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The assistant nurses' perspective facing the implementation of the Lean program in hospital emergencies

ABSTRACT | Objective: analyze the impact on the implementation of the Lean Program, on the perspective of assistant nurses. Method: descriptive, exploratory, retrospective, and documental study, of qualitative approach, with assistant nurses from a Teaching Hospital. The data was collected by semi structured interviews, in the year 2019. Content Analysis was used in the Thematic modality. Results: Problems such as the increase of working hours and incipient staff sizing were evidenced. The nursing staff, during the assistance faces limitations when it is related to the inadequate sizing and insufficient qualitative of professionals and material resources available, making it an exhausting work. Conclusion: the study has shown the necessity of adequate nursing staff sizing as well as prediction and provision of medical and hospital materials for good quality assistance, seeking to add value to the patient as well as their satisfaction with the care provided at the institution.

Keywords: Quality management; Bed Occupancy; Nursing; Qualitative; Assistance.

RESUMEN | Objetivo: analizar el impacto en la implementación del Proyecto Lean, desde la perspectiva de los enfermeros clínicos. Método: estudio descriptivo, exploratorio, retrospectivo, documental, con abordaje cualitativo, con enfermeros clínicos que en un Hospital Docente. Los datos fueron recolectados a través de entrevistas semiestructuradas, en el año 2019. Se utilizó Análisis de Contenido en la modalidad Temática. Resultados: Se evidenciaron problemas como aumento de la carga de trabajo y dimensionamiento del personal incipiente. El equipo de enfermería, durante la atención, se enfrenta a limitaciones en cuanto a dimensionamiento inadecuado y cantidad insuficiente de profesionales y recursos materiales disponibles, lo que hace que el trabajo sea agotador. Conclusión: El estudio mostró la necesidad de un adecuado dimensionamiento del personal de enfermería, así como la previsión y provisión de materiales médico-hospitalarios para una atención de calidad, buscando agregar valor al paciente, así como su satisfacción con la atención en la institución.

Palabras claves: Gestión de la Calidad; Ocupación de la cama; Enfermería; Cualitativo; Asistencia.

RESUMO | Objetivo: analisar o impacto na implantação do Projeto Lean, sob ótica de enfermeiros assistenciais. Método: estudo descritivo, exploratório, retrospectivo, documental, de abordagem qualitativa, com enfermeiros assistenciais lotados em um Hospital de Ensino. Os dados foram coletados por meio de entrevista semiestructurada, no ano de 2019. Utilizou-se Análise de Conteúdo na modalidade Temática. Resultados: Evidenciaram-se problemas como aumento da carga de trabalho e dimensionamento de pessoal incipiente. A equipe de enfermagem, durante a realização da assistência enfrenta limitações quando se refere ao dimensionamento inadequado e quantitativo insuficiente de profissionais e recursos materiais disponíveis, tornando o trabalho desgastante. Conclusão: O estudo mostrou a necessidade de dimensionamento de pessoal de enfermagem adequado bem como previsão e provisão de materiais médico-hospitalares para uma assistência de qualidade, buscando agregar valor ao paciente bem como sua satisfação com o atendimento na Instituição.

Palavras-chaves: Gestão da Qualidade; Ocupação de Leitos; Enfermagem; Qualitativa; Assistência.

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INTRODUCTION

Health services must have as a premise meeting the needs and expectations of their customers, ensuring quality care. Quality in the health sector is a matter of concern for service managers, and it is important that the operationalization takes place through systematic tools and techniques, so that the management process creates, from a rational and quality way, decisions with a view to continuous improvement of processes and products, that is, of assistance.¹

Thus, the Lean Production (PE)

methodology arises, which is defined as a production management system, aiming to totally eliminate the losses that consist of activities that consume resources, generate costs and do not add value to the product, being also considered a strategy of management that can be applied to services, as its principles would end up improving the processes of organizations.²

Lean, on the other hand, originated from the Toyota Production System, after World War II, with the main objective of reducing waste, challenging the traditionalism of production practices, leading operations managers to explore beyond the established dimensions, such as cost and the quality.³ From the 2000s onwards, healthcare organizations began to seek to adapt Lean concepts to their reality, becoming known as Lean healthcare.⁴

For Donabedian, quality assessment was based on three components: structure, process and result. These three types of information can only be used if there is a causal relationship between them: the structure supports the process execution and the process is executed to generate results. The structure reflects physical, human and material resources, forms of organization and functioning, among others. The process is defined by the activities performed by care providers, both diagnostic and therapeutic and rehabilitation, and its assessment presents measurement difficulties. And, the result corresponds to the impact of actions and procedures on the health status and care of patients.^{5,6}

The National Policy on Hospital Care defines and recommends the creation of the Internal Regulation Nucleus (NIR - Núcleo Interno de Regulação), which consists of a Technical-Administrative Unit, which monitors the patient from their arrival at the institution, during the hospitalization process and their internal movement



