RU Revista Uningá

Revista Uningá, v. 59, eUJ4296, 2022
doi.org/10.46311/2318-0579.59.eUJ4296

ISSN 2318-0579

Health Sciences and Biological I, II, III

Safety in enteral nutritional therapy: knowledge of patients and caregivers

Segurança em terapia nutricional enteral: conhecimentos de pacientes e de acompanhantes

Miriam Cristina Marques da Silva de Paiva[1*], Silvana Andrea Molina Lima[1], Bruno Sergio Marques de Paiva[2], Carmen Maria Casquel Monti Juliani[1]

[1]São Paulo State University, Botucatu, SP, Brazil.
[2]São Francisco University, Bragança Paulista, SP, Brazil.
*miriam.paiva@unesp.br

ABSTRACT

This study aimed to examine the knowledge of patients and companions about enteral nutritional therapy (ENT) and compare similarities. This descriptive, prospective, quantitative study was conducted in a university hospital in the interior of the state of São Paulo. The study population consisted of 13 hospitalized patients and 47 companions who were interviewed over 7 months. Data regarding medical, nutritional, and nursing care were verified using electronic patient records. Data about the patients ENT was obtained through a structured questionnaire, and were compiled for this study based on the minimum requirements for ENT care in the RDC Nº 503. The statistical analysis used average and pattern deviation, median and 25-75th percentile, and number of cases and percentage. To compare proportions and agreements of the answers, the chi-square test and agreement of Kappa were used. The following was verified for patients and companions: lower correct answer frequencies in relation to the nutritional state, probe positioning test, type and quantity of prescribed diet, hand hygiene, prevention of distention/diarrhea/constipation, and different answers regarding the assessment of body weight, and knowledge of the position of the bed for feeding and hydration. It was concluded that the knowledge of patients and companions about ENT proved to be insufficient to promote patient safety. Information from companions, with few differences, is similar and in agreement with that of patients.
Keywords: Companions. Enteral nutrition. Patient safety.

RESUMO

Esta pesquisa teve como objetivo comparar o conhecimento de pacientes e acompanhantes sobre a terapia nutricional enteral (TNE). Trata-se de estudo descritivo, prospectivo, de delineamento quantitativo, desenvolvido em hospital universitário do interior do Estado de São Paulo. A população foi composta por 13 pacientes hospitalizados e 47 acompanhantes, entrevistados ao longo de 7 meses. Dados referentes à assistência médica, nutricional e de enfermagem foram verificados no Prontuário Eletrônico do Paciente. Dados acerca da TNE do paciente foram obtidos por meio do questionário estruturado, baseado nos requisitos mínimos da assistência em TNE da RDC Nº 503 e compilados para o estudo. A análise estatística utilizou média e desvio padrão, mediana e percentil 25-75 e número de casos e porcentagem. Para comparar proporções e concordâncias das respostas, foram utilizados os testes qui-quadrado e concordância de Kappa. Verificou-se para pacientes e acompanhantes: menores frequências de acertos em relação ao estado nutricional, teste de posicionamento da sonda, tipo/quantidade de dieta prescrita, higienização das mãos, prevenção de distensão/diarreia/constipação e diferentes respostas sobre avaliação do peso corporal e conhecimento da posição da cama para alimentação e hidratação. Conclui-se que o conhecimento dos pacientes e acompanhantes sobre a TNE mostrou-se insuficiente para promover a segurança do paciente. As informações dos acompanhantes, com poucas diferenças, são semelhantes e concordantes com as dos pacientes.
Palavras-chave: Acompanhantes. Nutrição enteral. Segurança do paciente.

Received: March, 14th, 2022. Accepted: August, 05th, 2022.

INTRODUCTION

Among the strategies to improve the health care process and contribute to the reduction of risks and adverse events, the World Health Organization (WHO) and the National Patient Safety Program (NPHP) emphasize valuing the patient as the center of care and their own and family's involvement in security actions (World Health Organization, 2008; Brasil, 2013).

However, the active participation of the patient and the family in promoting their own safety is still incipient and rarely observed. The access of patients and companions to information and knowledge is essential to achieve more positive results through greater interaction and participation in care, in collaboration with health professionals.

