Nasoenteric feeding discharge planning for cancer patients in a Brazilian teaching hospital: a best practice implementation project

Vanessa de Brito Poveda[1,3] • Adriana Marques da Silva[2] • Aline Cordeiro Toyama[2] • Jomana Andrade da Silva[2] • Gilcéria Tochika Shimoda[1,3] • Vilanice Alves de Araújo Püschel[1,3]

[1]School of Nursing, University of São Paulo, São Paolo, Brazil, [2]São Paulo Institute of Cancer Octavio Frias de Oliveira, São Paulo, Brazil., and [3]The Brazilian Centre for Evidence-based Healthcare: a Joanna Briggs Institute Centre of Excellence

ABSTRACT

Objectives: The objective of this project was to improve local practice in nasoenteric feeding discharge planning for cancer patients in a cancer teaching hospital in São Paulo, Brazil.

Introduction: Nasoenteric tubes are commonly used for enteral nutrition in patients with cancer for over seven days during their recovery and this may be continued at home, with clear benefits.

Results: Baseline audit results indicated poor compliance (between 0% and 22%) with the current evidence, although good compliance (100%) was observed for three audit criteria. Implementation of the strategies, including changes to achieve higher participation of caregivers, resulted in an improvement of the audited criteria (100% compliance was maintained for three criteria, compliance increased from 22% to 67% for a further three criteria, with 0% compliance for one criterion).

Conclusions: Despite the short time frame of this study, an increase in compliance with best practices proposed by the Joanna Briggs Institute was observed. Implementing a multidisciplinary meeting before patient discharge remains a challenge.

Keywords enteral nutrition; gastrointestinal; intubation; nursing; patient discharge

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Introduction

Patients with cancer experience a range of symptoms related to both the disease and treatment, including xerostomia, oral ulceration, nausea, vomiting and pain to the extent that nutrition derived from oral intake is inadequate to support their activities of daily life. This results in malnutrition, accentuated weight loss, impaired physical performance and systemic inflammation, which is reflected in poor quality of life, reduced response to treatment and worsening prognosis.[1,2]

Nasoenteric tubes are commonly used to provide enteral nutrition to patients with cancer, particularly in cases of head, neck and gastrointestinal neoplasms. There are clear advantages of enteral feeding by nasogastric tubes over parenteral feeding in patients with a functional gastrointestinal tract, including reduced complications, such as infection, and lower costs.[1]

Patients are frequently dependent on nasoenteric feeding for over seven days during their recovery and this may be continued at home, with clear benefits, such as reduced costs of healthcare by shortening the duration of hospitalization, reintegration of the patient in family life, and greater quality of life.[2]

A recent clinical trial evaluating the impact of Home Enteral Nutrition (HEN) or nutritional counselling among patients with gastrointestinal cancer after major surgery noticed that patients in the HEN group maintained their body weight better than those receiving counseling.[3] In addition to the clinical aspects, HEN has been associated with greater quality of life among patients with cancer.[4]

Correspondence: Vanessa de Brito Poveda, vbpoveda@usp.br

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Nurses perform the insertion and management of the nasoenteric tube. However, at home, the success of HEN depends on the standard of education received by patients and/or carers during hospitalization, which is necessary in order to avoid potential complications, such as tube removal requiring reinsertion, dislodgment or poor provision of nutrients, which are the cause of considerable distress and worsening of the prognosis.[5]

A recent qualitative study analyzing 30 caregivers of older patients treated with HEN identified the challenges and adaptations required to assist these patients, highlighting the anxiety experienced by caregivers due to the responsibility of delivering therapy, the need for improved training and gradual delivery of training, and the need for clinical follow-up and psychological support.[6]

Planning for discharge should begin at the time of admission of the patient and involve patients and their caregivers, providing a seamless multidisciplinary service in order to avoid unnecessary hospital readmissions.[7]

In accordance with these recommendations and the findings of a number of studies,[8-11] the Joanna Briggs Institute (JBI)[10] suggests that the process of adaptation to the new therapy for patients and carers should be progressive, starting with hospitalization. The Joanna Briggs Institute supports the development of an extensive educational plan, including written material, providing regular review and monitoring of patients and carers.

The Commission of Teaching and Research School of Nursing, São Paulo Institute of Cancer Octavio Frias de Oliveira (CENEPE), is a partnership between the School of Nursing at the University of São Paulo and the São Paulo Institute of Cancer Octavio Frias de Oliveira (ICESP). This Commission has discussed different aspects of combining science and care.

