World Nutrition Journal
Volume 5, Supplement 03, May 2022
eISSN 2580-7013
Published by
INDONESIAN NUTRITION ASSOCIATION

Supplement

Nutri Virtual Symposium 2021
Nutrition in Covid-19 : Focus on Inflammation and Immune Response

This supplement is a selection of paper presented at the Nutri Virtual Symposium 2021 on 11-12 September 2021.

Supplementary Paper:

Speaker presentation :

- Children's behavior on sugar-sweetened beverages and factors that influence the consumption
- Nutrition in Indonesia toddlers and preschools: understanding challenges and strategies
- Water quality and the Impact to the health
- Covid-19, nutrition and pseudoscientific claims
- Strategy to fulfill fiber requirement in children
- Findings from Nutriplanet: how ready are we for healthy aging?

Many More

Oral presentation :

- Medical nutritional therapy on schizophrenic patient with grade 2 obesity and ccntinued antipsychotic drug use
- The impact of excessive weight gain on hypertension, steroid-induced diabetes, and disease parameters in pediatric systemic lupus erythematosus patients
- Relationship between iron intake and iron status to stunned in children aged 24-35 during the Covid-19 pandemic in Jakarta
- Medical nutrition therapy and home monitoring in type 2 diabetes mellitus patient with metabolic syndrome and history of diabetic ketoacidosis
- Medical nutrition therapy and vitamin D supplementation improved nutritional status and quality of life in relapsed systemic lupus erythematosus: a case report

Many More

World Nutrition Journal Editorial Office

Wisma Nugraha Building, Suite 510, 5th Floor
Jl. Raden Saleh No. 6 Jakarta Pusat
Website : www.worldnutrijournal.org
Phone: +622131905330 Email : worldnutritionjournal@gmail.com
Cover design by. Harryarts / Freepik

Aim and Scope

World Nutrition Journal (abbreviated: W Nutr J) is an international, English language, peer-reviewed, and open access journal upholding recent evidence related to nutrition sciences. The journal accepts manuscripts in terms of original paper, case report, editorial, and letter to editor.

About

World Nutrition Journal was founded in 2016 as the official journal of Indonesian Nutrition Association. It aims to publish high quality articles in the field of community, clinical, and critical care aspects of nutrition sciences

Peer Review Process

All manuscripts submitted will be screened by an editor whether they have the requirements and accordingly to author instructions. Then, the editor will transfer them to Editor-in-chief. Editor-in-chief will choose peer-reviewer for the manuscripts, according to their field of expertise, with help from associate editors and editorial board members. Peer-review process should be based on Committee on Publication Ethics (COPE) standards. This journal uses double-blind review. After the peer review process and the manuscripts are approved, they will be sent back to Editor-in-chief. Afterwards, Editor-in-chief will send the approved manuscripts back to the editor for final editing, layout editing, and proofreading. Finally, the approved and edited manuscripts will be published.

Publication Frequency

This journal is published bi-annually

Open Access Policy

World Nutrition Journal is an open access journal which allows readers to access the full text of all published articles without charge. Readers are free to read, download, distribute, print, search, or link the full texts of all articles in World Nutrition Journal

Adverstising Policy

Editorial materials are not influenced by any advertisement. Advertisement will appear in the online or printed version depending on request. For all inquiries, please contact World Nutrition Journal editorial office at Wisma Nugraha, Suite 501, 5th Floor, Jl Raden Saleh No. 6 Jakarta Pusat; phone: +622131905330; email: worldnutritionjournal@gmail.com.

Copy Right Notice

Subscription

Submission fee per manuscript are: for outside Indonesia USD 100, for Indonesia IDR 1,000,000.

Editorial Board

eISSN 2580 - 7013

Table of Content Page

Volume 05, Supplement 03, May 2022 | page 1 – 47, | eISSN: 2580-7013

Supplementary Paper : Speaker presentation

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Children's behavior on sugar-sweetened beverages and factors that influence the consumption

Saptawati Bardosono[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo Hospital*

Received 23 May 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0001

Citation: Bardosono S. Children's behavior on sugar-sweetened beverages and factors that influence the consumption. World Nutrition Journal.2022 May 31, 5(S3): 1-2.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

For Indonesia children, the sugar-sweetened beverages (SSB) drinking behavior is not yet a big problem as compared to other countries, such as Mexico or United States. However, although the soft-drink intake is very minimal, there is a trending higher intake of sweetened milks, sweetened teas dan packaged juice in a daily or weekly bases. Based on age, then the amount and the percentage of SSB consumer age 10–17 years is higher as compared to the younger or older age.

Preference of sweet taste is an innate in nature and it is develop well since fetus is living in the womb amniotic fluid and while having exclusive breast milk. This condition is maintain to as adults that driven for palatable food intake in which related to higher BMI.

Although several studies cannot confirm on the relationship between high intensity of sweetness to the general health, however one hypothetical explanation shows that SSB intake will go to two pathways, i.e. the liquid calories pathway and the sucrose pathway. The liquid calories pathway sill directly affect obesity and its comorbidities, such as hypertension, insulin resistance, inflammation and dyslipidemia before resulting to metabolic syndrome, diabetes and cardiovascular disease. While the sucrose pathway will take another three pathways to resulting to gout, lipogenesis and also to affect glucose metabolism as high glycemic load to resulting to several chronic non-communicable disease without affecting the BMI. That is why many studies failed to confirm that there is an association between SSB consumption and obesity.

On the other hand, observational study done in Indonesia show that by consuming SSB more than one per-day then the proportion of obesity was significantly higher as compared to have only one or none SSB per-day. Furthermore, higher consumption of SBB is also significantly associated with the development of metabolic syndrome and type-2 diabetes.

Thus, it is not easy to formulate recommendation for SS consumption, especially for children. Health education to caregivers is the still the top priority as individual domain to increase their health and nutritional knowledge, to deal with their health beliefs and habits to increase parenting skills and confidence.

Corresponding author:
Dr. dr. Saptawati Bardosono, MSc
Medical Department of Nutrition, Faculty of Medicine, Universitas Indonesia
Email: tati.bardo@yahoo.com

Positive role modelling should be develop among peer and family to become a social and cultural norms as a social domain. While for environmental domain, we should consider to the SSB availability, its marketing, price and policy behinds it. We should have recommendation to increase water availability and limit sweet drink availability, restrict unhealthy marketing and reduce price of water while increasing price of sweet drink.

Keywords: behavior, children, preference, Indonesia, SSB

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Nutrition in Indonesia toddlers and preschools: understanding challenges and strategies

Saptawati Bardosono[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo Hospital*

Received 24 May 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0002

Citation: Bardosono S. Nutrition in Indonesia toddlers and preschools: understanding challenges and strategies. World Nutrition Journal. 2022 May 31, 5(S3): 3-4.

Website : **http://www.worldnutrijournal.org/**

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Children age 1–3 years (toddler) and age 4 – 6 years (preschool) are placing an important role for maintaining their rapid development, especially in language, motoric, socio-emotional and cognitive performances. This rapid development needs specific support from all aspects, i.e. health, stimulation and nutrition in which all accompanied with good care and love. Immunization should be prioritized to maintain their health, especially from diarrhea and ARI, while stimulation is supported by attending early schooling program and informally by playing. On top of that, daily nutrient intake adequacy is urgently mandatory to support their rapid development in which is struggled by difficulty to fulfill due to the transition phase from complementary food to family food, transition from dependency to eat to learn to eat by themselves, and the arising of autonomy sense which lead to picky eating. There is surely rapid development of toddler and preschool age children, especially related to human brain development. Poor development among under-five children in Indonesia in 2010 is ranged 40–59%. Global data shows that there is triple burden of malnutrition, and amongst improper behavior, the two highest clinical symptoms are hyperactivity and showing anger when displeased. This shows that children need nurturing care in which has its contribution through the life course.

One of the nurturing care component is adequate nutrition through dietary intake that is needed to support child development stages, especially to support cognitive and sensory development. Clear evidence found that exclusive breast-feeding, intake of fruits, vegetables, carbohydrate composed meals, micronutrient supplements, and fortified feds are needed to promote good nutritional status, beside the need to enhance knowledge on dietary practices. Especially for vitamin D among preschoolers, girls, living in urban area, aged less than 24 months or over 35 month, and born from mothers deficient in vitamin D show higher prevalence of vitamin D deficiency. Regarding to child development, there is a hypothesized relations between poverty, stunting, child development and school achievement. Especially for vitamin D among preschoolers, girls, living in urban area, aged less than 24 months or over 35 month, and born from mothers deficient in vitamin D show higher prevalence of vitamin D deficiency.

Regarding to child development, there is a hypothesized relations between poverty, stunting, child development and school achievement. Evidence from a backward district of India shows that there are gender differences and age group variations in the nutritional status of under-five children who are

Corresponding author:
Dr. dr. Saptawati Bardosono, MSc
Medical Department of Nutrition, Faculty of Medicine, Universitas Indonesia
Email: tati.bardo@yahoo.com

developmentally challenged. Besides, undernutrition is major problem with vulnerable children in rural area who suffer from developmental delay.

Regarding to child nutritional status, data from UNICEF/WHO and RISKESDAS show that stunting is still the main problem in Indonesia. While there was higher proportion of children aged 6–9 months who are suspected with abnormal mental development based on SEANUT study.

Dietary modelling is needed to optimize nutrient adequacy and development. Study shows that exclusive breast feeding and fortified food are beneficial to promote child nutritional status. And, there is contribution of milk beverages to nutrient adequacy of toddler and preschool children, lesson-learned from the Philippines.

Keywords: dietary modelling, Indonesia, nutrition adequacy, preschooler, toddler

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Water quality and the impact to the health

Diana Sunardi[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo Hospital*

Received 24 May 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0003

Citation: Sunardi D. Water quality and the impact to the health. World Nutrition Journal. 2022 May 31, 5(S3): 5-6.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Water is the major constituent of the human body. Water is essential for life and maintaining optimal levels of hydration is important for humans to function well. Water makes up a large proportion of our body weight, distributed between the intracellular (inside cells) and extracellular (water in the blood and in between cells) compartments. Water is the major component of body fluids, such as blood, synovial fluid (fluid in the joints), saliva and urine, which perform vital functions in the body. Human body cannot produce enough water by metabolism or obtain enough water by food ingestion to fulfil its needs. As a consequence, we need to pay attention to what we drink throughout the day to ensure that we are meeting our daily water needs, as not doing so may have negative health effects. Water is the main constituent of cells, tissues and organs and is vital for life. A normal hydration status is the condition of healthy individuals who maintain their water balance. We can get water from almost all drinks and from some foods in the diet. Food provides about 20% on average and this could vary widely depending on the types of food chosen. Drinking fluids other than water can contribute to an intake of caloric nutrients in excess of requirements. The major concerns with regards to beverages are their energy content and their effect on health. With obesity levels continuing to increase it is important for many in the population to control their energy intake, and drinks as well as foods must be considered for their energy content. However, if water losses are not sufficiently replaced, dehydration occurs. Extreme dehydration is very serious and can be fatal. It is of practical importance to be able to assess the degree of hydration in individuals exposed to ambient conditions that can induce dehydration. Mild dehydration of 1 or 2% of body water can impair cognitive functions, alertness, headaches, fatigue and reduced physical and mental performance. Many chronic diseases have multifactorial origins. Water is quantitatively the most important nutrient. There is evidence that mild dehydration may also account for some morbidities. There is strong evidence showing that good hydration reduces the risk of urolithiasis.

Good hydration reduce the incidence of constipation, exercise asthma, hypertonic dehydration in the infant, and hyperglycemia in diabetic ketoacidosis. Good hydration is associated with a reduction in urinary tract infections, hypertension, fatal coronary heart disease, venous thromboembolism, and cerebral infarction, also conditions such as bladder or colon cancer.

Corresponding author:
Dr. dr. Diana Sunardi, MD, MS
Medical Department of Nutrition, Faculty of Medicine, Universitas Indonesia
Email: diana_sunardi@yahoo.com

Water a transparent, odorless, tasteless liquid, a compound of hydrogen and oxygen. Water quality is a term used here to express the suitability of water to sustain various uses or processes. Any particular use will have certain requirements for the physical, chemical or biological characteristics of water. The composition of surface and underground waters is dependent on natural factors (geological, topographical, meteorological, hydrological and biological). Human intervention also has significant effects on water quality. The different type of water available in the market, such as demineralized, oxygenated and alkaline water, are the example of human intervention. The question are there health benefit other than as water for human body. Drinking demineralized water or water that contains little essential minerals has been associated with various health risks. And these recommendation supported also by studies such as Gupta et all in 2015 found that drinking demineralized water vitamin B12 deficiency and Muhsin in 2019, found that drinking Reverse osmosis water significantly related to lower bone density.
According to WHO, it is not recommended to drink or used demineralized water in cooking daily meal. Studies did not find that oxygenated water can increased physical performance and Alkaline water with high pH did not show health benefit, other than for hydration. In conclusion, hydration status must be maintained with a good quality of water, and natural water, such as mineral water is good enough for health.