Malnutrition poses a risk to hospitalized elderly patients as well as to those with long-term chronic conditions such as diabetes, kidney disease, chronic lung disease, or progressive conditions such as cancer (British Association for Parenteral and Enteral Nutrition [BAPEN], 2012). In addition to being a complication of chronic diseases, malnutrition contributes to increased rates of morbidity, mortality, length of hospital stays, and readmission (Stratton & Elia, 2010). Nutritional therapy, indicated for patients at nutritional risk or with malnourishment, is considered an important resource for reducing these rates and financial costs (Williams et al., 2020). Frequently, enteral nutrition therapy (ENT) has been the alternative of choice to promote the maintenance or recovery of the nutritional status of patients with chronic diseases and in critical conditions (Schneider, Momma & Manns, 2007; Friesecke, Schwabe, Stecher & Abel, 2014; Preiser et al., 2021).

Difficulties or contraindications in the total or partial use of the oral route and functioning of the digestive tract, with absorption capacity, are the indications and requirements for enteral nutritional therapy (Scott & Bowling, 2015), which consists of the controlled administration of nutrients directed to the needs of the patient by oral route, probes, or ostomies that are intended to replace or complement oral feeding (Kozeniecki & Fritzshall, 2015).

However, ENT poses several risks. It does not exempt patients from respiratory, infectious, gastrointestinal, metabolic, mechanical, and psychological complications, which make it difficult to prevent malnutrition and achieve treatment goals (DiBaise & Scolapio, 2007; Kozeniecki & Fritzshall, 2015). Some of the risks in ENT are related to the different steps by which it is composed sequentially, such as medical and dietary indication and prescription, preparation, conservation, storage, transport, administration, clinical laboratory monitoring, and evaluation (Kozeniecki & Fritzshall, 2015). From this perspective, hospital care in ENT implies a combination of knowledge and practices from different specialties, various professionals, and processes, in an interdependent way, in a team, making it a complex procedure with a high risk for adverse events (AE) and incidents (M. C. Paiva, Paiva & Berti, 2010; Powers et al., 2021). At the national level, RDC 503 of the National Health Surveillance Agency established the minimum technical requirements for enteral nutrition therapy. This document highlights that the execution of ENT must guarantee safety and maximum effectiveness to the patient, considering costs, materials, and standardized techniques. Above all, it emphasizes guidance to patients, families, or guardians by health professionals regarding the use and control of ENT.

After noting that there are no studies in the literature that address the knowledge of patients and caregivers about ENT from this perspective, and given the assumption that there are gaps in knowledge, this study was designed to identify them to enable the formulation of actions with a view for greater involvement in care and treatment, favoring the contribution of the patient and their companion in the emphasis on safety measures during ENT. In this context, this study aimed to compare the knowledge of adult and elderly patients undergoing ENT and their companions regarding aspects related to the safety of the therapy during hospitalization.

MATERIAL AND METHODS

This is a prospective and descriptive study with a quantitative design developed in a university hospital in the interior of the state of São Paulo that acts as a high-complexity reference center in enteral and parenteral nutrition. This research was approved by the Research Ethics Committee (Certificate of Presentation for Ethical Appreciation number 53098116.3.0000.5392).

The sample consisted of 60 participants, patients in ENT and companions of the patients, who were interviewed by the researcher from April to November 2016.

Patients and companions who met the following inclusion criteria were approached and invited to participate: ≥18 years of age admitted to medical and surgical clinical units; in ENT by nasoenteral, jejunal, or gastrostomy tubes for two or more days after the start of administration of the diet; and companions who remained with the patient for one or more days from the beginning of ENT. Patients in the intensive care unit and those unable to express themselves were excluded from the study. The data collection instrument used for the research was phased in RDC 63, with open and closed questions, consisting of six fields: I, knowledge related to ENT; II, knowledge about tube for ENT; III, knowledge about enteral diet administration; IV, knowledge about the acceptance of enteral diet; V, knowledge about hydration and cleaning of the ENT system; and VI, general knowledge about ENT (Brasil, 2000).

Knowledge was verified through questions related to the disease and treatment, and aspects related to the enteral tube, diet, acceptance, hydration/cleaning, and risks. The answers were considered correct in accordance with the patients' own documents in the electronic patient record (EPR) and scientific literature. After clarifying the purpose of the research and signing a commitment to anonymity, confidentiality, and availability of data at the end of the study, the participant signed the Free and Informed Consent Term.

