

*GAMBARAN KONSENTRASI COBALT DALAM DARAH DIKAITKAN DENGAN
PELAKSANAAN KESEHATAN DAN KESELAMATAN KERJA PADA
TEKNIKER DI SURABAYA*

OVERVIEW OF COBALT CONCENTRATION IN BLOOD ASSOCIATED
WITH THE IMPLEMENTATION OF PERSONAL PROTECTIVE
EQUIPMENT AT DENTAL TECHNICIAN IN SURABAYA

ABSTRACT

Background The use of heavy metal in dentistry that is usually for removable partial denture contains 60% of cobalt. Cobalt is one of the materials with high toxicity in large dose, it can also lead to severe clinical manifestation. Cobalt can get into the body through inhalation, ingestion, or direct contact with the skin. The concentration of cobalt that is higher or around 1,0 µg/L in blood indicated some probability of exposure from environment. Based on the result of preliminary experiment that had been done in May 6th, 2013 in Balai Besar Laboratorium Kesehatan Surabaya, it showed 96,7% from the respondents had a higher concentration of cobalt in blood than normal. Dental technician are exposed by particulate of heavy metals cobalt into the body due to lack of operational standard procedure that is used by dental technician. **Purpose** The aim of this study was to find the level of cobalt in dental technician associated with the implementation of personal protective equipment. **Material & method** 30 blood sample were collected from the dental technician in Surabaya. The samples measured by spectrophotometry absorbance atom graphite furnace methods. Mean was used to see the average range of cobalt concentration associated with personal protective equipment. **Result** Dental technician had a higher concentration of heavy metal cobalt in blood than the normal average.

Keywords: Concentration of heavy metal cobalt in blood, personal protective equipment.