Keywords: water quality, hydration, health

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Covid-19, nutrition and pseudoscientific claims

Abdolreza Norouzy[1]

1. *Mashhad university of Medical Sciences, Iran.*

Received 24 May 2022
Accepted 30 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0004

Citation: Norouzy A. Covid-19, nutrition and pseudoscientific claims. World Nutrition Journal. 2022 May 31, 5(S3): 7.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Pseudoscience consists of statements, beliefs, or practices that claim to be both scientific and factual but are incompatible with the scientific method. Pseudoscience is often characterized by contradictory, exaggerated or unfalsifiable claims; reliance on confirmation bias rather than rigorous attempts at refutation; lack of openness to evaluation by other experts; absence of systematic practices when developing hypotheses; and continued adherence long after the pseudoscientific hypotheses have been experimentally discredited. The term "infodemic" combines the terms "information" and "epidemic" and refers to an excess of information (both true and false) that makes it difficult for people to access reliable sources and obtain valid guidance when it becomes most necessary for decision-making. Inaccurate information spreads widely and at speed, making it more difficult for the public to identify verified facts and advice from trusted sources, such as their local health authority or WHO.

Hot and debatable issues like the ones triggered by the novel COVID-19 provide a fertile ground for pseudoscience and conspiracy theories to proliferate. The natural course of the COVID-19 infection, in which most of the patients survive, makes it a desirable playground for the promoters of pseudoscience because they can attribute the natural recovery of such patients – or escaping the infection by others – to their pseudo-treatments. Pseudoscientific information about COVID-19 is detrimental to disease survival, increased co-morbidity and psychological well-being. There is some evidence that alternative treatments and placebo effects can relieve distress — a common justification for tolerating unproven alternative treatments. But it's inappropriate to deceive people (even for their benefit) with magical thinking, and it is inappropriate for scientists to let such misinformation go unremarked.

The COVID-19 infodemic is full of false claims, half backed conspiracy theories and pseudoscientific therapies, regarding the diagnosis, treatment, prevention, origin and spread of the virus.

Correcting misrepresentations should be viewed as a professional responsibility.

Keywords: pseudoscientific claims, COVID-19, Nutrition, infodemic

Corresponding author:
Dr. Abdolreza Norouzy
Medical Sciences,
Mashhad University, Iran
Email : norouzya@mums.ac.ir

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Strategy to fulfill fiber requirement in children

Diana Sunardi[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo Hospital*

Received 24 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0005

Citation: Sunardi D. Strategy to Fulfill Fiber Requirement in Children. World Nutrition Journal. 2022 May 31, 5(S3): 8-9.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Diet in childhood influences not only the immediate health of children but also may have an impact in a positive or negative manner on the future health status. Dietary fiber has many physiological effects including reducing postprandial glucose concentrations, improving fecal bulk, promoting laxation, interfering with fat and cholesterol absorption, and altering bacteria populations in the gut microbiome. The first years of life may be critical for the establishment of a healthy colonic microflora, as well as good eating habits. The supply of fermentable substrates to the colon may influence the balance of the microflora, and if the flora that is established early is maintained in the long term after gut barrier functions have matured, then early diet may be of major influence beyond infancy. The definition of dietary fiber covers a whole range of carbohydrates, other than NSP, such as resistant starch, fructo-oligosaccharides, galacto-oligosaccharides and some synthetic non-absorbable carbohydrates. Using this definition, fructo- and galactooligosaccharides present in breast milk as well as the amount of lactose that is not absorbed and escapes into the large intestine are counted in dietary fiber. Thus, human milk could be considered the first source of dietary fiber. Dietary fiber recommendations for children vary worldwide. The European Food Safety Authority set the dietary reference value for dietary fiber for children over 1 year of age at 2 g per MJ per day (~ 8.4 g per 1000 kcal or ~ 11.4 g for children aged 1 to 3 years) based on the amount of dietary fiber that is adequate for normal laxation. In the US for children over 2 years, dietary fiber recommendations were “age plus 5 rule”. While in Indonesia for children, the dietary adequacy of fiber is 11 gram for 6–11 m.o, 19 gram for 1–3 y.o and 20 gram for 4 – 6 y.o. The American Dietetic Association recommended a variety of solid plant foods for very young children, to ensure an adequate dietary fiber intake.

The dietary patterns of infants and young children have been shown to correlate to patterns in later childhood and even to adulthood. Infants given home-prepared fruits or vegetables more frequently at six months of age were more likely to eat more fruits. Many fruits and vegetables are rich sources of both soluble and insoluble fibers. Commercial weaning foods vary considerably in their fiber content.

Corresponding author:
Dr. dr. Diana Sunardi, MD, MS
Medical Department of Nutrition, Faculty of Medicine, Universitas Indonesia
Email: diana_sunardi@yahoo.com

Dietary fiber intake should be increased gradually in childhood and may be accomplished relatively easily by increasing consumption of a variety of fruits, vegetables, cereal, and other whole-grain products.
Focusing on adequate dietary fiber intake at initiation of complementary feeding may be a strategy to help parents incorporate healthy foods into their child's diet and lead to higher intakes of foods like fruits, vegetables, whole grains, nuts, seeds, and legumes which are naturally rich in fiber and other key nutrients.
Most NDC in the diet of young children is obtained from cereals, legumes, and vegetables, some from fruits and their juices, and some as thickeners, stabilizers, and fat substitutes in processed food. FOS, GOS, inulin, soy polysaccharide, resistant starch, and gums are also added to some dietary products, enteral formulas, and breast milk substitutes. Diversification of the diet exposes infants to a widening range of NDC in fruits, vegetables, legumes, and cereals. Rice, potato, and other nonwheat cereals are usually the cereal base for complementary foods, and fruit and vegetables are often added for flavor.
Family foods eaten by young children may contain increasing amounts of NDC, particularly those rich in fruit, vegetable, cereals, and composed of whole or unprocessed foods. Children have greater taste sensitivity, higher food neophobia and picky eating behaviors in early childhood, which may help explain the lower vegetable consumption. In addition, children have an innate predisposition for food items that are sweet, such as fruit, over those that are bitter or sour, such as some vegetables.
Behavioral factors, such as positive parental modeling, previous exposure to fruit and vegetables, and appropriate parenting practices increase a child's FVC. Recommendations should include offering a variety of different types of fruit and vegetables, offering fruit and vegetables using a variety of preparation methods, offering different colors and with a variety of textures.

Keywords: children, diet, fiber intake

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Findings from nutriplanet: how ready are we for healthy aging?

Ray W. Basrowi[1]

1. *Danone Specialized Nutrition, Jakarta Indonesia.*

Received 24 May 2022
Accepted 25 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0006

Citation: Basrowi R.W. Findings from Nutriplanet: how ready are we for healthy aging?. World Nutrition Journal.2022 May 31, 5(S3): 10-11.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Healthy aging has become one of the important focus in many countries. The World Health Organization and the United Nation have initiated The Healthy Aging Decade (2021 – 2030) which focus on collaborative efforts to reach healthy aging condition – a condition in which the senior population remains productive, has good quality of life and not become economic burden for the country. To reach this condition, one should put efforts as early as possible. In Indonesia, it is predicted that in 2040 there will be an increment in aging population. Pre-senior population (aged 45 – 60 years) will reach 17.5% and senior population (aged >60 years) will reach 10.1%. These numbers will make Indonesia one of the countries with the highest senior population in the world.

Danone Specialized Nutrition Indonesia has conducted Indonesian Nutriplanet Healthy Aging Study in 2020. The study reviews three aspect of aging, namely health status, nutritional intake, and mobility. The study shows an increasing trend of non-communicable diseases, especially diabetes mellitus, and cardiovascular diseases. The common health complaints in adult include joint problems, mental health, insomnia, and depression, while in senior adult include muscle loss, osteoporosis, and frailty. The non-communicable diseases, i.e heart disease, cancer, stroke, and chronic kidney disease cause the biggest economic burden to the national health insurance. The adult and senior adult population in Indonesia have low vegetable and fruit intake but high intake of food that possess health risks, i.e sweet and salty food, fatty food and processed food. Common mobility issues include arthritis, osteoporosis, sarcopenia, low back pain, neck pain, and peripheral neuropathy. Mobility issues are accompanied with comorbidities of metabolic syndrome (i.e high blood pressure, high blood sugar, excess cholesterol, heart diseases and kidney health), nutrient deficiencies (mainly low protein, vitamin D, calcium, antioxidant and omega-3), and low physical activities.

Based on Nutriplanet Healthy Aging Study, it can be concluded that Indonesia still faces a lot of problems to achieve healthy aging targets, in which mobility problems coexist with non-communicable diseases as comorbidity and nutritional intake problems. Therefore, it is important to develop awareness and implementing preventive measures early, starting in adulthood.

Corresponding author:
Dr. dr. Ray Basrowi, MKK
Danone Specialized Nutrition, Indonesia
Email: ray.basrowi1@danone.com

Specific intervention by multidisciplinary sector collaboration to create customized nutrition education program and development of functional food might become a strategic plan to reach the objectives of healthy aging.

Keywords: nutriplanet, aging, indonesia

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Special Group Discussion: Nutrition and Covid-19 comparison in several countries

Luciana B. Sutanto[1]

1. *Krida Wacana Christian University, Jakarta Indonesia.*

Received 24 May 2022
Accepted 25 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0007

Citation: Sutanto BL. Special Group Discussion: nutrition and Covid-19 comparison in several countries. World Nutrition Journal. 2022 May 31, 5(S3): 12-13.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Patients with COVID-19 who are in the ICU considered to be extremely high malnutrition, which is caused by food intake matter and the disease itself. In critically ill, the definition of malnutrition is not only based on weight loss but also muscle wasting, sarcopenia and metabolic dysregulation. Good nutrition management prevents malnutrition getting worse. Nutritional theraphy is an essential element of the patients management. Nutritional screening and assessment, as well as nutritional management, should be integrated into general therapeutic strategy. Nutrition theraphy to ICU patients with COVID-19 has been published by some institutions/organizations.

In 2020, ESPEN published recommendations concerning on nutrition for people with COVID-19, that supported by expert statements, as there are limited studies. Contribution of these recommendations came from the experts with the best clinical knowledge and experiences. This ESPEN recommendation are divided into two: 1) the prevention and treatment of malnutrition in patients at risk or with COVID-19 and 2) nutritional management in ICU for patients with COVID-19.

In ICU, patients with COVID-19 who are not intubated, and do not reach energy targets with an oral diet should be given oral nutritional supplements (ONS) or enteral nutrition. If patients do not reach the protein-energy targets with enteral and/or oral nutrition, then patients are recommended to receive the peripheral parenteral nutrition. Patients with COVID-19 who are using noninvasive ventilation (NIV) generally receive oral nutrition. There is a research concerning that not all those patients do not reach energy-protein inadequately. However, giving enteral nutrition to patients with NIV has consequences: 1) risk of inadequate airway support due to air leakage and inhibits the effectiveness of NIV 2) occurs gastric dilatation that affects diaphragmatic function and the effectiveness of NIV.

Inadequate intake in the first 48 hours of ICU admission increases the risk of malnutrition and complications. In such patients, receiving parenteral nutrition, other than oral, is considered to increase nutritional intake. In patients receiving only oral nutrition, giving ONS 3 times a day or 600 kCal is very advantageous in increasing nutritional intake. In patients receiving only oral nutrition, giving ONS 3 times a day or 600 kCal is very advantageous in increasing nutritional intake.

Corresponding author:
Dr. dr. Luciana B. Sutanto, MS, Sp.GK
Krida Wacana Christian University
Jakarta, Indonesia
Email: lcsutanto@yahoo.com

Patients with oxygen support via nasal cannula (FNC, HFNC), generally eat via oral. This condition considered patients are not very sick and allow to get adequate intake. Based on this condition, only a few studies that assessed nutritional adequacy of patients with FNC/HFNC. However, the adequacy of calories and protein intake of that patients may be neglected, which cause decreasing of nutrition adequacy. Nutritional management should be based on good assessment. Oral nutrition is the priority in giving nutrition for patients, enteral nutrition should be considered when the oral intake not fulfill the requirements.