Statistical analysis

Data are presented as mean and standard deviation, median and 25-75 percentile, and the number of cases and percentages. To compare proportions, the chi-square or Fisher's exact test was used. The significance level was set at 5% for all the analyses. The Kappa agreement test was used to compare the responses of the patients with those of their companions. The Kappa test results were interpreted according to Landis and Koch (Landis & Koch, 1977).

RESULTS AND DISCUSSION

Patient data regarding medical, nutritional, and nursing care were verified in the EPR and compiled with data obtained from interviews with: a) 13 patients with the ability to express themselves; b) 47 patient companions; and c) seven patient/companion pairs, both able to express themselves. The results referring to the EPR data show that the profile of the 13 patients interviewed and 43 patients reported by the companions were characterized as being elderly (69.6%), men (58.9%), with serious diseases such as complex and chronic and degenerative comorbidities along with impaired communication (90.1%), orientation in time/space (48.8%), and ambulation (83.7%), thereby not meeting the conditions for the interview. These characteristics are similar to the findings of Freitas et al. (2021) and highlight the consequences of the unpreparedness of health systems based on curative models for the demographic transition of countries with accelerated population aging, especially those that manifest malnutrition, with ENT being indicated and possibly prolonging life expectancy (Schneider et al., 2007).

In the area of Patient Safety, the involvement of patients in decisions about diagnosis, treatment, and risks is highlighted as an indispensable right to their autonomy. The approximation of family members, with the consent of the patients and through the permission of health professionals, can favor experiences that contribute to the understanding of the risks of care and the expectation of

reducing adverse events, improving the understanding of the causes when they occur, and forming a partnership of care through the development of joint trajectories (Marra & Sette, 2016).

In addition, the National Patient Health Program (NPHP) points out the urgent need to involve patients and family members, corroborating the reduction of risks focused on patient safety (Brasil, 2003). The National Policy for the Humanization of Health Care (Brasil, 2004) Systematic review on drug therapy corroborates the importance of family proximity to the patient during admission, hospitalization, and hospital discharge (Manias, Bucknall, Hughes, Jorm & Woodward-Kron, 2019). In our study, 43 (71.6%) patients required help from a companion to provide information to the health team.

Among companions, the majority were female (78.7%), represented mainly by daughters and wives (68.2%). These data coincide with the findings of Küchemann (2012) that point to women as family members assigned to the task of caring for the elderly. Although companion activity does not imply the activities of a caregiver, it requires financial, physical, emotional resources, disposition, and dedication, and more than one person is desirable for the possible rotation of shifts (Küchemann, 2012). Thus, the participation of more than one companion per patient in this study is explained.

Another relevant aspect observed among patients and companions was low schooling (5.85±3.74 and 5.10±3.60 years of study, respectively). According to the data from our research, low schooling can contribute to poor understanding of the care process (hospitalization, medication, ENT). Studies carried out with adults and the elderly that investigated the relationship between cognition and schooling found impairment in short-term memory (Coelho et al., 2012).

From another perspective, the high frequency of ENT indicated for patients initially evaluated as eutrophic and pre-obese/obese (60.5%) stands out in the data. This data agrees with a study that points out the importance of early assessment of nutritional risk and timely indication of ENT in search of better results (Friesecke et al., 2014).

Table 1 presents the frequencies of correct answers about the knowledge of patients and companions regarding aspects related to ENT, compiled from the interviews.

To assess the knowledge of patients and caregivers, we used a tool with 35 items. Each item corresponded to specific knowledge. We observed that 20 out of the 35 items presented less than 50% of correct answers. Thus, we can say that these patients and companions had insufficient information regarding their active involvement in care safety. For example, only 46.2% of the patients and 55.3% of the companions received information about ENT. Of the individuals who received information, only 16.7% of patients and 23.1% of companions were approached regarding the risks and potential complications of ENT.

Patients and companions had a low frequency of correct answers and similar knowledge in relation to knowledge of nutritional status, receiving verbal or written information about ENT, performing the placement test and fixing the tube for infusion of the diet, the type and amount of prescribed diet, hygiene of hands and connections for administration of the diet, and observation of the label of the diet bottle. In addition, low frequencies were observed for acceptance of the diet and for measures to prevent distention, diarrhea, and constipation. In view of these data, it must be considered that there was little effective communication between health professionals and patients/companions. Additionally, the type and quality of the guidelines provided by health professionals interfere with the recognition of the disease and the patient's involvement in its treatment (Wagner, 2019). Drug-related research has shown that patients informed and guided by health professionals experience fewer errors and treatments, with better results (Paula, Campos & Souza, 2021).

