salud: experiencia en seguridad del paciente

Desenvolvimento de ferramentas e indicadores de gestão em saúde: experiência da segurança do paciente

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How to cite this article:
Cruz LGTD, Seabra ES, Gomes LHC, Cabral VB, Martins MOD, Sousa MOF. Development of health management tools and indicators: patient safety experience. Glob Acad Nurs. 2023;4(3):e372. https://dx.doi.org/10.5935/2675-5602.20200372

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Submission: 06-05-2023
Approval: 10-02-2023

Abstract

The aim was to demonstrate the use of quality and safety management indicators for fall risk. Descriptive case report on the use and results of quality management tools. The setting is a clinical ward of a tertiary care hospital located in the capital of the state of Rio de Janeiro. Data were collected in April/2023. The pre-test assertiveness rate was 87% and 89% for the post-test, however for analysis of the indicator identification of the risk of falling, it was significantly high for inadequacy, on the general average 90.48% of the beds, and after raising awareness via online training and monitoring, there was a drastic and relatively important change to 84.56% of beds and patients identified appropriately. The prevention and reduction of risk factors are challenges in the management of nursing care in the broad health ecosystem. Quality as a right must be implemented by associating accessible technological resources and tools that can measure and quantify objectives aligned with institutional practices.

Descriptors: Patient Safety; Health Management; Quality Indicators, Health Care; Case Reports; Patient Care Management.

Resumén

El objetivo fue demostrar el uso de indicadores de gestión de calidad y seguridad para el riesgo de caídas. Informe descriptivo de caso sobre el uso y resultados de herramientas de gestión de la calidad. El escenario es una sala clínica de un hospital de tercer nivel de atención ubicado en la capital del estado de Rio de Janeiro. Los datos fueron recolectados en abril/2023. La tasa de asertividad pretest fue del 87% y postest del 89%, sin embargo para el análisis del indicador de identificación del riesgo de caída, fue significativamente alta para la inadecuación, en el promedio general del 90,48% de las camas, y después Al sensibilizar a través de la formación y el seguimiento en línea, se produjo un cambio drástico y relativamente importante: el 84,56 % de las camas y los pacientes se identificaron adecuadamente. La prevención y reducción de los factores de riesgo son desafíos en la gestión de los cuidados de enfermería en el amplio ecosistema de la salud. La calidad como derecho debe implementarse asociando recursos y herramientas tecnológicas accesibles que puedan medir y cuantificar objetivos alineados con las prácticas institucionales.

Descriptores: Seguridad del Paciente; Manejo de la Salud; Indicadores de Calidad en la Atención de Salud; Reportes del Caso; Administración de Atención al Paciente.

Resumo

Objetivou-se demonstrar o uso de indicadores de gestão de qualidade e segurança do risco de queda. Relato de caso descritivo sobre uso e resultados de ferramentas de gestão da qualidade. O cenário é uma enfermaria clínica de um hospital de nível de atenção terciário localizado na capital do estado do Rio de Janeiro. Os dados foram coletados em abril/2023. A taxa de assertividade do pré-teste foi de 87% e para o pós-teste de 89%, contudo para análise do indicador identificação do risco de queda que era significativamente alta para inadequação, na média geral 90,48% dos leitos, e após a sensibilização via treinamento on-line e do monitoramento, houve uma mudança drástica e relativamente importante para 84,56% de leitos e pacientes identificados de maneira adequadas. A prevenção e redução de fatores de riscos são desafios na gestão da assistência de enfermagem no amplo ecossistema da saúde. A qualidade como direito deve ser implementado associando recursos tecnológicos acessíveis e com ferramentas que possam mensurar e quantificar objetivos alinhados com as práticas institucionais.

Descritores: Segurança do Paciente; Gestão em Saúde; Indicadores de Qualidade em Assistência à Saúde; Relatos de Casos; Administração dos Cuidados ao Paciente.

Introduction

The national patient safety program was completed ten years in April 2023, introducing the safe care model, it is designed based on the priority guidelines issued by the World Health Organization to its member countries in the past decade[1].

The legal framework of the national patient safety policy present in Ministerial Ordinance No. 529 of the Ministry of Health establishes it has one of the specific objectives in item IV of its 3rd. Article "IV - producing, systematizing and disseminating knowledge about patient safety", something challenging for all employees in the healthcare ecosystem[2].