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and external until hospital discharge. After the implementation of the NIR, it is important to standardize the flow of patients in the hospital, with the verification of processes efficiently and correctly, through indicators.⁷

Process indicators aim to measure patient flow times through the hospital structure and units, during the entire period in which the patient is in the Hospital Unit. Among them, the time for effective hospitalization; time between the request for admission to the Emergency Unit, until the patient's arrival at the Inpatient Unit.⁷ The Outcome Indicators show the real effect of the interventions triggered by the NIR, reflecting on the hospital's overall functioning.⁷

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In this sense, the question is: the impact on the implementation of the Lean Project, from the perspective of clinical nurses. To answer this question, the objective was to analyze the impact on the implementation of the Lean Project, from the perspective of clinical nurses working in a Teaching Hospital.

METHOD

This is a descriptive, exploratory, retrospective, documentary study, with a qualitative approach, carried out in a Public Teaching Hospital located in the city of Cascavel, west of Paraná.

The aforementioned Hospital serves exclusively by the Unified Health System, being a reference for numerous specialties, including trauma, serving patients of medium and high complexity. It has 238 beds, subdivided into specialties, including Emer-

gency Room/Emergency Room, Intensive Care Units and Infirmaries.

The study was carried out in Inpatient Units of adult patients, namely, Medical and Surgical Clinic, Orthopedics and Neurology, Gynecology and Vascular and Emergency Room, which has observation beds.

The implementation of the Lean Project in Emergencies in that hospital took place in February 2019, at the request of the Emergency Room Nursing coordination, aiming at reducing overcrowding, as well as increasing the turnover of patients admitted to the Unit.

Data collection took place in September and October 2019, collected through semi-structured interviews, carried out with nurses working in the three work shifts. The sample was defined according to the following eligibility criteria: being professionals with public examinations or coming from the selection process, who worked in the aforementioned Units prior to the Lean implementation period. As exclusion criteria, the following were considered: absences for any reason at the time of data collection (vacation, sick leave, maternity leave), three unsuccessful contact attempts, and professionals who have started work in the Units after the implementation of Lean.

Thus, eleven nurses working in the sectors were selected, of which seven were effectively interviewed and the others composed the exclusion criteria.

Participants were approached at the workplace and invited to participate in the research, data collection occurred after reading and signing the Informed Consent Form (FICF). Research participants were identified with the letter E1, E2 and so on in order to preserve the identification.

Data collection took place in two stages, the first consisted of filling out the form containing socio-demographic data of the participants, such as: gender; age; working time at the unit;

type of employment relationship and if you have another employment relationship. The second moment took place through a semi-structured interview containing six discursive questions about the implementation of Lean, seeking to assess its impact on the Inpatient Units, with data collection being carried out by the researcher.

All content obtained was transcribed in full using Microsoft Office Word 2010 software. Afterwards, the material was submitted to Content Analysis, thematic modality, respecting the pre-analysis steps; exploration of the material; and data treatment, Bardin's methodological framework.¹⁰

The categorization of the data, a phase that comprises the treatment of the same in order to organize and systematize the results, proceeded according to the semantic criterion of the content, that is, the statements/speech/excerpts/verbatim were arranged according to themes and/or sub-themes that have similar meanings.¹⁰

The research is part of a larger research project entitled "Construction of care and management indicators for the Nursing Service at the University Hospital of Western Paraná/HUOP", approved by the Ethics Committee, with opinion nº 3.323.244 of May 13th, 2019.

RESULTS

There were seven (7) nurses, of which six (6) (85,7%) were female, aged between 26 and 45 years, with a minimum working time of one year and a maximum of 15 years. As a result of the first question: What impact has this project had on assistance in the sector it operates? We highlight themes that involve the Structure component: Insufficient Human Resources and Materials.

A large part of the interviewees affirm that there was an increase in the workload when compared before the

implementation of the NP, as we observed in the speeches of E1, E2, E3.

E1: "[...] There is a lot of demand to reduce waste and the hospitalization time of patients, seeking to solve problems, but the number of employees is the same".

E2: "[...] but it is not better assisted because the number of employees is still small for the demand and increased flow of patients."

E3: "overload on the teams. [...] We have more complex patients, with the same nursing scale".

When asked about the changes that occurred in relation to their work and whether this change was related to nursing care, we highlighted in the speeches of the participants themes that involve the Process component: Impact on Nursing Care.

Some positive aspects were reported according to the speeches, in which it appears that despite the difficulties encountered, the NP brought improvements such as greater bed turnover, a reduction in patients hospitalized in the Emergency Room and a greater number of patients cared for at the institution.

E4: "Turnover greater than before the project, beds were less idle."

E6: "Agility in the transfers of patients from the ER; Increase in the number of patients seen [...]."