Regarding the information provided by health professionals, it appears that only 7.7% of patients and 14.9% of companions received it in writing. Studies indicate that patients who receive the information verbally forget about 50% of the information received, and 40% of patients who receive the conduct verbally as well as in writing can recall the written instructions only (Blinder, Rotenberg, Peleg & Taicher, 2001).

Table 1
Frequency of correct answers about the knowledge of patients and caregivers about ENT Botucatu-SP.

Item	Patients Proportion and (%)	Companions Proportion and (%)	p-value
I - Knowledge related to ENT			
Basic knowledge about the disease	11/13 (84,6)	46/47 (97,9)	0.115
Knowledge of treatment	9/13 (69,2)	40/47 (85,1)	0.231
Knowledge of the reason for ENT	10/13 (76,9)	32/47 (60,1)	0.736
Knowledge of nutritional status	4/13 (30,8)	20/47 (42,60)	0.654
Body weight measured during hospitalization	9/13 (69,2)	10/47 (21,30)	(0.002)
Information about ENT:	6/13 (46,2)	26/47 (55,3)	0.785
- Goals	6/6 (100)	26/26 (100)	1.000
- Benefits	6/6 (100)	26/26 (100)	1.000
- Routes of administration	4/6 (66,7)	24/26 (92,3)	0.150
- Scratchs	1/6 (16,7)	6/26 (23,1)	1.000
- Complications	1/6 (16,7)	6/26 (23,1)	1.000
Written information about ENT	1/13 (7,7)	7/47 (14,9)	0.673
Nurse as a professional informant	2/13 (15,4)	5/26 (19,2)	1.000
II – Knowledge about tube for ENT			
Enteral tube position	10/13 (76,9)	32/47 (60,1)	0.736
Enteral tube placement test (only after tube insertion)	3/13 (23.1)	20/47 (42.6)	0.334
Post-displacement probe reintroduction	11/13 (84.6)	28/47 (59.6)	0.114
Care maintenance of enteral tube positioning – fixation	8/13 (61.5)	15/47 (31.9)	0.063
Care maintenance of enteral tube positioning – restriction	3/13 (23.1)	11/47 (23.4)	1.000
Perform enteral tube fixation	2/13 (15.4)	18/47 (38.3)	0.186
III – Knowledge about the administration of enteral diet			
Bed position for enteral feeding – head elevated/sitting	4/13 (30.8)	32/47 (60.1)	(0.035)
type of diet prescribed	1/13 (7.7)	5/47 (10.6)	1.000
Enteral diet volume prescribed/day	1/13 (7.7)	10/47 (21.3)	0.427
Enteral diet drip speed	6/13 (46.1)	30/47 (63.8)	0.406
Enteral feeding method	12/13 (93.3)	45/47 (95.7)	0.526
Observation of enteral diet label information	1/13 (7.7)	7/47 (14.9)	0.673
IV – Knowledge about the acceptance of enteral diet			
Shows distension	0/13 (0)	4/47 (8.5)	0.568
Precautions to avoid strain	0/13 (0)	4/47 (8.5)	0.568
Has diarrhea	3/13 (23.1)	10/47 (21.3)	1.000
Precautions to prevent diarrhea	4/13 (30.8)	10/47 (21.3)	0.478
presents constipation	4/13 (30. 8)	8/47 (17.0)	0.271
Precautions to prevent constipation	1/13 (7.7)	3/47 (6.4)	1.000
V – Knowledge about hydration and cleaning of the ENT system			
Water intake	7/13 (53.8)	43/47 (91.5)	(<0.001)
Drug administration via ET	8/13 (61.5)	27/47 (57.4)	0.958
Care to prevent ET obstruction – wash the ET after medication	7/13 (53.8)	29/47 (61.7)	0.848
Hygiene care - hand washing	2/13 (15.4)	5/47 (10.6)	0.639
Cleaning of connections	1/13 (7.7)	2/47 (4.3)	0.526
VI - General knowledge about ENT			
Considers that there are risks	6/13 (46.1)	24/47 (51.1)	1.000
I would connect the equipment to the enteral tube	3/13 (23.1)	13/47 (27.7)	1.000
Additional information about ENT	13/13 (100)	46/47 (97.9)	1.000
Satisfaction with the service	11/13 (84.6)	41/47 (87.2)	1.000

Source: The authors.
Note: ENT, enteral nutritional therapy; ET, enteral tube.

