



تغذیه در دوران کرونا

دکتر میترا زراتی

استادیار دانشگاه علوم پزشکی ایران

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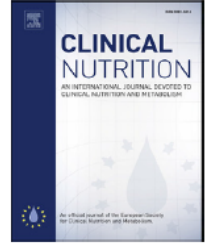
Zarrati_ms@yahoo.com



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Editorial

ESPEN expert statements and practical guidance for nutritional management of individuals with SARS-CoV-2 infection



S U M M A R Y

The COVID-19 pandemic is posing unprecedented challenges and threats to patients and healthcare systems worldwide. Acute respiratory complications that require intensive care unit (ICU) management are a major cause of morbidity and mortality in COVID-19 patients. Patients with worst outcomes and higher mortality are reported to include immunocompromised subjects, namely older adults and polymorbid individuals and malnourished people in general. ICU stay, polymorbidity and older age are all commonly associated with high risk for malnutrition, representing per se a relevant risk factor for higher

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polymorbid individuals, should be checked for malnutrition through screening and assessment. The check should initially comprise the MUST criteria* or, for hospitalized patients, the NRS-2002 criteria.

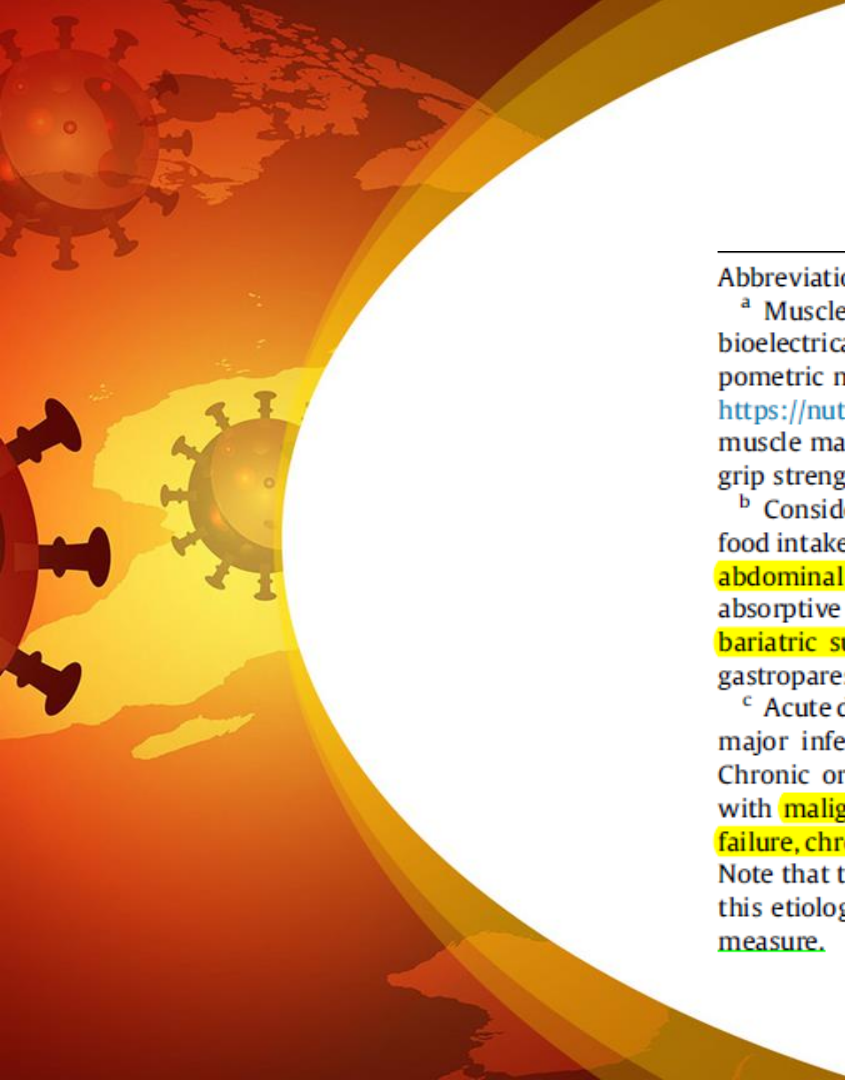
*Must criteria: see <https://www.bapen.org.uk/screening-and-must/must-calculator>.

**NRS-2002 criteria: <https://www.mdcalc.com/nutrition-risk-screening-2002-nrs-2002>.

Identification of risk and presence of malnutrition should be an early step in general assessment of all patients, with regard to more at-risk categories including older adults and individuals suffering from chronic and acute disease conditions. Since malnutrition is defined not only by low body mass but also by inability to preserve healthy body composition and skeletal muscle mass, persons with obesity should be screened and investigated according to the same criteria.

Table 1**Phenotypic and etiologic criteria for the diagnosis of malnutrition, adapted from [9].**

Phenotypic Criteria		Etiologic Criteria	
Weight loss (%)	>5% within past 6 months or >10% beyond 6 months	Reduced food intake or assimilation ^b	50% of ER > 1 week, or any reduction for >2 weeks, or any chronic GI condition that adversely impacts food assimilation or absorption
Low body mass index (kg/m ²)	<20 if < 70 years, or <22 if >70 years Asia: <18.5 if < 70 years, or <20 if >70 years	Inflammation ^c	Acute disease/injured, or chronic disease-related
Reduced muscle mass	Reduced by validated body composition measuring techniques ^a		