When patients with COVID-19 is not successfully oxyganated with HFNC or NIV for more than two hours, patients have to be intubated and ventilated. Intubated and ventilated patients are advised to receive enteral nutrition as early as possible. Calorie needs should be determined by using indirect calorimetry, if available. If calorimetry is not available, the last option is using predictive equation.

The choice of iso or hypo-caloric administration is based on the acute phase of the patients' illness. After the early phase of acute illness, it is recommended to provide isocaloric nutrition rather than hypocaloric. During early phase, the nutritional choice is hypocaloric (less than 70% of the patients' needs), and may increase up to 80-100% on day three. If the caloric needs are determined using a formula calculation, the nutrition in the first week should be given <70% of the patients' need. Protein is recommended to be given 1.3 g/kg body weight. Protein in this amount is proven to reduce mortality, especially in frail patients.

In nutrition management, enteral nutrition is contraindicated if: 1) there is uncontrolled shock, hemodynamic instability and poor perfusion and 2) uncontrolled life-threatening hypoxaemia, hypercapnia, and acidosis. Small doses of enteral nutrition can be given during the early stabilization period: 1) as soon as shock is controlled with fluid, vasopressor or inotropic administration, while being alert for signs of bowel ischemia, and 2) persistent hypoxemia, and permissive or compensated hypercapnia and acidosis.

ESPEN recommendations are 1) Check for malnutrition, 2) Optimization nutritional status, 3) Supplementation of vitamin and minerals, 4) Regular physical activity, 5) Oral nutritional supplements (ONS), 6) Enteral nutrition (EN), 7) Medical nutrition in non-intubated ICU patients I, 8) Medical nutrition in intubated ICU patients I, 9) Medical nutrition in intubated ICU patients II, 10) Nutrition in ICU patients with dysphagia.

Keywords: ICU, covid-19, enteral nutrition, guidelines, calorie needs

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Coenzyme Q-10: A potential role in alleviating long Covid-19 symptoms

Juwalita Surapsari[1]

1. *Pondok Indah Hospital, PELNI Hospital, Prodia Health Care, Jakarta Indonesia.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0008

Citation: Surapsari J. Coenzyme Q-10: a potential role in alleviating long Covid-19 symptoms. World Nutrition Journal. 2022 May 31, 5(S3): 14-15.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Globally, as of mid August 2021 there have been more than 200 million confirmed cases of COVID-19 reported to WHO. About 80% of COVID-19 cases are asymptomatic and mild, and most of the cases resolved within 2-4 weeks. While severe pneumonia and critical multi-organ failure occurs in 15% and 5% respectively, and can last for 3-6 weeks. The post-COVID symptoms, initially referred to as 'long COVID' or 'long-haul COVID', are now collectively referred to as 'post-acute sequelae of SARS-CoV-2 infection" (PASC).

A systematic review found that persistent COVID-19 symptoms were common, with 72.5% of patients reporting at least 1 symptom at 60 days or more after diagnosis, symptom onset, or hospitalization or at 30 days or more after recovery from acute illness or hospital discharge. Reason for the persistence of symptoms can be the sequelae of organ damage, varying extent of injury (organ damage) and varying time required for the recovery of each organ system, persistence of chronic inflammation (convalescent phase) or immune response/auto antibody generation. Fatigue and shortness of breath were the most frequently reported persistent symptoms. Profound fatigue is a common problem and one study showed that at 10 weeks of follow up after SARS-CoV-2 infection; more than 50% of people were suffering from fatigue. Post viral fatigues are commonly reported in people with viral infections like EBV, Ebola, Influenza, SARS and MERS. If fatigue persists for 6 months or longer and without any other reason, it is called chronic fatigue syndrome. Myalgic encephalomyelitis / chronic fatigue syndrome (ME/CFS) is a disease of unknown pathophysiology but already known to be associated with other viral infections such as Epstein Barr or glandular fever.

It is characterized by exertional fatigue that is not relieved by rest, and as well as pain, severe cognitive dysfunction, insomnia and/or lack of restful sleep, and sensitivity to light and sound, lasts for longer than six months. There is concern that some people with post viral fatigue will develop into the condition that is symptomatically the same as ME/CFS. Mitochondrial dysfunction may possibly account for clinical symptoms in ME/CFS. Mitochondria are organelles that are present in every cell of the body and produce 90-95% of the body's total energy. Mitochondrial respiration produces the energy-carrier adenosine triphosphate (ATP) which drives all the necessary chemical reactions in the b

Corresponding author:
dr. Juwalita Surapsari, MGizi, Sp.GK
Pondok Indah Hospital, PELNI Hospital, Prodia Health Care.Jakarta, Indonesia
Email: juwalita@gmail.com

Coenzyme Q10 (CoQ10) is an important antioxidant in the mitochondria that is endogenously synthesized in humans. It is the key component of electron transport chain responsible for mitochondrial ATP production, which decreases free radical generation. People with ME/CFS reportedly have significantly decreased levels of plasma coenzyme Q10 whose levels correlate inversely with the degree of fatigue, impaired concentration and memory, and symptoms of autonomic dysfunction. Due to the potential role of mitochondria in ME/CFS, interventions targeting mitochondria have been used to assist in improving patient outcomes such as fatigue and their health-related quality of life, including CoQ10. A clinical trial results showed that the combination of CoQ10 plus NADH had a positive effect on the perception of fatigue, sleep quality, and health related quality of life in ME/CFS. Currently, a clinical trial investigating the effect of high dose CoQ10 treatment in subjects with persisting symptoms more than 12 weeks after SARS-CoV-2 infection is still on going and potentially be a promising approach to improve the quality of live in long-haul COVID.

Keywords: long covid, fatigue, post-viral, CoQ10

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Feeding critically ill post Covid-19 patients

Niken Puruhita[1]

1. *Faculty of Medicine, Diponegoro University, dr. Kariadi Hospital, Semarang Indonesia.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0009

Citation: Puruhita N. Feeding critically ill post Covid-19 patients. World Nutrition Journal. 2022 May 31, 5(S3): 16.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

The number of patients with Covid-19 is decreasing since the last couple months in Indonesia, however, the number of discharged Covid-19 patients in regular ICU is steeply increased. There has been no report of magnitude of this problem, but a study reported 34,9% of their subjects continued to stay in ICU due to the need for mechanical ventilator support. These group of patients experienced varied signs and symptoms similar to acute Covid-19 patients although the result of PCR tests have been negative. Post Covid-19 patients in ICU need various respiratory and hemodynamic supports and yet, some of them had worsen condition. Aging, prior comorbidities and complication of Covid-19 disease were some of the observed causes. The mortality rate of these patients in ICU were high despite rigorous effort made.

Currently, there has been no nutritional therapy guideline available for discharged Covid-19 patients in ICU. Only a small study which was carried in post Covid-19 patients in ICU reported the resting energy expenditure recorded were 20 kcal/kg/day. These number is similar with nutrition therapy recommendations for acute phase critically ill patients provided by ESPEN. Macro- and micronutrients requirements for these patients is also unknown. We presented our experience in treating post Covid-19 patients in regular ICU of dr. Kariadi hospital, Semarang. Due to limited available guideline, we use nutrition therapy guideline for acute phase critically ill patients. Based on thorough nutritional assessment, a diet modification including consistency and route of administration then be determined. In most cases, oral nutrition support is of important to reach daily energy intake and parenteral nutrition is administered when enteral access is failed.

Keywords: criticial ill nutrition, post covid-19, nutrition therapy

Corresponding author:
dr. Niken Puruhita, M.Med, Sc, Sp. GK(K)
Faculty of Medicine Diponegoro University, dr. Kariadi Hospital
Semarang, Indonesia
Email: nsetiyadi3004@yahoo.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Clinical nutrition and human rights: an international position paper

Gil Hardy[1]

1. *American Society for Parenteral and Enteral Nutrition.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0010

Citation: Hardy G. Clinical nutrition and human rights: an international position paper. World Nutrition Journal. 2022 May 31, 5(S3): 17-18.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Worldwide Societies for Clinical Nutrition have launched a promotional campaign that advocates for all patients to have access to food and evidence-based artificially administered nutrition and hydration (AANH). The campaign is supported by the simultaneous publication of a major position paper in, *Clinical Nutrition* and *Nutrition in Clinical Practice*, the official journals of the European and North American professional societies. The working group of experts in human rights and clinical nutrition, includes representatives of the American Society for Enteral and Parenteral Nutrition (ASPEN), The European Society for Clinical Nutrition and Metabolism (ESPEN), Latin American Federation of Nutritional Therapy, Clinical Nutrition and Metabolism (FELANPE), Parenteral and Enteral Nutrition Society of Asia (PENSA) and the West African Society of Parenteral and Enteral Nutrition (WASPEN).

Disease-related malnutrition (DRM) in hospitals remains a highly prevalent form of malnutrition in all countries, despite the fact that evidence-based AANH has progressed sufficiently to permit sick people to be adequately nourished. To be able to transform this reality, the international working group, representing societies from 5 continents, is advocating that "*All patients have the right to nutritional care"* and the human rights-based approach (HRBA) should be incorporated into standard clinical nutrition practice:

The campaign "Nutritional Care is a Human Right" aims at promoting the recognition that:

1. Nutritional Care is intrinsically linked to the Right to Food and the Right to Health.
2. Nutritional Care implies an ethical commitment to our patients to treat DRM.
3. To overcome DRM associated morbidity and mortality, the hospitalized patient must have access to:
    - Screening for nutritional status, diagnosis of risk and nutritional assessment
    - Optimal and timely evidence based AANH
4. Recognition that nutritional care is a human right contributes to the Sustainable Development Goal (SDG2) "Hunger Zero": achieved by including DRM among other types of malnutrition addressed by this goal.

Corresponding author:
Prof. Gil Hardy, PhD, FRSC, FASPEN
American Society for Parenteral and Enteral Nutrition
USA
Email: gil.hardy50@gmail.com

This campaign comes at a crucial moment when the COVID-19 pandemic has shown that nutritional status appears to be a relevant factor influencing patient outcomes, raising concerns among stakeholders about the consequences of the lack of nutritional care access on the efficiency and financial sustainability of their healthcare systems. The aim is to raise awareness of the general public, patients, health care professionals and governmental policymakers that the right to nutritional care should be a goal of state policies and programmes, regardless of their economic, social, cultural, religious or political background.

Keywords: clinical nutrition, human rights, hydration,

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Ethics and clinical nutrition practice challenge in Covid-19 patients

Dian Permatasari[1]

1. *South Tangerang City General Hospital, Banten Indonesia.*

Received 25 May 2021
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0011

Citation: Permatasari D. Ethics and clinical nutrition practice challenge in Covid-19 patients. World Nutrition Journal. 2022 May 31, 5(S3): 19.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Covid-19, a disease caused by a novel coronavirus, became a major global human threat that has turned into a pandemic. Pandemics present difficult logistical, medical and ethical challenges to the medical workforce. Pandemics require incorporating public health ethics with clinical ethics. Recent ethical considerations regarding allocation of scarce resources, such as mechanical ventilators, have been proposed. These can apply to other disciplines such as nutrition support, although decisions regarding nutrition support have a diminished potential for devastating outcomes. Covid-19 is an infectious disease characterized by inflammatory syndrome, itself leading to reduced food intake and increased muscle catabolism. Therefore Covid-19 patients are at high risk of being malnourished, making the prevention of malnutrition and the nutritional management key aspects of care. Urgent, brutal and massive arrivals of patients needing urgent respiratory care and artificial ventilation lead to the necessity to reorganize hospital care, wards and staff. In that context, nutritional screening and care may not be considered a priority.
The implementation of international guidelines on nutritional screening and care may appear difficult. These leads to many challenges for clinical nutrition practice in Covid-19 patients. One of the practical challenges of nutritional management with Covid-19 is the lack of clear guidelines, as the emerging coronavirus and its impacts on health are constantly evolving. Moreover, nutrition practitioners should be concerned about nutrition support prescriptions that require repeated contact with the patient. Clinical nutrition care protocols may need to be adapted based on the international guidelines to take account of the challenges/barriers to providing nutrition support during the coronavirus pandemic and the use of degraded procedures could unfortunately be the only way. **N**utrition support clinicians should make appropriate recommendations regarding nutrition interventions, based on anticipated benefit, availability of products, cost, and risk to providers**.**