Regarding the diet prescribed by the doctor to be infused daily, only 7.7% of the patients and 21.3% of the companions knew the amount. Knowing the volume of diet to be administered allows patients and/or caregivers to monitor the infusion of diets, thus contributing to therapy. However, discrepancies were observed between the diets received by the patient and those prescribed by the

doctor. This may be due to the adequacy of the diet according to the patients' needs calculated by the nutritionist. Thus, the established routine does not provide professionals, patients, and companions with a source of information on the exact amount of diet to be infused.

Another aspect of little knowledge of the participants, and of importance for the safety of the patient, was to observe the condition of the fixation of the probe on the skin (patients, 23.1% and companions, 31.9%). Fixation must be adequate to avoid displacement of the tube into the digestive tract. Inappropriate positioning of the probe tip may favor aspiration of diet into the patient's lungs. Changing the fixture periodically and keeping it clean and safe reduces this risk (Wu, 2022). To ensure the maintenance of the tube, the participants mentioned the use of mechanical restraint (physical restraint of the patient) by 23.1% of the patients and 23.4% of the companions. To avoid accidental exit of the tube, which would result in interruption of therapy, in cases of psychomotor agitation, manual, drug, or mechanical restraint with bedbands may be justified. These alternative interventions must be carried out through an institutional protocol to ensure that the procedure is carried out in a humanized and ethical way, with strict monitoring of the patient (Regional Nursing Council of São Paulo [COREN-SP], 2009).

Tests by air insufflation, auscultation, aspiration of gastric contents or small intestine, or radiography were equally mentioned a little by the participants (patients, 23.1% and companions, 42.6%). In response to this question, some participants recalled the radiological examination performed after blind insertion of the probe to confirm positioning (Friesecke et al., 2014). Also justified by the possibility of pulmonary aspiration caused by tube displacement, simple check tests, such as aspiration of gastric contents and verification of acidity, should be performed prior to the installation of the diet. We infer that the above test was not being performed, as these patients were not in intensive care, where it is explicitly recommended (Fletcher, 2011).

Two other items that were not recognized as important were hand hygiene and system connections. However, in agreement with the results of a study by Pereira (2020), the use of gloves has been repeatedly cited as a representation of safety in the transmission of microorganisms. Hand hygiene is considered fundamental to the prevention and control of infections related to assistance in health services and is strongly encouraged by national and international organizations (Mendonça, 2022).

On the other hand, a study that explored the attitudes of hospitalized patients in relation to safety measures observed that hand hygiene, although widely publicized, was not demanded of professionals by patients who believed that professionals, even if they had not been seen performing, sanitized their hands before attending to them (Pittet et al., 2011). In addition, few patients feel comfortable in demanding from the team the conduct that they consider appropriate, while others fear becoming indisposed with the professionals (Forte, 2018).

Cleaning equipment and probe connections were remembered by 7.7% of the patients and 4.3% of the companions. Recommended with the purpose of reducing residues remaining from the accumulated diet, it should be performed by localized mechanical friction, with the use of antiseptics at each change of diet vial, since they can constitute culture media for microorganisms and lead to contamination of the system and the patient.

Regarding the observation of the diet bottle label, only 7.7% of the patients and 14.9% of the companions checked the "sometimes" patient identification data and diet information. It should be noted that errors in the installation of the diet as well as with medications are likely to occur, as observed during an interview for data collection. In this sense, the patient and/or informed companions could collaborate, paying attention to the adequate performance of the treatments and the early detection of possible adverse events (Vincent & Coulter, 2002).

Among the participants in this study, only 46% of the patients and 51% of the companions considered the existence of ENT risks. In addition to the aforementioned situations, such as accidental removal of the tube, several other situations related to hospital ENT expose the patient to risk, with potential for harm, such as inadvertent connection between the enteral feeding set and a venous access device, peritoneal or medicinal gases.

Factors contributing to such an event have been identified as the design of universal connectors that allow the connection between many types of therapy and human factors, such as tiredness, inadequate training, ambient lighting, and patient transfer (Kozeniecki & Fritzshall, 2015). Therefore, the attention of patients and companions would collaborate as a barrier to avoid harm to the patient. In addition, when asked, both responded positively that they would connect the equipment to the accidentally disconnected probe (30%). It is important to emphasize that patients and companions are commonly unprepared for healthcare activities and should be discouraged from performing risky procedures, excluding cases of supervised training for continuity of care at home.