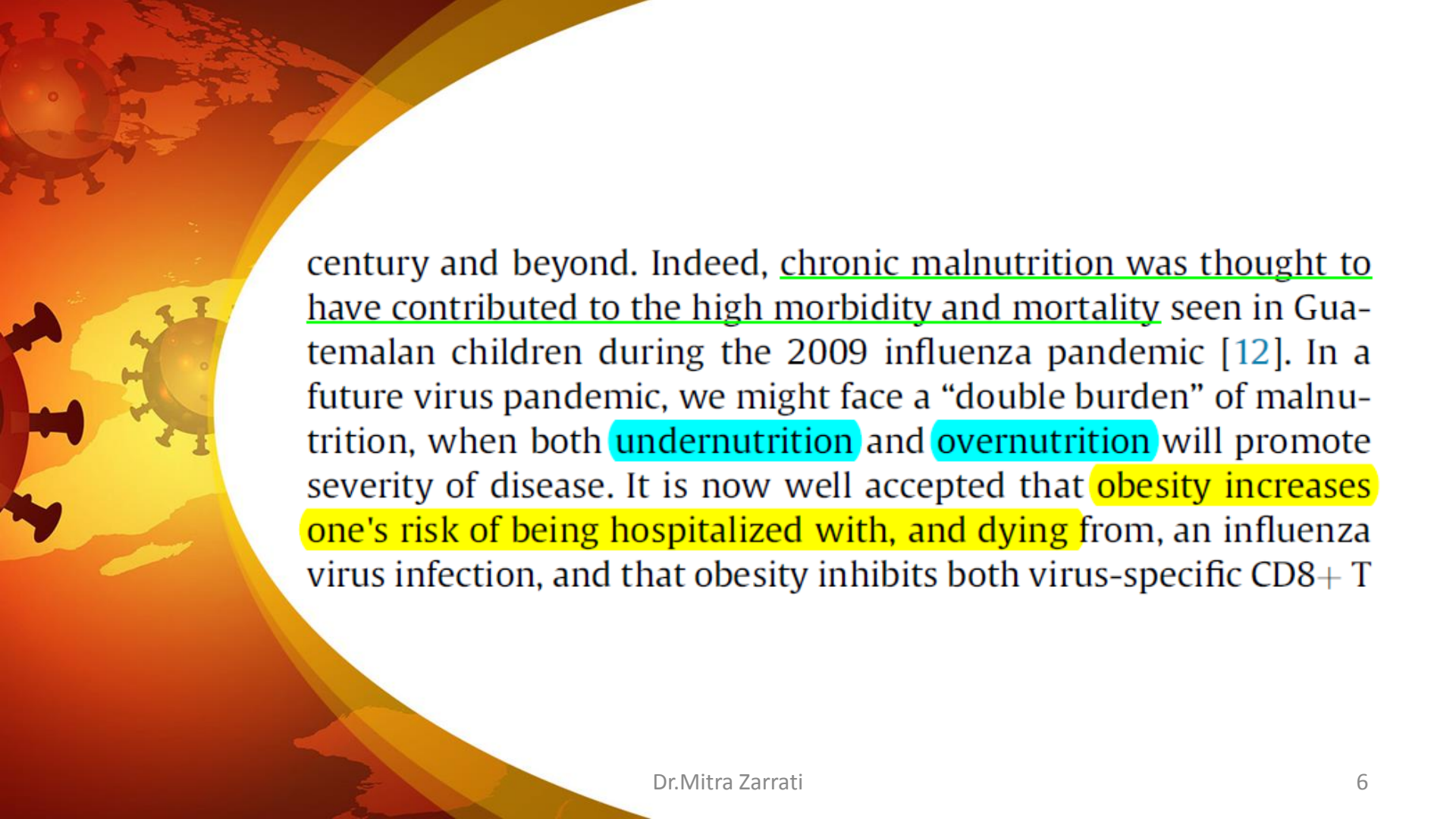


Abbreviations: GI, gastro-intestinal; ER, energy requirements.

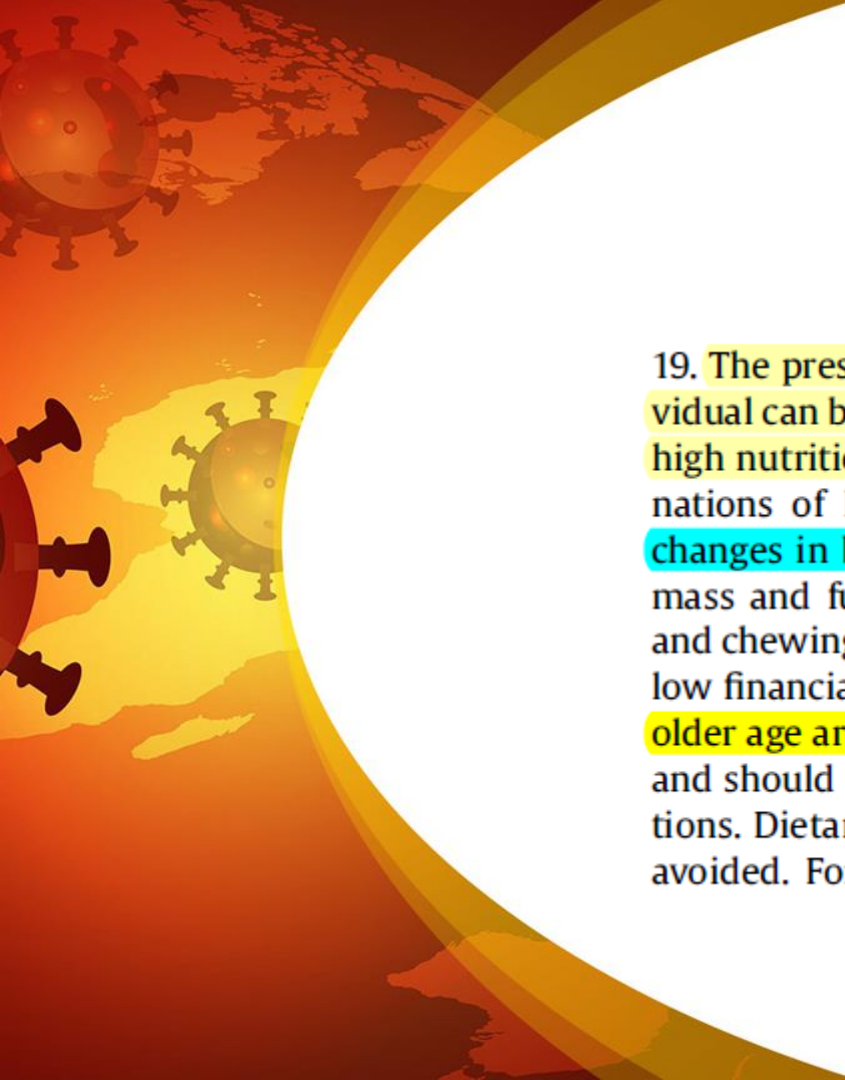
^a Muscle mass can be assessed best by dual-energy absorptiometry (DXA), bioelectrical impedance analysis (BIA), CT or MRI. Alternatively, standard anthropometric measures like mid-arm muscle or calf circumferences may be used (see <https://nutritionalassessment.mumc.nl/en/anthropometry>). Thresholds for reduced muscle mass need to be adapted to race (Asia). Functional assessments like hand-grip strength may be considered as a supportive measure.

^b Consider gastrointestinal symptoms as supportive indicators that can impair food intake or absorption e.g. **dysphagia**, nausea, **vomiting**, **diarrhea**, **constipation or abdominal pain**. Reduced assimilation of food/nutrients is associated with mal-absorptive disorders like **short bowel syndrome**, **pancreatic insufficiency** and **after bariatric surgery**. It is also associated with disorders like esophageal strictures, gastroparesis, and **intestinal pseudo-obstruction**.

