# Ultra processed food and its correlation with body mass index for age among 10-12 years old school children in Surabaya = Konsumsi ultra processed food dan korelasinya dengan indeks massa tubuh menurut usia pada anak sekolah 10-12 tahun di Surabaya

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Abstrak

Obesitas pada anak menjadi masalah gizi utama dalam beberapa dekade terakhir dan berkembang pesat di banyak negara, termasuk Indonesia. Pangan olahan khususnya ultra processed food (UPF) sebagai bagian dari klasifikasi NOVA diketahui memiliki ciri-ciri padat energi tinggi, berlemak, bergula dan asin sehingga dapat menyebabkan obesitas. Penelitian cross sectional ini bertujuan untuk mengetahui hubungan UPF dengan indeks massa tubuh menurut umur (BAZ) pada anak usia sekolah 10-12 tahun di Surabaya. Pengumpulan data dilakukan di tiga sekolah negeri dan swasta di Surabaya, Jawa Timur Indonesia selama Maret-April 2020. Responden penelitian ini adalah siswa SD kelas 4 dan 5 sebanyak 136 siswa yang dipilih secara acak. Pengukuran berat badan dan tinggi badan diperoleh untuk menghitung BAZ, sedangkan konsumsi UPF diperoleh dengan food frequency questionnaire (FFQ) dan recall 24 jam. FFQ untuk menilai konsumsi UPF disusun berdasarkan 1x recall 24 jam pada studi utama. Kuesioner terstruktur dan kuesioner aktivitas fisik untuk anak (PAQ-C) digunakan untuk menilai status sosio- demografi, tingkat aktivitas fisik, asupan energi, waktu di depan layar dan morbiditas anak. Uji Spearman digunakan pada analisis bivariat dan regresi linear digunakan untuk analisis multivariat, analisis data menggunakan SPSS versi 20. Hasil penelitian menunjukkan sebanyak 13% responden mengalami kelebihan berat badan dan 24% obesitas; konsumsi UPF menyumbang 14% dari total asupan energi dengan median energi dari UPF 247 kkal/hari. Sebagian besar responden mengonsumsi energi yang tidak cukup dan aktivitas fisik rendah. Tidak ada hubungan signifikan antara konsumsi UPF dan BAZ (r=-0.097, p=0.196). Hanya aktivitas fisik yang berhubungan signifikan dengan BAZ pada analisis multivariat (p=0.014). Jenis UPF Obesogenik dan Non Obesogenik perlu dibedakan untuk mendapatkan korelasi yang jelas antara konsumsi UPF dan BAZ pada anak usia sekolah.

.....Childhood obesity became the major nutritional problem in the last decades and growing rapidly in many countries, including Indonesia. Processed food especially ultra-processed food (UPF) as part of NOVA classification had known contain obesogenic nutrient which were high energy dense, fatty, sugary and salty may lead to overweight and obesity. This cross-sectional study aimed to assess the correlation between UPF and body mass index for age (BAZ) among school age children 10- 12 years old in Surabaya. Data collection was conducted in three public and private school in Surabaya, East Java Indonesia during March-April 2020. Elementary students in the 4th and 5th grade were enrolled 136 students randomly selected as respondents. Weight and height measurement were obtained for calculating the BAZ, while UPF consumption was obtained by food frequency questionnaire (FFQ) and 24-hours recall. FFQ to assessed UPF consumption was developed based on single 24-hours recall from bigger study. Structured questionnaire and physical activity questionnaire for children (PAQ-C) were used to assessed socio-demographics status, physical activity level (PAL), energy intake, sedentary screen time and child morbidity. Spearman test for bivariate analysis and linear regression for multivariate analysis, all data

analyzed used SPSS version 20. The result found 13% of respondents were overweight and 24% obese; UPF consumption contribute 14% of total energy intake with median energy from UPF 247 kcal/day. Most of respondent had inadequate TEI and low PAL. No significant association was found between UPF consumption and BAZ (r=-0.097, p=0.196). Only physical activity that significant in multivariate analysis (p=0.014). It is necessary to distinguish the type of obesogenic and non-obesogenic UPF to get clear correlation between UPF consumption and BAZ among school age children.