The present study showed that the information obtained by companions and patients differed in only three questions: 1) body weight measured during hospitalization, 2) knowledge regarding the position of the bed for infusion of the enteral diet, and 3) knowledge related to water intake.

With regard to body weight, which is important for assessing the response to nutritional therapy, the results indicate low team adherence to compliance with this measure. The difference in responses between patients (69.2%) and companions (21.30) is possibly due to the better memory of the patient who had their own weight measured and to the fact that the companion could be absent and not have witnessed the measurement.

The question of the patient's position on the bed allowed us to observe the information contrast between companions and patients. Companions (60.1%) informed the patient's position in bed as the head of the bed elevated from 45º to 90º for the infusion of the diet to avoid aspiration of the diet. It is possible that the professionals' guidelines were less emphatic to the patients, considering them to be dependent.

In reference to water intake, in this study, existing doubts about the possibility of supply, route, and amount of water to be ingested were highlighted. Care-dependent patients may present insufficient fluid supply and risk of dehydration, which is a matter of concern, mainly among the elderly and hospitalized patients, where an association between dependence and dehydration was observed (Murray, Doeltgen, Miller & Scholten, 2015).

Another method used for data analysis was to compare, using the Kappa test, whether the responses of the seven pairs of patients and companions agreed with each other, even when indicating incorrect knowledge. It was observed that both identical (perfect agreement, Kappa value = 1) answered questions about knowledge of the reason for starting therapy, nutritional status, risks and complications, receiving written information, informing professional (nurse), drinking water, cleaning the connectors, and connecting the equipment to the tube.

Partial agreement (Kappa value ≥ 0.61) was observed in the responses of patients and caregivers to questions such as weight measurement, fixation to the skin as a measure to ensure tube positioning, position of the head of the bed for infusion of the diet, type of diet prescribed, method of diet administration, measures to prevent diarrhea and constipation, administration of medication via enteral tube, cleaning of the tube after infusion of the diet, and hygiene care–hand washing. In Table 2, we present the answers of seven patients and their companions about their knowledge of ENT (Kappa value ≤ 0.36). In addition, in these responses, patients were more assertive about the position of the enteral tube in their body and the existence of treatment risks. Companions responded correctly to the benefits of ENT and the rate of dietary infusion.

That said, it is highlighted in this study that the information obtained from the companions about the patients, with few differences, was similar and in agreement with that of the patients. Thus, they proved to be reliable and point to the patient/companion binomial as an advantageous resource for the care of hospitalized patients.

Regarding the study of the involvement of family members in hospital care, the need for health institutions to organize themselves to contribute to more efficient communication was evidenced. Health institutions, in collaboration with care and health professionals, should aim to provide the necessary information at an opportune moment and stimulate the active involvement of patients and caregivers in decisions, planning, and care, emphasizing the potential risks of ENT.

Table 2
Lower concordance responses in the comparison between pairs of patients and their companions. Botucatu-SP.

Item	Patients Answer 'yes'	Companions Answer 'yes'	Agreement Kappa value
I - Knowledge related to ENT			
Benefits of ENT	1/7	4/7	0.22
II - Knowledge about probe for ENT			
Enteral tube position	6/7	4/7	0.36
III - Knowledge about the administration of enteral diet			
Enteral diet drip speed	3	6	0.09
VI - Conhecimentos gerais sobre TNE			
Considera que há riscos	4/7	1/7	0.22

Source: The authors.
Note: ENT, enteral nutritional therapy; ET, enteral tube.

CONCLUSION

The knowledge of patients and caregivers about the different aspects of in-hospital ENT proved to be superficial and limited. It is assumed that they do not receive timely and sufficient information that enables active participation in a way that can effectively promote patient safety and prevent adverse events during hospital ENT.

REFERENCES

Bapen. (2012). The British Association for Parenteral and Enteral Nutrition. Introduction to Malnutrition.

Blinder, D., Rotenberg, L., Peleg, M., & Taicher, S. (2001). Patient compliance to instructions after oral surgical procedures. *International Journal of Oral and Maxillofacial Surgery, 30*(3), pp. 216-219. doi:10.1054/ijom.2000.0045

Brasil. (2000). Ministério da Saúde. Agência Nacional de Vigilância Sanitária. *RDC n° 63, de 6 de julho de 2000. Aprova o Regulamento Técnico para fixar os requisitos mínimos exigidos para a Terapia de Nutrição Enteral.* Brasília, DF.