^c Acute disease/injury-related: Severe inflammation is likely to be associated with major infection, burns, trauma or closed head injury. Chronic disease-related: Chronic or recurrent mild to moderate inflammation is likely to be associated with **malignant disease**, **chronic obstructive pulmonary disease**, congestive **heart failure**, **chronic renal disease** or any disease with chronic or recurrent Inflammation. Note that transient inflammation of a mild degree does not meet the threshold for this etiologic criterion. C-reactive protein may be used as a supportive laboratory measure.

The background features a stylized globe on the left side, partially obscured by several virus-like particles with spike-like protrusions. The color palette is warm, consisting of shades of orange, red, and yellow. A large, white, semi-circular shape frames the text on the right side of the slide.

century and beyond. Indeed, chronic malnutrition was thought to have contributed to the high morbidity and mortality seen in Guatemalan children during the 2009 influenza pandemic [12]. In a future virus pandemic, we might face a “double burden” of malnutrition, when both **undernutrition** and **overnutrition** will promote severity of disease. It is now well accepted that **obesity increases one's risk of being hospitalized with, and dying from,** an influenza virus infection, and that obesity inhibits both virus-specific CD8+ T

The background features a stylized globe in shades of orange and red, with several virus-like particles (spheres with spikes) scattered across it. A large, curved white shape on the right side of the slide frames the text.

19. The presence of at least two chronic diseases in the same individual can be defined as polymorbidity and is also characterized by high nutritional risk. Older adults are at higher risk due to combinations of higher prevalence of comorbidities, aging-associated changes in body composition with gradual loss of skeletal muscle mass and function (sarcopenia), additional factors including oral and chewing problems, psycho-social issues, cognitive impairment, low financial income. Obese individuals with chronic diseases and older age are at risk for reduced skeletal muscle mass and function and should therefore be fully included in the above recommendations. Dietary restrictions that may limit dietary intake should be avoided. For COVID-19 patients the counseling process could be

Energy needs

Energy needs can be assessed using indirect calorimetry if safely available with ensured sterility of the measurement system, or as alternatives by prediction equations or weight-based formulae such as:

- (1) 27 kcal per kg body weight and day; total energy expenditure for polymorbid patients aged >65 years (recommendation 4.2 in ref. [7])
- (2) 30 kcal per kg body weight and day; total energy expenditure for severely underweight polymorbid patients (recommendation 4.3. in ref. [7])*
- (3) 30 kcal per kg body weight and day; guiding value for energy intake in older persons, this value should be individually adjusted with regard to nutritional status, physical activity level, disease status and tolerance (recommendation 1 in ref. [8])


*The target of 30 kcal/kg body weight in severely underweight patients should be cautiously and slowly achieved, as this is a population at high risk of refeeding syndrome.



Protein needs


Protein needs are usually estimated using formulae such as:

- (1) 1 g protein per kg body weight and day in older persons; the amount should be individually adjusted with regard to nutritional status, physical activity level, disease status and tolerance (recommendation 2 in ref. [8]).
- (2) \geq 1 g protein per kg body weight and day in polymorbid medical inpatients in order to prevent body weight loss, reduce the risk of complications and hospital readmission and improve functional outcome (Recommendation 5.1 in ref. [7]).



Subjects with malnutrition should ensure sufficient supplementation with vitamins and minerals.

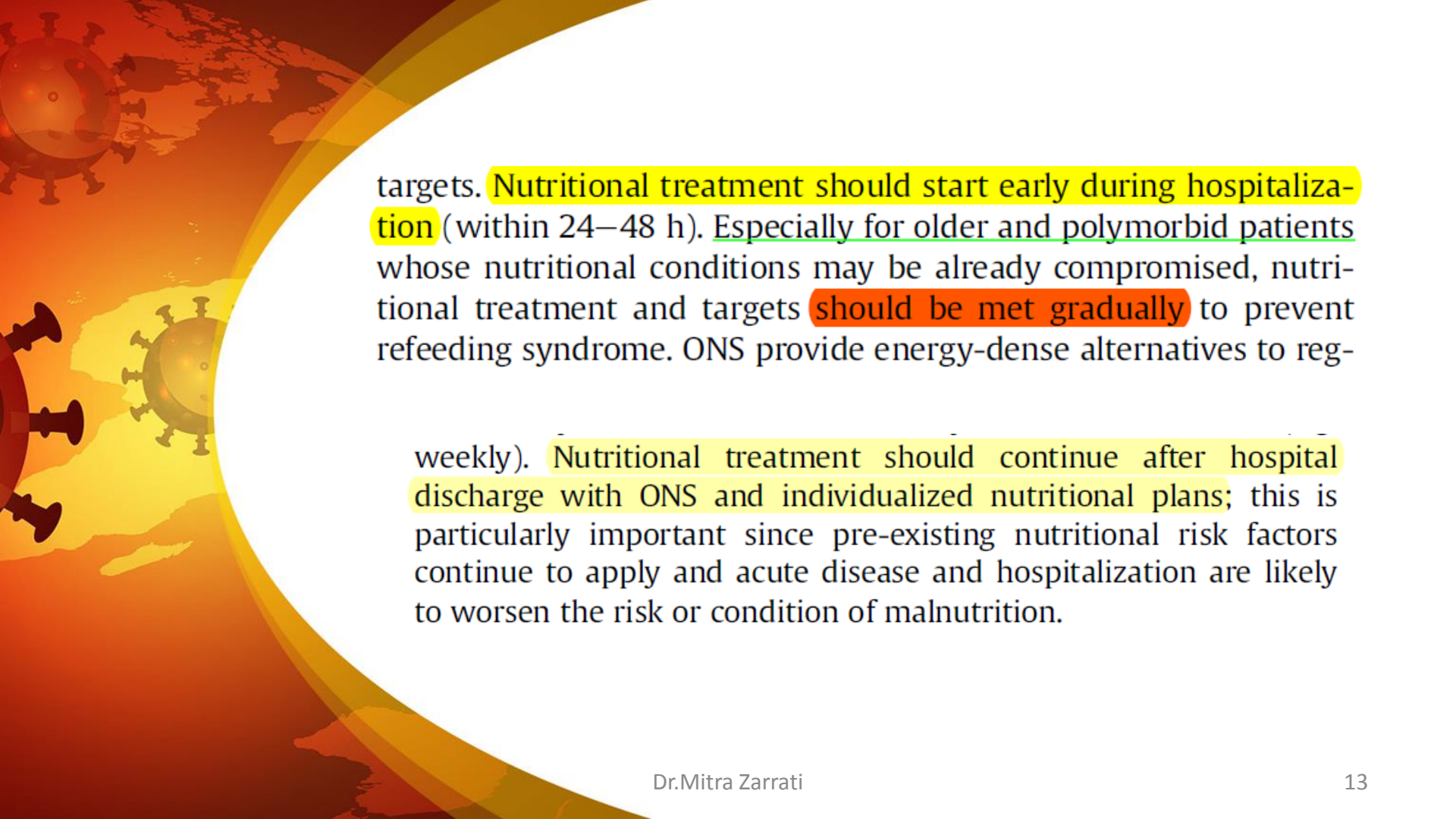
In general, low levels or intakes of micronutrients such as vitamins A, E, B6 and B12, Zn and Se have been associated with adverse clinical outcomes during viral infections [27]. This notion has been confirmed in a recent review from Lei Zhang and Yunhui Liu [15] who proposed that besides vitamins A and D also B vitamins, vitamin C, omega-3 polyunsaturated fatty acids, as well as selenium, zinc and iron should be considered in the assessment of micronutrients in COVID-19 patients.



