Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Conclusion: The EE calculated by PF were significantly lower or higher than that measured by CI, so when used, due to the lack of precision, guide nutritional support inadequatetly.
Disclosure of Interest: None declared

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PARENTERAL NUTRITION IN CLINICAL PRACTICE: A MULTICENTER OBSERVATIONAL STUDY

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Rationale: The use of Parenteral Nutrition (PN) has evolved over the years due to technical improvements that make PN as safe as EN. Indeed, their use and when to administered PN in critical care has been controversial [1]. The aim of our study was to describe the use of PN in the ICU, as well as its different patterns of administration. We also evaluated nutritional variables associated with mortality when total PN was administered.
Methods: National multicenter prospective observational study (37 hospitals). Demographic data and comorbidities, reason for admission, nutritional assessment, caloric-protein dose administered (up to 14 days), laboratory variables, and complications, were collected. Statistical analysis was performed independently using univariant and multivariate analysis (SPSS 20.0).
Results: 229 patients who received PN during their admission to the ICU were included. The mean age was 63.55±13.9 years; 67.7% were men; BMI: 26.9±5.1 $Kg \cdot m^{-2}$;APACHE II: 20.3±7.6. 48% and 46.7% were medical and surgical patients respectively. Only 23.6%(54) received early PN (<48h). They received a mean caloric and protein dose of 19.1±6.7 Kcal/Kg/d and 0.99±0.4 g/Kg/d respectively.
112 (49%) received total PN and 117 (51%) received also enteral nutrition (mixed PN). Mortality in these subgroups was highly variable, with lower mortality for patients who received total PN (24.11% vs 37.21% (NE-PN) vs 25.68% (PN-NE), as well as the patterns of administration in mixed PN (see Figure 1).
When analyzing factors associated with mortality, it was observed that a high NUTRIC Score (Hazard Ratio (HR): 1.334; 95% CI: 1.013-1.758; P=0.041) was associated with higher mortality, while higher Prealbumin levels on day 7 they wereassociated with lower mortality (HR: 0.982; 95% CI: 0.971-0.994; P=0.002).
Conclusion: There is great variability when PN is administered in the ICU, which may probably require a greater consensus and higher standardization among different hospitals. Nutritional risk, as well as laboratory variables, may be associated with mortality in these patients.
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Disclosure of Interest: None declared

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NUTRITION THERAPY IN CRITICALLY ILL PATIENTS WITH COVID-19 IN PRONE POSITION: A FEASIBLE PROTOCOL

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Rationale: Appropriate nutritional therapy (NT) determines favorable outcomes in COVID-19 (CV19) critically ill patients (CIP)[1] which presents great challenges due to complications that hinder progression of diet to the protein energetic target. As it is a new disease, most Guidelines showed inadequate recommendations regarding NT. Especially the infusion of enteral nutrition (EN) in the prone position (PP), which, differently from what recommended, was not safe, except in a trophic flow[2]. There are 3 challenges to NT of CIP with CV19 that have raised disagreements between teams: 1-high energy expenditure of CV19[3,4]; 2-EN during the PP[5]; 3-need to use opioids, sedatives and neuromuscular blockers in usually higher doses[6].
Methods: Literature review.
Results: Recommendations Protocol: 1)Early EN: start EN, 24-48 h after hemodynamic resuscitation/metabolic stability. 2)EN Indication: oral diet's acceptability <60% of required, and if Non-invasive Ventilation/Non-Rebreather masks are applied for a long time (patient cannot eat and breathe at the same time). High-flow nasal catheter facilitates swallowing. 3)PP: position a orogastric (OGT) and a nasoenteric tube (NET) immediately after orotracheal intubation to avoid repetitive exposure to virus[7]. Confirm the radiological positioning of the NET 6h after. 4)EN formula Type: polymeric EN with high caloric density/hyperprotein (1,5 or 2 kcal/mL): CV19 patients are often anasarcated, hypervolemic and poorly distributed. 5)EN in PP: open the OGT 3 h before pronating the patient and draine gastric content. Raise the head of the bed by 30º (reverse Trendelenburg position-RTP), infuse prokinetics drugs and only then, start EN, but no more than in trophic flow (around 20-30 mL/h) during prone perid. Do not infuse water filtered by the nasoenteric tube during PP. 6)EN in Supine Position: start EN 1 h supine the patient. Increase diet flow to the total caloric value, but don't try to compensate for the low volume infused in the PP, as this will bring risk of gastroparesis and vomiting. 7)EN x vasoative drugs (VAD): NE is permissive if VAD are between 0.14-0.3 mcg/kg/min[7]. 8)Indication of Parenteral Nutrition (PN): start PN, by a multi-chamber bag, if PP greater than 3 days or if RTP impracticable. 9)PN bag type: prefer smaller volume PN bag with 625 mL (infusion in central venous access) avoiding water overload. Peripheral infusion bag contains 1206 mL. 10)Total Parenteral Nutrition: if gastric intolerance greater than 5-7 d and PP more than 7 d and/or patients with severe Nutritional Risk[2].
Conclusion: Enormous difficulties in adequately nourishing CIP with CV19 during PP led to the development of this protocol. This is easy to apply, based on the real world of the lack of human and financial resources from the pandemic caused by SARS-CoV-2.
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Disclosure of Interest: None declared.

