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Nutri Symposium 2024
Nutrition advancement in healthcare from conception to well-aged perfection : unveiling nutrition's impact

This supplement is a selection of paper presented at the Nutri Symposium 2024 on 27 – 28 July 2024.

Abstract Speaker Presentations

- Ethical consideration in patients with obesity
- Risk based feeding protocol in ICU
- Iron deficiency anemia in a woman's life cycle and its impact
- Iron deficiency anemia in breastfeeding women and its impact to offspring's health
- The latent risk of iron deficiency during childhood period
- The importance of nutrition in the life cycle
- Nourishing harmony: Exploring the role of nutrition in traditional Chinese medicine
- Yogurt in the prevention of diabetes mellitus

And many more

Abstract Oral Presentations

- Nutritional therapy in a severely injured multiple traumas patient with hypovolemic shock, acute kidney injury, and hypoalbuminemia: A case report
- Meta analysis studies: Effectiveness of omega-3 polyunsaturated fatty acid (ω-3 PUFA) supplementation of clinical outcomes in lung cancer patients
- The impact of prebiotic, probiotic, and synbiotic supplements on CD4, CD8 counts and inflammatory markers in HIV patients: A systematic review and meta-analysis

And many more

Abstract Poster Presentations

- Mother's insight on food marketing of sweet products for children
- The differences of child feeding practices between working mothers and daycare staff in daycare
- The association of the type of occupation and obesity among Indonesian workers based on the 2018 Indonesian Food Barometer (IFB) data

And many more

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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.

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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

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ABSTRACT

Ethical consideration in patients with obesity

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Obesity is an epidemic that is about to overwhelm the economic and health care structures of society. Obesity is a complex medical condition that has roots in genetic, environmental and social exposures that should not be attributed lack of willpower any more than other diseases. One in five adults, one in five children aged 5-12, and one in seven adolescents aged 13-18 in Indonesia are overweight or obese, according to estimates from the 2018 National Basic Health Research survey. Obesity leads to the stigmatization of patients and results in their isolation and discrimination in receiving health care. In many cases, people with obesity are blamed for irresponsible overeating or inactivity, or both. Patients with obesity also face barriers to optimal care that arise from obesity bias in our society and in our medical institutions. There is little doubt that the rising prevalence of obesity places an increasing number of adults and children at risk for chronic diseases that will be challenging to manage. These conditions have major economic implications, leading to direct costs for families due to treatment and hospitalization and increased financial burden on health systems. The use of the following patient-centered communication strategies and guidance can help establish rapport and engage the patient in health care decision making. Multiple discussions may be needed to facilitate an open dialogue and to collaborate with the patient to develop an individualized plan to achieve her desired health, diet, and physical fitness goals. Safe, effective, and compassionate care of patients with obesity may require special considerations in the clinical setting. A supportive clinical setting for patients with obesity optimally includes comfortable, accessible waiting and examination areas with weight-sensitive reading materials; specialized medical equipment, specially designed tables and surgical equipment; and sensitive weighing procedures, including a private weighing area. Patients with obesity should be treated similarly to other patient populations that require additional care or have increased risks of adverse medical outcomes.

Keywords: obesity, patients with obesity, stigmatization

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ABSTRACT

Risk based feeding protocol in ICU

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A risk-based feeding regimen in the ICU aims for optimal nutritional support by customizing feeding methods to the particular risk attributes of critically ill patients. These are the key components and concepts of this strategy. 1) Risk stratification: This includes the risk of malnutrition and feeding complications. 2) Feeding Initiation: For patients at high nutritional risk or with severe illness, early enteral nutrition (EN) including trophic feeding should begin within 24-48 hours after ICU admission. To avoid problems such as refeeding syndrome, patients at a lower risk can be treated more conservatively, with nutrition delivered gradually or delayed. 3) Caloric and Protein Targets: Defining appropriate caloric and protein targets based on individual patient risk is crucial for preventing complications and achieving better results. 4) Feeding method: The enteral route is preferable. However, when EN is insufficient or contraindicated. Parenteral feeding should be considered. 4) Monitoring and adjustments: These are especially essential in individuals at high risk of refeeding syndrome. All of this is unlikely to succeed unless the multidisciplinary teams are well-organized. The risk-based feeding strategy based on these tactical strategies ensures the patient safe and improves the results of nutrition management.

Keywords: critically ill nutrition, early enteral nutrition, risk based feeding, icu

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ABSTRACT

Iron deficiency anemia in a woman's life cycle and its impact

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According to WHO, iron deficiency anemia is a condition where the body lacks iron, which is proven by signs of iron deficiency in the tissues and insufficient iron reserves in the body, accompanied by a decrease in hemoglobin levels of >2 standard deviations from the reference value in the same population. Iron deficiency anemia is one of the most common micronutrient deficiencies that occurs in a woman's life cycle due to menstruation (blood loss), pregnancy (needs for the mother and fetus), and bleeding during childbirth.

Anemia in pregnancy is confirmed if the hemoglobin level in the 1st and 3rd trimesters is <11 g/dL, in the 2nd trimester <10.5 g/dL and postpartum <10 g/dL. Based on 2018 Riskesdas data, anemia in pregnant women was found to be 48.9%. Iron deficiency anemia can be caused by inadequate nutritional intake, low absorption, and chronic bleeding. Conditions in pregnancy such as multiple pregnancies, gestational diabetes mellitus, and teenage pregnancy are risk factors for anemia.

Symptoms of anemia that can be found are fatigue, headache, difficulty focusing, palpitations, shortness of breath, restless leg syndrome, koilonychia, angular stomatitis, glossitis, hair loss, and paleness.

Iron deficiency anemia can affect various body functions, such as decreased mental and physical performance, increased cardiovascular stress, disruption of enzyme function, thermoregulation, muscular function, neurological function and immune response which causes an increased risk of infection. Maternal anemia is associated with preeclampsia, preterm birth, antepartum hemorrhage, hemorrhage and postpartum infection. Iron deficiency anemia during pregnancy can increase the risk of stunted fetal growth, low birth weight, preterm birth, and suboptimal development of fetal organs including brain development. One of the long-term effects on babies of mothers who experience anemia during pregnancy is impaired language skills, motor movements and social dysfunction. The risk of obesity, diabetes and cardiovascular disease also increases.

Prevention of iron deficiency anemia is by providing education and consuming foods containing iron. Food sources containing iron consist of non-heme iron (vegetables and fruit) and heme iron (poultry, meat, seafood). Heme iron has 2-3x greater absorption than non-heme iron. WHO recommends supplementation during pregnancy up to 3 months postpartum with 60 mg of elemental iron to meet requirements during pregnancy. If a pregnant woman has iron deficiency anemia, she is given oral iron therapy at a dose of 100-200 mg/day, and a hemoglobin examination is evaluated 2-4 weeks after therapy. If a pregnant woman does not respond to oral iron administration or iron deficiency anemia occurs in the third trimester of pregnancy, intravenous iron therapy can be given.

Keywords: anemia, iron deficiency, pregnancy

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ABSTRACT

Iron deficiency anemia in breastfeeding women and its impact to offspring's health

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Breastmilk contains all the important nutrients for infant. The World Health Organization (WHO) recommends exclusive breastfeeding for infants up to six months of age to achieve optimal growth, development, and health. Breastfeeding also protects against illnesses such as diarrhea, pneumonia, and allergy. However not all women have similar condition, some health problems in breastfeeding mothers can affect the offspring such as anemia. Iron-deficiency anemia in breastfeeding women can be caused by anemia during pregnancy, postpartum bleeding, and low intake, among others. Breastfeeding mothers with anemia has lower iron content in breastmilk. Maternal hemoglobin levels also affect composition of breastmilk in terms of nutrition and immunological properties. Infants has iron stores that support their wellbeing only up to 6 months of life, so breastmilk low in iron could lead to increased risk of iron deficiency in late infancy. Children with iron deficiency are at risk of anemia, neurodevelopmental impairments, and thus school performance. They are also more prone to infection. Therefore, it is important to prevent and screen iron-deficiency anemia in breastfeeding women, to ensure optimal growth and development in the offspring.