While it is important to prevent and treat micronutrient deficiencies, there is no established evidence that routine, empirical use of supraphysiologic or suprathapeutic amount of micronutrients may **prevent or improve clinical outcomes of COVID-19**. Based on the above combined considerations, we suggest that provision of **daily allowances for vitamins and trace elements be ensured to malnourished patients at risk for or with COVID-19**, aimed at maximizing general anti-infection nutritional defense.

Oral nutritional supplements?

Oral nutritional supplements (ONS) should be used whenever possible to meet patient's needs, when dietary counseling and food fortification are not sufficient to increase dietary intake and reach nutritional goals, ONS shall provide at least 400 kcal/day including 30 g or more of protein/day and shall be continued for at least one month. Efficacy and expected benefit of ONS shall be assessed once a month.

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targets. Nutritional treatment should start early during hospitalization (within 24–48 h). Especially for older and polymorbid patients whose nutritional conditions may be already compromised, nutritional treatment and targets should be met gradually to prevent refeeding syndrome. ONS provide energy-dense alternatives to reg-

weekly). Nutritional treatment should continue after hospital discharge with ONS and individualized nutritional plans; this is particularly important since pre-existing nutritional risk factors continue to apply and acute disease and hospitalization are likely to worsen the risk or condition of malnutrition.

Enteral nutrition (EN)? Parenteral nutrition (PN)?

In **polymorbid medical inpatients** and in **older persons** with reasonable prognosis, whose nutritional requirements cannot be met orally, enteral nutrition (**EN**) should be administered. Parenteral nutrition (**PN**) should be considered when EN is not indicated or unable to reach targets.

Enteral nutrition should be implemented when nutritional needs cannot be met by the oral route, e.g if oral intake is expected to be impossible for more than three days or expected to be below half of energy requirements for more than one week. In these cases,

Managing Adult Malnutrition



Including a pathway for the appropriate use of oral nutritional supplements (ONS)

COVID-19 ILLNESS RESOURCE FINDER

Find the right information on good nutrition during or after COVID-19 illness.

AT HOME WITH SYMPTOMS OF COVID-19 ILLNESS +

RECOVERING AT HOME AFTER A HOSPITAL STAY FOR COVID-19 ILLNESS +

Understanding mild, moderate and severe symptoms of COVID-19: [MORE INFORMATION](#)

Leaflets to help you

COVID-19 & Good Nutrition: Patient and Carer Resources

COVID-19: PATIENT RESOURCES

An overview with useful resources for patients and carers. Endorsed by the British Dietetic Association (BDA), the Royal College of Nursing (RCN) and the British Association of Parenteral and Enteral Nutrition (BAPEN) [MORE](#)

**COVID-19: Resources for
Healthcare Professionals**



Leaflets to help you

The information leaflets listed in the resource finder above are as follows:

Green leaflet: **EATING WELL DURING AND AFTER COVID-19** eating a balanced diet to help maintain your strength and fitness, as well as helping your body to fight infection.

[DOWNLOAD GREEN LEAFLET](#)

Yellow leaflet: **IMPROVING YOUR NUTRITION DURING AND AFTER COVID-19 ILLNESS** for those with a poor appetite and/or recent unintentional weight loss. Includes tips to help get the most from your food.

[DOWNLOAD YELLOW LEAFLET](#)

Red leaflet: **NUTRITION SUPPORT DURING AND AFTER COVID-19 ILLNESS** if you are very unwell or have recently been discharged from hospital, or if you are struggling to eat enough, are underweight and/or you have lost weight recently without meaning to, your healthcare professional may feel that you need extra nutrition to meet your body's needs and may prescribe nourishing drinks called 'oral nutritional supplements' for a short time. This information leaflet gives advice on how to incorporate these supplements into your diet.

[DOWNLOAD RED LEAFLET](#)

