Artigo Especial

BRASPEN's Nutritional Statement for Coping with COVID-19 in Hospitalized Patients

Institutional support of the Brazilian Intensive Care Medicine Association (AMIB)

Letícia Fuganti Campos[1]
Priscilla Alves Barreto[2]
Guilherme Duprat Ceniccola[3] Rodrigo Costa Gonçalves[4]
Liane Brescovici Nunes de Matos[5]
Clarissa Martins Saraiva Figueira Zambelli[6]
Melina Gouveia Castro[7]

Unitermos:
Coronavirus, terapia nutricional, sugestões BRASPEN/ AMIB

Keywords:
Coronavirus, nutritional therapy, BRASPEN/AMIB suggestions

Address for correspondence:
Melina Gouveia Castro
Rua Abilio Soares, 233 – cj 144 – Paraíso
São Paulo – SP – CEP: 04005-000
melinacastro@globo.com

Submission
14 March 2020

Accepted
23 March 2020

The fight against the COVID-19 pandemic has become the great challenge these days and nutritional therapy (NT) is a fundamental part of the comprehensive care in critically ill patient. Most of the contaminated patients have been treated at home in household isolation. However, the clinical condition of some of these patients complicates requiring hospitalization, and among which about 5% need intensive care. In this subgroup, the most frequent complications are respiratory dysfunction followed by renal dysfunction

Therefore, BRASPEN/AMIB release the following suggestions in order to guide the multidisciplinary nutrition support team (NST) of our country:

Statement on Nutritional Therapy:

Nutritional risk of patients with COVID-19:

BRASPEN, aligned with several other nutritional therapy societies, recommends performing nutritional screening within 48 hours after hospital admission in all patients. However, considering the current COVID-19 pandemic, any physical contact between dietitian and patient should be avoided, as detailed in the suggestions for routine changes.

During the hospitalization of patients with COVID-19, questions for nutritional screening should be included, according to the protocol established by the institution, whenever possible.

Patients who remain in the intensive care unit (ICU) for more than 48 hours should be considered at risk of malnutrition. According to the ESPEN 2019 recommendation, this patient benefits from early and individualized nutritional therapy.

1. Presidente do Comitê de Nutrição da BRASPEN. Doutora em Clínica Cirúrgica pela UFPR. Mestre pela Faculdade de Medicina da USP. Especialista em Nutrição Clínica pelo GANEP e em Educação em Diabetes pela UNIP. Membro do Departamento de Nutrição da Sociedade Brasileira de Diabetes.
2 Especialista em Terapia Nutricional - UERJ. Título de especialista em Nutrição Parenteral e Enteral - BRASPEN. Título de especialista em Nutrição Clínica - ASBRAN. Membro do Comitê de Nutrição - BRASPEN. Membro do Comitê de Nutrição - BRASPEN/RJ. Coordenadora do Departamento de Nutrição - SOTIERJ.
3 Nutricionista do Hospital de Base do D.F. Especialista em nutrição parenteral e enteral pela BRASPEN. Mestre e Doutor em Nutrição Humana pela Universidade de Brasília.
4 Título de Especialista em Medicina Intensiva, Nutrologia e Nutrição Parenteral e Enteral. Coordenador Clínico EMTN – Hospital HUGOL e Hospital Órion -GO. Presidente Comitê Terapia Nutricional – AMIB.
5 Hospital São Luiz Itaim e Vila Nova Star, São Paulo, SP, Brasil. Medica Intensivista pela AMIB e Especialista em Terapia Nutricional Enteral e Parenteral pela BRASPEN.
6 Especialista em Cirurgia Geral com área de atuação em Nutrição Parenteral e Enteral pela BRASPEN. Rede Mater Dei de SAÚDE. Hospital Luxemburgol.
7. Doutora em Cirurgia do Aparelho Digestivo pela Faculdade de Medicina da Universidade de São Paulo(2012). Especialista em Medicina Desportiva pela Universidade Federal de São Paulo. Especialista em Nutrição Clínica pelo Grupo de Nutrição Humana. Especialista em Terapia Nutricional Enteral e Parenteral pela BRASPEN. Presidente da Sociedade Brasileira de Nutrição Enteral e Parenteral -BRASPEN. Médica Nutróloga do departamento de Terapia Nutricional do Hospital Israelita Albert Einstein.

