

Effects of Dietary Fiber on The Glycemic Response after Ingestion of Cooked Rice

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Keywords: Blood sugar level · Glycemic response · Cooked rice · Dietary fiber

Background/Aims: Blood sugar levels are reduced by the consumption of dietary fiber. However, the mechanisms by which this occurs for different types of dietary fiber remain unclear. In this study, the effects of dietary fiber on the glycemic response after ingestion of cooked rice were evaluated. **Methods:** Agar, glucomannan (GM), and κ -carrageenan (κ -CG) were used to form a gel and xanthan gum (XG) and guar gum (GG) were used to form a sol; these samples were used as dietary fiber. The concentrations of dietary fiber were 0–4.0% per the total rice weight. In vitro, the glucose concentration released from the cooked rice with dietary fiber was measured. In vivo, blood sugar levels were measured after the intake of cooked rice with dietary fiber. Furthermore, to determine the influence of dietary fiber on the glycemic response, the textural properties and thermal properties of these foods were measured. **Results:** The blood sugar level after ingestion of cooked rice mixed with dietary fiber was significantly lower than after ingestion of rice mixed with GM and rice mixed with XG at low concentrations. The rice mixed with the dietary fibers XG and GG suppressed increases in the blood glucose level compared to rice mixed with other dietary fibers. **Conclusion:** A strong suppressive effect of dietary fiber on the blood sugar level after ingestion of cooked rice could be achieved by covering cooked rice with sol prior to consumption.

A Balanced-Sustainable Calorie-Restricted Diet Effect Using "Eats Up" Application on Waist Circumference and Inflammatory Marker Among Indonesian Obese Women: Randomized Clinical Trial

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Keywords: Balanced-sustainable diet application · Obesity · Tumor Necrosis Factor- α · Waist circumference

Background/Aims: The lack of compliance in dietary restriction for obesity management remains a challenge. Dietary man-

agement through mobile application can be an alternative solution to enhance the effectiveness of obesity management. This study investigated the effect of a balanced-sustainable calorie-restricted diet using "EatsUp" application for dietary management in improving waist circumference (WC) and Tumor Necrosis Factor- α (TNF- α). **Methods:** Obese women aged 19–59 years, with body mass index of ≥ 25.0 kg/m² and had android smartphone were randomly allocated to consume a balanced-sustainable calorie-restricted diet (intervention group, n = 28) and balanced calorie-restricted diet (control group, n = 28). They were instructed to follow recommended menu provided through the "EatsUp" application for eight weeks, weekly nutrition counseling, and sport gathering. **Results:** A balanced-sustainable diet limited the intake of red meat and dairy products but high in plant-based food sources. WC and TNF- α were assessed at the baseline and end of the intervention. Baseline age, nutritional status, job, expenses and education level were comparable in both groups. After adjusted for body weight, the mean changes in WC was significantly different between the intervention and control group (adjusted mean changes -3.1 ± 4.1 versus -1.0 ± 3.6 cm, $p < 0.05$). However, changes in median TNF- α was not apparent between two groups [adjusted median changes -0.6 ($-2.2; 0.2$) versus -0.3 ($-1.7; 0.2$) pg/mL, $p > 0.05$). **Conclusion:** A balanced-sustainable calorie-restricted diet using "EatsUp" application reduced WC of obese women but unable to reduce inflammation indicated by TNF- α serum level. Promoting of a balanced-sustainable diet was needed to prevent further consequences of obesity.

Polyunsaturated Fatty Acid Intake and Its Correlation with Positive and Negative Syndrome Scale (PANSS) in Schizophrenia Patient

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Keywords: Omega-3 · Omega-6 · Ratio of omega-6/omega-3 · Schizophrenia

Background/Aims: The treatment of schizophrenia is commonly viewed from a pharmacological and social perspective, but issues of nutrient intake are seldom examined. However, the various study reported that polyunsaturated fatty acids (PUFAs) concentration is reduced in the plasma of schizophrenic patients. Therefore PUFAs intake may have a correlation with psychiatric symptoms in schizophrenia patients. This study aimed to assess the PUFAs intake of schizophrenic patients and its correlation with The Positive and Negative Syndrome Scale. **Methods:** This cross-sectional study was conducted on 63 schizophrenia hospitalized patients in Ernaldi Bahar Hospital, South Sumatra, Indonesia. The psychiatric symptoms were determined using the validated Indonesian version of PANSS. Dietary intake was assessed using a 3-day food weighing. Correlation between variables was determined using the Spearman Correlation Coefficient. **Results:** The result showed a significant negative correlation between omega-3 fatty acids and Positive scale, Negative Scale, General psychopathology and risk of aggression with $r = -0.345$, $r = -0.408$, $r = -0.483$, and $r = -0.406$ respectively ($p < 0.01$). The omega-6 fatty acids in-