EATING WELL

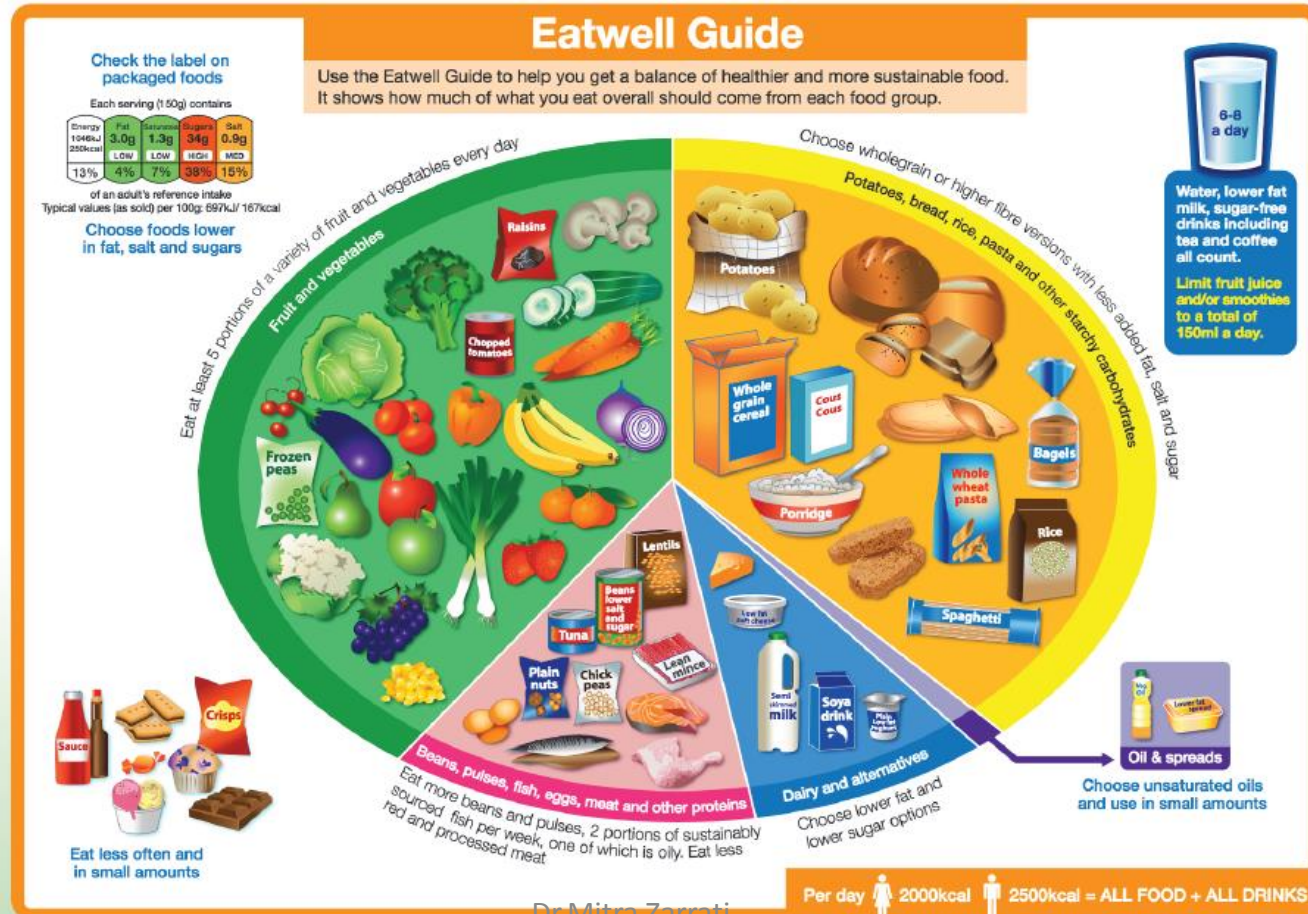
During and After COVID-19 Illness

COVID-19 (coronavirus disease-2019) is an infectious disease, which can cause symptoms of fever, coughing, general weakness, pain, difficulty breathing as well as changes to taste and smell. Eating well and maintaining a healthy weight is important to maintain your strength and fitness to ensure that your body has enough nutrients (energy, protein, vitamins and minerals) to help protect you from infection and recover from illness.

Eating well can be difficult during COVID-19, as your routine may be disrupted and you may have difficulty shopping for the foods you normally eat. This leaflet provides important tips to help you to eat well during and after COVID-19 illness. If you have recently been very unwell, have a poor appetite or have lost weight without meaning to, the yellow information leaflet “Improving Your Nutrition During and After COVID-19 Illness” may be helpful. This provides information about how to make the most of your food, which can be found at <https://www.malnutritionpathway.co.uk/library/covid19yellow.pdf> Consider speaking to your GP or nurse if you have concerns.

Tips for a Healthy Balanced Diet

The Eatwell guide below gives you information about what to eat to ensure you are getting a balanced diet:



At home, you may feel too weak or tired to eat, and notice you have lost weight. You also might be eating and drinking less than before you got sick. This is completely normal, however, you need to prevent further weight loss to rebuild your strength. Here are some tips to rebuild your strength, grow your muscles, and get you back to your usual daily activities:

Eat foods with protein at each meal.
Foods high in protein are:



Meats



Fish



Eggs



Poultry



Beans



Yogurt, cheese,
and milk



Soy



Peanut butter



Nuts

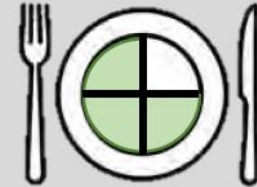
Try to have whole grain breads, pastas, rice, or cereals at each meal.



Try to eat vegetables and fruits at each meal.



Keep track of what you are eating at each meal. For example, write down if you have eaten none (0%), 25%, 50% 75% or all (100% eaten).



If you are eating 50% or less than normal, make a milkshake with Greek yogurt or buy a nutrition supplement (meal replacement) for between meals. They may be purchased at your local grocery or drugstore.

Poor appetite, fatigue, or feeling full quickly



- Eat small frequent meals 4-6 times per day or eat every couple of hours
- Eat foods high in protein first at meal times
- Eat high calorie and protein foods such as cheese, high fat and Greek yogurts, peanut butter, cream cheese, or cream soups with whole milk
- Add gravies and sauces to meat, poultry, and side dishes
- Drink milkshakes or meal replacements/protein drinks between meals
- Consider a multivitamin supplement if you are not eating enough (50% or less)

Taste changes



- Eat foods that are bland to start and then add flavour
- Try colder foods to start since hot foods can have a strong taste
- Add sugar, salt, seasonings to flavour food
- Use sour candies, mints or gum before and after meals if your mouth is dry
- Brush teeth regularly



Exercise

- Exercise can reduce your risk of major illnesses, keep muscles strong and can keep you agile
- It can also boost self-esteem, mood, sleep quality and energy levels, as well as reducing your risk of stress and depression
- Adults should try to be active daily and aim for at least 150 minutes of physical activity over a week through a variety of activities. Choose the exercises you enjoy.
- Exercising whilst social distancing can seem more challenging – consider walking in the garden or open green spaces, dancing at home with the family, or taking part in online exercise classes.


IMPROVING YOUR NUTRITION

During and After COVID-19 Illness

COVID-19 (coronavirus disease-2019) is an infectious disease, which can cause symptoms of fever, coughing, general weakness, pain, difficulty breathing as well as changes to taste and smell. Your diet, nutritional and fluid intake are very important when you have COVID-19, but the symptoms can affect your appetite and ability to eat, making it difficult for you to meet your nutritional needs.

If you are struggling to eat enough, or if you are losing weight or strength in your muscles, you may need to think differently about the foods you are eating. This leaflet provides important tips to help you get the most out of the foods you eat while you are unwell and may help you to regain some of the weight or strength you have lost.

It is important to be aware of your weight and appetite, particularly if you are older or have a pre-existing medical condition. If you are worried about the fact you are losing weight without trying the information in this leaflet should help you, however if you continue to lose weight or you struggle to eat enough, even if you are overweight,

- 
- If you are unable to weigh yourself, be aware of other **signs of weight loss** (for example **jewellery and clothes becoming looser**) and use the checklist from the Patients Association at <https://www.patients-association.org.uk/Handlers/Download.ashx?IDMF=3449fca0-dc52-4f06-ac75-3050b71d7bb5>

Tips for Getting Enough Protein

Protein is particularly important for building your strength after a severe illness.

