ABSTRAK

PENGARUH INDUKSI GLUKOSA TERHADAP DENSITAS BIOFILM PADA ISOLAT KLINIS *Acinetobacter baumannii* PASIEN DI INTENSIVE CARE UNIT RSUD DR. SOETOMO SURABAYA

Wira Widjaya Lindarto

Tujuan: Menganalisa pengaruh induksi glukosa terhadap densitas biofilm isolat klinis *Acinetobacter baumannii*.

Metode: Tiga belas isolat klinis *A.* baumannii *non biofilm forming* yang dikumpulkan dari pasien non-DM yang dirawat di ICU RSUD dr. Soetomo Surabaya diberi perlakuan berupa penambahan glukosa 0,08%, glukosa 0,15%, glukosa 0,2% dan glukosa 0,4% pada media pertumbuhan TSB. Dilanjutkan dengan pemeriksaan densitas biofilm dengan *Tissue Culture Plate Methode* (TCPM) memakai *96 wells flatbottomed polysterene tissue culture plate* dan dibaca dengan *ELISA autoreader* dengan panjang gelombang 630nm (OD_{630}). Densitas biofilm yang didapat dianalisis menggunakan analisa statistik ANOVA.

Hasil: Hasil OD_{630} menunjukkan densitas biofilm meningkat secara signifikan pada penambahan glukosa 0,2% dan 0,4%.

Kesimpulan: Terjadi peningkatan densitas biofilm secara signifikan pada penambahan glukosa 0,2% dan 0,4% sehingga diperlukan pengelolaan kadar gula darah pada pasien ICU sebelum maupun saat terpasang alat-alat bantu medis.

Keyword: Densitas biofilm, glukosa, *A. baumannii*

ABSTRACT

EFFECT OF GLUCOSE INDUCTION ON BIOFILM DENSITY IN CLINICAL ISOLATES *Acinetobacter baumannii* PATIENTS IN INTENSIVE CARE UNIT DR. SOETOMO HOSPITAL SURABAYA

Wira Widjaya Lindarto

Objective : To analyze the effect of glucose induction on the biofilm density of clinical isolates *Acinetobacter baumannii*.

Methods : Thirteen clinical isolates A. baumannii non biofilm forming collected from non-DM patients treated in ICU dr. Soetomo Hospital Surabaya was given treatment in the form of 0.08% glucose, 0.15% glucose, 0.2% glucose and 0.4% glucose addition on TSB growth medium. Followed by biofilm density examination with Tissue Culture Plate Methode (TCPM) using 96 wells flatbottomed polysterene tissue culture plate and read with ELISA autoreader with wavelength 630nm (OD630). The biofilm density obtained was analyzed using ANOVA statistic analysis.

Results : The OD_{630} results showed that biofilm density increased significantly at 0,2% and 0,4% glucose addition.

Conclusion : There was a significant increase in biofilm density in the addition of 0.2% and 0.4% glucose, which required the management of blood glucose levels in ICU patients before and during the installation of medical devices.

Key word: Biofilm density, glucose, *A. baumannii*