Keywords: anemia, breastfeeding, impact, iron deficiency

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ABSTRACT

The latent risk of iron deficiency during childhood period

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Anaemia is a serious public health concern for Indonesian children under the age of five, with a prevalence of more than 20% according to the last national health survey in 2023. Iron deficiency accounts for over half of anaemia cases, causing delayed cognitive development, weakened immune systems, and poor overall health outcomes. Inadequate dietary intake, a poor socioeconomic level, and a high prevalence of infectious diseases exacerbate the situation, necessitating targeted nutritional therapy and public health initiatives to address this prevalent issue of iron deficiency anaemia (IDA). Iron deficiency is typically characterised by depleted iron stores, detectable through low serum ferritin levels, while iron deficiency anaemia includes these features alongside reduced haemoglobin levels. Screening tools for iron deficiency anaemia (IDA) have evolved to improve early detection and management. Advances in point-of-care testing, such as portable hemoglobinometers and non-invasive devices for measuring haemoglobin and iron status, are also enhancing the accessibility and accuracy of screening for IDA in various settings.

Iron deficiency anaemia (IDA) is closely associated with stunting, a condition marked by impaired growth and development in children. Research has shown that IDA contributes to stunting by impairing cellular growth, cognitive development, and immune function. Children with IDA are at a higher risk of being stunted due to the crucial role of iron in brain development and overall physical growth.

Iron deficiency anaemia (IDA) significantly impacts cognitive development, particularly in young children, where iron plays a crucial role in brain development and function. Studies have shown that children with IDA often exhibit delayed psychomotor development and lower scores on intelligence tests, highlighting the long-term cognitive consequences of untreated iron deficiency.

Preventing iron deficiency anaemia could be done firstly by food-based approaches through dietary improvement, including food fortification. It is recommended to consume a variety of foods with balanced nutrition to fulfil the requirements.

Keywords: nutrition, paediatrics, intestinal failure, management

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ABSTRACT

The importance of nutrition in the life cycle

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Nutrition plays a crucial role from the moment of conception to the final years of life, shaping our health outcomes and improving quality of life. The importance of nutrition in one's life starts even before birth: during pregnancy, the nutritional status of the mother affects fetal development and pregnancy outcomes. Supplementation of vitamins and minerals is also necessary to ensure optimum fetal growth without compromising the mother's health. During infancy up to teenage years, nutrient needs are at their peak due to rapid growth and development. Once an individual enters adulthood, nutrition becomes the key to maintaining health, preventing chronic diseases, and managing age-related health issues. In Southeast Asia, various nutrition programs in different life stages exist to aid in achieving proper nutrition, such as nutrition surveillance, nutrition education, nutrition counselling, supplementary feeding, breastfeeding promotion, growth monitoring, and micronutrient supplementation. Among different life cycles, a lot of Southeast Asian countries focus on promoting nutrition programs for pregnant women, this is because nutrition intake and status affect fetal growth and development, which have a direct relationship with an infant's nutritional status. Overall, focusing on nutrition throughout the life cycle is crucial in maintaining healthy human resources. Proper nutrition during early life leads to healthier and more developed human capital, allowing them to have a better quality of life and decreasing their risk of developing diseases. This also positively impacts the country's economy by having productive human resources and lower costs in managing age-related diseases.

Keywords: nutrition in life cycle, nutrition status, community nutrition

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ABSTRACT

Nourishing harmony: Exploring the role of nutrition in traditional chinese medicine

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Traditional Chinese Dietary Medicine (TCDM) has garnered increasing attention for its holistic approach to health and well-being, emphasizing the importance of balance and harmony within the body and its relationship with the environment. This subsection of Traditional Chinese medicine (TCM) integrates core principles such as Yin-Yang theory, Five Elements theory, and the concepts of Qi (vital energy) and Blood to provide a comprehensive framework for dietary recommendations. TCDM categorizes foods based on their thermal properties (hot, warm, neutral, cool, cold) and flavor characteristics (sweet, sour, bitter, pungent, salty), as well as their association to specific organs. Personalized dietary guidelines are developed through assessment methods like pulse diagnosis and tongue examination, tailoring interventions to individual constitutions and health conditions.

Recent scientific research supports the efficacy of TCDM in managing various health conditions. Evidence indicates that TCDM dietary interventions can effectively address metabolic disorders such as diabetes, obesity, dyslipidemia, and hypertension by regulating blood sugar levels, promoting weight loss, improving lipid profiles, and reducing blood pressure. In the realm of gastrointestinal diseases, TCDM has shown promise in treating irritable bowel syndrome (IBS), gastritis, and gastroesophageal reflux disease (GERD), with dietary recommendations that alleviate symptoms and restore gut health. Furthermore, TCDM's anti-inflammatory properties have been demonstrated in chronic inflammatory conditions like rheumatoid arthritis, inflammatory bowel disease (IBD), and asthma, highlighting its potential to modulate inflammatory pathways and promote immune balance.

The therapeutic effects of TCDM can be attributed to several mechanisms of action. These include the regulation of gut microbiota, anti-inflammatory effects, modulation of oxidative stress, and hormonal regulation. TCDM dietary practices influence the composition and diversity of gut microbiota, supporting a healthy microbiome essential for immune function. Bioactive compounds in TCDM foods exhibit anti-inflammatory and antioxidant properties, combating oxidative damage and promoting cellular health. Additionally, TCDM approaches support endocrine function and metabolic regulation, contributing to overall physiological balance. Despite these promising findings, challenges remain in translating TCDM research into clinical practice, necessitating further studies to validate its efficacy and explore long-term outcomes.

Integrating TCDM into modern healthcare systems involves collaborative care models, education and training for healthcare professionals, and patient-centered approaches. Interdisciplinary collaboration among healthcare providers can enhance patient care by combining TCDM with conventional medical practices. Incorporating TCDM education into medical curricula and continuing education programs is crucial for equipping healthcare providers with the knowledge and skills needed to integrate TCDM into clinical practice. Patient education and empowerment are also vital, enabling individuals to make informed dietary choices and adopt lifestyle modifications that support their health. By exploring the synergies between traditional wisdom and modern science, TCDM can contribute significantly to holistic health and well-being.

Keywords: dietary therapy, holistic medicine, nutrition, traditional chinese medicine

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ABSTRACT

Yogurt in the prevention of diabetes mellitus

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Yogurt, a popular fermented dairy product, is lauded for its nutritional benefits and role in promoting gut health. Recent studies have highlighted its potential in preventing chronic diseases, including type 2 diabetes mellitus (T2DM). This abstract delves into the mechanisms through which yogurt exerts its beneficial effects and explores how its regular consumption may contribute to diabetes prevention. Yogurt is rich in essential nutrients such as calcium, vitamin D, protein, and probiotics. The probiotics, particularly strains of Lactobacillus and Bifidobacterium, play a crucial role in maintaining gut microbiota balance. These live bacteria contribute to improved digestion and enhance immune function, pivotal in managing and preventing metabolic disorders like T2DM.

The human gut microbiota significantly influences metabolic health. Dysbiosis, an imbalance in the gut microbial community, has been linked to insulin resistance, inflammation, and the development of T2DM. Regular consumption of yogurt helps restore and maintain a healthy gut microbiota. The probiotics in yogurt enhance the production of short-chain fatty acids (SCFAs) like butyrate, which improve gut barrier function and reduce systemic inflammation. This, in turn, can enhance insulin sensitivity and glucose metabolism, lowering the risk of developing T2DM. Chronic low-grade inflammation is a known contributor to insulin resistance and T2DM. Yogurt contains bioactive peptides and probiotics that exert anti-inflammatory effects. These components help modulate the immune response and reduce the levels of pro-inflammatory cytokines. By mitigating inflammation, yogurt helps maintain normal insulin function and glucose homeostasis.

Yogurt has a low glycemic index (GI) and glycemic load (GL), making it a suitable food choice for maintaining stable blood sugar levels. The high protein content in yogurt and its probiotic composition slow down carbohydrate digestion and absorption, gradually increasing blood glucose levels. This glycemic control is essential for preventing spikes in blood sugar that can contribute to insulin resistance over time. Obesity is a significant risk factor for T2DM, and managing body weight is crucial in diabetes prevention. Yogurt can aid in weight management due to its high protein content, which promotes satiety and reduces overall calorie intake. Additionally, the probiotics in yogurt have been shown to influence fat metabolism and storage, contributing to reduced body fat. Consuming yogurt as part of a balanced diet can thus support weight loss and prevent obesity-related insulin resistance. Adequate intake of vitamin D and calcium, both abundant in yogurt, is associated with improved insulin sensitivity and reduced risk of T2DM.

