

## ABSTRACT

Yusthin Manglapy

FACTORS RELATED TO DEGREE OF LEAD (Pb) IN BLOOD OF OPERATOR'S BLOOD OF COCO SPBU IN AHMAD YANI STREET OF SEMARANG.

X+68 pages+16 table+2 picture+9 enclosure

Air pollution is mostly caused by motor vehicle in big cities which 70 % air pollution is caused by motor vehicle activities, such particulate matter and lead. Lead accumulation in blood and lungs. According to WHO, lead is heavy metal could cause acute and chronic body intoxication. Health effect of lead intoxication, such as neurology, hemapoitic system disorders ( heme biosynthetic ) and blood pressure ( hypertension ). One of biological indicators of lead exposure is lead in blood. Measurement of degree of lead in blood is done to person with potential risk of lead exposure. One of them is SPBU operator (gas station attendants). SPBU COCO can sell about 32.000 to 55.000 liter/day. Meanwhile, Coco SPBU also had awarded as the highest seller on Central Java and DIY provinces level. According to interview report that is done toward 5 operators of COCO SPBU, 3 female operator sometimes felt nauseous and dizzy while they worked; whereas the remain of 2 male operators often got headache, close to weary weak when they've been working.

Method that is used in this study was survey method and laboratory analysis with *cross sectional* approach. This study is done for explaining relationship between independent variables (age, sex, years of service, nutrient status, physical exercise habits, and smoking habits) and dependent variables (blood lead (Pb-B)) through correlation test of *Pearson Product Moment*, *Rank Spearman*, and T-test independent. Sample in this research was all of COCO SPBU operator in Ahmad Yani street – Semarang, amounted to 32 persons.

Based on results, it's known that gender variable and smoking habitual had relationship with dependent variable ( $p$  value  $< 0.05$ ). In the other side, age, years of service, nutrient status and exercise habitual variables have no significantly relationship with the dependent variables ( $p$  value  $> 0.05$ ). According to result, also gained that dizzy was felt by respondent at most when they in worked.

Although based on results not all variables have relationship and Pb contained within blood anchored in normal range and acceptable, and considering that fuel transaction in this place was very high, it's suggested for operator to maintain and keep hygiene their own workplace both inner and outer.

**Keywords:** *lead, blood lead*

**Literature:** 49 books (1986 – 2008).

## ABSTRAK

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FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KADAR TIMAH HITAM (Pb) DALAM DARAH OPERATOR SPBU COCO DI JALAN AHMAD YANI SEMARANG.

X+82 hal+22 tabel+6 gambar+9 lampiran

Kendaraan bermotor di kota-kota besar merupakan pencemaran udara yang terbesar, dimana 70 % pencemaran udara dikota disebabkan oleh aktifitas kendaraan bermotor, salah satunya pencemaran oleh timah hitam (Pb). Efek Pb sifatnya akumulatif dalam darah dan paru-paru. Menurut WHO, timbal adalah logam berat yang sangat berbahaya dan akan berpengaruh terhadap biosintesa hemoglobin, system saraf dan tekanan darah. Salah satu indikator biologi terhadap pencemaran oleh timah hitam adalah sampel darah manusia. Pengukuran kadar Pb, dilakukan terhadap orang yang diduga beresiko terhadap pencemaran Pb, salah satunya operator SPBU. Setiap harinya SPBU COCO dapat menjual 32.000 liter-55.000 liter BBM. SPBU COCO juga mendapatkan penghargaan penjualan tertinggi se-Jateng dan DIY. Berdasarkan wawancara terhadap 5 operator SPBU COCO, 3 operator perempuan kadang-kadang merasa mual dan pusing pada saat bekerja, dan 2 operator laki-laki sering mengalami sakit kepala, cepat lelah dan lesu pada saat bekerja.

Metode yang digunakan dalam penelitian ini adalah metode survey dan analisis laboratorium dengan pendekatan *cross sectional*. Penelitian ini dilakukan untuk menjelaskan hubungan antara variabel bebas ( umur, jenis kelamin, masa kerja, status gizi, kebiasaan olahraga dan kebiasaan merokok ) dan variabel terikat Pb dalam darah melalui uji korelasi *Pearson Product Moment*, *Rank Spearman* dan independen T-test. Sampel penelitian adalah operator SPBU COCO di jalan ahmad yani Semarang, berjumlah 32 orang.

Dari hasil penelitian didapatkan hasil bahwa variabel jenis kelamin dan kebiasaan merokok memiliki hubungan dengan variabel terikat ( $p\ value < 0,05$ ). variabel umur, masa kerja, status gizi dan kebiasaan olah raga tidak memiliki hubungan yang signifikan dengan variabel terikat ( $p\ value > 0,05$ ). Berdasarkan hasil penelitan juga didapatkan hasil bahwa responden paling sering mengalami pusing ketika bekerja (53,1 %).

Walaupun dari hasil penelitian tidak semua variabel didapatkan hubungan, dan kadar Pb dalam darah relative normal dan dapat di terima, dan melihat dari penjualan BBM cukup tinggi di SPBU ini . Diharapkan agar Operator menjaga hygiene pribadi di tempat kerja maupun di luar tempat kerja.

**Kata kunci** : timah hitam, timah hitam dalam darah

**Kepustakaan** : 49 buah ( 1986 –