Feeding route:

Oral feeding is preferred for non-severe patientes diagnosed with COVID-19, including the use of oral supplementation when the estimated energy intake is <60% of their nutritional needs. In critically ill patients, Enteral Nutrition (EN) is the preferred route, which should be started between 24 and 48 hours of admission. In case of oral and/or enteral route contraindication, Parenteral Nutrition (PN) should be initiated as early as possible. The use of supplemental PN after 5 to 7 days in patients who cannot reach protein caloric intake > 60% by digestive route, should be considered.

Caloric intake for acute phase:

Initially a lower caloric intake, between 15 and 20 kcal/kg/day is recommended, progressing to 25 kcal/kg/day after the fourth day of the patients in recovery. The use of indirect calorimetry is not recommended due to the risk of spreading the disease. Enteral formulas with high caloric density (1.5-2.0kcal/ml) in patients with acute respiratory dysfunction and/or renal failure, are suggested aiming at restricting fluid administration.

Protein intake for acute phase:

Patients should receive between 1.5 and 2.0 g/kg/day of protein, even in case of renal dysfunction, according to the following suggestion of progression: <0.8 g/kg/day on the 1st and 2nd days, 0.8-1.2 g/kg/day on days 3-5 and > 1.2 g/kg/day after the 5th day.

Specialized formula:

Formulas with high lipid content/low carbohydrate content should not be used to manipulate respiratory coefficient and reduce CO_2 production in critically ill patients with pulmonary dysfunction.

The use of an enteral formula with omega 3, borage oils and antioxidants is not indicated for patients with ARDS.

We suggest avoiding the use of individual nutrient modules because of the greater manipulation of the patient and increased risk for the nursing team.

Serum phosphorus monitoring:

Frequent monitoring of serum phosphorus in critically ill patients and its adequate replacement is suggested when indicated. Hypophosphatemia may be signaling refeeding syndrome and phosphorus deficiency may contribute to delayed ventilatory weaning in critically ill patients.

Caloric progression should be delayed in patients with low levels of phosphorus, potassium or magnesium until correction, with subsequent gradual caloric increase.

Nutritional therapy and Hypoxemia:

Enteral Nutrition should be maintained in case of compensated or permissive hypercapnia. Feeding must be discontinued in case of decompensated hypoxemia, hypercapnia or severe acidosis.

Guidelines for the use of enteral diet in prone position:

With the prevalent recommendation of prone position in patients with COVID-19, some additional care procedures with nutritional therapy are suggested:

- Do NOT perform Upper Digestive Endoscopy in this population because of the high risk of contamination;
- Continue EN during prone position, pointing out the need to pause diet before moving the patient to prone position, according to the timing suggested by local protocol;
- Prefer hypercaloric hyperproteic fiber free diet in trophic volume (up to 20ml/h) throughout the prone period or the first 6 days;
- Keep headboard elevated at 25-30º (Trendelemburg Reverse);
- Prescribe prokinetics (metoclopramide or erythromycin);
- Offer EN continuously, through infusion pump;
- Start diet after the first hour and maintain it up to 1 hour before returning to the supine position.

When NT is already in use:

If NT is already being used, the suggestions are:

- Pause enteral diet and open the siphon tube 2h before prone positioning the patient, restarting enteral nutrition 1h afterwards.
- Do not suspend parenteral nutrition while prone maneuver is in progress.