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ABSTRACT

Vitamin D plays a role in pancreatic beta-cell function and insulin secretion, while calcium is involved in intracellular signaling pathways that affect glucose metabolism. Regular yogurt consumption ensures a steady supply of these nutrients, supporting metabolic health and reducing the likelihood of diabetes onset.

Numerous epidemiological studies and clinical trials have investigated the link between yogurt consumption and T2DM risk.

Several mechanisms underpin the protective effects of yogurt against T2DM: (1)Improved Gut Microbiota Composition: Probiotics in yogurt enhance the abundance of beneficial bacteria, improving gut health and reducing endotoxemia, which is linked to insulin resistance. (2)Enhanced SCFA Production: The fermentation of dietary fibers by probiotics increases SCFA production, which has anti-inflammatory and insulin-sensitizing effects. (3)Modulation of Immune Function: Yogurt's anti-inflammatory properties help maintain immune homeostasis, which prevents chronic inflammation associated with T2DM. (4) Glycemic Regulation: Yogurt's low GI and high protein content contribute to better glycemic control and reduced insulin resistance. (5)Nutrient Supply: Adequate vitamin D and calcium levels from yogurt support insulin function and glucose metabolism of blood flow and underlying pathology rather than treatment of the "lactic acidosis" per se..

Keywords: yogurt, diabetes mellitus, inflammation, immunology, prevention

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ABSTRACT

Perioperative nutrition in bariatric surgery

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Many patients think very simply about bariatric surgery, namely that after surgery the body soon becomes slim. In reality, carrying out bariatric surgery still follows the medical surgical procedure with all its complications, so the doctor must carry it out medically well and it would be ideal to follow standard guidelines.

Guidelines for perioperative care in bariatric surgery have been published by the Enhance Recovery After Surgery (ERAS Society) 2022 organization, which covers various elements including nutrition. Based on the guidelines, perioperative nutrition care in bariatric surgery is divided into 4 groups, namely for preadmission care, preoperative nutritional management, intraoperative and post-operative nutrition. The elements of preadmission care are information, education and counselling, indications and contraindications for surgery, with some recommendations such as patient should stop smoking at least 4 weeks before surgery, manage weight loss, prehabilitation, and exercise before bariatric surgery. The recommendations for preoperative nutrition care are preoperative fasting specifically patients are allowed eating solids food until 6 hours and taking clear liquids until 2 hours before induction for elective bariatric surgery assuming no contraindication. For postoperative nutrition care, patients are scheduled to drink clear liquid hours after surgery, they should ideally have access to consultation regarding a comprehensive nutritional and dietary assessment of the macronutrient and micronutrient content of the diet based on the surgical procedure and the patient's nutritional status, including vitamin and mineral supplementation, and nutritional biochemical monitoring is also required. However, the success of bariatric surgery is not only limited to the surgery but the bigger target is for the patient to achieve ideal body weight. Therefore, the patient's diet after surgery and physical activity are processes that must be carried out by the patient

Keywords: bariatric surgery, nutrition, perioperative nutrition

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ABSTRACT

Malnutrition post liver transplant

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Before undergoing liver transplantation, it is essential for patients to maintain optimal nutrition. Malnutrition is common among individuals with liver disease and can have detrimental effects on the outcome of the surgery. Research has shown that malnourished patients are at higher risk of developing postoperative complications, such as infections, poor wound healing, and longer hospital stays.

Therefore, it is crucial for healthcare providers to assess the nutritional status of patients before surgery and provide appropriate interventions to improve their nutritional status. This may include dietary counseling, supplementation with vitamins and minerals, and, in some cases, enteral or parenteral nutrition. After liver transplantation, nutrition continues to play a critical role in the recovery and long-term health of patients. The body undergoes significant changes following surgery, and the new liver may require different nutrient requirements. Research has shown that adequate nutrition is essential for maintaining liver function, preventing complications, and optimizing outcomes.

Studies have also shown that patients who receive proper nutrition after transplant have better overall health and quality of life. For example, a diet high in protein can help to promote healing and reduce the risk of infection, while a diet low in salt and saturated fats can help to prevent complications such as hypertension and cardiovascular disease.

In conclusion, nutrition research before and after liver transplantation is essential for improving patient outcomes and quality of life. It is important for healthcare providers to assess and address the nutritional needs of patients, provide appropriate interventions, and monitor their progress throughout the transplant process. By prioritizing nutrition, we can help patients achieve the best possible outcomes and improve their overall health and well-being.

Keywords: malnutrition, liver transplant, nutrition in liver transplant

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ABSTRACT

Lessening morbidity and mortality in surgery

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Surgeons always try to improve outcomes of patients by lessening morbidity and mortality and. Proper plan during perioperative period is essential as nutritional support influence short-term and long-term outcomes in malnourished or undernourished patients. One way to improve patient care is to screen highly susceptible group and consider nutritional support for the patients before the surgery. Operation for malignant disease is usually associated with complications. The patients are already under nutrition due to cancer, chronic liver disease or cirrhosis, especially in HBP disease. And postoperative hospital stay may be long. If the patient is malnourished or under-nourished, perioperative and postoperative outcomes are poor. Multi-disciplinary approach finds the optimal treatment for the individual patient. Minimal invasive surgery become popular due to its advantages of early recovery and reduced morbidity. It will be good for the patients to perform minimal invasive surgery for better outcomes. As the inflammation including postoperative complications is associated poor survival of the patients, any efforts should be made to control infectious status as possible and minimize complications. One way is to perform precise and meticulous operations. Therefore, nutritional treatment, minimal invasive surgery and minimizing inflammation may improve surgical morbidity and mortality, and eventually long term oncologic outcomes.

Keywords: morbidity, mortality, surgery

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ABSTRACT

Optimizing nutrients intake of children in Indonesia: Dietary modelling approach

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The prevalence of obesity is rising in high-income countries, while low-income populations face the triple burden of malnutrition. Improving dietary intake is crucial in addressing these issues. Diet optimization or diet modelling have emerged as valuable tools for identifying the optimal combination of foods that meet daily nutritional requirements by incorporating nutrient-dense options into the diet. Sweetened condensed milk (SCM) was commonly consumed by children under 5 years old, despite its high sugar content. This product should ideally be marketed as a topping for desserts or mixed dishes, rather than as a child's milk. The present dietary modelling demonstrated that children who consumed Young Child Milk (YCM) had a lower prevalence of inadequate intake of iron, zinc, vitamins A, C, and D across different age groups compared to children consumed SCM. Substituting SCM with YCM in our modelling analysis resulted a reduction in the prevalence of inadequate iron intake by 63% in children aged 3-4 years and 31% in children aged 1-2 years, and reduced prevalence of vitamins A and folate (range 20-40%) and vitamins D and zinc (range 40-50%) in children aged 1-4 years. Through a dietary modelling approach, replacing SCM with YCM significantly improved nutritional intake of children 1-4 years of age in Indonesia.

Keywords: diet modelling, nutrition gap

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ABSTRACT

Empowering mass spectrometry & separation sciences for clinical laboratory

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Mass spectrometry (MS) has been a gold standard in the clinical laboratory for decades. Although historically refined to limited areas of study such as neonatal screening and steroid analysis, technological advancements in the field have resulted in MS becoming more powerful, versatile, and user-friendly than ever before. As such, the potential for the technique in clinical chemistry has exploded. The past two decades have seen advancements in biomarker detection for disease diagnostics, new methods for protein measurement, improved methodologies for reliable therapeutic drug monitoring, and novel technologies for automation and high throughput.