- Try to include a **protein source** (such as meat, fish, eggs, beans, pulses, nuts or tofu) at each meal
- Visit <https://www.malnutritionpathway.co.uk/library/proteinideas.pdf> for more information about including enough protein in your diet
- If you are finding it difficult to consume enough protein in your diet talk to your healthcare professional about adding additional protein to your diet: this may include the use of oral nutritional supplements (**nutrition drinks with a high protein content**)



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Tips about Vitamins and Minerals

Vitamins and minerals are important to support your immune system during illness. If you are struggling to eat enough, you may not be getting enough vitamins and minerals. During isolation at home, you may not get enough sunshine for your body to produce vitamin D.

- Try to include fruit and vegetables in your diet (aim for at least 5 portions a day)
- Consider a multivitamin and mineral supplement if you are struggling with your fruit and vegetable intake
- Spend some time outdoors each day if you can and consider taking a vitamin D supplement whilst you are self-isolating at home. In the UK a supplement of 10 micrograms of vitamin D a day is recommended



Tips for Eating When You are Short of Breath

Eating can be very challenging when you are short of breath so try to:

- Eat **smaller portions of energy and protein rich foods** more frequently throughout the day
- Choose **softer, moist foods** that are easier to chew and swallow
- Take your time during eating



Tips for Managing a Dry Mouth

Dry mouth can be caused by the use of nebulisers, inhalers and oxygen therapy. It can make it difficult to chew and swallow foods, and sometimes can lead to taste changes.

- Try to **drink six to eight cups of fluid each day** (including nourishing fluids such as milky drinks or juices)
- Add **sauces** such as gravy, mayonnaise, salad cream and cheese sauce to foods, and choose moist dishes like stews
- **Suck sugar-free sweets** or **chew sugar-free gum** to help saliva production
- Rinse and gargle with water after using an inhaler to keep your mouth fresh

If you are finding it difficult to swallow, are frequently coughing during meals or your voice becomes gargly, ask your healthcare professional to refer you to a speech and language therapist to check your swallowing and for further advice.

NUTRITION SUPPORT

During and After COVID-19 Illness

COVID-19 (coronavirus disease-2019) is an infectious disease, which can cause symptoms of fever, coughing, general weakness, pain, difficulty breathing as well as changes to taste and smell. These symptoms can affect your appetite and ability to eat, making it difficult for you to meet your nutritional needs. Over time, this can lead to a condition called malnutrition (undernutrition), which can slow down your recovery.

If you are struggling to eat enough, if you have been very ill and/or if you have been recently discharged from hospital, your healthcare professional may have given you advice about a nourishing diet and you may have been given a supply of nutrition drinks, known as 'oral nutritional supplements'.

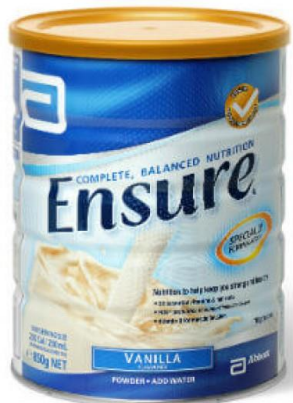
In addition, if you are **over the age of 65 years**, or you have a **long-term health condition**, and have symptoms of COVID-19 you may be at **increased risk of malnutrition**.

This leaflet gives advice on how to get the most from your food as well as how to incorporate the nutritional supplements into your diet (see page 4).



Types of Oral Nutritional Supplements

- Oral Nutritional Supplements are available in a range of types and flavours (milkshakes, puddings, juice, yoghurt or soup styles). Some are ready-made and ready to drink, whereas others are powders that need to be made up with fresh milk. Discuss your preferences with your GP, Pharmacist or Dietitian and find one you enjoy taking. Starter variety packs are available to try to help you decide your preferred flavours
- Some oral nutritional supplements contain more of certain nutrients, which may be helpful for some people recovering from illness. Those that are high in energy and protein may be particularly helpful to rebuild your strength if you have been very unwell and/or if you have lost weight. They are also helpful if you are frail or if you have a long-term health condition such as cancer or COPD
- Some oral nutritional supplements are available in a smaller bottle which may be easier to manage if you are breathless, have a poor appetite or struggle to eat or drink large amounts
- If you are finding it difficult to swallow, your GP can prescribe thickened oral nutritional supplements to help you



How to Take Oral Nutritional Supplements

- Your GP or Dietitian will tell you how many to take each day – prescriptions are often between 1 and 3 oral nutritional supplements per day. It is important that you take the recommended number/ dose each day but if you have trouble managing the amount recommended do let your healthcare professional know. Your healthcare professional should check in with you regularly to see how you are getting on with your eating and drinking and your prescribed ONS
- Oral nutritional supplements should be taken in addition to your meals and snacks - they should not replace food, drinks or meals (unless a healthcare professional has advised this)
- In general, people take oral nutritional supplements when they most feel like taking them. This could be between meals, like a snack, first thing in the morning or before bed-time. Others find that taking small amounts of their supplements regularly throughout the day helps
- Most oral nutritional supplements (drinks and desserts) taste best cold. Soup and savoury styles are better warm
- You can drink most liquid oral nutritional supplements straight from the bottle using a straw if provided or you can pour it into a glass or cup. Oral nutritional supplements can also be frozen as ice-lollies or be included in recipes such as hot chocolate, porridge, custard and rice pudding

How Long to Take Oral Nutritional Supplements for

Typically you should only need a prescription of oral nutritional supplements for up to 12 weeks. Your healthcare professional will review and monitor you to decide when you no longer need the extra nutrition.

مدیریت تغذیه ای بیماران مبتلا به سرطان در مواجهه با کرونا ویروس

۹-۳-۱ میزان نیاز به انرژی

با توجه به شرایط استرس و وضعیت هیپرمتابولیک در زمان ابتلا به ویروس - کوید ۱۹ میزان انرژی مورد نیاز در افراد مبتلا به کنسر از ۲۵ تا ۳۰ کیلوکالری به ازای وزن بدن در شرایط عادی به ۳۵ کیلوکالری به ازای کیلوگرم وزن بدن افزایش می یابد.

۹-۳-۲ میزان نیاز به پروتئین

بین ۱,۲ تا ۱,۵ گرم به ازای کیلوگرم وزن بدن متناسب با شرایط بیمار توصیه می شود.
✓ حد پایین برای خارج شدن از شرایط کاتابولیک لازم است.