As a result of our collective work, the Commission has agreed to offer a multidisciplinary specialization course in oncology. The scientific projects developed during the specialization course are related to problems faced by multidisciplinary teams involved with the care of patients with cancer. The issue of maintenance of nasogastric tubes after hospital discharge, which involves, in particular, nutritionists and nurses, has emerged as an area of concern even after the implementation of the multidisciplinary educational program on nasoenteric feeding discharge planning. Consequently, we developed a proposal for a best practice implementation project in order to establish the weaknesses and strengths of the multidisciplinary educational program and to increase compliance with the best practice recommendations proposed by JBI.

The nasoenteric feeding best practice recommendations of JBI are as follows:[12]

- Discharge planning for a patient who will continue to require enteral feeding at home should be initiated by the multidisciplinary healthcare team from the outset of admission (GRADE B).
- Patients and/or their carers should receive adequate training on the use and care of enteral feeding device prior to discharge (GRADE B).
- Patients and/or their carers should be provided with written information about the feeding regimen, pump instructions, dislodged tube information and relevant contact numbers prior to discharge (GRADE B).
- The healthcare team should have access to a discharge protocol for patients requiring home enteral feeding (GRADE B).
- Patients should have regular follow-up appointments with relevant health practitioners for review of their feeding regimen and tube use/care (GRADE B).

The implementation of this best practice project was conducted at the ICESP, a 499-bed public teaching hospital, founded in 2008. The ICESP specializes in cancer treatment and has 18 operating rooms, 85 intensive care beds, and the capacity for 107 simultaneous administrations of chemotherapy.[13]

Between 2009 and 2013, 29,790 surgical procedures, 225,790 chemotherapy treatments, and 180,056 radiotherapy procedures were performed at the ICESP. The most prevalent neoplasms treated were: gastrointestinal (24%), breast (14%) and those affecting male genital organs (15%).[13]

The ICESP has been evaluated by several quality organizations, receiving in 2014 the quality recognition by the Joint Commission International (JCI) and others awards.[13]

Aims and objectives

The aim of this evidence implementation project was to contribute to the promotion of evidence-based practice in a cancer teaching hospital, thereby improving the nutrition outcomes and resource utilization for cancer patients in need of home-based enteral feeding.

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Through the implementation of evidence-based practice in nasoenteric feeding discharge planning, this project aimed to achieve the following objectives:

- To identify and engage a multidisciplinary team to promote evidence-based practice in a cancer teaching hospital, and assess compliance with best practice in nasoenteric feeding discharge planning to patients with cancer, by conducting a baseline audit using an audit tool developed by the JBI.
- To analyze the results from the baseline audit, and design and implement strategies to address areas of non-compliance with best practice in the nasoenteric feeding discharge protocol for patients with cancer.
- To undertake a follow-up audit, assess the extent and nature of increased compliance with evidence-based best practice, and identify areas and strategies to sustain and enhance care in the delivery of the nasoenteric feeding discharge protocol for patients with cancer.

Methods

This evidence implementation project used the JBI Practical Application of Clinical Evidence System (JBI PACES) and Getting Research into Practice (GRiP) audit and feedback tool. The JBI PACES and GRiP framework for promoting evidence-based healthcare involve three phases of activity:

i. Establishing a team for the project and undertaking a baseline audit based on criteria informed by the evidence.
ii. Reflecting on the results of the baseline audit and designing and implementing strategies to address non-compliance found in the baseline audit informed by the GRiP framework.
iii. Conducting a follow-up audit to assess the outcomes of the interventions implemented to improve practice, and identify future practice issues to be addressed in subsequent audits.

Ethical considerations

The project was approved by the Ethics Committee, School of Nursing, University of Sao Paulo.

Phase 1: Team establishment and baseline audit

The project team was established by the project lead, a Professor at School of Nursing-University of São Paulo and member of a CENEPE, along witha nursing manager, who identified nurses and nutritionists at ICESP interested in the project and able to participate in auditing and education.

The responsibilities of the team leader of the project were to train the nursing staff on the audit process, develop the tools to be used as strategies to increase compliance, collect the data, and supervise the implementation program. The nursing manager, nurse and nutritionist helped with data collection, the training program and supervision of best practice implementation intiatives.