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ABSTRACT

The importance of nutritional care in an aging society

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Japan has been facing serious aged society ahead of the world as seniors' population has exceeded 27%. In this background, there are concepts of conventional life expectancy and healthy life expectancy. The period during which one can live independently without relying on nursing care is called healthy life expectancy and there is about ten years gap exists between these two life expectancies. With advances in medical technology, Japan has one of the highest average life expectancies in the world. With social security costs currently soaring, the key issue is how to extend healthy life expectancy, rather than average life expectancy. To this end, it is important to provide nutritional care that is appropriate for age and stage of life. Furthermore, understanding that palliative care rather than excessive medical treatment is important during the final stages of care is also important in order to maintain a high quality of life until the end. This lecture will focus on the differences in nutritional care between middle-aged and elderly people, and will discuss preventive measures against infectious diseases such as aspiration pneumoniae, which have a significant impact on the decline of ADL and life expectancy in the elderly, with a focus on nutritional management.

Keywords: malnutrition, sarcopenia, aged society, aspiration pneumoniae

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ABSTRACT

The role of early life nutrition in the determination of healthy ageing

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Nutrition plays an important role at all life stages—before and during pregnancy, lactation, infancy, and childhood, as well as during adult life. Maternal nutrition has a major impact on the infant, not only because the nutrient exchange through the placenta and breast milk is involved in fetal and infant growth, but it also plays a role in determining the offspring's risk of developing non-communicable diseases (NCDs) during adulthood. The increasing trend of NCD's worldwide is concerning. It also indicates lack of impact in current national level interventions and policies. Thus, more innovative, and advanced approach may enlighten researchers and healthcare professionals in combating NCD's and ensuring healthy aging. This presentation will review several novel strategies in the prevention of NCD's and assurance of healthy aging.

Keywords: early life nutrition, healthy ageing

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ABSTRACT

How to understand bisphenol A (BPA) information correctly: Is it safe for human health

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Bisphenol A (BPA) is a synthetic chemical widely used in consumer products like polycarbonate plastics and epoxy resins. This presentation examines the sources, prevalence, and health impacts of BPA, alongside regulatory measures to mitigate its risks. BPA, not naturally occurring, enters the environment via industrial waste and consumer product degradation. Research has detected BPA in water, air, soil, and food products. Findings reveal BPA concentrations in food items, with a case study from Nigeria showing varying levels in canned and fresh foods. The synthesis and degradation of polycarbonate plastics identify UV light and high temperatures as factors contributing to BPA release. BPA migration from packaging into food and beverages depends on storage conditions, such as temperature and duration. Health concerns highlight BPA's role as an endocrine disruptor, potentially leading to various diseases. While BPA can be metabolized and excreted, some may accumulate due to metabolic issues. Regulatory measures, particularly in the European Union, have evolved to address BPA risks. Actions include bans on BPA in certain products and strict migration limits for food contact materials. The European Food Safety Authority (EFSA) recently lowered the tolerable daily intake (TDI) for BPA to 0.2 ng/kg body weight, significantly below previous limits, reflecting heightened health concerns. Recommendations include regular updates to food packaging safety regulations based on the latest research. Collaborative scientific efforts are crucial to developing effective, evidence-based regulations that protect public health without unfairly benefiting specific industry players.

Keywords: bisphenol A (BPA), polycarbonate degradation, chemical migration, food safety regulations

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ABSTRACT

Nutrition management of intestinal failure: From neonates to the elderly

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Double enterostomies (DES) and necrotising enterocolitis (NEC) are prevalent in neonatal intensive care units (NICU), commonly resulting from surgical removal of diseased intestine. Sarcopenia prevalence is >40% in community dwelling elderly >65 yrs and is associated with poor nutritional status before/after abdominal surgery, with intestinal failure (IF) and high output stoma losses. Parenteral Nutrition (PN) is the standard of care for Type 2 IF patients with DES or enteroatmospheric fistulas (EAF), but risks catheter-related complications, infection, gut and hepatobiliary dysfunction. Chyme reinfusion therapy (CRT) is a recommended distal feeding technique that may minimise these risks.

In 500+ adult IF patients, CRT normalised liver function tests (LFT) with 80-90% patients weaning earlier from PN. Surgical closure in French EAF patients >65 yrs took longer than the younger DES cohort but outcomes were similar. Of 10 NZ patients, 4/5 >65yrs required PN for high output stomas. After performing CRT with the Insides® System 75% PN-dependent patients resumed a full low residue oral diet within 7d. Serum albumin, creatinine, and ALT levels for all >65yrs returned to reference ranges. Stoma losses and antidiarrheal medication use reduced, facilitating discharge.

From a systematic review involving 289 neonates (mean age 32.5 weeks) receiving CRT through a small bowel DES, >60% completely ceased or significantly decreased PN, coupled with weight gain, reduction in postoperative anastomotic leakage and easier reversal operations. Preliminary data with CRT, utilising the Insides® Neo in 10 neonates (7/10 originally on PN), confirmed early enteral autonomy, accelerated weight gain and positive nursing experience.

Conclusion: Chyme reinfusion therapy improves nutrition and liver status of elderly IF patients at risk of sarcopenia. Infants with NEC, experience good growth and outcomes. The new systems offer a 'third way' for nutritional management, across the ages, resulting in more available nursing time for better holistic care to patients.

Keywords: chyme reinfusion, intestinal failure

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ABSTRACT

Nutrition in the first 1000 days of life

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Development in the first 1000 days of life is the most important time in everyone of us. This period not only encompasses organ formation but also its maturation and development as well. Nutrition plays an essential role in ensuring these are achieved to their maximum potential. In the session, we will explore what and how those nutritional factors known so far determine the best outcomes.

Keywords: development, first 1000 days, brain growth, nutrients

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ABSTRACT

Development of Phil-HEI and its evaluation of the Filipino diet: 2018 expanded national nutrition survey

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The Philippine Healthy Index (Phil-HEI) is a locally developed diet quality index. Patterned the American Healthy Eating Index (HEI), it aims to assess an individual's diet quality through a scoring metric based on existing dietary guidelines.

To establish the validity of the Phil-HEI, this study explored its (1) content validity, (2) construct validity, (3) discriminating validity, (4) sensitivity analysis, and (5) internal consistency reliability. Content validity ensured that the component of the metric aligns with the existing dietary guidelines, both locally and internationally. Construct validity demonstrated the relationship between individual characteristics with energy and nutrient intakes. Discriminating validity evaluated the Phil-HEI's capacity to assess different diet qualities across the country by developing ideal meal plans for the standard Filipino diet, halal diet, and vegetarian diet, and then comparing it to the actual food recalls from the 2018 National Nutritional Survey. Lastly, the internal consistency reliability ensured that the index addresses the multidimensional characteristics of diets.

Overall, the validation of the Phil-HEI has demonstrated its appropriateness in evaluating the diet quality of Filipinos along with its adherence to the existing dietary guidelines through the different validity tests conducted.

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ABSTRACT

Emerging science of postbiotics and market trend

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The concept of postbiotics has gained significant traction in recent years, particularly following the publication of the postbiotics consensus by the International Scientific Association for Probiotics and Prebiotics (ISAPP). Postbiotics are defined as preparations of lifeless microorganisms and/or their components that confer health benefits to the host. The health effects associated with the administration of postbiotics include the regulation of the immune system, promotion of gut health, prevention of obesity, control of lipid metabolism and relief or prevention of symptoms related to chronic diseases.

A key factor driving interest in postbiotics is their stability during industrial processes and storage. This characteristic allows postbiotics to be utilized in various food and supplement formats and facilitates widespread distribution without encountering challenges related to cold chain maintenance and temperature. Although clinical research indicates that integrating postbiotics into diets can contribute to promoting health, preventing, and treating diseases in both human and animal health, there is limited evidence in healthy populations. Another persisting challenge is the lack of regulatory incorporation of the term postbiotics by any government or international agency.