Patient safety can be associated with the quality of health services, so it is possible to state that safe care can also be quality care[2,3].

The healthcare services complex was one of the last of the country's diverse economic activities to develop and implement quality management tools systematically in very clear models only from the 1990s onwards. Several of these models can currently be identified: internal or external certifications such as hospital accreditation, peer process audits, and user experience, among others[2-4].

The management of health units has been challenging in any ecosystem of these services, whether with universal access like the Brazilian one or not. Demand for health resources whether in the form of treatment and diagnosis, rehabilitation, or reduction of possible sequelae, requires their use rationally and effectively with the management of well-designed processes to obtain what is expected from a complex system such as this: the guarantee of completeness, equity, and universality of health actions by users of this system[1-5].

Methods for evaluating health services are welcome and can contribute to the continuous improvement of this ecosystem, in addition to providing systemic data with the sensitivity points of the processes involved in health care, guaranteeing more assertive responses, which can be translated into the best offer to the user[5].

The objective was to demonstrate the use of quality and safety management indicators for fall risk in a clinical ward of a university hospital.

Methodology

This study is part of a research project called "Development of Health Management Tools and Indicators in a Clinical Ward of a University Hospital" authorized by the Research Ethics Committee under number CAAE: 61798022.8.0000.5259 and Opinion Number: 5,590. 032 of August 18, 2022; as determined by Resolution No. 466/2012 of the National Health Council.

It is an epidemiological study of a descriptive nature, whose approach is to present the use and results of quality management tools in the hospital environment.

The setting is a clinical ward of a tertiary care hospital located in the capital of the state of Rio de Janeiro. This hospital unit is maintained by the State manager and currently has more than 500 beds in operation, and the unit where the study took place is a clinical ward that has 12 (twelve) beds in operation distributed in six male and female beds, with clientele users over 18 years old.

The Nursing team in this sector is made up of 34 Nursing professionals and one administrative professional, including four nurses, four resident nurses, and 26 nursing technicians, in addition to a fluctuating population of students training in the practical field as nursing students and interns. mid-level.

The present study followed the flow described below, starting from the PDCA model after the occurrence of a fall event in the unit, in which: P = Planning (establishment of goals and definition of methods); Do = Do training (practical skill); collect data (support for the next phase); C = Check (Verification of results concerning goals); A = Act (Act: Goal achieved - standardize the method; Goal not achieved - act correctively and return to phase P).

Figure 1. PDCA flowchart developed. Rio de Janeiro, RJ, Brazil, 2023

The construction of the indicators was developed based on the strategy designed by Vituri[6], whose fall risk indicator includes the analysis of 5 (five) important items, namely: elderly people (over 60 years old), immediate post-

operative period, mental and psychiatric disorders or change in level of consciousness, children under eight years of age and patients with a Morse score greater than or equal to 50, the patient in this condition must remain in bed with a raised side rail, unless in the presence of a companion and identified with a bracelet Yellow. The following ratio was applied to construct the sectoral indicator for fall risk: adequate when 100% of the items are achieved, partially achieved in 50%, and inadequate when they are not. Data collection to construct the indicators took place over 14 days alternating between day and night shifts, carried out by two research team members using their instruments, and collected in April 2023.

Data analyses were carried out in the cloud-enabled Microsoft Excel program, whose data were presented in bar graphs with an exponential trend line for the general average. Data from the online training were collected in an electronic questionnaire in the pre-test format, and an online game on the Kahoot platform in the post-test format. For both, the percentage of correct answers was adopted. The virtual environment used was the Padlet platform (https://padlet.com/CONGRESSOHUPE/capacita-o-protocolo-de-queda-projeto-protec-uerj-2t4f0xp94k70b7pw), where used and support material was made available. All participants in this research project agreed to participate voluntarily and signed the Free and Informed Consent Form made available.