۹-۳-۳ میزان نیاز به کربوهیدرات

توصیه ها همانند گایدلاین اصلی و طبق رژیم غذایی سالم می باشد.
✓ محدود کردن مصرف قندهای ساده و استفاده بیشتر از غلات کامل

دستورالعمل حمایت های تغذیه ای در بیماران سرپایی و بستری مشکوک و یا مبتلا به COVID-19

۹-۳-۵ میزان نیاز به مایعات

مصرف مایعات برای بیماران مبتلا به سرطان و مخصوصا تحت شیمی درمانی به ۲ دلیل از اهمیت بالایی برخوردار است.

- به خاطر داروهایی که جهت درمان بیماری زمینه ای خود (سرطان) مصرف می کنند
- به علت عوارض شیمی درمانی از جمله بی اشتهایی، موکوزیت، استفراغ، اسهال و دهیدراتاسیون بسیار شایع می باشد.
- ✓ هر دو بیماران را مستعد نارسایی حاد کلیوی می کند و باتوجه به عارضه کلیوی در بیماری ناشی از کروناویروس، توجه به این امر بسیار اهمیت دارد.
- توصیه شده: ۲۰ تا ۴۰ میلی لیتر به ازای کیلوگرم وزن یا ۱ میلی لیتر به ازای ۱ کیلوکالری



نکات تغذیه ای در دارودرمانی کووید-۱۹

Hydroxy Chloroquine ; Oral 200 mg

هیدروکسی کلروکین

گریپ فروت و محصولات حاوی گریپ فروت حاوی ترکیباتی هستند که سبب مهار آنزیم CYP3A4 می شوند و ممکن است باعث افزایش غلظت هیدروکسی کلروکین در خون شوند. در هنگام مصرف این دارو باید از مصرف گریپ فروت یا آب آن اجتناب کرد.

این دارو در افراد مبتلا به فایسم و مبتلایان به صرع منع مصرف دارد.

مکانیسم اثر:

عوارض خونی: آنمی آپلاستیک همولیتیک (در G6PD)، آگرانولوسیتوز، لوکوپنی، ترومبوسیتوپنی در مصرف طولانی مدت

عوامل موثر بر افزایش جذب: با وعده های غذایی یا همراه شیر مصرف شود

عوامل موثر بر کاهش جذب: آنتی اسید ها (تا 4 ساعت پس از مصرف، آنتی اسید مصرف نشود)

عوارض گوارشی: تهوع، اسهال، استفراغ و دل درد

عوارض قلبی عروقی: افزایش QT Interval

در استفاده طولانی مدت: Photosensitivity حساسیت به نور

عوارض پوستی: کهیر، راش پوستی،

افت قند خون Hypoglycemia

عوارض نورولوژیک: آتاکسی، سرگیجه، اختلالات هیجانی، سندرم تیترز، کابوس،



با توجه به اثرات اختصاصی و غیر اختصاصی آنتی ویرال زینک، استفاده از مکمل های زینک، نتایج کلینیکی را بهبود می بخشد.

منع تجویز همزمان با داروهایی که فاصله QT را طولانی می کنند، متادون، پرومتازین، اوندانسترون، متوکلروپرامید، مترونیدازول، متوپرولول، هالوپریدول، دکسترومتورفان، سیتالوپرام، کلاریترومایسین، اریترومایسین آمپی سیلین، سایمتیدین، دیگوکسین، پنی سیلامین

کلروکین فسفات:

یکی از عوارض مهم این دارو ، افت قند خون می باشد. در صورت بروز این مشکل تمهیدات تغذیه ای در رژیم غذایی بیمار باید اجرا شود. مکمل های گیاهی ، مکمل های آهن و نیاسین با این دارو تداخل دارند.

:Velpastavir

از این داروها می توان با احتیاط استفاده کرد. از عوارض جانبی ناشی از این داروها می توان به کاهش تعداد گلبولهای قرمز اشاره کرد که ممکن است با علائمی نظیر خستگی ، ضعف ، سرگیجه ، یا سردی دست و پا همراه باشد.

مصرف این دارو با آب گریپ فروت ممکن است غلظت پلاسمائی این دارو را افزایش دهد ، که به طور بالقوه منجر به بروز عوارض جانبی می شود.

:Daclatavir

از مصرف محصولات حاوی گریپ فروت باید خودداری شود. گریپ فروت از طریق مهار آنزیم CYP3A ممکن است غلظت سرمی این دارو را افزایش دهد.

از مصرف گیاه St. John's Wort یا گل راعی باید خودداری شود. این گیاه از طریق القا متابولیسم آنزیم CYP3A ، غلظت سرمی این دارو را کاهش می دهد. باید از مصرف همزمان این دارو با مکمل های حاوی Wort St. John's اجتناب شود.

این دارو را هم می توان با غذا و هم بعد از غذا مصرف کرد. مصرف همزمان این دارو با غذا ممکن است سبب آهسته شدن متابولیسم آن شود.

کپسول: Ritonavir/Atazanavir (آنتی رترو ویرال) آنتی HIV-

مواد غذایی می تواند سطح Atazanavir را در بدن بیمار بالا ببرد. برای اطمینان از جذب حداکثر خوراکی آن ، Atazanavir باید همراه غذا یا بلافاصله بعد از غذا تجویز شود. این مساله باعث می شود جذب این دارو بیشتر شود.

با مکانیسم اثر مهار کنندگی پروتئاز- یک قرص همراه غذا میل می شود. دو ساعت قبل یا یک ساعت بعد از آنتی اسید میل می شود.

فرم پودر خوراکی: مخلوط با غذا، یک قاشق با یک قاشق چایخوری آب سیب یا مانند آن یک قاشق چایخوریغذا میکس شده با دارو داده شود.

یک قاشق با 30 سی سی آب یا شیر داده شود.

عوارض: راش، افزایش کلسترول سرم بیش از 240، تهوع، افزایش آنزیم های کبدی

کنتراندیکاسیون هایپر سنسیتیویته

الکل می تواند فشار خون را کاهش داده و بر اثرات Diltiazem بیفزاید. در صورت نوشیدن الکل با Diltiazem ، به خصوص هنگام شروع مصرف دارو یا درست بعد از افزایش دوز ، ممکن است بیمار دچار سرگیجه ، غش یا ضربان قلب سریع شود. آب گریپ فروت همچنین ممکن است با افزایش سطح آن در خون شود و اثرات Diltiazem را افزایش دهد. این دارو با آب پرتقال تداخل ندارد.