Brasil. (2003). Senado Federal. Lei 10.741, de 10 de outubro de 2003. *Dispõe sobre o Estatuto do Idoso e dá outras providências*. Brasília.

Brasil. (2004). Ministério da Saúde. Secretaria-Executiva Núcleo Técnico da Política Nacional de Humanização. *Política Nacional de Humanização*. Brasília, DF.

Brasil. (2013). *Portaria nº 529, de 1º de abril de 2013. Institui o Programa Nacional de Segurança do Paciente (PNSP).* (Portaria nº 529 de 1º de abril de 2013). Diário Oficial da União: Brasília, DF.

Brasil. (2021). Ministério da Saúde. Agência Nacional de Vigilância Sanitária. *RDC n° 503, de 27 de maio de 2021. Dispõe sobre os requisitos mínimos exigidos para a Terapia de Nutrição Enteral.* Brasília, DF.

Coelho, F. G. M., Vital, T. M., Novais, I. P., Costa, G. A., Stella, F., & Santos-Galduroz, R. F. (2012). Desempenho cognitivo em diferentes níveis de escolaridade de adultos e idosos ativos. *Journal*

of Nutrition in Gerontology and Geriatrics, 15(1), pp. 7-15. doi:10.1590/S1809-98232012000100002

Conselho Regional de Enfermagem de São Paulo. (2009). *Restrição de pacientes.* São Paulo: Coren-SP.

DiBaise, J. K., & Scolapio, J. S. (2007). Home parenteral and enteral nutrition. *Gastroenterol Clinics of North America, 36*(1), pp. 123-144, vii. doi:10.1016/j.gtc.2007.01.008

Fletcher, J. (2011). Nutrition: safe practice in adult enteral tube feeding. *British Journal fo Nursing, 20*(19), 1234, pp. 1236-1239. doi:10.12968/bjon.2011.20.19.1234

Forte, E. C. N., Pires, D. E. P., Martins, M. M. F. P. S., Padilha, M. I. C. S., Schneider, D. G., & Trindade, L. L. (2018). Entre erros e acertos: promovendo a segurança do paciente a partir da insegurança noticiada. *Revista Eletrônica de Enfermagem, 20,* pp. 1-9. doi: 10.5216/ree.v20.52539

Freitas, L. A., Fagundes, A. L., Prado, P. R., Pereira, M., Medeiros, A. P., Freitas, L. M., ... Gimenes, F. (2021). Factors associated with length of stay and death in tube-fed patients: A cross-sectional multicentre study. *Nursing Open*, *8*(5), pp. 2509–2519. doi: 10.1002/nop2.774

Friesecke, S., Schwabe, A., Stecher, S. S., & Abel, P. (2014). Improvement of enteral nutrition in intensive care unit patients by a nurse-driven feeding protocol. *Nursing in Critical Care*, *19*(4), pp. 204–210. doi: 10.1111/nicc.12067

Kozeniecki, M., & Fritzshall, R. (2015). Enteral nutrition for adults in the hospital setting. *Nutrition in Clinical Practice: official publication of the American Society for Parenteral and Enteral Nutrition*, *30*(5), pp. 634–651. doi: 10.1177/0884533615594012

Küchemann, B. A. (2012). Envelhecimento populacional, cuidado e cidadania: velhos dilemas e novos desafios. *Sociedade e* Estado [on-line], *27*(1), pp. 165-180. doi:10.1590/S0102-69922012000100010.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*(1), pp. 159-174.

Manias, E., Bucknall, T., Hughes, C., Jorm, C., & Woodward-Kron, R. (2019). Family involvement in managing medications of older patients across transitions of care: a systematic review. *BMC Geriatrics, 19*(1), p. 95. doi:10.1186/s12877-019-1102-6

Marra, V. N., & Sette, M. L. (2016). *Guia curricular de segurança do paciente da Organização Mundial da Saúde: Edição multiprofissional.* (978-85- 5526-850- 2).