Results and Discussion

The total audience that participated in this PDCA training cycle on fall risk was 43 (forty-three participants) of which: four nurses, two resident nurses, one nursing student, 21 (twenty-one) nursing technicians, and 15 (fifteen) mid-level nursing interns; a number that goes beyond the fixed number of nursing professionals in the unit. In Brazil, according to data from the Federal Nursing Council, the total number of professionals is 2.8 million professional records, with approximately 25% nurses, 65% nursing technicians in the country and, in this study, the total number of participating nurses is 13.95% (n=9) and 48.83%(n=21) of nursing technicians as permanent staff of the unit, and 37.22% (n=13) of floating staff of students[6].

In the strategy used, the online training flow occurred in the following order: a teaser from a nurse in the sector inviting participation in the training, an identification questionnaire, a pre-test form, the training itself, a game with a questionnaire post-test and a box for comments and evaluation by participants. The questions presented in both the pre-test and post-test were identical and covered key points in the process of preventing the risk of falls within the hospital institution, including indication for the fall protocol, fall risk factors, name of the fall risk scale, recording the correct tour mode and the color of the fall risk bracelet. It was expected that everyone who signed the virtual training attendance list would take the tests, however, there was a loss rate in this follow-up of 4.9%, being answered by a total of 39 participants in the pre-test, and 33 participants in the post-test. test game format configuring a loss of 19.51%. We chose to gamify the post-test on the Kahoot platform in the assigned mode within the developed virtual environment. The concept was to bring more agility, a more playful dynamic, and an active methodology to this set of actions. The results of questions and gains in grasping the content are presented in the chart below.

Chart 1. Answers to the pre and post-test. Rio de Janeiro, RJ, Brazil, 2023

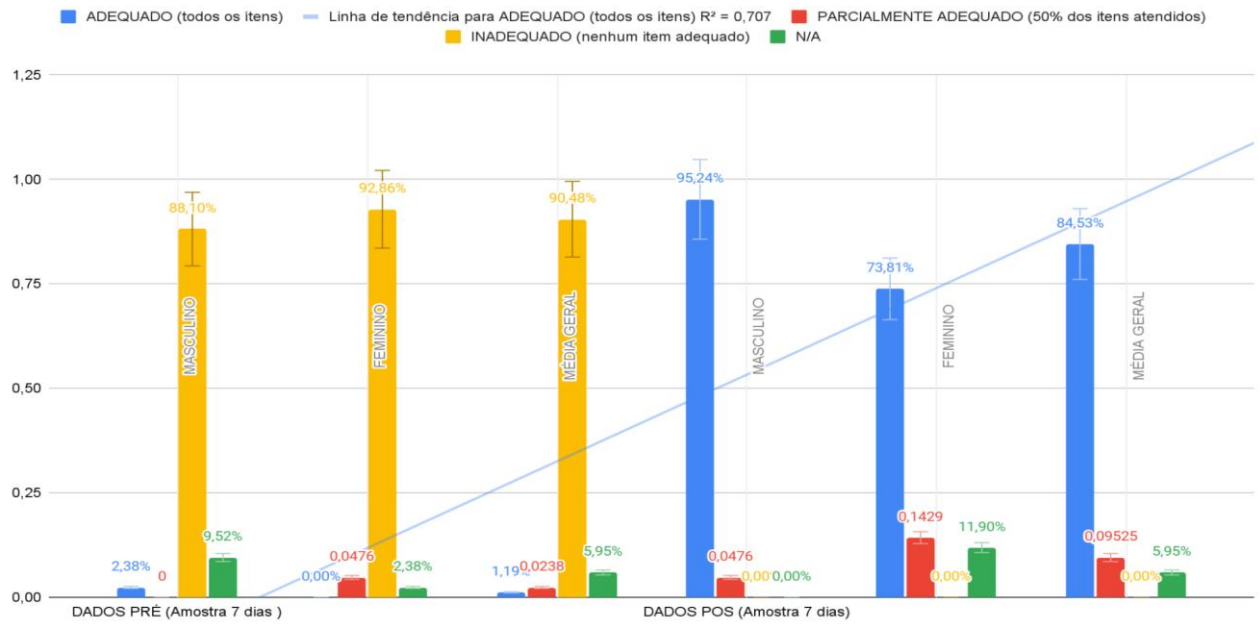
Data Training Fall risk	Questions presented in the pre and post test	Assertiveness Percentage Pre-test	Assertiveness Percentage Post-test
1	Indication for the use of the FALL PROTOCOL?	77%	76%
2	Risk factors for falls?	79%	77%
3	Name of the FALL RISK SCALE?	100%	100%
4	Regarding the image below, is it correct for patients at high risk of falling?	90%	94%
5	What color is the bracelet for FALL RISK?	90%	100%
6	Mean assertiveness to the questionnaire	87%	89%