Audit criteria

Based on this, with best practice recommendations, we determined current levels of compliance utilizing the seven audit criteria entered into the JBI PACES program, as follows:

Criterion 1: A multidisciplinary meeting to plan for patient discharge has been held early after admission.

Criterion 2: Prior to discharge, patients and/or their caregivers have received training on how to care for the feeding tube including: checking nasogastric tube position, correct positioning for feeding, flushing the tube and managing dislodged tube.

Criterion 3: Prior to discharge, patients and/or their caregivers have received training on how to administer medications in the tube, setting up the feed and proper storage of feed.

Criterion 4: Prior to discharge, patients and/or their caregivers have received education about infection control and mouth care.

Criterion 5: Patients and/or their caregivers have received written information about the feeding regimen; pump instructions, dislodged tube instructions and relevant contact numbers.

Criterion 6: A discharge protocol that outlines the support and resources required by patients/carers and a system for monitoring or review are available in the ward.

Criterion 7: Prior to discharge, patients and/or their caregivers have received instructions about follow-up appointments with relevant health practitioners.

Setting and patient sample

The São Paulo Institute of Cancer Octavio Frias de Oliveira (ICESP) is a 499-bed public teaching hospital specializing in cancer treatment. The ICESP was accredited by JBI in 2014.

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This study included a convenience sample of hospitalized patients who commenced nasoenteric feeding for the first time or their caregivers. Only subjects with no previous experience of enteral feeding were chosen because this study aimed to evaluate the feeding program but also to assess the quality of the educational information provided to patients and caregivers with no previous experience in nasoenteric tube feeding.

Baseline audit

Following a presentation of this project to the implementation project team and approval of the protocol by the Ethics Committee, a baseline audit was conducted. This was conducted prior to best practice implementation in order to measure current compliance with best practice recommendations in nasoenteric feeding discharge planning.

The baseline audit data were collected between May 18 and May 25 2017 through questionnaires completed by the patients/caregivers (Appendix I) and by the implementation project team using medical charts (Appendix II).

Table 1 shows the evidence-informed audit criteria utilized in the project (for the baseline and follow-up audit) and a description of the sample and approach to measure compliance with best practice for each audit criterion.

It is important to highlight that we utilized different sources of information, such as medical

Table 1: Audit criteria, sample and methods used to measure compliance with best practice

Audit criterion	Sample	Method used to measure % compliance with best practice
1) A multidisciplinary meeting to plan for patient discharge has been held early after admission.	Baseline audit: 9 medical charts of patients or their caregivers Follow-up audit: 9 medical charts of patients or their caregivers	• By checking the medical charts to ascertain if the decisions of multidisciplinary meeting are registered (see Appendix II). • Compliance: If the medical charts were fulfilled we considered the criterion as "YES"
2) Prior to discharge, patients and/or their caregivers have received training on how to care for the feeding tube including: checking nasogastric tube position, correct positioning for feeding, flushing the tube and managing dislodged tube.	Baseline audit: 9 patients or their caregivers Follow-up audit: 9 patients or their caregivers	• By checking if the patient/caregiver received information about checking nasogastric tube position, correct positioning for feeding, flushing the tube and managing dislodged tube and the level of security about this information (see Appendix I). • Compliance: If the patient received information we considered the criterion as "YES"
3) Prior to discharge, patients and/or their caregivers have received training on how to administer medications in the tube, setting up the feed and proper storage of feed.	Baseline audit: 9 patients or their caregivers Follow-up audit: 9 patients or their caregivers	• By checking if the patient/ caregivers received information on how to administer medications in the tube, setting up the feed and proper storage of feed and the level of security about nasoenteric feeding self care (see Appendix I). • Compliance: If the patient received information we considered the criterion as "YES".

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Table 1. (*Continued*)

