

**PENGARUH JENIS, PEMBUNGKUS DAN WAKTU SAJI  
TERHADAP KADAR TIMBAL PADA MAKANAN JAJANAN**

Artikel Penelitian

disusun sebagai salah satu syarat untuk menyelesaikan  
studi pada Program Studi Ilmu Gizi, Fakultas Kedokteran  
Universitas Diponegoro



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SEMARANG  
2010**

## THE INFLUENCE OF FOOD TYPE, WRAPPINGS AND TIME OF SERVING ON THE CONCENTRATION OF LEAD IN STREET FOODS

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### ABSTRACT

**Backgrounds:** Lead in the atmosphere can contaminate foods that is sold near the street. Lead and its organic compounds can be hazardous to health and causes various negative effects biologically. When accumulation of lead occurs in our body, it can cause disorders in hematopoietic system, nervous system, reproduction system, the function of kidney, and has an effect on the development of the brain on under-five-years-old children. The purpose of this study is to find out the influence of food type, wrappings and time of serving on the lead concentration in street foods that is sold in the front of Java Supermall, Semarang.

**Methods:** This study is an analytic observational study with prospective cohort approach, this study was performed on street foods that were sold near the street in front of Java Supermall, Semarang. Total of samples were 36 samples from two types of foods, that was defined using *purposive sampling* method. Type of food, category of wrappings and time of serving were found out using observation and inspection, whereas the concentration of lead in food was measured using *Atomic Absorption Spectrophotometer* method.

**Results:** The average concentration of lead was measured for each type of food, it was 4.85 ppm for *kue lapis* (multi-layered cake) and 5.39 ppm for *gethuk lindri* (noodle-like cassava cake). The average concentration of lead in food that was completely wrapped was 2.91 ppm, whereas for food that was only one-half wrapped was 8.01 ppm. The average concentration of lead at 0 hour (at 01.00 pm West Indonesia Time) was 2.79 ppm, 5.41 ppm at 2 hours (at 03.00 pm West Indonesia Time) and 7.10 ppm at 4 hours (at 05.00 pm West Indonesia Time).

**Conclusion:** Wrappings, time of serving, and combination between wrappings and time of serving had influence on the concentration lead in street foods.

**Keywords:** lead, street foods, type of food, time of serving, wrappings

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## PENGARUH JENIS, PEMBUNGKUS DAN WAKTU SAJI TERHADAP KADAR TIMBAL PADA MAKANAN JAJANAN

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### ABSTRAK

**Latar belakang:** Timbal di atmosfer dapat mengkontaminasi makanan yang dijual di pinggir jalan. Timbal dan komponen organiknya membahayakan kesehatan dan menyebabkan berbagai efek negatif biologis. Ketika terjadi akumulasi dalam tubuh, timbal dapat mengganggu sistem hematopoietik, sistem saraf, sistem reproduksi, kerja ginjal, serta mempengaruhi perkembangan otak balita. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh jenis, pembungkus dan waktu saji terhadap kadar timbal pada makanan jajanan yang dijual di depan Java Supermall Semarang.

**Metode:** Penelitian merupakan penelitian analitik observasional dengan pendekatan kohort secara prospektif, dilakukan terhadap makanan jajanan yang dijual di pinggir jalan raya sepanjang depan Java Supermall Semarang. Total sampel sebanyak 36 sampel dari dua jenis makanan jajanan, ditentukan dengan metode *purposive sampling*. Jenis jajanan, kategori pembungkus dan waktu saji didapatkan melalui observasi dan pengamatan, sedangkan kadar timbal dalam makanan jajanan ditetapkan dengan metode *Atomic Absorption Spectrophotometer*.

**Hasil:** Rerata kadar timbal menurut jenis, yaitu 4,82 ppm pada kue lapis dan 5,39 ppm pada gethuk lindri. Rerata kadar timbal pada jajanan yang terbungkus seluruh bagian adalah 2,19 ppm, sedangkan jajanan yang terbungkus separuh bagian adalah 8,01 ppm. Rerata kadar timbal pada 0 jam (pukul 13.00 WIB) adalah 2,79 ppm, 5,41 ppm pada 2 jam (pukul 15.00 WIB) dan 7,10 ppm pada 4 jam (pukul 17.00 WIB).

**Simpulan:** Pembungkus, waktu saji, serta kombinasi antara pembungkus dengan waktu saji berpengaruh terhadap kadar timbal pada makanan jajanan.

**Kata kunci:** timbal, makanan jajanan, jenis jajanan, waktu saji, pembungkus

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