Keywords: postbiotics, immunity, gut health, wellness, infants, children, adult, skin health

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ABSTRACT

Nutritional therapy in a severely injured multiple traumas patients with hypovolemic shock, acute kidney injury, and hypoalbuminemia: A case report

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Background: Severely injured multiple trauma patients that undergoing surgery generally have a high risk of malnutrition. Surgery can cause a series of reactions including releases of stress hormone and inflammatory mediators that is called Systemic Inflammatory Response Syndrome. The syndrome causes hypermetabolism due to catabolism of glycogen, fat, and protein to enhance the recovery of healing and immune responses and maintain peripheral protein mass. Therefore, nutritional support is essential for the optimal recovery of these patients.
Methods: 19-years-old man with multiple traumas, hypovolemic shock, acute kidney injury, and hypoalbuminemia, underwent multiple surgeries and was being treated in ICU. His nutritional status was normal with initial body mass index (BMI) of 19.5kg/m^2. His kidney functions and wound healing showed no significant improvement since day-2. He began to have fever since day-4. He was already given intravenous albumin, parenteral nutrition, and two types of antibiotics. He was given additional vitamin A, B complex, and C. His diet was changed by increasing nutrition supplement for renal insufficiency and lowering protein intake.
Results: During 21 days of ICU, energy intake was 22-48 kcal/kg BW/day and protein intake was 0.8-1.3 g/kg BW/day. Vitamins began on day-7. Nutritional therapy changes since day-10. There was significant improvement in his kidney functions, fever, and wound healing on day-14. He was discharged from ICU on day-22.
Conclusion: Nutritional therapy may improve postoperative outcomes in a severely injured multiple traumas patient.

Keywords: nutritional therapy, severely injured, multiple traumas, hypovolemic shock, acute kidney injury, hypoalbuminemia

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ABSTRACT

Meta analysis studies: effectiveness of omega-3 polyunsaturated fatty acid (ω-3 PUFA) supplementation on clinical outcomes in lung cancer patients

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Background and Objective: Lung cancer is a malignant cancer and the leading cause of cancer-related deaths worldwide. Appropriate nutritional care planning for lung cancer patients needs to be considered, one of which is by providing omega-3 polyunsaturated fatty acids (ω-3 PUFAs) in the patient's nutrition management plan. This study aims to determine the effectiveness of ω-3 PUFA supplementation on clinical outcomes in lung cancer.
Methods: This is a systematic review and meta-analysis study, which includes a number of study articles retrieved from PubMed, Proquest and ScienceDirect and published from inception up to April 2024. The preparation of this study used the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines.
Results: Eight articles were included for analysis. The meta-analysis presents evidence that omega-3 PUFA supplementation may be beneficial for lung cancer patients, showing positive effects on body weight maintenance (P = 0.01), and a reduction in inflammatory markers (P = 0.004). The most commonly used dose of omega-3 PUFA was EPA 2.2 g/d and DHA vary across study.
Conclusion: Various positive impacts of ω-3 PUFAs have been reported on clinical outcomes in lung cancer. Therefore, ω-3 PUFA supplementation is expected to be considered for inclusion in the lung cancer treatment plan to help patients obtain optimal care while actively undergoing various anti-cancer treatments, particularly in nutritional management.

Keywords: lung cancer, omega-3, polyunsaturated fatty acid (PUFA)

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ABSTRACT

The impact of prebiotic, probiotic, and synbiotic supplements on CD4, CD8 counts and inflammatory markers in HIV patients: A systematic review and meta-analysis

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Background: HIV infection compromises immune function and depletes CD4+ T-lymphocytes. Prebiotics, probiotics, and synbiotics are potential dietary supplements to improve immune status and manage inflammation in HIV patients. This systematic review and meta-analysis investigated their effects on CD4 count, CD8 count, and inflammatory markers in HIV patients.

Methods: A comprehensive literature search was conducted in PubMed, Embase, and Cochrane Library databases until April 2024. Randomized controlled trials (RCTs) evaluating prebiotic, probiotic, or synbiotic supplements' effects on CD4 count, CD8 count, and inflammatory markers (IL-6 and CRP) in HIV patients were included. Two reviewers independently screened studies, extracted data, and assessed risk of bias using the Cochrane Risk of Bias 2 tool. Meta-analyses used random-effects or fixed-effect models based on heterogeneity.

Results: Fifteen RCTs were included in the meta-analysis. Probiotic supplementation significantly increased CD4 counts compared to placebo (MD = 31.50 cells/μL, 95% CI [9.28, 53.71], P = 0.005). Prebiotic and synbiotic supplements showed no significant effects on CD4 counts. No significant effects were found for probiotics or synbiotics on CD8 counts or inflammatory markers (IL-6 and CRP). Substantial heterogeneity was observed among probiotic studies on IL-6 (I^2 = 75%).

Conclusion: Probiotic supplementation may beneficially affect CD4 counts in HIV patients. The effects of prebiotics and synbiotics remain inconclusive. Further high-quality RCTs with larger sample sizes and longer follow-up periods are needed to clarify these supplements' impact on CD8 counts and inflammatory markers in HIV patients.

Keywords: probiotic, prebiotic, symbiotic, CD4, inflammatory markers

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ABSTRACT

The effect of bitter melon (M.charantia) consumption on fasting blood sugar in patients with type II diabetes mellitus: A systematic review

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Background: Morbidity and mortality from diabetes is a serious alarm to carry out an adequate prevention and management. Bitter melon (*M. Charantia*) is widely available and often consumed in Indonesia. It has been traditionally used in various cultures particularly in managing diabetes. This effect is believed to be due to compounds found in bitter melon that mimic insulin's action, helping to improve glucose uptake and utilization by cells.
Methods: This literature searched in three databases including PubMed, COCHRANE and ProQuest. Literature selection is carried out through the literature selection stages based on inclusion and exclusion criterias, also according to PRISMA framework. A critical review was carried out using the Center of Evidence-Based Medicine – Oxford University Methods.
Results: The four selected literatures are systemic review studies based on randomized clinical trial research. Critical review showed by *Peter et al* (2018) found that ten out of eleven literatures related to the consumption of 2 - 6 grams bitter melon per day could significantly lower fasting blood sugar than placebo (*standardized effect size value d= 0.32 to d= 0.98*). Moreover, in *Ooi et al* (2012) study found that administering bitter melon seed extract 2000 mg/day could reduce blood sugar fasting level significantly and is equivalent to administering a 2.5 mg of glibenclamide. Otherwise, *Kim et al* (2023) found that bitter melon helps lower fasting blood glucose insignificantly than placebo (p = 0.768), also *Yin et al* (2014) stated that from 4 RCTs, bitter melon didn't significantly lower fasting plasma glucose (WMD 2.23 mg dl−1, 95% CI −14.91 to 19.37).
Conclusion: Consuming bitter melon may offer potential benefits for managing fasting blood sugar levels. Effectiveness of bitter melon can vary depending on factors such as dosage, preparation method, and individual response.

Keywords: bitter melon, M.charantia, fasting blood sugar, diabetes

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ABSTRACT

Positive effects of probiotics against alzheimer's disease: A scoping review

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Background and Objective: Alzheimer's disease (AD) is a neurodegenerative disease related to elderly with subtle onset and progressive impairment of behavior and cognitive functions that is projected to increase without medical breakthroughs. Recent medication effectiveness is limited, only symptomatic treatment is available, none are curative, and variably palliative. Studies suggest an association between gut health and Alzheimer's progression through the "microbiome-gut-brain axis". A scoping review was conducted to further explore the positive effects of probiotics on AD, highlighting potential of enhancing cognitive function, mitigating inflammation, and improving lipid profiles.
Methods: The literature search was conducted in March 2024 on Pubmed, SageJournals, SpringerLink, Cochrane, Frontier, and hand searching due to limited finding. The search is limited to publications from January 2010 until March 2024.
Results: A total of 7 studies were included. Probiotics exhibited positive effects in Alzheimer's disease in cognitive functions and decreased inflammation biomarkers. Probiotics improved cognitive function via increased production of brain neurotransmitters and short-chain fatty acids. Probiotics significantly reduced most of the pro-inflammatory cytokines and increased PPAR-γ, kynurenine/tryptophan ratio, and SOD activity. Results in lipid profiles were contrary.
Conclusions: Probiotics have a positive effect on improving cognitive function and reducing pro-inflammatory mediators. The effect of probiotic administration on lipid profiles remains ambiguous.