:Levofloxacin

Levofloxacin و مولتی ویتامین با مواد معدنی نباید همزمان به صورت خوراکی مصرف شود. محصولات که حاوی منیزیم ، آلومینیوم ، کلسیم ، آهن و / یا مواد معدنی دیگر هستند ، ممکن است در جذب Levofloxacin به داخل خون تداخل داشته و از اثربخشی آن کاسته شود. در طی درمان با Levofloxacin از مصرف مولتی ویتامین با مواد معدنی خودداری شود. در غیر این صورت ، باید 2 تا 4 ساعت قبل یا 4 تا 6 ساعت بعد از مصرف مولتی ویتامین یا مواد معدنی ، از Levofloxacin استفاده شود.

هنگامی که Levofloxacin به عنوان محلول خوراکی همراه با تغذیه روده ای داده می شود ، ممکن است اثر آن به شدت کاهش یابد. لذا باید تغذیه انترال به مدت 1 ساعت قبل و 2 ساعت پس از دوز Levofloxacin قطع شود.

:Oxycodone

در حال درمان با این دارو از مصرف الکل یا داروهای حاوی الکل اجتناب شود. مصرف الکل ممکن است عوارض جانبی سیستم عصبی مانند خواب آلودگی ، سرگیجه ، مشکل در تمرکز و اختلال در تفکر را افزایش دهد. به هنگام مصرف Oxycodone از مصرف گریپ فروت و آب گریپ فروت خودداری شود چرا که می تواند سطح خون Oxycodone را به طور قابل توجهی افزایش دهد.

لوپیناویر / ریتونوویر به صورت محلول خوراکی یا قرص خوراکی به کار می رود. آنتی رتروویرال، با مکانیسم اثر مهار پروتئاز این دارو دارای عوارضی است که با اجرای نکات و راه کارهای تغذیه ای می توان از شدت و بروز این عوارض کاست. در زیر به نمونه ای از عوارض این دارو اشاره می شود که هر یک دارای تمهیدات تغذیه ای مرتبط می باشد:

عوارض گوارشی: اسهال ، حالت تهوع ، افزایش آمیلاز ، استفراغ ، درد شکم (فوقانی و تحتانی) ،

عوارض گوارشی: گاستروانتریت و کولیت ، سوءهاضمه ، پانکراتیت ، ریفلاکس معده ، بواسیر ، نفخ شکم ، درد شکم ، یبوست

عوارض بیوشیمیایی: در صورت مصرف طولانی مدت: افزایش لیپاز ،


هایپرکلسترولمی ، هایپرتریگلیسریدمی ، افزایش گلوکز ، افزایش اسید اوریک ، کاهش فسفر (هیپو فسفاتمی)

عوارض هماتولوژیک: کاهش نوتروفیل ، کاهش هموگلوبین و کمخونی، لوکوپنی

برای تقویت تحمل دستگاه گوارش باید از ریتوناویر همراه با وعده های غذایی استفاده شود.

نکته: محلول خوراکی lopinavir/ritonavir (kaletra) برای افزایش زیست فراهمی باید با وعده غذایی با چربی متوسط مصرف شود. قرص های lopinavir/ritonavir (kaletra) میتواند بدون توجه به وعده های غذایی مصرف شود. نباید جویده، خرد یا شکسته شود.

برخی از بیماران بدنبال مصرف لوپیناویر/ریتونوویر دچار تهوع و با شیوع کمتر استفراغ می شوند. در این شرایط توصیه های تغذیه ای مرتبط با کاهش شدت تهوع باید اجرا گردد. Dr.Mitra Zarrati



Trovafloxacin:

Trovafloxacin و مولتی ویتامین مینرال نباید همزمان به صورت خوراکی با هم مصرف شود. ترکیباتی که حاوی منیزیم ، آلومینیوم ، کلسیم ، آهن و یا سایر مواد معدنی هستند ، ممکن است سبب تداخل در جذب Trovafloxacin شده و از اثربخشی آن کاسته شود. در صورت امکان ، بهتر است از مصرف مولتی ویتامین مینرال در هنگام درمان با این دارو خودداری گردد. در غیر این صورت ، باید Trovafloxacin را 2 یا 4 ساعت قبل یا 4 تا 6 ساعت پس از مولتی ویتامین مینرال مصرف کرد.

آزیترومایسین:

مصرف مکمل های حاوی آومینوم ، منیزیم، کلسیم، آهن و روی باید 2 ساعت قبل یا بعد از مصرف این آنتی بیوتیک باشد چراکه این مواد مغذی با این دارو تداخل در جذب دارند.

ناپروکسن:

مصرف ناپروکسن همراه با غذا مانعی ندارد. برای جلوگیری از مشکلات معده به دنبال مصرف این دارو، توصیه می شود که ناپروکسن همراه با غذا یا شیر مصرف شود.

از مصرف همزمان ناپروکسن با قهوه ، چای ، کولا ، نوشیدنی های انرژی زا یا سایر منابع کافئین دار خودداری گردد.

دگزامتازون:

برای جلوگیری از زخم معده ، از مصرف الکل در زمان مصرف دگزامتازون اجتناب شود. اگر از فرم خوراکی دگزامتازون استفاده می شود ، بهتر است همراه با غذای مایع یا نیمه جامد مصرف گردد.

به هنگام مصرف این دارو، محدود کردن مصرف غذاها و نوشیدنی های حاوی کافئین نظیر نوشابه های کافئینه ، قهوه ، چای و شکلات) توصیه می شود. استفاده از استروئیدها از جمله دگزامتازون ممکن است باعث افزایش وزن شود.

مصرف طولانی مدت کورتیکواستروئیدها نظیر دگزامتازون ممکن است سبب افزایش تری گلیسیرید و LDL خون شوند. بیماران مبتلا به هیپرلیپیدمی هنگام استفاده از کورتیکواستروئیدها باید کاملاً تحت نظر باشند تا اقدامات لازم جهت کاهش چربی انجام شود.

کورتیکواستروئیدها ممکن است باعث هیپرناترمیا (افزایش سدیم خون) ، هیپوکالمی ، احتباس مایعات و افزایش فشار خون شوند. در صورت بروز هر یک از این عوامل باید تمهیدات لازم اتخاذ گردد.



Enoxaparin و هپارین:

با توجه به اینکه انوکساپارین و هپارین ضد انعقاد محسوب می شوند، در طول درمان با این داروها از مصرف انواع کلم ، اسفناج، جعفری و مارچوبه اجتناب گردد. مصرف مرکبات به ویژه گریپ فروت و آب آن اصلا توصیه نمی شود.

با تشکر از توجه شما عزیزان

چنانچه سوالی داشتید از یکی از راه های زیر با بنده تماس بگیرید:

شماره تماس : ۰۹۲۲۵۱۵۳۲۴۹

آدرس ایمیل: zarrati_ms@yahoo.com

پیج اینستاگرام: [asandiet](https://www.instagram.com/asandiet)