Audit criterion	Sample	Method used to measure % compliance with best practice
4) Prior to discharge, patients and/or their caregivers have received education about infection control and mouth care	Baseline audit: 9 patients or their caregivers Follow-up audit: 9 patients or their caregivers	• By checking if the patient/carers received information about infection control and mouth care and the level of security about this information (see Appendix I). • Compliance: If the patient received information we rated the criterion as "YES".
5) Patients and/or their caregivers have received written information about the feeding regimens, pump instructions, dislodged tube instructions and relevant contact numbers.	Baseline audit: 9 patients or their caregivers Follow-up audit: 9 patients or their caregivers	• By checking if the patient/caregivers received information about feeding regime, pump instructions, dislodged tube instructions and relevant contact numbers (see Appendices I and II). • Compliance: If the patient received information we rated the criterion as "YES".
6) A discharge protocol that outlines the support and resources required by patients/carers and a system for monitoring or review are available in the ward.	Baseline audit: 1 clinical ward Baseline audit: 1 surgical ward	• By checking if nasoenteral feeding discharge protocol is available on the ward (see Appendix II). • Compliance: If the nasoenteral feeding discharge protocols are available on the ward we rated the criterion as a "YES".
7) Prior to discharge, patients and/or their caregivers have received instructions about follow-up appointments with relevant health practitioners.	Baseline audit: 1 clinical ward Baseline audit: 1 surgical ward	• By checking if the patient/caregivers received information about follow-up appointments with relevant health practitioners (see Appendix I and II). • Compliance: If the patient received information we rated the criterion as "YES".

charts and interviews with patients and caregivers. Additional information was collected through interviews with nurses and nutritionists involved in educational sessions on nasoenteric feeding planning discharge, in order to validate the process. All of the information was evaluated according to compliance or non-compliance with the proposed criteria (Table 1).

Phase 2: Design and implementation of strategies to improve practice (GRiP)

In Phase 2, the results of the baseline audit were presented to the implementation project team, and barriers and proposed strategies to improve compliance were discussed. Stakeholders were engaged in participating in development strategies to increase compliance.

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Table 2: GRIP matrix

Barrier	Strategy	Resources	Outcomes
Administrative barriers: • Ethical approval • Persuading a range of healthcare professionals to take part in the implementation project.	Multidisciplinary meetings explaining the goals of the implementation project and the required authorization.	Multimedia equipment Computers	Ethical committee approval and support by key administrative persons.
Poor quality of medical records regarding nasoenteric feeding information being provided to patients.	Presentation of baseline audit results and discussion of different strategies to improve the results.	Educational sessions with nutritionists and nursing managers.	Improvement in the completion of medical charts.
Limited enrolment of patients/caregivers for training sessions.	Increasing the range of patients/caregivers involved.	Nutritionists, nurses and managers invited to participate.	Improvement in caregiver participation in training.

The GRiP approach was utilized to document barriers and strategies to improve compliance and identify the resources required to overcome these barriers in order to improve compliance. The GRiP strategies are presented in Table 2.

Phase 3: Follow-up audit post implementation of change strategy

The post implementation audit was conducted between September 22 and September 29 2017, following the GRiP framework, in the same way as the baseline audit. The same team collecting the baseline data also collected the follow-up audit data.

Results

Phase 1: Baseline audit

A model of discharge training, which included home enteral feeding, was already available to patients and caregivers at the hospital in which the implementation project was conducted.

Training was provided to the caregivers of patients on nasoenteric feeding once a week. The teaching activities were developed by a nurse and nutritionist, and addressed theoretical aspects and practical experience in a simulation environment. After the training, the caregivers received an information sheet covering the following: the use and care of the enteral feeding device, alimentation and warnings signs.

Nurses and nutritionists at the clinics (bedside), following the same content of the above-mentioned information sheet, offered teaching activities to patients with preserved cognitive abilities.

The baseline audit revealed that enteral feeding was used in 35 hospitalized patients and nine of these (26%) started nasoenteric tube feeding for the first time. Only two (22%) caregivers had received training.

Figure 1 shows that there was poor compliance across four criteria. While a multidisciplinary discussion on a range of health issues specific to each patient had been conducted, no regular meetings were held to plan home enteral nutrition, leading to a very poor compliance outcome. The criteria 2, 3, and 4, concerning the training offered, showed poor compliance with training by caregivers.

It is important to highlight that the caregivers who participated in the training felt very confident or confident in their abilities to take care of nasoenteric tube feeding at home, and reported a very positive experience.

