

## **HUBUNGAN ANTARA MINUMAN MANIS TERHADAP KADAR GULA DARAH PADA REMAJA OBESITAS DI KOTA YOGYAKARTA**

Paramita Putri Sudono<sup>1</sup>, Dian Caturini Sulistyoningrum<sup>2</sup>, A. Fahmy Arif Tsani<sup>3</sup>

### **INTISARI**

**Latar Belakang :** Obesitas menjadi salah satu masalah penting dalam bidang kesehatan dan berkaitan dengan peningkatan kejadian penyakit tidak menular. Pada kelompok obesitas diketahui terjadi gangguan metabolisme karbohidrat sehingga dapat menyebabkan peningkatan kadar gula darah. Tingginya prevalensi obesitas pada anak dan remaja dapat disebabkan karena perubahan gaya hidup dan pemilihan makanan maupun minuman. Salah satu kebiasaan remaja adalah menyukai konsumsi minuman manis. Minuman manis lebih banyak dikonsumsi pada anak dan remaja yang mengalami obesitas. Minuman manis mengandung gula tambahan yang tinggi sehingga dapat memberikan dampak negatif bagi kesehatan yaitu menyebabkan resistensi insulin dan mempengaruhi kadar gula darah.

**Tujuan Penelitian :** Mengetahui hubungan antara konsumsi minuman manis dengan kadar gula darah pada remaja obesitas di Kota Yogyakarta.

**Metode Penelitian :** Penelitian ini merupakan penelitian analitik observasional dengan rancangan *cross sectional*. Subjek penelitian berjumlah 170 remaja yang mengalami obesitas. Status gizi obesitas ditentukan berdasarkan pengukuran antropometri dengan standar rujukan WHO 2007, IOTF 2000, dan CDC 2000. Pengumpulan data konsumsi minuman manis menggunakan formulir SQFFQ selama 3 bulan terakhir. Penilaian konsumsi minuman manis dilihat berdasarkan asupan energi, asupan gula dan frekuensi konsumsi minuman manis. Kemudian subjek dianalisa sampel darahnya untuk melihat kadar gula darah puasa dengan menggunakan metode GOD-PAP. Data dianalisis untuk melihat gambaran konsumsi minuman manis, kadar gula darah serta hubungan antara kedua variabel tersebut. Analisis data menggunakan uji korelasi *Spearman*.

**Hasil :** Nilai median asupan energi minuman manis sebesar 303 kkal/hari, asupan gula minuman manis sebesar 49 g/hari, dan frekuensi konsumsi minuman manis 2,7 kali/hari. Sebagian besar subjek (73,5%) memiliki tingkat konsumsi minuman manis melebihi dari batasan 10% dari total energi. Sedangkan rata-rata kadar gula darah puasa pada remaja obesitas yaitu sebesar 85,49 mg/dL dimana sebagian besar subjek (97,1%) memiliki kadar gula darah puasa yang normal.

**Kesimpulan :** Tidak terdapat hubungan yang signifikan antara asupan energi minuman manis ( $p=0,797$ ), asupan gula ( $p=0,483$ ) dan frekuensi konsumsi minuman manis ( $p=0,179$ ) dengan kadar gula darah puasa.

**Kata Kunci :** *Minuman manis, kadar gula darah, obesitas, remaja*

---

<sup>1</sup> Mahasiswa Program Studi Gizi Kesehatan, Fakultas Kedokteran Universitas Gadjah Mada, Jl. Farmako, Sekip Utara Yogyakarta 55281, email : [mitaputri1308@yahoo.com](mailto:mitaputri1308@yahoo.com)

<sup>2</sup> Dosen Program Studi Gizi Kesehatan, Fakultas Kedokteran Universitas Gadjah Mada, Jl. Farmako, Sekip Utara Yogyakarta 55281, email : [dian.csulis@gmail.com](mailto:dian.csulis@gmail.com)

<sup>3</sup> Dosen Program Studi Gizi Kesehatan, Fakultas Kedokteran Universitas Gadjah Mada, Jl. Farmako, Sekip Utara Yogyakarta 55281, email : [fahmi\\_tsani@yahoo.com](mailto:fahmi_tsani@yahoo.com)

**THE RELATIONSHIP BETWEEN SUGAR SWEETENED BEVERAGES  
CONSUMPTION AND BLOOD GLUCOSE LEVEL AMONG OBESE  
ADOLESCENT IN YOGYAKARTA**

Paramita Putri Sudono<sup>1</sup>, Dian Caturini Sulistyoningrum<sup>2</sup>, A. Fahmy Arif Tsani<sup>3</sup>

**ABSTRACT**

**Background :** Obesity is one of the health problems and associated with an increased of non-communicable diseases. In the obese group can occur impaired metabolism of carbohydrate that cause increasing blood sugar levels. The increasing prevalence of obesity in adolescent is caused by lifestyle and preference food and drinks. One of the behaviour of adolescent is consumption of sugar sweetened beverages (SSBs). Obese adolescent has higher consumption than others. High total sugar in SSBs may also cause negative impact for health such as insulin resistance and elevated blood glucose level.

**Objective :** To evaluate the relationship between sugar sweetened beverages (SSBs) consumption and blood glucose level among obese adolescent in Yogyakarta.

**Method :** This study was an analytic observational study with cross sectional design. The subject of this study were 170 adolescent with obesity. Obesity status was determined based on anthropometric measurements with the standard reference of WHO 2007, IOTF 2000 and CDC 2000. The data of consumption SSBs was collected using SQFFQ during the last 3 months. Consumption of SSBs was determined by energy intake, total sugar intake and frequency of consumption from SSBs. Then blood samples were analyzed with GOD-PAP to see fasting blood sugar levels. Data were analyzed to know the distribution of the consumption of SSBs, the levels of blood glucose and the association between the two variables. Data were analyzed by using Spearman Correlation.

**Result :** The median energy intake from SSBs was 303 kcal/day, total sugar intake from SSBs was 49 g/day, and frequency of consumption SSBs was 2,7 x/day. Most subject (73,5%) had high level (>10% of the total energy). The average of fasting blood glucose level in obese adolescent was 85,49 mg/dL who most subjects (97,1%) had normal level.

**Conclusion :** There were no significant relationship between energy intake from SSBs ( $p=0,797$ ), total sugar intake from SSBs ( $p=0,483$ ) and frequency of consumption from SSBs ( $p=0,179$ ) with fasting blood glucose level.

**Keyword :** Sugar sweetened beverage (SSBs), blood glucose levels, obesity, adolescent

---

<sup>1</sup> Student School of Health Nutrition, Faculty of Medicine, Gadjah Mada University  
Jl. Farmako, Sekip Utara Yogyakarta 55281, email : [mitaputri1308@yahoo.com](mailto:mitaputri1308@yahoo.com)

<sup>2</sup> Lecture Staff School of Health Nutrition, Faculty of Medicine, Gadjah Mada University  
Jl. Farmako, Sekip Utara Yogyakarta 55281, email : [dian.csulis@gmail.com](mailto:dian.csulis@gmail.com)

<sup>3</sup> Lecture Staff School of Health Nutrition, Faculty of Medicine, Gadjah Mada University  
Jl. Farmako, Sekip Utara Yogyakarta 55281, email : [fahmi\\_tsani@yahoo.com](mailto:fahmi_tsani@yahoo.com)