E7: "The service has become more efficient, patients spend less time in the emergency room."

However, some respondents report that the quality of care provided has deteriorated as observed in the following reports;

E3: "[...] the increase in the flow and turnover of patients directly impacted the care provided, resulting in losses, with an increase in the complexity of care."

E5: "I believe that in the ER, care has improved, but in the wards the demand has become very intense and sometimes inadequate to the needs of some patients."

We asked the participants to talk about the strengths and weaknesses that the project brought in relation to assistance and teamwork. We highlight the third moment of Donabedian's Triad, themes related to the Result: Decrease in the length of stay of the patient; faster service with better quality assistance; Union between sectors; Time optimization.

According to the subjects' statements, they believe that improvements were triggered from the implementation of the Lean methodology in the work process.

E1: "[...] As it aims to reduce costs and increase productivity, it has a great impact on our work process. [...] There was an improvement in the solution of some problems."

E2: "It's interesting because it reduces the patient's length of stay in the Emergency Room, it's more comfortable in the Ward [...]."

E3: "Increase in hospitalizations, optimizes time, reduces costs, minimizes discharge time, reduces waiting for a vacancy in the emergency."

E4: "Agility in the admission of patients, in the distribution of beds."

E6: "Shorter patient care time; faster service."



Regarding the increase in workload reported by research participants with the implementation of the Lean project, the nursing team during the delivery of care faces limitations when it comes to inadequate and sometimes insufficient sizing of professionals and material resources available, making the work exhausting.



E7: "Work in an organized, agile and simple way [...]".

As noted in the speeches, professionals believe that the project has numerous flaws that need to be improved by the hospital administration in order to provide better patient care, as well as improvements in terms of staff, material and physical resources.

E3: "It disregards the units in the institution that work directly for the project to be successful (infirmaries). Not considering that care needs to be improved and considered in all instances of care in the institution."

E4: "Increased workload for a short time."

E5: "Lack of human resources, equipment, monitors, fans."

E6: "Lack of adhesion of some servers; lack of forecast of medical and hospital materials, human resources in nursing, support staff, laundry..."

DISCUSSION

Regarding the increase in workload reported by research participants with the implementation of the Lean project, the nursing team during the delivery of care faces limitations when it comes to inadequate and sometimes insufficient sizing of professionals and material resources available, making the work exhausting.¹¹

Part of the care actions are coordinated by the nursing staff, who are the main actors in reducing possible incidents that may affect the patient, in addition to detecting complications early and minimizing damage through necessary conduct.¹² Thus, it is extremely important to manage human resources, seeking to provide quality care, minimizing errors and events that may affect the patient. The dimensioning of human resources is the respon-

sibility of the nurse and is a managerial activity.^{13, 14}

As for the higher turnover of beds, this was possible after the implementation of the NIR, which makes beds available and speeds up the transfer of patients from the Emergency Room to the Infirmery, seeking better care and installation, thus, there is a reorganization of work through management techniques.¹⁵

The high workload of the nursing team associated with the insufficient number of professionals is capable of compromising the quality of care, which may contribute to the risk of death in the nurse-to-patient ratio, increased number of adverse events such as pressure injuries and falls, errors in medication administration, hospital infections and length of stay in hospital.¹³

It can be seen in the speeches that, despite the difficulties encountered, the project brings benefits to patients, it is necessary to create means to standardize and simplify care processes, such as the flow of patients. In the

context of the studied hospital, this benefits the patient, making him or her less hospitalized in an inadequate environment, without comfort for being accommodated on stretchers, improving the prognosis, reducing hospitalization time and increasing bed turnover.¹⁵ Planning care, coordinating the actions of the nursing team, meeting the perspectives of the institution and patients in relation to care, among others, are activities performed by nurses.¹⁶

The Lean methodology is anchored in valuing and respecting people, professional qualification of those directly involved in the care process, optimizing the quality of care and patient safety.⁶ The nurse, according to the Lean philosophy, is able to improve the management of hospital services.¹²

CONCLUSION

We conclude with this study that quality management and Lean go together towards the quality of care provi-

ded to patients attended by the institution. However, some changes are still needed for better adaptation, not just in the sector where Lean was instituted, in this case in Emergencies. Inpatient sectors, wards, end up suffering the impact of a higher turnover of patients, increased length of stay, inadequate care due to lack of staff dimensioning and management of materials and medical-hospital equipment.

There is currently a need for quality care, with a lower incidence of adverse events, seeking patient safety, who are more interested in recovering from their disease state, converging to an increase in the degree of satisfaction of users of the public health system.

Thus, a new study is suggested, seeking to compare the dimension of nursing staff with the level of complexity of the patient cared for in the wards after the implementation of Lean in Emergencies, which information is palpable for the Hospital Directions in search of hiring professionals to improve the quality of service. 🌱

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