Changes in the NST Routine:

According to the performing practices for the period of the new coronavirus pandemic (COVID-19) established by the Brazilian Federal Council of Dietitians, published on March 20, 2020, for the safety of professionals and patients, at the discretion of units and in accordance with the NST, any physical contact between the dietitian or the dietetic technician with the patients should be avoided, especially when there is suspicion or confirmation for COVID-19.

For evaluation and follow-up of patients, dietitian may use secondary data from medical records, telephone contact and members of the multidisciplinary team who are already in direct contact with patients. Furthermore, non-face-to-face care modality or the possibility of its use can be considered for part of the team, on a relay scale, in order to preserve professionals.

As mentioned before, if screenings via telephone or secondary data from medical records are not possible, they may be suspended during the pandemic in order to protect professionals and patients, reducing physical contact. In addition, the suppression of nutritional screenings may reduce dietitian's workload during pandemic.

However, dietitians and NTS must be involved in the development of care protocols and the nutritional therapy indications. It is worth remembering that the protocols should consider general and local aspects of each service. Furthermore, the dietitian and the NTS should always be aligned with health professionals in order to keep track of patients at nutritional risk without COVID-19 suspicion.

Despite the current pandemic difficulties, it is important to emphasize that patients followed by NTS should keep receiving adequate nutritional support and care, without any negative impact in their treatment.

References:

1. Alhazzani W, Møller MH, Arabi YM, Loeb M, et al. Intensive Care Medicine. Surviving Sepsis Campaign: Guidelines on the Management of Critically Ill Adults with Coronavirus Disease 2019 (COVID-19). Crit Care Med, 2020. Updated: 3/20/2020.
2. Blaser AR, Starkopf J, Alhazzani W, Berger MM, Casaer MP, Deane AM, et al. Early enteral nutrition in critically ill patients: ESCIM clinical practice guidelines. Intensive Care Med, 2017; 45:380-398.
3. Castro MG, Ribeiro PC, Souza UAO, Cunha HFR, et al. Diretriz Brasileira de Terapia Nutricional no Paciente Grave. BRASPEN J 2018; 33(1):2-36.
4. Da Silva JSV, Seres DS, Sabino K, Adams SC, et al.ASPEN Consensus Recommendations for Re feeding Syndrome. Parenteral Nutrition Safety and Clinical Practice Committees, American Society for Parenteral and Enteral Nutrition. Nutr Clin Pract. 2020 Apr;35(2):178-195.
5. Oliveira VM, Piekala DM, Deponti GN, Batista DCR et al. Checklist da prona segura: construção e implementação de uma ferramenta para realização da manobra de prona. Rev Bras Ter Intensiva 2017;29(2):131-41.
6. Recomendações do Conselho Federal dos Nutricionistas: Boas práticas para atuação do nutricionista e do técnico em nutrição e dietética durante a pandemia do novo coronavírus (COVID-19), 3 ed. 20 de março de 2020.
7. S.A. McClave, B.E. Taylor, R.G. Martindale, M. M. Warren, D.R. Johnson, C. Braunschweig, et al., A.S.P.E.N. Board of Directors, American College of Critical Care Medicine, Society of Critical Care Medicine Guidelines for the provision and assessment of nutrition support therapy in the adult critically ill patient: society of critical care medicine (SCCM) and American society for parenteral and enteral nutrition (A.S.P.E.N.) J Parenter Enteral Nutr, 40 (2016), pp. 159-211.
8. Singer P, Blaser AR, Berger MM, Alhazzani W, Calder PC, Casaer MP, Hiesmayr M, Mayer K, Montejo JC, Pichard C, Preiser JC, van Zanten ARH, Oczkowski S, Szczeklik W, Bischoff SC (2019) ESPEN guideline on clinical nutrition in the intensive care unit. Clin Nutr 38:48–79.

Place of study: Sociedade Brasileira de Nutrição Parenteral e Enteral - BRASPEN, São Paulo, SP, Brasil.

No potential conflict of interest was reported for other authors.