Phase 2: Strategies for Getting Research into Practice

The results of the baseline audit were presented to the implementation project team, and barriers and proposed strategies for improving compliance were

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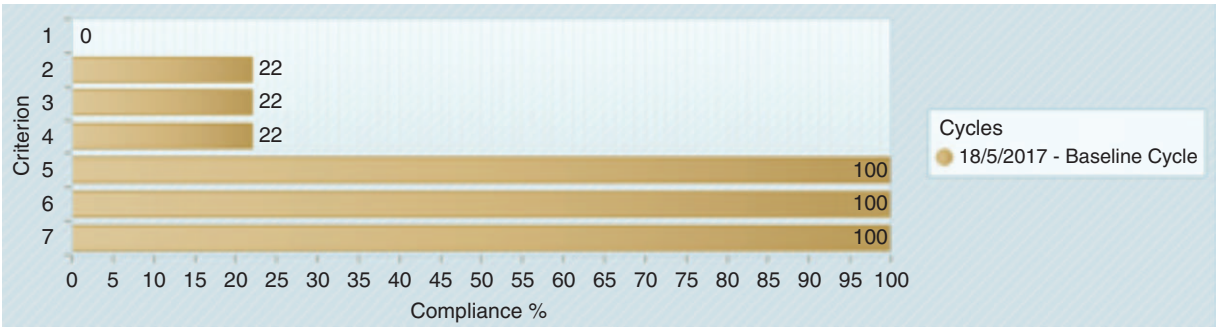

Criteria Legend
1. A multidisciplinary meeting to plan for patient discharge has been held early after admission. (9 of 9 samples taken).
2. Prior to discharge, patients and/or their carers have received training on how to care for the feeding tube including: checking nasogastric tube position, correct positioning for feeding, flushing the tube, and managing dislodged tube. (9 of 9 samples taken).
3. Prior to discharge, patients and/or their carers have received training on how to administer medicat ions in the tube, setting up the feed and proper storage of feed. (9 of 9 samples taken).
4. Prior to discharge, patients and/or their carers have received education about infection control and mouth care. (9 of 9 samples taken).
5. Patients and/or their carers have received written information about the feeding regimen, pump instructions, dislodged tube instructions and relevant contact numbers. (9 of 9 samples taken).
6. A discharge protocol that outlines the support and resources required by patients/carers and a system for monitoring or review are available in the ward. (9 of 9 samples taken).
7. Prior to discharge, patients and/or their carers have received instructions about follow-up appointments with relevant health practitioners. (9 of 9 samples taken).

Figure 1: Compliance with best practice to nasoenteric feeding discharge planning audit criteria in baseline audit (%)

discussed. Stakeholders were engaged to participate in the development of strategies to increase compliance.

Several barriers were identified during the implementation project. The first related to administrative hindrances, and many months were required to overcome these, with considerable delay to the implementation project schedule (Table 2).

From an administrative perspective, there were difficulties with the categorization of this implementation project as it was perceived as a research project. Following extensive discussions, the requirement for ethical approval (as a research project) was upheld.

We subsequently realized that the educational sessions required considerable investment of time by professionals, particularly those focusing on caregiver training and poor attendance, as the caregivers/patients were unaware of the existence of training, hence these sessions resulted in poor compliance with several criteria (Table 2).

A further obstacle concerned the failure to complete the medical charts in relation to the orientation provided to the patients and caregivers, despite the use of electronic medical records in the hospital, requiring only a minimum of information on the training program to be completed (Table 2).

The main barriers, strategies, resources and outcomes identified are presented in Table 2.

The implementation project team and the stakeholders discussed these issues, and some suggestions were made, such as developing strategies to expand the participation of caregivers on training offered, as well as reinforcing the need for good record keeping in the medical charts (Table 2).

Phase 3: Follow-up audit

During Phase 3, the follow-up audit, 40 patients were using enteric feeding during the data collection, and only nine (23%) met the inclusion criteria of first-time nasoenteric feeding tube. Figure 2 shows the percentage of patients or caregivers submitted to training of home enteral nutrition.

The multidisciplinary discussions, including those on nasoenteric feeding, were either not reported in the medical records or not conducted. It is important to highlight that the strategy to improve caregiver enrolment on the training program resulted in a 45% increase in compliance for criteria 2, 3, and 4 (22% to 67%). The high compliance for criteria 5, 6, and 7 was sustained (Figure 2).

However, despite the commitment of the multidisciplinary team, excessive work precluded the inclusion of a multidisciplinary team discussion on the discharge of patients with nasoenteric feeding. Achieving criterion 1 required significant administrative changes to the functions and roles of members of staff, which were not feasible within the project timeframe. Therefore, improvements in compliance for criterion 1 could not be achieved at the first follow-up (Figure 2).