Keywords: alzheimer disease, probiotics, cognitive function, inflammation

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ABSTRACT

Correlation between total animal and plant protein intake, with body mass index in tuberculosis patients during the intensive phase in Dili and Oecusse

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Introduction: Tuberculosis causes decreased appetite and hypermetabolism, disrupting protein breakdown and synthesis, leading to malnutrition. Proteins, as the primary source of amino acids, support immune cells and help prevent malnutrition and susceptibility to other infections. The intensive phase of tuberculosis therapy is crucial for enhancing immune defense, reducing the bacterial load, and decreasing energy expenditure, thereby increasing body weight.
Methods: Cross-sectional study aimed to identify protein intake using Semi Quantitatif-Food Frecuency Questionery instrument and measure weight and height to determine Body Mass Index in tuberculosis patients during the intensive phase in Dili and Oecusse. A total of 104 participants were recruited using consecutive sampling. Data collection included both primary and secondary data, and analyses were conducted using Spearman's correlation tests.
Result: The median age of the subjects was 31 years, with 53.8% being male. Most had secondary education, low income, and high medication adherence. A total of 63.5% had inadequate protein intake, with a median of total, animal, and plant protein intake were 45.18 grams, 19.60 grams, and 25.57 grams, respectively. There was a significant correlation between BMI and both total protein ($r=0.358$, $p<0.001$) and animal protein intake ($r=0.398$, $p<0.001$), but not with plant protein ($r=0.169$, $p=0.087$).
Conclusion: A weak correlation exists between total and animal protein intake with BMI. To improve the nutritional status of patients, it is recommended to increase animal protein intake and awareness programs on the importance of protein.

Keywords: body mass index, total protein intake, animal and plant protein, tuberculosis

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ABSTRACT

Effective use of semi-elemental diet in managing anastomotic leakage after surgery for esophageal stricture: A case report

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Introduction: Anastomotic leakage occurs in ±10% of patients after surgery for esophageal stricture. Management often requires re-surgery, which increases morbidity and mortality. This case report shows successful conservative management of anastomotic leakage with semi-elemental diet.

Case: A 44-year-old male (BMI 17.5 kg/m²) with esophageal stricture due to corrosive ingestion was hospitalized for colon transposition. Postoperatively, he had ±200 mL/24 hours of anastomotic leakage. No signs of sepsis were observed. Conservative treatment included semi-elemental diet via nasojejunal feeding tube (NJFT), with a maximum rate of 6x100 mL, and three-chamber parenteral solution that was gradually withdrawn. By post-operation day (POD)-5, leakage volume reduced to <5 mL/24 hours. By POD-23, he was discharged with an improved Karnofsky Performance Scale and preserved NJFT. At home, he was on a homemade blenderized diet via NJFT. By POD-58, a complete closure of leakage and weight gain were observed. The patient tolerated oral soft diet and returned to daily living.

Discussion: Ahmad SJS et al., found that the reduction in the workload of digestion and absorption by semi-elemental diet and in peristalsis and digestive tract secretions may play a role in reducing leakage. This diet also helps maintain gut barrier integrity by providing essential nutrients that support mucosal repair and immune function to improve wound healing. Its casein hydrolysate and lactalbumin content also stimulates water and electrolyte absorption in jejunum, resulting in reduced leakage volume.

Conclusion: Semi-elemental diet may reduce anastomotic leakage and decrease the need for re-surgery.

Keywords: colon transposition, anastomotic leakage, nasojejunal feeding, semi-elemental diet

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ABSTRACT

Micronutrients intake as risk factor of stunting in toddlers aged 6-24 months in Kintamani District, Bali

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Background and objectives: Reducing stunting is a priority program for the Indonesian government. Kintamani District is one of the areas in Bali Province with a stunting prevalence above the provincial average. Micronutrients play an essential role in growth and development, but their intake in children is often overlooked. This study aimed to investigate micronutrient intake as a risk factor for stunting in toddlers aged 6-24 months in the Kintamani district, Bali.

Methods: This is a case-control study conducted in the Kintamani district, Bali. The samples were 43 stunting toddlers and 43 non-stunting toddlers aged 6-24 months. Data were obtained through direct interviews using a Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ). We quantified the micronutrient intake using the Nutrisurvey 2007 application. The micronutrient was classified as deficit if <70% and adequate if ≥70%. Data analysis was performed in SPSS version 23.

Result: The prevalence of low vitamin A, iron, zinc and calcium intake in the stunting group was 72.1%; 86.0%; 86.0%; and 90.7%, respectively, while in the non-stunting group was 51.2%; 67.4%; 53.5%; and 62.8%, respectively. The risk of stunting was higher in toddlers with low intake of Vitamin A (OR=2.46; 95% CI:1.01-6.03; p=0.046), iron (OR=2.97; 95% CI:1.01-8.70; p=0.041), zinc (OR=5.36; 95% CI:1.87-15.3; p=0.001), and calcium (OR=5.77; 95% CI:1.73-19.1; p=0.002).

Conclusion: Low micronutrient intake is a risk factor for stunting. To overcome this problem, education on food diversification and distribution of micronutrient supplementation or fortified food is necessary. A further study examining serum micronutrients in stunted toddlers is recommended.

Keywords: micronutrients, stunting, toddler, zinc, calcium

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ABSTRACT

Comparison of diet quality on weekdays and weekends among high school students in a semi-military education system

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Introduction: Adequate nutrition is critical for the growth, academic, and physical performance of adolescents. In semi-military schools, the regimented weekly schedules may influence students' eating patterns, potentially causing variations in diet quality between weekdays and weekends. This study aims to explore the differences in diet quality between weekdays and weekends among high school students enrolled in a semi-military education system.

Methods: The study sampled 200 high school students from semi-military schools in Central Java, Indonesia, using purposive sampling. Diet quality was assessed with the Diet Quality Index International (DQI-I), which examines food variety, protein sources, nutrient adequacy, and dietary balance. Data were gathered through interview questionnaires over a full week, covering both weekdays and weekends. Differences in median diet quality scores were analyzed using non-parametric Wilcoxon tests.

Result: The analysis showed that 130 out of 200 students had lower DQII scores on weekends compared to weekdays. The Wilcoxon test resulted in a Z-value of -5.645, demonstrating a statistically significant difference ($p < 0.001$) in diet quality, with a trend toward poorer diet on weekends.

Conclusion: The study highlights significant disparities in diet quality between weekdays and weekends among students in semi-military settings, suggesting that the less structured weekend environment may detrimentally affect students' dietary habits. These findings point to the need for targeted nutritional strategies during weekends to ensure consistent diet quality among these students.

Keywords: Adolescent, Semi-Military School, Diet Quality

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ABSTRACT

Validation of a questionnaire to assess mothers' intentions to purchase iron-fortified cereals for children aged 6-23 months

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Introduction: Mothers introducing solid foods (other than breast milk) to their babies (aged 6 to 23 months) rely heavily on nutrition labels when selecting infant cereals. Therefore, it is crucial to identify maternal knowledge regarding iron and the factors influencing their intentions to purchase iron-enriched cereals using the theory of planned behavior. This information will assist in formulating maternal purchasing decisions for high-iron infant cereals. As the questionnaire has not been validated yet, it needs to be validated. Aim to validate the questionnaire to evaluate mothers' intention to buy iron-fortified cereal for children aged 6-23 months using the theory of planned behavior and iron-related knowledge questionnaires.
Methods: This cross-sectional research gathered data from 30 mothers who were recruited consecutively at Posyandu Baja Public Health in Tangerang. The data was collected through questionnaires. Participants rate their approval on a Likert scale to measure mothers' intentions to buy iron-fortified cereal. To evaluate the validation and reliability of the questionnaire using statistical analysis, Kaiser-Meyer-Olkin (KMO) measure and Spearman (>0.500) with p-value and Bartlett's test of sphericity (<0.050), said to be valid.
Result: Results of the validation of the Planned Behavior Theory questionnaire on Attitude variable (KMO:0.589; Bartlett:0.003), Subjective Norms (KMO:0.507; Bartlett:0.000), Perceived Behavioral Control (KMO:0.564; Bartlett:0.000), and Purchase Intentions (KMO:0.509; Bartlett:0.000). Pearson correlation above ≥0.500; p<0.05, for the source of knowledge questionnaire iron claimed.
Conclusion: The Planned Behaviour Theory and Knowledge Sources of Iron Claimed questionnaires related to iron are valid and can be used in a study without modification.