There is great prior knowledge about the fall risk protocol observed in the 87% assertiveness of the pre-test, the fact that the institution has adopted this patient safety device for some time, and it is possible to associate it with the leadership model in loco that empowers the entire group to adhere to this strategy. The increase in average assertiveness in the questions evaluated was modest, only 2% in this study, which may be correlated to the use of this new format in the post-test game, where the loss of participants was greater.

Monitoring of the indicator for identifying the risk of falling in patients was based on analysis of the following factors: elderly people (over 60 years old), immediate postoperative period, mental and psychiatric disorders, or changes in the level of consciousness, children under eight years old and patients with a Morse score greater than or equal to 50. The patient in this condition must remain in bed with a raised side rail, unless in the presence of a companion and identified with a yellow bracelet for 14 days with data collection carried out by two different professionals in different shifts using their own instrument. The pre-training

collection took place between April 16, 2023, and April 31, and between May 10 and 25, 2023 for the post-training period. For both, seven samples were totaled across both work shifts. When constructing the indicator, the following nomenclature was used for data analysis: adequate with 100% of the items met, partially adequate with 50% of the items, and inadequate when there was no item met, we still have the unobserved when the bed was vacant or when it is not possible to apply the scale items.

Graph 1. Fall risk identification indicator - pre- and post-virtual training. Rio de Janeiro, RJ, Brazil, 2023



In Graph 1 above, it can be seen that before the virtual training, the sample of the aforementioned indicator was significantly high for the inadequacy of fall risk identification factors, on average 90.48% of beds had this condition, after sensitization via online training, and followed by monitoring, there was a drastic and relatively important change for 84.56% of beds and patients identified appropriately, therefore it is possible to associate an inference between the use of the virtual training tool and the improvements observed in this indicator, demonstrated by the linear trend line R^2 equal 0.707.

It is worth remembering that the unit where this study was carried out is a clinical ward and has 12 (twelve) beds in operation distributed in male and female beds, with users over 18 years old as its clientele. In the first two months of 2023, this hospital unit had some 1,336 patients/day/year accumulated in the period, therefore having an average of 5.11 patients/day for both wards and an occupancy rate of 92.54%, which suggests the impact of this improvement action on the quality of nursing care applied to users.

Conclusion

The prevention and reduction of risk factors are challenges in the management of nursing care in the broad health ecosystem. Detecting aggravating factors, stratifying prevention strategies, and developing and implementing action plans are part of a set of actions to deliver safer and more effective care[1-5].

In this sense, continuous improvement processes contribute to managers, professionals, users, and the community to achieve the best outcome: the absence of risks and/or health problems.

From an institutional point of view, whether on the macro side, based on the guidelines of the World Health Organization, as one of the guidelines of the sustainable development goals (SDGs), or from the Ministry of Health, which lists the risk of falls and injuries such as the sixth goal of its national security policy guiding national actions on the topic; up to the middle leadership manager who is providing bedside assistance, patient safety must be implemented as part of a list of quality practices.

"Quality as a right" must be implemented by associating accessible technological resources and tools that can measure and quantify objectives aligned with institutional practices in the final chain of health and nursing care[11].

With the data obtained in this PDCA model, the study developed aims to be functional for the designed goal, and because of this, it is desired to monitor this indicator regularly and consistently, configuring a cyclical health education action. In this model, participatory and empowering local leadership plays a preponderant role in its achievement[12].

The applicability of the strategies developed in this study is something that can be seen since the resources used are available to nurse leaders and/or managers in an accessible way. The sustainability of a management tool such as PDCA is one of the goals of the study that is still under development. New data are expected to contribute to the development of data and scientific production in Nursing in the spectrum of patient safety.

Financing

This study is part of the research project entitled "Development of Health Management Tools and Indicators in a Clinical Ward of a University Hospital" and is funded by Notice No. 01/2022 of PROTEC/UERJ - Incentive Program for Technical- Administrative at UERJ.

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