take were negatively correlated with Positive scale, Negative Scale, General psychopathology and risk of aggression with $r = -0.390$, $r = -0.496$, $r = -0.525$, and $r = -0.389$ respectively ($p < 0.01$). A statistically significant correlation was seen between ratio of omega-6/omega-3 and Positive scale, Negative Scale, General psychopathology and risk of aggression with $r = 0.249$, $r = 0.256$, $r = 0.356$, $r = 0.343$ respectively ($p < 0.01$). **Conclusion:** These findings suggest that increasing PUFAs intake might have a positive health outcome in schizophrenia patient.

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Attempt to Reduce Salt Intake of Fukushima Citizens -Efforts Using Salt Intake Check Sheet and Salt Intake Measurement

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Keywords: Salt intake · Check sheet · Fukushima citizens

Background/Aims: According to the Dietary Reference Intakes for Japanese by the Ministry of Health, Labor and Welfare, the target value of salt intake is 8 g for males and 7 g for females. However, in the National Health and Nutrition Survey of 2015, the national average was 10.8 g for males and 9.2 g for females. Furthermore, salt intake in Fukushima prefecture was 11.9 g for males and 9.9 g for females. Compared to the national average, Fukushima's value was higher. Therefore, I conducted salt awareness program and its evaluation study for Fukushima citizens to reduce salt intake. **Methods:** A prefectural citizen event was held in Fukushima City in October 2017, a survey was conducted to 93 participants using existing salt intake check sheets, and salt intake measurement's experience booth was provided to them. The salt intake check sheet is made up of 13 items of questions, the total points (35 full marks) of 13 items which show the result of evaluation of salt intake. The definition of salt intake by this check sheet is "small" at 8 or less, "normal" at 9~13, "many" more than 14. **Results:** The average point of salt intake score was 17.9 for males and 13.4 for females. Many participants said that they noticed they had taken a lot of salt. Through experiences of using salt intake check sheet and salt intake measurement, they can realize their own salt intake. The check sheet of salt intake could be used to assess diet for reducing salt intake.

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Intake and Serum Level of Vitamin D among First Trimester Pregnant Women in Karangasem District, Bali

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Keywords: Vitamin D intake · Serum vitamin D · Pregnant women

Background/Aims: Many studies in the last decade found low level of Vitamin D among pregnant women from different characteristics and different environmental background, but lack of study from Indonesia; none study on it done in Bali. This study aims to describe Vitamin D intake and serum vitamin D among pregnant women in their first trimester. **Methods:** This is a cross-sectional study involving 43 first trimester pregnant women in four primary health centers (PHC) in Karangasem district. We collected nutrient intake history with Semi Quantitative Food Frequency Questionnaire (SQFFQ) method and analyzed the data with nutrisurvey for windows software, then, comparing the result to the 2013 national required nutrient intake (AKG 2013). Meanwhile, serum vitamin D was measured 25-Hydroxy Vitamin D ELISA method. **Results:** We found median Vitamin D intake was D 1.14 µg, and mean serum vitamin D 60.1 ± 22.02 ng/mL (95% CI: 53.3–66.9 ng/mL). There was 11.6% of the pregnant women with serum vitamin D < 40 ng/mL. **Conclusion:** First trimester pregnant women in Karangasem district have not fulfilled minimum required intake of vitamin D and some of them experienced Vitamin D deficiency.

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Fruit Consumption with Iron Supplement Tablet Increases The Amount of Hemoglobin in Teenage Female Dancers

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Keywords: Fruit, Iron Supplement Tablet, Hemoglobin

Background/Aims: The ideal body concept of a teenage female dancer is slender, this has an effect on their wrong diet behavior and will have an impact on the increasing iron deficiency anemia problem. This study was aimed to prove the effect of fruit consumption along with iron supplement tablet in increasing the hemoglobin level of teenage female dancers. **Methods:** The study was conducted at four dance studios at Denpasar City in 2018. The