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AN ANALYSIS OF NUTRITION SUPPORT IN THE INTENSIVE CARE UNIT DURING THE COVID19 PANDEMIC

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Rationale: The aim of this analysis was to determine the characteristics of COVID19 patients assessed by critical care dietitians during the COVID19 pandemic.
Methods: Nutrition parameters were collected for all patients admitted to the intensive care unit (ICU) with COVID19 and a length of stay (LOS) >48hrs. Data was compared from March-June 2020 (T1) to January-April 2021 (T2).
Results: 64 patients in T1 and 77 patients in T2 were assessed by a critical care dietitian and 100% required nutrition support. Mean age in T1 was 60.6yrs (66% male) compared to 63.1yrs in T2 (62% male). Mean BMI was 29.6kg/m^2 in T1 and 30.2kg/m^2 in T2.72% of patients required mechanical ventilation in T1 and 78% in T2 with the remainder on non-invasive ventilation (NIV). During T1 78% transferred to ward level care with 48% in T2. The average ICU LOS of 16 days in T1 and 22 days* in T2 (*2 patients remain in ICU at time of data analysis). Of those that transferred to the ward 100% required on going dietetic input at both time periods. In T1 41% were discharged on enteral nutrition (EN) and 50% discharged on EN in T2. Type of nutrition support during ICU stay is described in the table below.

Type of nutrition support	March-April 2020	Jan-April 2021
Oral nutrition support (ONS)	34%	17%
Enteral nutrition (EN)	55%	58%
ONS + supplementary EN	6%	12%
Parenteral nutrition	0%	1%
EN + supplementary PN	5%	12%

Conclusion: All COVID19 patients with an ICU LOS >48hours were assessed by a critical care Dietitian.
The patient profile was similar in both cohorts and 100% required nutrition support with ONS, EN, PN or a combination of these.
All patients on NIV required ONS with increasing numbers being commenced on supplementary EN in T2.
On transfer to ward level care 100% of patients required nutrition support highlighting the need for on-going dietetic input.
Disclosure of Interest: None declared.

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CALORIES ADMINISTERED TO CRITICALLY ILL PATIENTS CAN BE REGULATED USING THE C-REACTIVE PROTEIN LEVEL AS AN INDICATOR: A RETROSPECTIVE COHORT ANALYSIS