Keywords: covid-19, ethics, clinical nutrition support, challenge

Corresponding author:
Dr. Dian Permatasari, MGizi, Sp.GK
South Tangerang City General Hospital
Banten, Indonesia
Email: dr.dian.81@gmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Feeding intolerance in critically ill patients with Covid-19

Marek Nalos[1]

1. *Intensive Care Unit, Goulburn Hospital, NSW Australia.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0012

Citation: Nalos M. Feeding intolerance in critically ill patients with Covid-19. World Nutrition Journal. 2022 May 31, 5(S3): 20.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Approximately 0.5-1% of patients with COVID-19 develop respiratory failure, shock or multi-organ failure requiring intensive care unit admission. COVID-19 pneumonia is characterised by high fevers, increased energy utilisation and skeletal muscle catabolism. The delta variant has direct gastrointestinal effects resulting in diarrhoea, nausea, and vomiting. Combined these rapidly impair nutritional status. It is therefore important to quickly identify factors leading to feeding intolerance and manage them with a sense of urgency to prevent malnutrition during critical illness. Current AUSPEN recommendations suggest starting enteral nutrition support using an algorithm with a set rate (50ml/hr) for up to the first 5 days of ICU admission, but this recommendation should be individualised based on weight and other factors. Slower start may be appropriate and hypocaloric feeding is reasonable. The goal is to reach approximately 25 kcal/kg/day after the first 5 days of illness and protein prescription of at least 1.2 g/kg/day. In case enteral feeding is not tolerated usual strategies such as reduction of opioids, prescription of prokinetics, fibre supplementation and judicious use of enemas should be considered. Insertion of post-pyloric feeding tube using full protective equipment is recommended if gastric emptying presents a challenge. Parenteral nutrition should be considered if gastrointestinal intolerance remains an issue over a week despite the use of appropriate management strategies, and calorie and protein delivery are consistently < 50% of target.

Keywords: critical illness, covid-19, nutrition, feeding intolerance

Corresponding author:
Dr. Marek Nalos, PhD, FCICM, EDIC
Intensive Care Unit, Goulburn Hospital
NSW, Australia
Email: mareknalos@gmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Healthy eating to maintain a healthy immune system in pandemic

Hamid Jan B. Jan Mohamed[1]

1. *Nutrition and Dietetics programme, School of Health Sciences, Univesiti Sains Malaysia.*

Received 26 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0013

Citation: Mohamed JBJH. Healthy eating to maintain a healthy immune system in pandemic. World Nutrition Journal. 2022 May 31, 5(S3): 21.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

COVID-19, caused by the coronavirus, is primarily spread during close contact such as touching and by fluid droplets produced through cough, sneeze or talk. During this pandemic, good nutrition and a healthy lifestyle is extremely important, especially in ensuring good immune defence. This is a review with the aim of exploring the latest information and knowledge gained in relation to nutrition, immunity and Covid-19. This pandemic has emphasised that good nutrition and a healthy life is the key to strengthening immunity. This is particular important for the vulnerable group, including the elderly and people with underlying medical problems. Having a healthy bodyweight and consuming balanced diet (with particular focus on variety of fruits and vegetables) are important elements for supporting immune system that may help limit the severity of illnesses in those infected. Various dietary factors have gained particular attention. These include some vitamins and minerals (especially vitamin D, A and C, and zinc and iron), phytonutrients (bioactive compounds with antioxidant activities), and factors that promote gut health (including dietary fibre, adequate water and probiotics). In conclusion, COVID-19 pandemic had taught us some important lessons in many aspects of life that we have taken for granted, including nutrition and health. It is a wakeup call for everyone to pay more attention to healthy eating to maintain a strong immune system.

Keywords: vitamin, mineral, antioxidants, immunity, covid-19

Corresponding author:
Prof. Dr. Hamid Jan B. Jan Mohamed
Nutrition and Dietetics Programme, Universiti Sains Malaysia
Email: hamidjan@usm.my

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

The Math+ protocol in Covid-19

Joseph Varon[1]

1. *United Memorial Medical Center and The University of Houston School of Medicine.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0014

Citation: Varon J. The Math+ protocol in Covid-19. World Nutrition Journal. 2022 May 31, 5(S3): 22.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

COVID19 is a highly heterogeneous and complex medical disorder; indeed, severe COVID-19 is probably amongst the most complex of medical conditions known to medical science. While there is no single 'Silver Bullet' to cure COVID-19, this severely disturbed pathological processes leading to respiratory failure in patients with COVID-19 organizing pneumonia will respond to the combination of Methylprednisone, Ascorbic acid, Thiamine, and full anticoagulation with Heparin (MATH+ protocol). While methylprednisolone, ascorbic acid, thiamine and heparin form the core treatment elements of the MATH protocol, the addition of the following medications to complement this protocol (MATH+): melatonin 6–12 mg at night, famotidine 40 mg daily (20 mg in renal impairment), vitamin D 2000–4000 u PO daily, elemental zinc (50–75 mg daily), magnesium supplementation, atorvastatin 80 mg/daily and ivermectin based on body weight. COVID-19 disease progresses through a number of phases, each with a unique treatment approach. An understanding of the pulmonary stages of COVID-19 leads to the unambiguous and irrefutable conclusion that three related pathophysiologic processes are driving the disease process and that all three of these derangements must be treated in order to reduce the mortality and morbidity of this deadly disease. These include i) an organizing pneumonia with a dysregulated immune system with the overproduction of pro-inflammatory mediators and a severe microvascular injury, ii) a hypercoagulable state with systemic micro- and macro-vascular disease that potentiates the microvascular injury, iii) with both these processes leading to severe ventilation/perfusion mismatching leading to severe hypoxemia. The core components of the MATH+ treatment protocol target all three major pathophysiologic processes with readily available, inexpensive, and safe FDA approved interventions The pulmonary phase of COVID-19 is a treatable disease; it is inappropriate to limit therapy to 'supportive care' alone. The MATH + protocol consists of multiple drugs that have synergistic and overlapping biological effects that are safe, cheap, and readily available and are likely to significantly reduce the morbidly and mortality of this disease

Keywords: covid-19, sars-co2, math+, glucocorticoids, organizing pneumonia

Corresponding author:
Joseph Varon, MD, FACP, FCCP, FCCM, FRSM
United Memorial Medical Center and The University of Houston School of Medicine
Email: jvaron@roamer.net

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

EPA, DHA, and coenzyme Q10 as nanonatruceuticals adjuvants In therapy against Covid-19

Santiago Herrero[1]

1. *Spain.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0015

Citation: Herrero S. EPA, DHA, and coenzyme Q10 As nanonatruceuticals adjuvants in therapy against Covid-19. World Nutrition Journal. 2022 May 31, 5(S3): 23-24.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Up today, August 28, 2021, about 215,5 million people have been infected with the coronavirus SARS-CoV-19 and with a global death of 4,5 million. US deaths 636,7K (fatality 0,194) and Spain 97,7K (fatality 0,208).

Many protocols have been implemented for the treatment of COVID-19 since the beginning of this pandemic throughout the world, but specific guidelines have never been made by the different international societies with respect to unifying criteria for action given the diversity of treatments that do not have had adequate clinical evidence. Since the vaccination campaign began, treatment has focused on hospitalized patients, but no prophylactic or early-onset treatment has been offered, limiting their access simply to infections with serious symptoms.

We have known as the adjunct therapy of vitamin C, Vitamin D, Quercetin, Vitamin B complex, Melatonin, Zinc and other phytochemicals, have had an important role both preventive and treatment in the onset of infection.

Nutraceutical derives from the combination of the words "nutrient" and "pharmaceutical."

EPA and DHA from oil fish to pro-resolution hormones

EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid) are long-chain omega-3 polyunsaturated fatty acids (O-3s) that are abundant in fish, shellfish, and some algae and genetically engineered plants. The body needs EPA & DHA omega-3s to develop and function optimally in every stage of life.

LOVAZA® was the first omega-3 approved by the FDA as a safe, natural, and effective medical-grade supplement for managing high triglycerides. Each 1-gram capsule of LOVAZA® contains 465 mg EPA and 375 mg DHA. EPA and DHA are the active fatty acids proven to lower very high triglycerides.

But the real secret to high doses of omega-3 fatty acids for cardiovascular patients is not the decrease in triglyceride levels, but the formation of the pro-resolution hormones (i.e., resolvins) that are critical in the resolution of inflammation.

The new coronavirus 2 associated to severe acute respiratory syndrome (SARS-CoV-2), surprisingly, does not affect only the lung. The severe response to SARS-CoV-2 appears to include a "cytokine storm", which indicates a state of hyperinflammation and subsequent dysfunction of multiple organs and tissues in the most severe cases.

Corresponding author:
Santiago Herrero, MD, FCCP
Email: drsantiagoherrero@gmail.com

This could be the reason why populations at highest risk of death from the SARS-CoV-2 infection-induced disease (COVID-19) are those suffering from chronic low-grade inflammation, but prone to hyperinflammation - advanced age, obesity, type 2 diabetes, hypertension and metabolic syndrome. Inflammation resolution is strongly dependent on lipid mediators, the specialized pro-resolution mediators (SPMs). Omega-3 polyunsaturated fatty acids are precursors of very potent SPMs, including resolvins (Resolvin D1 to Resolvin D6), protectins (protectin D1 –neuroprotectin D1), and maresins (MaR1 and MaR2).
In addition, they are associated with a less aggressive inflammatory initiation, after competing with omega-6 fatty acids for eicosanoid synthesis. Therefore, it makes sense to consider the use of Omega-3 for clinical management of COVID-19 patients
Omega-3 are currently undergoing clinical trials to determine its anti-inflammatory effects in patients with coronavirus disease 2019 (COVID-19).

Coenzyme Q10, beyond cosmetics

Coenzyme Q10 has been shown to be effective in preventing congestive heart failure. After a two-year study, a 43% reduction in heart attacks was observed in the group taking 100mg, three times a day. In addition, coenzyme Q10 helps alleviate the side effects caused by statins in some cases.
Coenzyme Q10 (CoQ10), naturally present in cells, helps mitochondria to produce the energy needed for all body functions. "It is essential in the transport of electrons".
The mitochondrial cofactors α-lipoic acid (ALA), coenzyme Q10 (CoQ10) and carnitine (CARN) play distinct and complementary roles in mitochondrial functioning, along with strong antioxidant actions.
Also termed mitochondrial nutrients (MNs), these cofactors have demonstrated specific protective actions in a number of chronic disorders, as assessed in a well-established body of literature.
The brain, heart and muscles are the organs that need the most energy and are especially vulnerable to a deficiency of Coenzyme Q10, the adequate supplementation of the same could benefit these patients.
Patients with severe lung involvement have a higher degree of endogenous oxidative damage. Additionally, a significant positive correlation was observed between CoQ10 with CRP and ferritin levels.
This presentation wants to demonstrate the added value of the nutraceutical’s adjuvants in the therapy against COVID-19.

Keywords: EPA, DHA, coenzyme Q10, mitochondrial, nanonutraceuticals

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Nutritional strategies in Covid-19 patients with gastrointestinal dysfunction

B. Ravinder Reddy[1]

1. *Gastrointestinal & General Surgeon Care Hospital, Banjara Hills, Hyderabad, India.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0016

Citation: Reddy BR. Nutritional strategies in Covid-19 patients with gastrointestinal dysfunction. World Nutrition Journal. 2022 May 31, 5(S3): 25-26.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Health of humanity is under severe threat since the global outbreak of coronavirus disease 2019 (COVID-19), after the first case was reported in December 2019, from Wuhan, China. The World Health Organisation classified it as a *pandemic* in March 2020. As on September 4th, 2021, more than 218 million cases of COVID-19 have been reported from more than 188 countries and territories[1]. As this global threat typhoons across the world, the disease manifests with myriad of symptoms, none of which are diagnostic of COVID-19! The common symptoms are cough, headache, dyspnoea, myalgia, fever, lethargy and severe pneumonia. Uncommon are anosmia, chest pain, cardiac arrythmias, confusion, etc. In addition, there are several case-reports describing the varied effects on the digestive tract - anorexia, abdominal discomfort, nausea, vomiting, and diarrhea.