Keywords: purchase intention, iron claim, iron intake

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ABSTRACT

Association of dietary inflammatory index score with gestational weight gain in 22 to 28 weeks of pregnancy

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Introduction: Maternal mental health during pregnancy has a significant impact on early childhood development, but its association with child growth outcomes, notably stunting, has received less attention, particularly in Indonesia.
Object : This systematic review aims to consolidate available information on the relationship between maternal mental health during pregnancy and child stunting. Examining and analyzing this study provides insights into the particular problems and potential for addressing maternal mental health and child development.
Methods: A thorough search of electronic databases was carried out to find relevant papers on the relationship between maternal mental health during gestation (including depression, anxiety, and stress) and child stunting. Studies published in peer-reviewed publications within the past five years were included. Data extraction and quality assessment were carried out based on predetermined criteria. Findings were synthesized narratively, and studies that met the inclusion criteria were included in the review.
Result: There is a link between poor maternal mental health during pregnancy and an elevated risk of child stunting. Maternal sadness and stress were frequently identified as potential causes for stunting, including impaired maternal-infant bonding, poor caregiving practices, and changed physiological responses during maternity. This systematic analysis emphasizes the significance of addressing maternal mental health during pregnancy as an important indicator of child growth and development.
Conclusion: Interventions that promote maternal mental well-being during the perinatal period have an opportunity to reduce stunting and improve maternal and child health outcomes. More research is required to understand the underlying causes and guide targeted interventions suited to the specific needs of Indonesian mothers and children.

Keywords: Maternal factors, 12-23 months old, Stunting

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ABSTRACT

Linking minds and growth: maternal mental health and child stunting : a systematic review

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Introduction: Maternal mental health during pregnancy has a significant impact on early childhood development, but its association with child growth outcomes, notably stunting, has received less attention, particularly in Indonesia.
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Methods: A thorough search of electronic databases was carried out to find relevant papers on the relationship between maternal mental health during gestation (including depression, anxiety, and stress) and child stunting. Studies published in peer-reviewed publications within the past five years were included. Data extraction and quality assessment were carried out based on predetermined criteria. Findings were synthesized narratively, and studies that met the inclusion criteria were included in the review.
Result: There is a link between poor maternal mental health during pregnancy and an elevated risk of child stunting. Maternal sadness and stress were frequently identified as potential causes for stunting, including impaired maternal-infant bonding, poor caregiving practices, and changed physiological responses during maternity. This systematic analysis emphasizes the significance of addressing maternal mental health during pregnancy as an important indicator of child growth and development.
Conclusion: Interventions that promote maternal mental well-being during the perinatal period have an opportunity to reduce stunting and improve maternal and child health outcomes. More research is required to understand the underlying causes and guide targeted interventions suited to the specific needs of Indonesian mothers and children.

Keywords: Maternal factors, 12-23 months old, Stunting

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ABSTRACT

Association of maternal factors with stunting in 12-23 months old children in Dili, Timor Leste

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Introduction: Stunting, characterized by low height-for-age, is a chronic malnutrition condition that primarily manifests during the first 1,000 days of life. According to the World Health Organization (WHO 2020), the maximum acceptable prevalence of stunting is 20%. Timor Leste has a significantly higher prevalence of stunting, at 47.1%. Previous research has shown that maternal characteristics from pregnancy to child-rearing phase play an important role in stunting. This study aims to identify the relationship between maternal factors and the incidence of stunting during the first two years of life
Methods: It is a case-control design conducted in five primary health care in Dili. The sample consists of 180 children aged 12-23 months, with 90 stunted children and 90 controls selected randomly. Data collected includes mother's age, height, interval of pregnancy, Multiparity, Wealth, Education level, Mid-Upper Arm Circumference (MUAC) in pregnancy, Iron supplement and anemia during pregnancy. Data analysis includes multivariate using logistic regression.
Result: There is significant association between maternal factors, except the interval of pregnancy with incidence of stunting ($p<0.05$)
Conclusion: Mothers with anemia during pregnancy increased over 5 times risk of having stunting children than mothers without anemia during pregnancy. Mothers with primary education level have 3.6 times risk of having stunting children rather than tertiary education level. Mothers with MUAC < 23 cm in pregnancy have 3.1 times risk of having stunting children rather than normal MUAC. Improving the quality and supervision of women's health promotion from pre-conception to childbirth is highly recommended to reduce stunting cases in Dili.

Keywords: Maternal factors, 12-23 months old, Stunting

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ABSTRACT

Adolescents' preferences of educational media on sugar sweetened beverages : A qualitative study

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Introduction: Adolescents consume sugar-sweetened beverages (SSBs), their primary added sugar source, daily, yet there is a considerable SSBs' knowledge, attitude, and practice (KAP) gap. Media literacy is crucial in enhancing student education and engagement through high-quality and digestible materials and methods. This study aims to identify the preferred educational media for SSBs among urban adolescents in Jakarta.
Methods: This qualitative study conducted in February 2024 involved two gender-specific focused group discussions with 20 grade 10 and 11 senior high school adolescents with low and high KAP scores, triangulated with in-depth interviews of 3 teachers and 5 experts with different backgrounds, and shared a nutrition focus. Adolescents were randomly selected from the first and last quarter overall scores by filling out the validated KAP questionnaire. The discussions and interviews were recorded, transcribed, and analysed using thematic analysis.
Result: The result discovered that urban adolescents preferred education on SSBs' side effects and ways to control them in concise, understandable, and interesting content delivered through a) animation videos with less than 3 minutes on YouTube or a series of short videos on TikTok, b) text-based digital resources (e-booklets and posters) with relevant illustrations and eye-catching colours, and c) PowerPoint and food models, as multimedia, used at interactive lectures to enhance the adolescents' engagement.
Conclusion: Urban adolescents preferred interesting educational media with coherent and relevant content, such as animation or text-based video-audio with colourful illustrations on social media, besides effective interactive lectures involving games and problem-based learning.

Keywords: Adolescents, Educational Media, SSBs socioenvironmental

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ABSTRACT

Exploring socioenvironmental influences on adolescent girls eating attitudes in Jakarta : A comparative study

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Introduction: A balanced diet is vital in adolescence because of the growth spurts occurring in different areas. However, girls in the adolescent phase are at risk of developing unhealthy eating attitudes, leading to severe physical and psychological consequences, including body dissatisfaction, depression, etc. This study was aimed to assessing the socioenvironmental influences on eating attitudes among adolescent girls in DKI Jakarta, Indonesia.
Methods: This study employed a qualitative research design conducted in seven public high schools located in five administrative areas of Jakarta province. Data collection involved FGD of selected adolescent girls from grades 10 and 11. The main informants were 13 adolescent girls; 8 of them had a high risk of eating disorders, and 5 of them had a low risk of eating disorders. The EAT-26 questionnaire (Eating Attitude Test) from a previous study assessed eating disorder risk risk. FGD questions encompassed but were not limited to daily dietary habits, perception of diet and nutrition, nutritional information and exposure, and attitude toward food.
Result: Socioenvironmental factors resulted in two themes, namely family upbringing and social environments. Eating attitude outcomes that came up in the exploration were food consumption, compensatory action after overeating, and changed eating patterns due to stress.
Conclusion: Both high- and low-risk girls' eating attitudes were affected by both their family environment and social environment. Compensatory actions like purging and laxative usage were only present in high-risk girls..

Keywords: Urban Aadolescent girls, nutrition eating attitudes, qualitative study, socioenvironmental influences

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ABSTRACT

Mothers insights on food marketing of sweet products for children

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Background: The 2018 Indonesian Basic Health Survey found that children aged 3-5 frequently consume sugary foods and drinks. Parental feeding practices significantly influence children's diets and health. Meanwhile, sophisticated food marketing targets parents, often promoting unhealthy foods high in sugar and challenging healthy feeding practices.
Objective: To explore the complex interplay between commercial food promotions and family feeding practices.
Methods: Data was collected through in-depth interviews with 16 mothers in Central Jakarta. The data was analysed using NVivo 14 for Windows. The frequency of packaged food products consumed by children was assessed using a food product list and analysed using Microsoft Excel.
Results: Mothers identified food discounts as a significant marketing strategy that influenced their purchase of sweet foods, while children were attracted to funny mascots on the packaging. Although mothers were not interested in advertisements, they let their children choose certain items in minimarkets and small shops. Fifteen and five studied children aged 3-5 were exposed to sweet foods and sugary beverages, respectively. Commonly chosen items included eleven types of sweet products such as candy, ice cream, chocolate, and probiotic drinks.
Conclusions: Mothers struggle to prevent their children from consuming sweet foods due to the temptation of discounted products. Therefore, targeted interventions are needed to mitigate the impact of food marketing on children's food choices.