Mendonça, M. E., Brito, J. C., Santos, A. K., Barros, A. V., & Araújo, L. G. (2022). Higienização das mãos e sua relação com o controle das infecções relacionadas à assistência à saúde. *Dilemas éticos na Assistência à Saúde.* doi: 10.37885/210906260

Murray, J., Doeltgen, S., Miller, M., & Scholten, I. (2015). A descriptive study of the fluid intake, hydration, and health status of rehabilitation in patients without dysphagia following stroke. *Journal of Nutrition in Gerontology and Geriatrics, 34*(3), pp. 292-304. doi:10.1080/21551197.2015.1054573

Paiva, M. C., Paiva, S. A., & Berti, H. W. (2010). Adverse events: analysis of a notification instrument used in nursing management. *Revista da Escola de Enfermagem da USP*, *44*(2), pp. 287-294. doi:10.1590/s0080-62342010000200007

Paula, C. C. S., Campos, R. B. F., & Souza, M. C. R. F. (2021). Uso irracional de medicamentos: uma perspectiva cultural. *Brazilian Journal of Development, 7*(3). doi: 10.34117/bjdv7n3-060

Pereira, E. B. S. (2020). *Higiene das mãos e uso de luvas: mensuração integrada da autoeficácia* (Tese de doutorado em Enfermagem). Universidade de São Paulo, São Paulo, Brasil. doi:10.11606/T.22.2020.tde-06072020-155337

Pittet, D., Panesar, S. S., Wilson, K., Longtin, Y., Morris, T., Allan, V., Storr, J., Cleary, K., & Donaldson, L. (2011). Involving the patient to ask about hospital hand hygiene: a National Patient Safety Agency feasibility study. *The Journal of hospital infection*, *77*(4), pp. 299–303. doi: 10.1016/j.jhin.2010.10.013

Powers, J., Brown, B., Lyman, B., Escuro, A. A., Linford, L., Gorsuch, K., … Guenter, P. (2021). Development of a competency model for placement and verification of nasogastric and nasoenteric feeding tubes for adult hospitalized patients. *Nutrition in Clinical Practice: official publication of the American Society for Parenteral and Enteral Nutrition*, *36*(3), pp. 517–533. doi: 10.1002/ncp.10671

Preiser, J. C., Arabi, Y. M., Berger, M. M., Casaer, M., McClave, S., Montejo-González, … Wischmeyer, P. (2021). A guide to enteral nutrition in intensive care units: 10 expert tips for the daily practice. *Critical Care*, *25*(1), 424. doi: 10.1186/s13054-021-03847-4

Schneider, A., Momma, M., & Manns, M. P. (2007). Indikation zur künstlichen Ernährung: Enterale und parenterale Ernährung [Indication for artificial nutrition: enteral and parenteral nutrition. *Der Internist*, *48*(10), pp. 1066–1075. doi: 10.1007/s00108-007-1927-5

Scott, R., & Bowling, T. E. (2015). Enteral tube feeding in adults. *The Journal of the Royal College of Physicians of Edinburgh*, *45*(1), pp. 49–54. doi: 10.4997/JRCPE.2015.112

Stratton, R. J., & Elia, M. (2010). Encouraging appropriate, evidence-based use of oral nutritional supplements. *Proceeding of the Nutrition Society, 69*(4), pp. 477-487. doi:10.1017/s0029665110001977

Vincent, C. A., & Coulter, A. (2002). Patient safety: what about the patient? *Quality & Safety in Health Care, 11*(1), pp. 76-80. doi:10.1136/qhc.11.1.76

Wagner, L., Berger, I., Nicolini, V., Rodrigues, T., & Rodrigues, M. F. (2019). Experiência da interdisciplinaridade em um caso de amiloidose na unidade de terapia intensiva adulta. *Simpósio do Programa de Residência Multiprofissional em Saúde do Hospital Santa Cruz*.

Williams, D., Ohnuma, T., Haines, K. L., Krishnamoorthy, V., Raghunathan, K., Sulo, S., … Wischmeyer, P. E. (2021). Association between early postoperative nutritional supplement utilisation and length of stay in malnourished hip fracture patients. *British Journal of Anaesthesia*, *126*(3), pp. 730–737. doi: 10.1016/j.bja.2020.12.026

World Health Organization (2008). World alliance for patient safety. Forward programme 2008-2009.

Wu, S. J. (2022). Preventive care for aspiration pneumonia in patients with an indwelling nasogastric tube. *Hu li za zhi. The Journal of Nursing*, *69*(1), pp. 18–24. doi: 10.6224/JN.202202_69(1).04