Nutritional support in infections, including that due to COVID-19, is a key aspect, as it has the potential to limit the severe intensity of inflammation, to modulate optimal immune responses, whilst, limiting the loss of lean-body mass, thereby promoting enhanced recovery. However, optimal function of the gastrointestinal tract is essential to provide adequate nutrition, with optimal digestion and absorption. Intolerance to oral or tube feeds are common in COVID-19 patients, especially in those with severe disease. Gastrointestinal hypomotility is common in presence of cytokine storm and also poses a major challenge in feeding patients who are sedated, on mechanical ventilation support, and in prone-position[2].

A high-calorie diet of ≥ 1500-2000 calories, with a high-protein intake of 75-100g/d is advised to maintain an optimal immune response and for other metabolic functions[2]. Oral route is preferred in those who can eat. In those with severe anorexia, oral nutrition supplements (ONS) will be required to meet the nutritional goals. Gastrointestinal dysfunction poses a major challenge in achieving nutritional goals.

The various strategies to improve tolerance are as follows[3]:

i. Correction of electrolyte abnormalities, hyperglycaemia, and azotaemia, if present.
ii. Intravenous prokinetics – metoclopramide or erythromycin (or both)

Corresponding author:
Dr. B. Ravinder Reddy, MS, FRCS
Gastrointestinal & General Surgeon Care Hospital
Banjara Hills, Hyderabad, India
Email: drbravinderreddy@gmail.com

iii. Consider semi-elemental supplements, especially in malabsorption and maldigestion.
iv. Avoiding concentrated feeds and bolus feeds and consider reducing the feeding rate.
v. Insertion of post-pyloric feeding tube using full protective equipment is recommended if gastric emptying presents a challenge. Parenteral nutrition should be considered if gastrointestinal intolerance remains an issue over a week despite the use of appropriate management strategies, and calorie and protein delivery are consistently < 50% of target. Commence post-pyloric feeds if the above measures fail.

If all the above strategies are not successful, parenteral nutrition should be commenced. All patients should be monitored for adequacy of nutrient interventions, metabolic and mechanical complications. ONS are advised for ≥ 1 month after recovering from the acute phase of illness.
Though oral or enteral nutrition is preferred, the effects of COVID-19 on functioning of gut can significantly impact this route. Evidence-based strategies might improve the tolerance, but the threshold to start early parenteral nutrition should be low, in order to optimise the caloric, protein and micronutrient needs.

Keywords: covid-19, gastrointestinal, parental nutrition

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

From aging to healthy aging

Patrick Kamphuis[1]

1. *Danone Specialized Nutrition, The Netherlands and Indonesia.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0017

Citation: Kamphuis P. From aging to healthy aging. World Nutrition Journal. 2022 May 31, 5(S3): 27.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

"It's not the years in the life, but the life in the years". More and more people around the world are growing older than ever before, yet not everyone is doing so in good health. Nutrition is often an overlooked area of impact in helping older people maintain functional ability, as well as recover after moments of ill-health.

Conditions of ageing, such as cognitive decline and memory loss, significant decline in muscle mass, strength, and function (sarcopenia) are often viewed as an inevitable part of the ageing process – while the impact of an individual's nutritional intake and status are often not considered in this process. However, nutrition is highly impactful on one's health, especially in the context of ageing. Cognitive and muscular decline in ageing individuals has been linked to specific unmet nutritional needs, and moreover certain nutrients have been shown to mitigate the age-associated decline in cognition and muscle function. Over the past two decades Nutricia has dedicated itself to the research and development of two proprietary nutrient combinations to address these needs.

The decline in muscle mass, strength and function seen with ageing is largely attributed to a decreased muscle protein synthesis, which can be stimulated through nutrition. ActiSyn™ is a unique combination of specific nutrients (100% whey protein, leucine, vitamin D) designed to stimulate muscle protein synthesis, and when incorporated within a muscle-targeted ONS has shown improvements in muscle mass, strength, function, as well as increased independence in older adults.

Fortasyn™ Connect is a unique combination of nutritional precursors and cofactors that work together to support synapse formation. Its efficacy has been recently shown in the longest ever trial with a nutritional intervention in patients with Mild Cognitive Impairment due to Alzheimer's. A 3-year intervention with medical food containing Fortasyn™ Connect resulted in slowed decline of cognition (including memory) and function, as well as reduced brain shrinkage.

Given the described physiological changes associated with ageing, it is particularly relevant to explore the implementation of these two nutrient combinations in the context of healthy ageing in order to maintain the quality of life in ageing individuals.

Keywords: aging, cognitive, muscle, nutrition

Corresponding author:
Patrick Kamphuis, PhD
Danone Specialized Nutrition
The Netherlands and Indonesia
Email: patrick.kamphuis@danone.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Nutrition for elderly individuals during the Covid-19 pandemic

Purwita Wijaya Laksmi[1]

1. *Geriatric Division Department of Internal Medicine, Faculty of Medicine Universitas Indonesia and Dr. Cipto Mangunkusumo Hospital, Jakarta Indonesia.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0018

Citation: Laksmi PW. Nutrition for elderly individuals during the Covid-19 pandemic. World Nutrition Journal. 2022 May 31, 5(S3): 28-29.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Aging process, genetic factor, lifestyle, and disease(s) give contribution to the phenotype of robust, prefrail or frail elderly. The frailer the elderly, the more vulnerable they become to poor health outcomes. Aged patients are more likely to have adverse outcomes from Coronavirus disease-19 (COVID-19). Recovery from such disease also take a longer time compared to the younger age group.

In addition to immune senescence, inflammaging, and existing comorbidities, older people are susceptible to macro and micro-nutrient deficiencies which predispose them to infection, including COVID-19. Therefore, it is important to conduct nutritional screening and assessment as part of comprehensive geriatric assessment. Age-related changes, diseases, iatrogenic effects of medications/ medical procedures, psychological, and socio-economic factors contribute to the development of malnutrition in older patients. Furthermore, mnemonic of MEALS ON WHEELS may help identifying the cause of weight loss among elderly.

The association between nutritional status and immune function has been well established. Certain micronutrients have immunomodulatory effects, namely vitamin A, B6, folic acid, B12, C, D, and E as well as zinc, selenium, iron, and copper. It is proposed that COVID-19 susceptibility, its severity, adverse clinical outcomes, and the recovery period are affected by nutrition deficiency whereas supplementation has potential benefits as adjuvant therapy. Nevertheless, the direct evidence of micronutrients supplementation to prevent severe COVID-19 or fasten the recovery was limited.

The elderly is susceptible to vitamin D deficiency due to impaired ability of the aging skin to synthetize vitamin D, lack of outdoor activity which led to limited sun exposure, and low vitamin D intake/ poor dietary habits. Elderly with chronic liver and/ or kidney disease which impaired the metabolism of inactive vitamin D to form into 1,25(OH)2 vitamin D, may also be affected.

Vitamin D is not only beneficial for musculoskeletal health, but also for modulation of innate and adaptive immunity. Vitamin D supplementation of 400–1000 IU/day for at least 12 months showed protective effect against respiratory infection by 11%.

However, the recommendation of vitamin D supplementation during pandemic does not necessarily for COVID-19 prevention, but for bone health during home isolation. Although the serum 25(OH) vitamin D was significantly lower in COVID-19 infected as compared to non-infected patients and the level of 25(OH) vitamin D serum may decrease by 40% within the first 24 hours of acute illness due to inflammation,

Corresponding author:
Purwita Wijaya Laksmi, MD, PhD
Geriatric Division Department of Internal Medicine
Faculty of Medicine University Indonesia and
Dr. Cipto Mangunkusumo Hospital
Jakarta, Indonesia
Email: adekerahman@gmail.com

decreased synthesis of vitamin D binding proteins and increased 25(OH) vitamin D renal excretion, the evidence of the association between vitamin D deficiency, vitamin D supplementation and COVID-19 infection with its adverse outcomes was still uncertain. Vitamin D deficient individuals and lower vitamin D concentration have significant association with COVID-19 infection, composite severity, and mortality, but not for pulmonary involvement, inflammation, hospitalization, length of hospital stay, and ICU admission.

Vitamin C enhances immune function through its effects as anti-inflammatory, antioxidant, and microvascular action. To date, there is lack of direct evidence to support high-dose or regular supplementation of vitamin C in well-nourished general population, in non-communicable diseases patients, and frail elderly for reducing the risk of respiratory infections. Moreover, although vitamin C deficiency is common in critically ill patients and high dose of intravenous vitamin C may reduce the inflammatory cytokine production, there were few data on the clinical outcomes of those patients.

Zinc deficiency in the elderly is also common. Zinc has immunomodulatory and anti-inflammatory actions as well as anti-viral properties. Whereas vitamin E and selenium improve immune response and have antioxidant effect. The evidence of their effects on COVID-19 were also limited.

However, every effort should be made to enhance immunity during COVID-19 pandemic. Therefore, it is essential to fulfill nutritional adequacy of macro- and micro-nutrients. Low intake, risk of malnutrition or malnourished elderly should be given nutritional supplementation including micronutrient supplementation as indicated. Nutritional support is also important for recovery period, weight loss associated acute systemic inflammation, and long COVID-19 syndrome. Though the evidence remains uncertain, micronutrients supplementations may serve as complementary therapy in the management of COVID-19 due to their potential benefits in improving immune responses and suppressing viral replication. Supplementation with higher dosage may be necessary and justify. Further high-quality clinical trials or observational studies on the effect of nutritional support in the COVID-19 prevention and management are essential and highly anticipated.

Keywords: covid-19, elderly, nutrition

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Vitamin D and immune responses: how much is too much?

Nurul Ratna Mutu Manikam[1]

1. *Department of Nutrition, Faculty of Medicine Universitas Indonesia – Cipto Mangunkusumo Hospital.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0019

Citation: Manikam NRM. Vitamin D and immune responses: how much is too much?. World Nutrition Journal. 2022 May 31, 5(S3): 30.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Vitamin D is a sunshine vitamin that is widely known for bone health. The main source of vitamin D from exposure to ultraviolet B radiation, whereas only 20% from natural and fortified food. Recent studies concluded that vitamin D has a putative role in reducing the risk of viral respiratory infection by suppressing pro-inflammatory cytokines and delaying increasing anti-inflammatory cytokines response. Whereas, vitamin D regulates innate immunity through macrophage and dendrite cell activity as well as an adaptive immune response through lymphocyte T cells response. Some studies showed a negative correlation between the level of vitamin D and the risk of COVID-19 infection. Other studies reported lower mortality of COVID-19 after a high dose of vitamin D for 2-3 months. However, this result was not seen in a high dose of vitamin D after COVID-19 was made. A review study suggested that the level of vitamin D above 50 ng/ml may have a protective role against viral infection. Another review suggested intake of vitamin D 4000-10.000 IU for 6 weeks might increase 2 to 3 folds from baseline serum 25-OH(D) concentration. Some randomized clinical trials of different doses of vitamin D and COVID-19 have not been concluded yet. Future research may be worth to conclude appropriate dose of vitamin D to protect against COVID-19 infection.

Keywords: vitamin D, immunity, covid-19

Corresponding author:
Dr. Nurul Ratna Mutu Manikam, MGizi, SpGK
Department of Nutrition, Faculty of Medicine Universitas Indonesia – Cipto Mangunkusumo Hospital
Jakarta, Indonesia
Email: nurul.ratna@hotmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Value of fish oil in nutrition therapy in Covid-19 illness

Jonathan Asprer[1]

1. *Surgery and Clinical Nutrition, University of Santo Tomas Hospital Manila and St. Luke's Medical Center Quezon City, Phillipines.*

Received 25 May 2022
Accepted 28 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0020

Citation: Asprer J. Value of fish oil in nutrition therapy in Covid-19 illness. World Nutrition Journal. 2022 May 31, 5(S3): 31-32.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 - Speaker***

Our expertise in the medical treatment of COVID-19 infections has grown with time and experience, resulting in the development of a cohesive overall therapeutic strategy for control of the viral infection from supportive measures for mild to moderate illness, to the full range of relevant organ support in critical illness in ICU. In parallel, our strategies for providing nutrition therapy have also evolved beyond the mere delivery of macronutrients (calories and protein) to the utilization of specific nutritional substrates that may play an important role in modifying the course of the disease and optimizing clinical outcomes.

There are recommendations from global experts and international society guidelines supporting the use of EN enriched with omega-3 FA in case of ARDS, as well as the use of fish oil-enriched IV lipid emulsions when PN is required. The rationale for the role of omega-3 FA as part of nutrition therapy in COVID-19 patients is based on several therapeutic concepts that apply to different phases of a severe viral infection. The most prominent is the concept of fish oil-mediated resolution of the hyperinflammatory response that triggers "cytokine storm", leading to multi-organ dysfunction, and eventually multi-organ failure. Omega-3 FAs are incorporated into the bi-phospholipid layer of the cell membrane of neutrophils, producing mediators such as resolvins, protectins, and maresins (referred to as specialized pro-resolving mediators or SPMs) derived from EPA and DHA that bring about modulation or resolution of inflammation, without immunosuppression.