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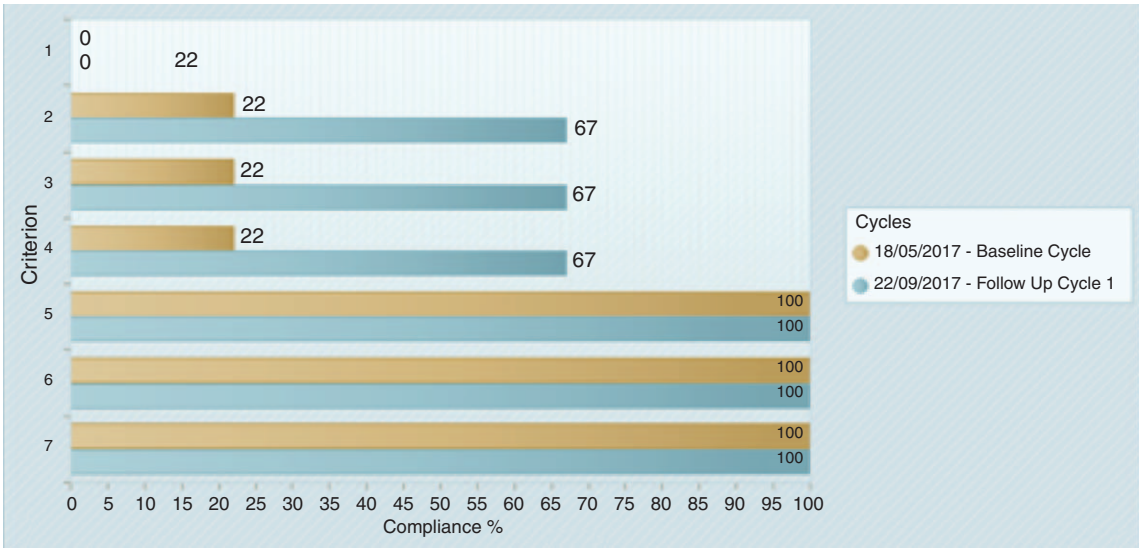

Criteria Legend

1. A multidisciplinary meeting to plan for patient discharge has been held early after admission. (9 of 9 samples taken).
2. Prior to discharge, patients and/or their carers have received training on how to care for the feeding tube including: checking nasogastric tube position, correct positioning for feeding, flushing the tube, and managing dislodged tube. (9 of 9 samples taken).
3. Prior to discharge, patients and/or their carers have received training on how to administer medications in the tube, setting up the feed and proper storage of feed. (9 of 9 samples taken).
4. Prior to discharge, patients and/or their carers have received education about infection control and mouth care. (9 of 9 samples taken).
5. Patients and/or their carers have received written information about the feeding regimen, pump instructions, dislodged tube instructions and relevant contact numbers. (9 of 9 samples taken).
6. A discharge protocol that outlines the support and resources required by patients/carers and a system for monitoring or review are available in the ward. (9 of 9 samples taken).
7. Prior to discharge, patients and/or their carers have received instructions about follow-up appointments with relevant health practitioners. (9 of 9 samples taken).

Figure 2: Compliance with best practice to nasoenteric feeding discharge planning audit criteria in follow-up audit compared to baseline audit (%)

During the follow-up audit, nine (100%) subjects received training. Of these, only two (22%) were patients and received training at the bedside, while seven (78%) were caregivers. It is important to note that the caregivers felt more confident about their abilities to take care of nasoenteric feeding than the patients. Unlike caregivers, it appeared that the patients did not recognize bedside training as a formal preparation for discharge with nasoenteric feeding.

All of the results identified during the implementation project were shared with the hospital managers, and a collective analysis of the findings was conducted to plan the next stage to achieve greater compliance for those criteria that did not achieve the anticipated results.

Discussion

This project examined current practices in nasoenteric feeding discharge using an audit, intervention and post-implementation audit cycle based on evidence-based practice. Baseline data were collected and barriers, actions and resources were identified utilizing the JBI PACES and GRiP tools.

Although several items reached the highest level of adherence, the results of this implementation project show that a good teaching program was available in the hospital, with a very stable process of implementation. However, our findings also indicate that areas related to training could be improved by increasing the participation of caregivers, investing more time in bedside training, developing the training capabilities of nurses and nutritionists in delivering educational sessions to patients and reviewing the training process.