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Rationale: The C-reactive protein (CRP) level reflects the severity of various diseases, including inflammatory diseases. We hypothesized that the quantity of energy fed to a patient could be regulated using CRP as an indicator.
Methods: This single-center retrospective cohort study included patients who received tube feeding under ventilator control in the intensive care unit (ICU) for ≥14 days from October 2017 to September 2020, with a maximum observation period of 90 days after admission. To evaluate the effect of overfeeding at the time of invasiveness using concrete numerical values, high invasion was defined as CRP levels ≥10 mg/dL, and the achievement of target calorie intake was defined as a day when ≥20 kcal/kg of calories was administered. If the CRP level exceeded 10 mg/dL on the day after the target calorie goal was achieved, the excess CRP level over 10 mg/dL was assumed to be an indicator of the severity of overfeeding. Furthermore, the total proportion of the CRP level that exceeded 10 mg/dL after reaching the target calorie intake was calculated. The subgroups of surviving and non-surviving patients were separately evaluated, and the Results were compared.
Results: In total, 81 patients were included in the analysis, with 63 and 18 patients in the survival and non-survival groups, respectively. Cox regression analysis showed that only the total proportion of CRP level that exceeded 10 mg/dL after reaching the target calorie intake was significantly related to mortality.
Conclusion: When the CRP level exceeded 10 mg/dL, the administration of calories >20 kcal/kg could be associated with worse mortality. This result may answer the question of when to limit calories during the ICU stay, and these preliminary findings should be validated in future prospective studies.
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Disclosure of Interest: None declared

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COMPARATIVE STUDY ON THE CLINICAL OUTCOMES OF CRITICALLY ILL COVID-19 PATIENTS BETWEEN THOSE WITH ADEQUATE AND INADEQUATE NUTRIENT INTAKE ADMITTED AT ST. LUKE'S MEDICAL CENTER

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Rationale: The early detection of malnutrition in critically ill COVID-19 patients and its management is very essential towards better clinical outcomes. This study aims to determine the associations of adequacy in nutrient intake and length of hospital stay, ICU length of stay, ventilator days and mortality.
Methods: This retrospective study included all critically ill COVID-19 adult patients that met the inclusion criteria and assessed by the Clinical Nutrition Service admitted at the ICU of St. Luke's Medical Center from March to December 2020. Adequacy of calorie and protein intake, mortality, number of ventilator days, length of ICU and hospital stay were documented. Descriptive statistics were used to summarize the data with P-values of <0.05 considered significant. The adequacy of calorie and protein intake was defined as 75% of calorie and protein goals. Data analysis was applied to compare clinical outcomes of critically ill COVID-19 patients between those with adequate and inadequate intake with the outcomes - mortality, mechanical ventilator days, length of ICU days and length of hospital stay.
Results: A total of 155 patients were included in the study, average age of 66 years old, majority male (65%). More than 36% of patients had normal BMI; however, more than 50% have a BMI of at least 25.0. More than half of patients had an enteral route of feeding (54%), while the rest mostly had oral feeding (40%). A prevalence of 33% for inadequate protein intake and 32% for inadequate calorie intake have been estimated. Overall, 89% of patients used mechanical ventilator, with an average length of use of about 15 days. The average length of ICU stay is 12.65 days, while the average hospital stay is almost double, at 23.15 days. More than a third of the patients expired (39.35%) while more than 60% were discharged.
The study primarily focused on comparing outcomes among different level of nutritional status of patients. Inadequate calorie and protein intake had a significantly higher proportion of use of mechanical ventilator; however, the average length of use for both groups are not significantly different. The length of ICU stay and total length of hospital stay is also comparable between both groups. The proportion of mortality is significantly higher among patients with inadequate calorie intake (84%) versus those with adequate calorie intake (19%). Similarly, higher mortality rate seen among inadequate protein intake (78%) versus those with adequate protein intake (20%).
Conclusion: Adequate nutrient intake in critically ill COVID-19 patients were associated with decreased mortality rate, ICU and hospital length of stay but, longer mechanical ventilator days. Several factors may have affected the adequacy in nutrient intake which includes hemodynamic instability, diagnostic/therapeutic procedures, tolerance/complications of feeding, poor appetite, poor documentation of food intake and the severity of disease condition. Most of the patients that expired were the elderly population with comorbidities. The great impact of improved clinical outcomes highlights the importance of nutrient intake monitoring in the optimization of nutrition delivery among critically ill COVID-19 patients.
Disclosure of Interest: None declared.