In addition, omega-3 FAs upregulate the activation of immune cells specifically in macrophages, neutrophils, T-cells and B-cells. Specifically regarding viral infections, studies have reported that fish oil enhances the antiviral response by inducing interferon which inhibits viral replication. Also, in response to the surge of inflammatory cytokines stimulated by viral infections, omega-3 FAs modulate the antiviral response by CD8 T-cells that could potentially cause unintended damage to the lungs. After the acute phase, when nutritional support is crucial to promote recovery and rehabilitation, and minimize loss of muscle mass, the role of omega-3 fatty acids would be to promote protein synthesis by modulating inflammation to the extent that protein anabolism can proceed optimally, by facilitating entry of leucine

Corresponding author:
Prof. Jonathan Asprer
Surgery and Clinical Nutrition, University of Santo Tomas Hospital Manilla and St. Luke's Medical Center in Quezon City, Phillipines
Email: JonathanAsprer@fresenius-kabi.com

and other amino acids through the cell membranes to participate in the MTORC1 pathway of protein synthesis, and by inhibiting NFKB mechanisms that lead to protein breakdown.
These concepts are based on well-elucidated biological mechanisms supported by small studies (pre-clinical and clinical), reviews of literature, systematic reviews, and meta-analyses. While awaiting confirmation by more definitive RCTs, there is sufficient evidence to support the selection of EN and PN formulations containing fish oil because of the compelling scientific rationale, relatively low cost, and established safety, with considerable potential benefit.

Keywords: fish oil, nutrition therapy, covid-19

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Medical nutritional therapy on schizophrenic patient with grade 2 obesity and continued antipsychotic drug use

Andry Kelvianto[1], Wiji Lestari [1], Diana Sunardi[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo General Hospital, Jakarta Indonesia.*

Received 25 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0021

Citation: Kelvianto A, Lestari W, Sunardi D. Medical nutritional therapy on schizophrenic patient with grade 2 obesity and continued antipsychotic drug use. World Nutrition Journal. 2022 May 31, 5(S3): 31.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background and objectives : Patients suffering from schizophrenia have an elevated risk for obesity and metabolic syndrome due to multiple factors, including antipsychotic drug consumption. Diet and lifestyle modification remained the firstline modalities for management of obesity in patients with schizophrenia. Metformin has been recommended for preventing weight gain, including for schizophrenic patients with long-term consumption of psychiatric medication.
Method: This is a case report regarding a schizophrenic young; female patient with grade 2 obesity, high fat mass and low muscle mass. The patient also showed increased waist circumference, high total cholesterol, high LDL level, and low HDL level. Patient was monitored during hospital stay and continued for 10 weeks after discharge with routine contact on weekly basis. History of weight gain, psychiatric medication history, and dietary intake were recorded. Dietary intake data were collected using Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ) method and 24h food recall. Energy restriction, adjustment of protein and carbohydrate intake, physical activity encouragement and oral metformin administration, ranging of 500-1500 mg/day, were implemented during all monitoring periods. Caregivers were also encouraged to provide resources and support during monitoring.
Results: 2,1 kg weight loss (74,8 kg vs 72,7 kg) with subsequent reduction in BMI, reduced waist circumference of 8 cm (104 cm vs 96 cm), reduction of fat mass (34,7%; 25,9 kg vs 33,8%; 24,6 kg), improvement of muscle mass (24,2% vs 25,3%) were found in patient after 10 weeks home monitoring despite continued antipsychotic drug use.
Conclusion: Medical nutritional therapy combined with pharmacotherapy on patient with schizophrenia will have a benefit on reducing metabolic syndrome risk and even more greatly when supportive caregiver is present. Metformin might be beneficial as an adjunctive pharmacotherapy in schizophrenic patients.

Keywords: schizophrenia, obesity, energy restriction, metformin, metabolic syndrome

Corresponding author:
dr. Andry Kelvianto, M.Gizi, SpGK
Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital
Jakarta, Indonesia
Email: andrykelvianto@gmail.com

World Nutrition Journal | eISSN 2580-7013

ABSTRACT

The impact of excessive weight gain on hypertension, steroid-induced diabetes, and disease parameters in pediatric systemic lupus erythematosus patients

Damar Prasetya[1], Sumadiono[2]

1. *Mitra Keluarga Kemayoran, Jakarta Indonesia.*
2. *General Hospital/Universitas Gadjah Mada, Yogyakarta, Indonesia*

Received 23 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0022

Citation: Prasetya D, Sumadiono. The impact of excessive weight gain on hypertension, steroid-induced diabetes, and disease parameters in pediatric systemic lupus erythematosis patients. World Nutrition Journal. 2022 May 31, 5(S3): 34.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background : Systemic inflammation, corticosteroids therapy, and reduced physical activity may predispose the accumulation of body fat in patients with systemic lupus erythematosus (SLE). However, less is known about its impact in children.[1,2] This study aims to explore the impact of excessive weight gain on pediatric SLE patients.

Methods : Children with SLE were clinically evaluated in a retrospective cohort study conducted in Dr. Sardjito General Hospital, Yogyakarta. Clinical characteristics, disease severity, body mass index (BMI), and laboratory indices were evaluated. Excessive weight gain was defined as an increased of BMI at 3-month follow-up of more than 2 standard deviation. The impact was assessed using relative risk (RR) with 95% confidence interval (95% CI).

Results : Of the 56 patients (1.8% male, median age 13.5 years old), initially obese and overweight nutritional status were found in one (1.8%) and 2 (5.4%) patients, respectively. Excessive weight gain was found in 9 (16.1%) patients without any association with sex (p 0.835), age (p 0.189), and cumulative dose of corticosteroids (p 0.70). Patients with an excessive weight gain showed an increased risk of steroid-induced diabetes (RR 2.90, 95% CI 1.26-6,64, p 0.01) and worse disease control (RR 5.20, 95% CI 1.89-14.39, $p < 0.01$) but no increased risk of hypertension (RR 2.61, 95% CI 0.26-25.83, p 0.20).

Conclusion : Excessive weight gain in pediatric SLE patients increased the risk of steroid-induced diabetes and worsened the disease control. Nutritional monitoring and management should be carried out as an integral part of management in pediatric SLE patients.

Keywords: pediatric systemic lupus erythematosus, weight gain, diabetes, hypertension

Corresponding author:
Damar Prasetya, MD, M.Sc
Mitra Keluarga Kemayoran
Jakarta, Indonesia
Email: damarprasetya@live.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Relationship between iron intake and iron status to stunned in children aged 24-35 during the Covid-19 pandemic in Jakarta

Akbar Husaini Angkat[1] ,Dian Novita Chandra[1] ,Novi Silvia Hardiany[2]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo General Hospital, Jakarta Indonesia.*
2. *Department of Biochemistry & Molecular Biology, Faculty of Medicine, Univesitas Indonesia, Jakarta Indonesia.*

Received 11 April 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0023

Citation: Angkat HA, Chandra DN, Hardiany NS. Relationship between iron intake and iron status to stunned in children aged 24-35 during the Covid-19 pandemic in Jakarta. World Nutrition Journal. 2022 May 31, 5(S3): 35.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background: Covid 19 pandemic has caused changes in the socioeconomic conditions, affects parents' ability to sustain their children nutritious food. If nutrients are insufficient for a longterm is causing growth to be stunted.
Objectives: The aim of this study was to assess the differences in iron intake and status between stunted and non-stunted children aged 24-35 months during the Covid-19 pandemic in Jakarta.
Methods: A comparative cross-sectional study using secondary data was done towards 77 children aged 24-35 months from September to October 2020 at Kampung Melayu Health Center in East Jakarta. Structured questionnaire was used to collect data on the subjects' characteristics. Data on iron, calorie and protein intake were taken using the semi-quantitative FFQ method. Anthropometric measurements were done for the weight and height. Laboratory examinations were performed for hemoglobin, ferritin and hs-CRP levels. Independent sample t-test was used to determine the relationship between Hb levels and stunted and Mann-Whitney was used to determine the relationship between iron intake and ferritin levels and stunted, using a significance limit of $p < 0.05$.
Results: There was a significant difference in Hb levels (9.91±1.93 g/dL in the stunted group and 12.18±1.20 g/dL in the non-stunted group, $p<0.001$) and ferritin levels (4.9 (1.5 - 67.4) µg/L in the stunted group and 26.8 (1.6 - 91.1) µg/L in the non-stunted group, $p<0.001$) There was no significant difference in iron intake between the two groups (8.85 (1.5 - 74) mg in the stunted group and 11.1 (1.9 - 118.6) mg in the non-stunted group, $p = 0.676$.

Conclusion: The study's findings revealed a relationship between Hb and ferritin levels and stunted status, but not between iron intake and stunted.

Keywords: stunned, iron, ferritin, hemoglobin, covid-19 pandemi

Corresponding author:
Akbar Husaini Angkat
Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital Jakarta, Indonesia
Email:

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Medical nutrition therapy and home monitoring in type 2 diabetes mellitus patient with metabolic syndrome and history of diabetic ketoacidosis

Anak Agung Eka Widya Saraswati[1] ,Yohanessa Wulandari[1] ,Lily Indriani Octovia[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo General Hospital, Jakarta Indonesia.*

Received 11 April 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0024

Citation: Saraswati AAEW, Wulandari Y, Octovia LI. Medical nutrition therapy and home monitoring in type 2 diabetes mellitus patient with metabolic syndrome and history of diabetic ketoacidosis. World Nutrition Journal. 2022 May 31, 5(S3): 36.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background and objectives: Obesity, one of the risk factors for type 2 diabetes mellitus (T2DM), is known to cause low-grade inflammation and increase T2DM morbidity. Obesity and T2DM also lead to other comorbidities, such as metabolic syndrome. The provision of medical nutrition therapy accompanied with routine home monitoring could improve glycemic control and achieve therapeutic targets, simultaneously.

Method: We reported one case of male patient, aged between 55–60 years old with T2DM and history of diabetic ketoacidosis (DKA). The patient also had grade I obesity, metabolic syndrome, and history of acute on chronic kidney disease (CKD). Patient was evaluated during and after hospitalization. Throughout home monitoring every three weeks for seven weeks, subjective and objective signs were recorded. Anthropometry examination, including waist circumference and skin fold thickness were conducted. Intake food pattern was analyzed using 24-hour food recall. Blood glucose examination, functional capacity and quality of life were also recorded. Individual medical nutrition therapy and counseling were given to patient and caregiver after the examination.

Results: Improved macronutrient and fat composition intake (saturated fatty acids (SAFA) 33.6 g to 18.6 g, monounsaturated fatty acids (MUFA) 8.8 g to 13.1 g, and polyunsaturated fatty acids (PUFA) 7.5 g to 11.2 g) were found. Weight loss (59.6 kg to 58 kg), decreased waist circumference (96.2 cm to 95.3 cm), better estimated fat mass (21.4% to 20.8%), and enhanced quality of life were also found after seven weeks of home monitoring.

Conclusion: Individual medical nutrition therapy along with frequent home monitoring would help patient and caregiver to achieve therapeutic targets, thus decrease the morbidity and progression complications of T2DM. Further studies are needed to evaluate the duration of home monitoring in T2DM patients with different morbidity.

Keywords: medical nutrition therapy, type 2 diabetes mellitus, home monitoring, metabolic syndrome

Corresponding author:
dr. Anak Agung Eka Widya Saraswati, M.Gizi
Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital
Jakarta, Indonesia
Email: ekawidyasaraswati@gmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Medical nutrition therapy and vitamin D supplementation improved nutritional status and quality of life in relapsed systemic lupus erythematosus: a case report

Ayu Diandra Sari[1] ,Yohanessa Wulandari[1] , Diyah Eka Andayani[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo General Hospital, Jakarta Indonesia.*

Received 25 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0025

Citation: Sari AD, Wulandari Y, Andayani DE, Medical nutrition therapy and vitamin D supplementation improved nutritional status and quality of life in relapsed systemic lupus erythematosis: a case report. World Nutrition Journal. 2022 May 31, 5(S3): 37-38.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background: Medical nutrition therapy (MNT) plays pivotal role in comprehensive management of autoimmune disease, includes systemic lupus erythematosus (SLE). Meanwhile, MNT for SLE is still not a concern in many international clinical practice guidelines. Many studies reported about nutritional declines and metabolic complications related to long term corticosteroid use in SLE patients, i.e. malnutrition, sarcopenia, hypovitaminosis D, hypertension and etc. Besides, obesity is more expected become important risk factor in SLE.

