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Original article

Protected time for nutrition support teams: What are the benefits?

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SUMMARY

Background & aims: Nutrition support teams (NSTs) are important and unique entities in acute care hospitals. Despite their utility, NSTs are lacking in the majority of hospitals worldwide and where they exist, most members only spend a fraction of their time working within that role. We aim to evaluate the effect of protected time on NST performance by assessing the influence of structure and process in NST activities.

Methods: All large public hospitals (>250 beds) in the Brazilian Federal District were evaluated with a structured questionnaire designed to assess NST performance. The questionnaire was adapted to include the Donabedian quality processes comprising 54 questions split amongst 6 domains; mainly structure and processes. The percentage of questionnaire compliance (NST outcome) was utilized to assess differences regarding structure and process. Hospitals with protected time to NST activities (Group I) were compared to hospitals without NSTs protected times (Group II).

Results: Seven hospitals were assessed. Group I, $n = 3$, showed a significantly higher performance outcome than Group II, $n = 4$ (77.9×60.3; $P = 0.004$), and only Group I's score achieved the benchmark for quality standards (75% compliance). Significant differences between groups were also found in structure ($P = 0.017$) and process ($P = 0.014$).

Conclusions: This study indicates that protected time for NST activities is paramount to increase NST performance and could positively influence Donabedian quality indicators. Our results highlight the importance of NSTs in large hospitals and is an advocate for public policies requiring dedicated time for NST work. Only a larger study can confirm our findings.

1. Introduction

In the late 1960s nutrition support teams (NSTs) were created to develop parenteral nutrition (PN) therapy. NSTs were responsible for creating an interdisciplinary approach to translate this innovative treatment from the laboratory to the bedside with minimal risks. This need, alongside other developments in the field of nutrition therapy, resulted in the creation of NSTs. NSTs include multiple healthcare providers such as physicians, dietitians, nurses and pharmacists who are responsible for supervising all nutritional aspects of patient treatment such as quality indicators, enteral nutrition (EN), malnutrition screening as well as PN care [1].

At their best, NSTs have been viewed as a way to optimize the safety and effectiveness of specialized nutritional support. Indeed, studies have confirmed that a collaborative approach from a multidisciplinary team provided nutrition care more effectively than the same individuals acting independently [1,2].

An important principle of assuring high quality practices from NSTs is the establishment of standardized, structured approaches and performance goals. Addressing such quality concerns, Avendis

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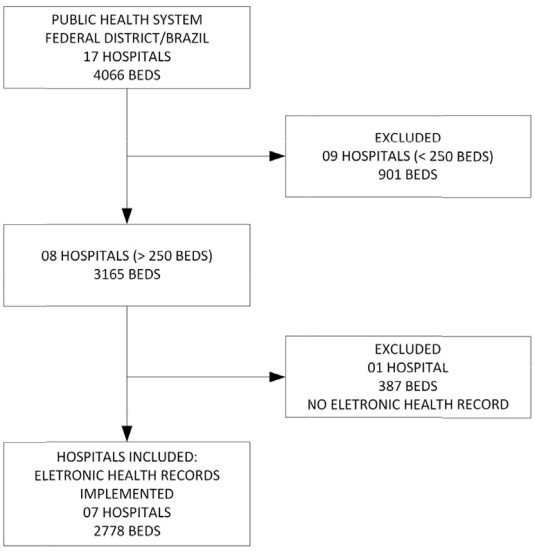

Fig. 1. Hospital selection by inclusion and exclusion criteria.

Donabedian [2] published "Evaluating the quality of medical care" proposing three key essential domains for high quality performance: structure, process and outcomes. This model has been adapted to different situations and is recognized for being innovative and useful [3]. Audits guided by checklists can be used to perform local diagnostics that help to identify weaknesses in the structures or processes used by NSTs and ultimately to promote better outcomes [4]. Recently, the Dutch National Prevalence Measurement of Care Problems translated the Donabedian model to clinical nutrition. This study showed that structural indicators (in particular nutritional screening) are an important strategy to reduce malnutrition over time [5,6].

In Europe there is a paucity of data on the presence of NSTs in hospitals, but estimates are for circa 25–30% in the UK[7] and 5% in German hospitals with >250 beds [8]. An important factor for NST success is the time allocated per professional for NST activities. In Germany [8] 61% of physicians in academic hospitals have less than 5 h per week allocated to their NST work and the number is even higher in non-academic hospitals at 80%.

Although recommendations clearly support the presence of NSTs, there are no specific recommendations on professionals' protected time for NST duties in any country. Furthermore, there is a lack of regulation as well as a dearth of published data on the performance of NSTs with respect to allocated time. Therefore, the goals of this study were to evaluate the effect of protected time on NST performance by assessing the influence of structure and process in NST activities.

2. Materials and methods

This pilot project was a multi-centre quality improvement and cross-sectional study. Ethical approval was obtained from the Ethics and Research Committee from the Fundação de Ensino e Pesquisa em Ciências da Saúde in Brazil (Protocol Number 300/2012). Preliminary results of this audit were presented as a poster

NST CHARACTERISTICS

1 – The hospital has an active and formally-established NST. (E, S)

2 – The NST has scheduled meetings. (N, P)

3 – The NST keeps formal records of its meetings. (N, P)

4 – The hospital managers provide conditions that allow NSTs to function effectively (time dedicated exclusively to the NST, human resources, update possibilities, technical support and autonomy to execute assignments). (E, S)

PROTOCOLS

5 – Medical protocols are registered and available. (E, S)

6 – Nursing protocols are registered and available. (E, S)

7 – Pharmacy protocols are registered and available. (E, S)

8 – Nutritional protocols are registered and available. (E, S)

9 – Protocols for the indication of EN therapy are available. (N, S)

10 – Protocols determining gastrointestinal tract access for EN therapy are available. (E, S)

11 – Protocols for the use of specific EN formulas are available. (N, S)

12 – Protocols for percutaneous endoscopically-guided gastrostomy indication are available. (N, S)

13 – Protocols for final evaluation of EN therapy are available. (N, S)

14 – Procedures in EN therapy and its complications are documented and available. (E, P)

TRAINING AND TEAM UPDATE

15 – Training programs offered by NST are duly registered. (N, P)

16 – The NST promote continuing education of other professionals in the hospital. (N, S)

17 – The managers encourage NST members to seek technical and scientific improvement. (N, S)

18 – Training programs offered by the NSTs are appropriate to hospital complexity. (N, P)

QUALITY CONTROL

19 – The overall hospital quality control system meets the complexity of the offered services. (E, P)

20 – The hospital quality control system ensures patient safety in EN therapy. (E, P)

21 – Quality indicators strictly control the compliance with critical control points. (E, P)

22 – The quality deviations are properly investigated by the NST. (E, P)

23 – The quality deviations are properly documented by the NST. (N, P)

24 – The corrective actions established were able to control the quality deviations.

Fig. 2. List of the 54 items evaluated. The first 47 items were evaluated by a Likert scale ranging from 0 (absent) to 4 (outstanding). The remaining items (48–54) were summarized on a 0–10 scale were every point represent one EHR evaluated. NST, nutrition support team; EHR, electronic health record; EN, enteral nutrition; E, essential; N, necessary; R, recommended; S, structure; P, process; O, outcome.