ABSTRAK

Dita Syahrani
PENGARUH (CH_4) GAS METANA DAN HIDROGEN SULFIDA (H_2S) TERHADAP KELUHAN SUBYEKTIF GANGGUAN KESEHATAN PEKERJA INFORMAL DI TPA GRIYO MULYO JABON SIDOARJO
xv + 61 Halaman + 10 Tabel + 12 Lampiran

Tempat Pembuangan Akhir (TPA) menghasilkan bau tidak sedap akibat bahan pencemar udara berupa gas metana (CH_4) dan Hidrogen Sulfida (H_2S) yang menyebabkan gangguan kesehatan pada pekerja informal di TPA Griyo Mulyo Jabon Sidoarjo. Jumlah sampah di TPA Griyo Mulyo Jabon Sidoarjo mencapai 166 ton/tahun yang dapat mencemari udara dan membahayakan kesehatan pekerja informal. Penelitian ini bertujuan menganalisis pengaruh kadar gas tersebut terhadap keluhan subyektif gangguan kesehatan pada pekerja.

Jenis penelitian ini adalah analitik dengan pendekatan *cross-sectional*. Sampel penelitian adalah 33 pekerja informal di TPA Griyo Mulyo Jabon Sidoarjo yang dipilih menggunakan teknik *simple random sampling*. Analisis data dilakukan dengan uji statistik menggunakan uji korelasi *rank spearman* untuk melihat pengaruh antara paparan gas dan keluhan subyektif gangguan kesehatan pekerja informal.

Hasil penelitian menunjukkan bahwa rata-rata kadar gas metana (CH_4) sebesar 201,80 µg/Nm³ melebihi baku mutu Peraturan Pemerintah No.41 Tahun 1999, sedangkan kadar gas hidrogen sulfida (H_2S) sebesar 0,0019 ppm termasuk dalam kategori memenuhi Standar Baku Mutu Keputusan Menteri Lingkungan Hidup No.50 Tahun 1996. Dari 33 pekerja informal, 9% mengalami keluhan kesehatan berat dan 91% mengalami keluhan sedang. Hasil uji korelasi *rank spearman* (p-value = 0,000) menunjukkan adanya pengaruh gas CH_4 dan H_2S terhadap keluhan subyektif gangguan kesehatan pekerja di TPA Griyo Mulyo Jabon Sidoarjo.

Kesimpulan dari penelitian ini adalah ada pengaruh antara kadar gas Metana dan Hidrogen Sulfida terhadap keluhan subyektif gangguan kesehatan pekerja informal, sehingga disarankan kepada instansi terkait untuk melakukan pemantauan kualitas udara secara berkala dengan melakukan pengukuran gas berbahaya di udara dan kualitas fisik udara serta dianjurkan menggunakan alat pelindung diri (APD) seperti masker, sarung tangan, dan sepatu *boot* saat berada di lingkungan TPA Griyo Mulyo Jabon Sidoarjo.

Kata kunci: gas metana (CH_4), hidrogen sulfida (H_2S), keluhan kesehatan, TPA
Daftar bacaan: 6 buku (2015-2023)

ABSTRACT

Dita Syahrani
THE EFFECT OF METHANE (CH_4) AND HYDROGEN SULFIDE (H_2S) GAS ON SUBJECTIVE HEALTH COMPLAINTS OF INFORMAL WORKERS AT THE GRIYO MULYO JABON LANDFILL SIDOARJO
xv + 61 *Pages* + 10 *Tables* + 12 *Appendices*

The Final Disposal Site (TPA) produced unpleasant odors due to air pollutants in the form of methane gas (CH_4) and hydrogen sulfide (H_2S), which caused health problems for informal workers at TPA Griyo Mulyo Jabon Sidoarjo. The amount of waste at this site reached 166 tons/year, which could pollute the air and endanger the health of informal workers. This study aimed to analyze the effect of these gas concentrations on subjective health complaints among the workers.

This research was an analytic study with a cross-sectional approach. The sample consisted of 33 informal workers at the Griyo Mulyo Final Disposal Site (TPA) in Jabon, Sidoarjo, selected using simple random sampling. Data analysis was conducted using the Spearman rank correlation test to examine the effect of gas exposure on subjective health complaints among the informal workers.

The results of the study showed that the average concentration of methane gas (CH_4) was 201.80 µg/Nm³, which exceeded the quality standard set by Government Regulation No. 41 of 1999, while the concentration of hydrogen sulfide (H_2S) was 0.0019 ppm, which met the quality standard of the Decree of the Minister of Environment No. 50 of 1996. Among the 33 informal workers, 9% experienced severe health complaints and 91% experienced moderate complaints. The results of the Spearman rank correlation test (p-value = 0.000) indicated that there was an effect of CH_4 and H_2S gases on the subjective health complaints of workers at the Griyo Mulyo Final Disposal Site in Jabon Sidoarjo.

The conclusion of this study was that there was an effect of methane and hydrogen sulfide gas concentrations on the subjective health complaints of informal workers. Therefore, it was recommended that the relevant authorities conduct regular air quality monitoring by measuring hazardous gases and assessing the physical quality of the air. It was also advised that workers use personal protective equipment (PPE) such as masks, gloves, and boots when working in the environment of the Griyo Mulyo Final Disposal Site in Jabon Sidoarjo.

Keywords: *methane (CH_4), hydrogen sulfida (H_2S), health complaints, Landfill*
References: 6 books (2015-2023)