Case Report: A 29-year-old female diagnosed with relapsed SLE with mucocutaneous, musculoskeletal, neuropsychiatric, cardiovascular, renal involvement with class IV nephritis lupus due to drop out of treatment in the early corona virus disease 2019 (COVID-19) pandemic. Patient was also diagnosed with community acquired pneumonia (CAP) and hypertension. Patient was severely malnourished, according to American Society for Parenteral and Enteral Nutrition (ASPEN) criteria, with a history of grade I obese (body mass index 29.1 kg/m^2) in the past 10 months prior to admission. Patient also experienced vitamin D deficiency (vitamin D serum:6.6 ng/mL) and sarcopenic with fat free mass index (FFMI) 13.6 kg/m^2 and skeletal muscle index (SMI) 2.5 kg/m^2. Standard therapy of methylprednisolone 4 mg q.d and hydroxychloroquine 200 mg q.d and MNT were given to the patient by a multidiscipline team in the patient's management. Energy intake was gradually increased to meet total energy (30 kcal/kg BB) and protein (1.0 g/kg BB) requirement. Patient was also given vitamin B complex 1 tablet t.i.d, folic acid 0.5 mcg q.d, calcium carbonate 500 mg t.i.d, and omega 3 fatty acid 1000 mg t.i.d. Cholecalciferol 6000 IU/day was prescribed to the patient for 8 weeks. After 1 months, patient's condition was improved.

Serum vitamin D was increased by 26.0 ng/mL and vitamin D supplementation was maintained to complete vitamin D deficiency treatment protocol.

Patient did not experience further weight loss and nutritional status declines. Kidney function was improved (eGFR 1.5 mL/min/1.73 m^2 to 23.1 mL/min/1.73 m^2). Unfortunately, reduced FFMI and SMI have not been improved because of limitation in protein delivery due to reduced kidney function and high of hypermetabolism in this patient. Nevertheless, patient's functional capacity showed improvement by

Corresponding author:
Ayu Diandra Sari, MD, MSc
Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital Jakarta, Indonesia
Email: ayudiandrasari@gmail.com

Karnofsky Score 50% (require considerable assistance and frequent medical care) to 80% (normal activity with effort) and hand grip level for both hands (right hand from 18.3 to 21.6 and left hand from 15.6 to 18.2). Lupus quality of life (LupusQoL) was enhanced by 56 to 65.

Results: Improved macronutrient and fat composition intake, saturated fatty acids (SAFA) 33.6 g to 18.6 g, monounsaturated fatty acids (MUFA) 8.8 g to 13.1 g and polyunsaturated fatty acids (PUFA) 7.5 g to 11.2 g) were found. Weight loss (59.6 kg to 58 kg), decreased waist circumference (96.2 cm to 95.3 cm), better estimated fat mass (21.4% to 20.8%), and enhanced quality of life were also found after seven weeks of home monitoring.

Conclusion: Individual medical nutrition therapy along with frequent home monitoring would help patient and caregiver to achieve therapeutic targets, thus decrease the morbidity and progression complications of T2DM. Further studies are needed to evaluate the duration of home monitoring in T2DM patients with different morbidity.

Keywords: medical nutrition therapy, systemic lupus erythematosus, covid-19 pandemic, nutritional status, functional capacity, quality of life

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Assessment of the nutrient intake of lactating women in Jakarta: before pandemic strikes

Diana Sunardi[1] ,Dian Araminta Ramadhania[1] ,Fransisca Olivia[1] ,Reisa Melisa Wijaya[1] ,Saptawati Bardosono[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Cipto Mangunkusumo General Hospital, Jakarta Indonesia.*

Received 11 April 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0026

Citation: Sunardi D, Ramadhania DA, Olivia F, Wijaya RM, Bardosono S. Assessment of the nutrient intake of lactating women in Jakarta: before pandemic strikes. World Nutrition Journal. 2022 May 31, 5(S3): 39.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background and objectives : Nutrition is important for immune system. Lactating women are more susceptible to nutrient deficiencies therefore diseases. More attention to the intake status of lactating women is needed in order to optimize intervention when required. The aim of this study was to assess the adequacy of nutrient intake of lactating women in Jakarta.

Methods : This cross-sectional study was conducted in two community health centers in Jakarta from February-April 2019. Seventy-four lactating women were recruited as subject then interviewed to acquire subject characteristics. Height and weight were measured to calculate BMI for nutritional status assessment. Dietary intake data were collected using a semi-quantitative food frequency questionnaire.

Results : Mean BMI of subjects was 23.4±3.8 kg/m^2 and median of energy intake was 2455 kcal/day. Most subjects (51.4%) had energy intake below RDA, also low intake of other nutrients; 58.1% had low carbohydrate intake, 58.1% had low iron intake, and 77% had low zinc intake. Dietary intake of vitamin A, vitamin C, vitamin B_6, folate, and vitamin B_{12} were adequate for the majority of subjects (89.2%, 59.5%, 60.8%, 100%, and 73% respectively). Around 52.5% (37–68%) of energy intake was provided from carbohydrate, ~14% (9–24%) from protein, and ~33% (21–43%) from fat

Conclusion : Most of the lactating women in Jakarta had inadequate intake of energy, carbohydrate, zinc, and iron. Several subjects had imbalanced proportion of energy intake from macronutrient. These may reduce breast milk quality and increase long-
term risk of degenerative diseases. Thus, interventions such as nutrition education are recommended for better nutritional outcomes.

Keywords: lactating women, nutrient intake, macronutrient, micronutrient

Corresponding author:
Dian Araminta Ramadhania
Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital Jakarta, Indonesia
Email: araminta.dian@gmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

The transition of nutritional status at first year medical students during e-classes

Nur Aini Djunet[1]

1. *Department of Biochemistry, Faculty of Medicine Universitas Islam Indonesia, Yogyakarta, Indonesia.*

Received 23 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0027

Citation: Djunet NA. The transition of nutritional status at first year medical students during e-classes. World Nutrition Journal. 2022 May 31, 5(S3): 40.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Backgrounds and objectives : The second wave of COVID-19 pandemic is resulting in second lockdown at Indonesia. This results in classes to only be allowed in online. It may lead to obesogenic situation. Obesity is the first comorbid factor for COVID-19 complications dan mortality. We aim to investigate the nutritional status and its related factor at medical students after a year of e-classes.

Methods : It was a cross sectional study at Faculty of Medicine Universitas Islam Indonesia. There were a total of 100 eligible subjects. First, all subjects received some procedures by zoom meeting. The three days food record was used to assess dietary intakes. Global physical activity questionnaire (GPAQ) was distributed to assess their physical activities.

Results : Most of students got a positive transition of nutritional status. There were 63% gained weight, 31% lost weight, 6% did not have weight change. Median of weight change was 3 (-24 – 30)kg in March 2020-May 2021. The number of obesity raised to 11%. The intakes of energy, protein, lipid in students were higher than RDA. For all, their sedentary time was 9 (4-23) hours per day and 55% students did light physical activity. All of raised weight students ate more ($p<0,05$) energy and lipid, either lower physical activity rate.

Conclusion

The nutritional status of students worsened during e-classes. The follow-up assessment of nutritional status might be needed in six-month or one year later. In the meantime, the healthy lifestyle promotion to students studying online may be necessary.

Keywords: obesity, covid-19 pandemic, young adults

Corresponding author:
dr. Nur Aini Djunet, M.Gizi
Department of Biochemsitry, Faculty of Medicine
Universitas Islam Indonesia
Yogyakarta, Indonesia
Email: dr.aini@uii.ac.id

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Correlation between zinc intake and hair zinc levels to morbidity of infectious diseases in children aged 24-35 months in Jakarta

Dyah Arum Kusumaningtyas[1] ,Diana Sunardi[1] ,Rini Sekartini[2]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusuomo Hospital, Jakarta Indonesia.*
2. *Department of Child Health, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo Hospital, Jakarta Indonesia.*

Received 25 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0028

Citation: Kusumaningtyas DA, Sunardi D, Sekartini R. Correlation between zinc intake and hair zinc levels to morbidity of infectious diseases in children aged 24-35 months in Jakarta. World Nutrition Journal. 2022 May 31, 5(S3): 41.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background: According to WHO, preventable diseases, including infectious diseases, are the most common cause of death in children. Based on Indonesia's 2019 health profile data, the top five morbidity and mortality in children aged 1-4 years are acute respiratory tract infections (ARI) of (25.8%), pneumonia (21.7%), fever (14%), diarrhea and gastrointestinal disease (14.4%). Zinc has an important role in immunity especially for younger child.

Objectives: The aim of this study was to assess the correlation between zinc intake and hair zinc levels to morbidity of infectious diseases in 24-35 months old children in Jakarta.

Methods: A cross-sectional study was done to 70 children aged 24-35 months from September to October 2020 at Kampung Melayu Health Center in East Jakarta. Structured questionnaire was used to collect data of subjects's characteristics and the prevalence of infectious diseases for the past 1 month. Zinc, calorie and protein intake data were taken using the semi-quantitative FFQ. Anthropometric measurements were done for the weight and height. Hair zinc level were measured using the spectrometry method in a laboratory. Data analysis was done by Spearman rank correlation test and p-value less than 0.05 were considered statistically significant.

Results: The average hair zinc level is 132 µg/gram hair, 17.1% of subjects had hair zinc deficiency. There were 65 cases of frequent illness within 1 month, where the most cases were ARI (32 cases or45.8 %), diarrhea (15 cases,21.5%), skin rashes (13 cases,18.6%) and observation of fever in 5 cases (7.1%)The study showed no correlation between zinc intake and morbidity of infectious disease (p=0,694 ; r = 0,048) and there was no correlation between hair zinc level and morbidity of infectious disease (p=0,955 ; r = 0,007).

Conclusion: The study found no correlation between zinc intake, hair zinc level and morbidity of infectious disease. Further research is needed using different parameters and determinants of childhood morbidity in Jakarta.

Keywords: zinc intake, hair zinc level, morbidity of infectious disease, chil

Corresponding author:
dr. Dyah Arum K, M.Gizi
Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo Hospital
Jakarta, Indonesia
Email: arumdyah.k@gmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

The characteristics of overweight and obese Covid-19 inpatients at Kebayoran Lama regional public hospital

Vanessa Aryani Octavia Mardani[1]

1. *Kebayoran Lama Regional Public Hospital, Jakarta Indonesia.*

Received 11 April 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0029

Citation: Mardani VAO. The Characteristics of overweight and obese Covid-19 at Kebayoran Lama regional public hospital. World Nutrition Journal.2022 May 31, 5(S3): 42.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Backgrounds and objectives: Coronavirus disease-2019/COVID-19 pandemic had affected globally. The growing prevalence of overweight and obesity globally have risen the concern on its additional impact to worsen this pandemic. Overweight and obesity have previously been shown to increase mortality and severity in patients with COVID-19. Based on those findings, we conducted a study at Kebayoran Lama Regional Public Hospital to provide real database regarding the characteristics of overweight and obese COVID-19 inpatients.
Methods: A retrospective study was done by collecting data from medical records. We included overweight dan obese adult COVID-19 patients who were hospitalized at Kebayoran Lama Regional Public Hospital from January 1st to July 31st 2021. The collected data were gender, age, body mass index (BMI), COVID-19 severity, comorbidities, length of hospitalization, clinical outcomes, and complications.
Results: There were 870 adult covid-19 patients admitted and 323 (37,12%) of them were overweight and obese. The result showed among this 323 patients, the age range is 21 to 78 year old and 55,42% are males. Body mass index was categorized according to asia-pacific category and 244 patients (75,5%) are obese. Severe COVID-19 occurs in 107 patients (33%) and the most found complication is acute respiratory distress syndrome in 77 patients (23,8%). The longest hospitalization was 30 days and the clinical outcome for 13 patients (4%) was death.

Conclusion: There were 323 overweight and obese hospitalized covid-19 patients with various characteristics. Among them, 75,5% were obese dan the case-fatality rate was 4%.