It is important to note that adherence to one criterion (''a multidisciplinary meeting to plan for patient discharge has been held early after admission'') was low both before and after the implementation program. This was partly due to pre-existing clinical commitments that did not allow for the inclusion of new activities and resolution of this issue will require increase in the number of health professionals. A further difficulty was that members of the multidisciplinary team did not accept the need for a discussion specifically addressing the problems relating to the use of home nasoenteric feeding. Therefore, for the purposes of this study, this

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multidisciplinary discussion focused only on specific medical problems encountered during hospitalization. A more comprehensive approach will be required to reinforce the importance of this measure.

The difficulties identified in this implementation project were reported in a study discussing the challenges associated with home enteral tube feeding. This study highlights the positive aspects associated with home enteral feeding (clinical, economical and patient quality of life) and also emphasizes the need for national regulations, adequate activity funding, and a strong and effective multidisciplinary approach.[14]

It is important to emphasize that the training offered to caregivers as part of a simulation was received positively and caretakers reported that they felt confident or very confident in their abilities. A previous study showed that routine education (educational pamphlets) combined with practical experience and an educational video enhanced the knowledge and skills of primary caregivers, and resulted in a significantly lower incidence rate of complications than routine caregiver education alone.[15]

The main limitations of this project concerned bureaucratic aspects, such as authorizations required at different levels to contact the patients and caregivers, limiting the inclusion of a large number of participants and affecting the success of proposals developed to improve compliance with the project criteria.

The main successes of the project were the identification of new ways to evaluate the success of educational program development by the hospital and highlight the strengths and weaknesses of the nasoenteric feeding discharge planning process, bringing together nutritionists and nurses seeking better results for the patients, and establishing new strategies for collaboration.

Improvement in bedside training of patients in preparation for discharge was identified as a priority in order to promote best practice.

Conclusion

The aims and objectives of the project were partially achieved.

The hospital has a well-structured strategy for nasoenteric feeding discharge planning. While compliance was not high for some criteria, compliance regarding related to the multidisciplinary teamwork and adherence of caregivers to the training improved even in the short period of time of this study.

It is important to note that in order to achieve good compliance with the measures proposed by JBI, there is a need for ongoing training targeting nurses and nutritionists, and focusing on the minimum content to be offered, particularly at the bedside.

The project was successful in increasing knowledge in this area and providing future directions for sustaining evidence-based practice change. Future plans and ideas are in place and have been discussed. Further audits will need to be performed in order to ensure that practice changes are sustained and that the project is supported.

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Appendix I: Assessment tool – patient and caregiver

Name: *( ) Patient ( ) Caregiver*

Training moment:

Bedside ( ) Yes ( ) No *Simulation session ( ) Yes ( ) No*

Prior to discharge, did you receive training on how to care the feeding tube including:	**YES**	**NO**
Checking nasogastric tube position		
Correct positioning for feeding		
Flushing the tube		
Managing dislodged tube		
How to administer medications in the tube		
Training on, setting up the feed		
Proper storage of feed		
Education about infection control		
Education about mouth care		
Written information about feeding regime, pump instructions, dislodged tube instructions and relevant contact numbers		
Instructions about follow-up appointments		

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About the questions above how you feel confident about your ability to do those things at home:

The numbers mean: 4: very confident; 3: confident; 2: non-confident, 1: very non-confident

ABILITIES	1	2	3	4
Checking nasogastric tube position				
Correct positioning for feeding				
Flushing the tube				
Managing dislodged tube				
How to administer medications in the tube				
Training on, setting up the feed				
Proper storage of feed				
Education about infection control				
Education about mouth care				
Written information about the feeding regimen, pump instructions, dislodged tube instructions and relevant contact numbers.				
Instructions about follow-up appointments				

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Appendix II: Assessment tool – medical chart

Audit criterion	Yes	No	NA
1. A multidisciplinary meeting to plan for patient discharge has been held early after admission.			
2. Prior to discharge, patients and/or their caregivers have received training on how to care for the feeding tube including: checking nasogastric tube position, correct positioning for feeding, flushing the tube and managing dislodged tube.			
3. Prior to discharge, patients and/or their caregivers have received training on how to administer medications in the tube, setting up the feed and proper storage of feed.			
4. Prior to discharge, patients and/or their caregivers have received education about infection control and mouth care			
5. Patients and/or their caregivers have received written information about the feeding regimen, pump instructions, dislodged tube instructions and relevant contact numbers.			
6. A discharge protocol that outlines the support and resources required by patients/ carers and a system for monitoring or review are available in the ward.			
7. Prior to discharge, patients and/or their caregivers have received instructions about follow-up appointments with relevant health practitioners.			

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