Keywords: sweet foods, food product, food marketing

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ABSTRACT

The differences of child feeding practices between working mothers and daycare staff in daycare

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Background: Child feeding practices between working mothers and daycare staff play an important role in children's dietary intake. This study aims to compare child-feeding practices between working mothers and daycare staff. Additionally, the study explores the perspectives of working mothers, daycare staff, and management regarding their roles in child feeding practices to the children.

Methods: Mothers of under-five children (n=124) who used daycare facilities in 11 daycares in Ministry/Agencies in Jakarta and the daycare staff (n=47) were invited to complete self-administered Child Feeding Practices Questionnaire (CFPQ). Qualitative research utilized WeValue Insitu and Perspective Exploration (PEX) involving working mothers (n=3), daycare staff (n=5), and daycare management staff (n=5).

Results: The findings indicated higher score amongst working mothers on child control (3.20 vs 2.20, p<0.001) and emotion regulation (2.00 vs 1.67, p<0.001) subscales than daycare staff. On the other hand, daycare staff had higher scores on pressure to eat (3.75 vs 3.50, p<0.05), encourage balance and variety (4.75 vs 4.50, p<001), modelling (5.00 vs 4.25, p<0.001), and restriction (4.20 vs 3.40, p<0.001) subscales than the working mothers. The quantitative findings were supported by the qualitative findings regarding the child feeding practices, especially for restriction, encourage balance and variety, and modelling subscales.

Conclusion: Nutrition education is needed to enhance the attitudes of working mothers and daycare staff to enhance the practice, attitudes, and awareness regarding child feeding practices. The key messages for the working mothers and daycare staff should address the subscales which are inadequate in each of these target groups.

Keywords: child feeding practice, daycare, under-five children, working mothers

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ABSTRACT

The association of the type of occupation and obesity among Indonesian workers based on the 2018 Indonesian Food Barometer (IFB) data

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Background and objectives: Obesity has emerged as one of the global public health challenges. Obesity rates among adults in Indonesia have doubled over the past two decades, including among workers. Obesity among workers can lead to lower productivity and early retirement. Occupational factors have been associated with the prevalence of obesity at the workplace. However, the relationship between occupation type and obesity in Indonesia has not been clarified. Therefore, this study aims to investigate the association between occupation type and obesity among Indonesian workers using data from the 2018 Indonesian Food Barometer (IFB).

Methods: A quantitative cross-sectional study used the secondary data of the 2018 Indonesian Food Barometer (IFB). It included 894 Indonesian (18–64) male and female workers (excluding housewives, students, and retirees). The chi-square test and binary logistic regression were applied to investigate the association between occupation type and obesity based on the Body Mass Index (BMI) ≥ 27 kg/m^2. BMI was calculated based on the subjects' weight and height measurements, while occupation and other sociodemographic factors were determined through interviews.

Results: Around 19.8% of the subjects were obese. There is a significant relationship between the type of occupation and obesity ($p < 0.05$). After controlling for the confounding variables of gender and education level, professional workers have a 2.7 (95% CI: 1.381–5.282) times higher risk of obesity than labour workers.

Conclusion: A professional worker has a higher risk of obesity than a labour worker. Thus, the obesity prevention at workplace should be focused on professional workers.

Keywords: Indonesian Food Barometer, Obesity, Occupation, Worker

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ABSTRACT

Components driving the detection of stunting cases among Posyandu cadres using precede model : A qualitative study in Sumedang district, Indonesia

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Background: Cadres of *Posyandu* are frequently considered the frontline of community health programs, including in detecting and managing stunting. However, there are limited descriptions of the relevant factors driving their roles in stunting detection, particularly based on the PRECEDE model. The purpose of this study was to describe the multifactorial components driving cadres in finding stunting cases in Sumedang District, West Java.
Methods: This qualitative study utilizes a directed content analysis grounded in the PRECEDE model for health promotion. Data were collected through in-depth semi-structured interviews with 15 informants (cadres) and 12 key informants (District Health Office, Nutritionists, Village Apparatus and mothers with a stunted children). The participants were selected using a purposive sampling with maximum variation. The data was analysed using Nvivo version 14.
Results: Individual, environmental, and societal themes were generated based on predisposing, enabling, and reinforcing components. Knowledge, motivation, and perception on workload were subcategories of predisposing. Skills, availability of incentives, and appreciation for the cadres were subcategories of enabling. Communication with stunted families, continued government support, and coordination with health worker were subcategories of reinforcing.
Conclusion: Individual, environmental, and social components were the multifactor that drove cadres' roles in finding stunting cases. The situation increases the burden of responsibilities for cadres. It is recommended for the stakeholders to enhance training programs, increased staffing levels, and stronger community support systems.

Keywords: Detection of stunting cases, Posyandu Cadres, PRECEDE model

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ABSTRACT

Medical nutrition therapy in patients with severe malnutrition, unresectable gastric cancer and percutaneous endoscopic gastrostomy (PEG)

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Background: The yearly burden of stomach cancer is expected to rise to 1.8 million new cases and 1.3 million deaths by 2040. These indicate rises of almost 63% and 66%, respectively, from 2020. This case aim to describe medical nutrition therapy in patients with unresectable gastric cancer and percutaneous endoscopic gastrostomy (PEG).
Case report: A 46 year old male patient was diagnosed with unresectable gastric cancer with gastrostomy feeding, adhesiolysis, appendectomy, hypoalbuminemia (2.1 g/dl), hypokalemia (3.07 mmol/l), risk of refeeding syndrome and severe malnutrition according to GLIM criteria. The patient complained of difficulty in swallowing food, nausea, vomiting, and repeated black stools since 1 month ago. Patient's weight was 46,7 kg, with height 168 cm and BMI 16.56 kg/m2. The patient was given enteral nutrition containing 100% hydrolyzed whey protein in peptide form and 70% medium-chain triglicerydes fat, oral albumin supplementation, vitamin B1, vitamin B complex and vitamin C as part of nutritional therapy. The patient experiences weight gain every week.
Discussion: The benefits of whey protein in cancer cachexia is by its antioxidant, anticancer properties, capacity to raise glutathione levels, and its efficacy in managing mucositis during chemotherapy. Alpha-lactalbumin and lactoferrin are two whey protein subfractions that exhibit encouraging anticancer properties. Clinical studies indicate that whey protein supplementation has beneficial effects on cancer patients' immune systems, glutathione levels, gut integrity and nutritional and performance metrics.
Conclusion: Administration of hydrolyzed whey protein and medium-chain triglicerydes fat is beneficial for weight gain in patients with unresectable gastric cancer dan PEG.

Keywords: whey protein, medium-chain triglicerydes fat, unresectable gastric cancer, weight gain, malnutrition

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ABSTRACT

Correlation of calorie intake with 24-hour urinary urea nitrogen level changes in critically ill patients at RSUI Depok, Indonesia

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Background and objective: Calorie together with protein intake has been proven to be important factors that play a role in critically ill patients. Hypermetabolism in the early acute phase increases energy expenditure and calorie requirement. Insufficient calorie intake will increase protein degradation for gluconeogenesis, which can be assessed by the level of 24-hour urinary urea nitrogen (UUN). Adequate daily calorie intake is expected to improve the UUN level in patients. This study aims to investigates the correlation of calorie intake with UUN level changes in critically ill patients.
Methods: An observational analytical study with a cross-sectional design on criticallyill patients at Intensive Care Unit RSUI Depok, aged 18-60 years. A total of 23 participants were included in the study. Calorie intake data were collected on the first 3 days and the level of UUN was assessed on days 3 and 7. Data were analyzed using SPSS to assess the correlation of calorie intake with UUN level changes.
Results: Calorie intakes mean from 21 participants on the first 3 days was 81.57±27.71%. The mean of UUN levels on day 3 and day 7 were 8.12±5.23 g and 7.18±6.56 g, respectively. There was a decrease in UUN level on the day 7, however, no significant correlation was found in this study between calorie intake and UUN level changes (p=0.2).
Conclusion: There is no significant correlation between calorie intake on the first 3 days with UUN level changes in critically ill patients.

Keywords: calorie intake, urinary urea nitrogen level changes, critically ill patients

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