Keywords: covid-19, obesity, overweight

Corresponding author:
dr. Vanessa Aryani Octavia Mardani
Kebayoran Lama Regional Public Hospital
Jakarta, Indonesia
Email: vanessamardani@gmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Calorie intake of UKRIDA students in Jakarta, Indonesia in 2021

Dede Okky Tri Nurhassanah[1],Gracia. J. M. T. Winaktu[1] ,Luciana Budiati Sutanto[1],Hartanto[2]

1. *Nutrition Department, Medical Faculty, Krida Wacana Christian University, Jakarta Indonesia.*
2. *Anatomy Department, Medical Faculty, Krida Wacana Christian University, Jakarta Indonesia.*

Received 23 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0030

Citation: Nurhassanah DOT, Winaktu GJMT, Sutanto LB, Hartanto. Calorie intake of UKRIDA students in Jakarta, Indonesia in 2021. World Nutrition Journal. 2022 May 31, 5(S3): 43.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Introduction : Calorie intake plays an important role in muscle contraction, concentration and organ functions. The recommendation of calorie intake, based on Indonesian RDA (AKG) 2019 for young adults, is 2250 kcal/day for women and 2650 kcal/day for men. Lack of calorie intake still occurs in faculty of medicine students in Semarang. This study aims to investigate the calorie intake of UKRIDA students, Jakarta, Indonesia in 2021.

Methods : This study used a descriptive cross-sectional design and purposive sampling. Food intake data were collected by an online survey in May–June 2021, after obtaining ethical approval. Subjects were 107 students, male and female (31.8% and 68.2%). The inclusion criteria were healthy students aged 19-25 years old. The exclusion criteria were illness which caused eating difficulties, in fasting and doing a weight loss program.

Results: The result showed among this 323 patients, the age range is 21 to 78 year old and 55,42% are males. Body mass index was categorized according to asia-pacific category and 244 patients (75,5%) are obese. Severe COVID-19 occurs in 107 patients (33%) and the most found complication is acute respiratory distress syndrome in 77 patients (23,8%). The longest hospitalization was 30 days and the clinical outcome for 13 patients (4%) was death.

Results : The results showed that the mean age was 21.4 ± 0.9 years old. The nutritional status was 10.3%, 52.3%, and 37.4% of underweight, normal and overweight-obese, respectively. Calorie intakes were less than recommendation in 80.4% (mean 1,200 ± 339 kcal/day), enough in 18% (mean 2,042 ± 280 kcal/day) and excessive in 1 participant (2,395 kcal/day).

Conclusion

Most students had less calorie intake, while the nutritional status showed most students were normal to obese. It is necessary to measure calorie intake by determining the Ideal Body Weight (BBI) multiplied by the Basal Metabolic Rate (BMR) for each student to confirm this research.

Keywords: nutritional status, calorie intake, college students, young adults

Corresponding author:
Dede Okky Tri Nurhassanah
Nutrition Department & Anatomy Department, Medical Faculty, Krida Wacana Christiant University
Jakarta, Indonesia
Email: dede.2017fk032@civitas.ukrida.ac.id

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Overview of knowledge, attitude and practice about breakfast among students in faculty of medicine and health science of Krida Wacana Christian University in 2020

Christin Kaiwai[1] ,Gracia J.M.T. Winaktu[2] , Luciana Budiati Sutanto[2] ,Bhanu[3]

1. *Medical Student, Faculty of Medicine and Health Sciences, Krida Wacana Christian University, Jakarta Indonesia.*
2. *Nutrition Department, Faculty of Medicine and Health Sciences, Krida Wacana Christian University, Jakarta Indonesia.*
3. *Internal Medicine Department, Faculty of Medicine and Health Sciences, Krida Wacana Christian University, Jakarta Indonesia.*

Received 25 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0031

Citation: Kaiwai C, Winaktu GTMJ, Sutanto LB, Bhanu. Overview of knowledge, attitude and practice about breakfast among students in faculty of medicine and health science of Krida Wacana Christian University. World Nutrition Journal. 2022 May 31, 5(S3): 44.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Introduction : Breakfast is beneficial for maintaining concentration, mental health, and improving cognitive function. Students are expected to have knowledge, attitude and good behavior regarding breakfast. This study aims to obtain an overview of knowledge, attitudes and behaviors about breakfast among students in Faculty of Medicine and Health Sciences of Krida Wacana Christian University, in 2020.

Methods : This descriptive research is a cross-sectional study by using the purposive sampling method to acquire subjects. Data were collected in December 2020 from 99 students who were qualified based on inclusion and exclusion criteria. The inclusion criteria were active PSked (medical study program student) males dan females of batch 2017-2019. The exclusion criteria students undergoing fasting or in a diet program at the time of the data collection. The results was categorized into good if the questionnaire percentage were 76-100%, 56-76% mediocre and less than 56%.

Results : The results showed that most students had good knowledge about breakfast 90.9% while 9.1% were categorized in mediocre group. There were no student with less knowledge. Regarding attitude towards breakfast, the results showed 92.9%, 6.1% and 1% in good, mediocre and less category, respectively. Regarding the behaviors, there were 5.1%, 11,1% and 83.8% in good, mediocre and less category, respectively.

Conclusion : In this study, the students' knowledge and attitudes about breakfast were very good, however, very lacking in behavior towards breakfast.

Keywords: students, breakfast, knowledge, attitude, behavior

Corresponding author:
Christin Kaiwai
Medical Student, Nutrtition of Department, Internal Medicine Department, Faculty of Medicine, Krida Wacana Christiant Universit, Jakarta Indonesia
Email: christin.2017fk025@civitas.ukrida.ac.id

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Effectiveness of digital interventions with application program to improve nutritional knowledge, mother's behaviour, and nutritional status of children under-five: a narrative review

Madinatul Munawwaroh[1] ,Sapja Antantanyu[2] ,Sumardiyono[3]

1. *Department of Nutrition, Sebelas Maret University, Indonesia.*
2. *Department of Agriculture, Sebelas Maret University, Indonesia.*
3. *Department of Public Health, Sebelas Maret University, Indonesia.*

Received 23 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0032

Citation: Munawwaroh M, Antantanyu S, Sumardiyono. Effectiveness of digital interventions with application program to improve nutritional knowledge, mother's behaviour, and nutritional status of children under-five: A narrative review. World Nutrition Journal.2022 May 31, 5(S3): 45.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Introduction : The problem of under-five nutrition is still a significant concern in developing countries, including Indonesia. Under-five nutritional problems are caused by multifactorial causes, therefore, nutrition education can be the key to intervention in children's nutrition problems. With the current development of technology, it will be easier to intervene in nutritional problems through digital platforms, for example, using applications. This review aimed to analyze the effectiveness of digital interventions through applications on nutritional knowledge, mother's behaviour, and nutritional status of children under-five.

Methods : A narrative review was conducted based on research in two databases, Pubmed and Google Scholar, which contained research based on cross-sectional studies, case-control, cohorts, and randomized controlled trials in English and Indonesian published since 2010. The keywords used are 'Nutrition Application', 'Nutrition Promotion', 'Digital Intervention', and 'Children Nutrition'. The analytical method used was descriptive.

Results : 118 journals were obtained from the search. Ten journals based on systematic review, randomized controlled trials, quasi experiment, and pre experiment that met the research criteria were obtained after the screening was conducted. Research that evaluated the use of applications to improve knowledge and behaviour positively impacts mothers and nutritional status of children under-five. Applications can increase the involvement and intensity of mothers in monitoring the nutritional status of their children.

Conclusion

Digital intervention through applications has been proven to be effective in improving nutritional knowledge, mother's behaviour, and nutritional status of children under-five.

Keywords: applications, children under-five nutrition, e-health, m-health

Corresponding author:
Madinatul Munawwaroh
Department of Nutrition, Sebelas Maret University, Surakarta, Indonesia
Email: madinatul_munawwaroh@student.uns.ac.id

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Isotonic solution for management of high output fistula and stoma

Marvin Marino[1] , Yosua Yan Kristian[1] ,Evania Astella Setiawan[1] ,Gabriella Nurahmani Putri[1] ,Pauline Octaviani[1] ,Diana Sunardi[1]

1. *Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital, Jakarta Indonesia.*

Received 23 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0033

Citation: Marino M, Kristian YY, Setiawan EA, Putri GN, Octaviani P, Sunardi D. Isotonic solution for management of high output fistula and stoma. World Nutrition Journal. 2022 May 31, 5(S3): 46.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background: *Enterocutaneous fistulae* (ECF) is a common complication in open abdominal surgeries which is commonly fixed by creating a stoma. High-output ECF defined as production of fistulae more than 500 mL per day. It is one of the complications that can occur in the presence of a stoma, and it is associated with significant morbidity and mortality. Therefore, adequate management of high output ECF and stoma is important. Administration of isotonic solution is one of techniques proven to be beneficial in reducing stoma output and allowing persistent luminal stimulation. We reported a case of high-ileostomy and ECF output in which isotonic solution conveyed improvement in clinical outcome.

Case Report: A 37-year-old woman presented with high output ileostomy following multiple and complex operations for ileum perforation which was constructed as loop ileostomy. Following the re-anastomosis of loop ileostomy, she developed a high output ECF and stoma over 1500 mL per 24 hours. The output reduced significantly in two days after administration of isotonic solution 1000 mL per 24 hours replacing the hypotonic fluid taken regularly. Following reduction of the output, electrolyte status was also consistently improving. Isotonic solution utilizes the sodium-glucose enterocyte transporter and the solvent drag following intracellular sodium and glucose transport. Isotonic fluid replacement is recommended to compensate the fluid loss and subsequently improve the electrolyte imbalance.

Conclusion: This case report demonstrated the success of isotonic solution administration in reducing the production of high ECF output. However, further research is warranted regarding the effect of routine isotonic solutions in cases of high output ECF.

Keywords: fistula, stoma, isotonic solution

Corresponding author:
dr. Marvin Marino, MD
Department of Nutrition, Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital
Jakarta, Indonesia
Email: dr.marino87@gmail.com

World Nutrition Journal |eISSN 2580-7013

ABSTRACT

Obesity is associated with severe Covid-19

Ni Gusti Made Anggreni Nur Hadi[1],Carolina Polin Kanaga[1]

1. *Sentra Medika Hospital, Cibinong, Bogor.*

Received 23 March 2022
Accepted 31 May 2022
Published: 31 May 2022

Link to DOI:
10.25220/WNJ.V05.S3.0034

Citation: Hadi NGMAN, Kanaga. CP. Obesity is associated with severe Covid-19. World Nutrition Journal. 2022 May 31, 5(S3): 47.

Website : http://www.worldnutrijournal.org/

Abstract : ***Nutrition Virtual Symposium 2021 – Oral Presentation***

Background and objectives : diabetes mellitus, hypertension, and coronary artery disease (CAD) are comorbidities for severe COVID-19. Recently, there has been higher need for admission to intensive care unit (ICU), requiring oxygen support with high flow nasal cannula (HFNC), non-invasive ventilation (NIV), and invasive mechanical ventilation (IMV) amongst COVID-19 patients with obesity. The relationship between obesity and severe dyspnoea in COVID-19 needs more investigation.

Methods : This cohort retrospective study includes the first 38 non-obese (with BMI <25 kg/m^2) and 38 obese (with BMI ≥25 kg/m^2) patients with COVID-19 admitting to Sentra Medika Cibinong Hospital at May 1st until 31st 2021. The medical records were followed until patients were discharged. Clinical outcomes of severe COVID-19 included requirement for treatment in ICU, with HFNC, NIV, and IMV. Risk for severe COVID-19 outcomes are presented as odd ratios (OR), and 95% confidence interval (95%CI). All statistical analysis was performed using SPSS.

Results: 47.4% patients were male, 52.6% were female, and the most common comorbidities were hypertension (68.4%), diabetes mellitus (51.3%), and CAD (44.7%). Bivariate analysis showed significantly higher OR of severe COVID-19 with obesity (OR: 5.33; 95% CI: 1.69 – 16.81, p<0.001). Multivariate analysis showed increased OR of severe COVID-19 with CAD (OR: 5.02; 95% CI: 1.62 – 20.55, p = 0.025).

Conclusion : Obesity increases risk for severe dyspnoea in COVID-19, causes higher need for ICU admission, and HFNC, NIV, and IMV requirement. Diseases associated with obesity, like CAD, also increases risk for severe COVID-19.

Keywords: obesity, intensive care, Covid-19

Corresponding author:
Ni Gusti Made Anggreni Nur Hadi
Sentra Medika Hospital, Cibinong. Bogor.
Email: nigustimade_anggreni@yahoo.com