UNIVERSITI TEKNOLOGI MARA

THE RELATIONSHIP BETWEEN OCCUPATIONAL NOISE EXPOSURE AND BLOOD PRESSURE AMONG NEWSPAPER PRINTING PLANT WORKERS

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ABSTRACT

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A cross sectional study was carried out among newspaper printing plant workers in Shah Alam, Selangor. The objective of this study is to identify the correlation between occupational noise exposure and blood pressure among newspaper printing plant workers. Fourty eight (48) workers were involved in this study after considered the inclusive criterion. Questionnaires were used to obtain socio-demography data from respondents. Height and weight scale (Model SECA) was used to measure height and weight of respondents. Blood pressure level was determined by using Automatic Blood Pressure Monitor with arm cuff, Model IA2 (OMRON) within blood pressure screening test form. Noise Dosimeter (QS 300) was used to measure workplace noise level and personal noise exposure level. According to the results, the noise level of the equipments in study area are exceed 85 dB(A) of the action level. The mean of Lavg dB(A) among respondents is 82.53 ± 3.28 which is below the action level. There is no significant relationship between Lavg dB(A) and blood pressure level after work (Systolic, r=0.154, p=0.147 / Diastolic, r=0.092, p=0.268). There is also no significant different between blood pressure level before and after work (Systolic, p=0.442 / Diastolic p=0.073)./However there is a significant relationship between working duration and blood pressure level (Systolic, r=0.264, p=0.035/ Diastolic, r=0.401, p=0.002). The correlation is affected by the age and BMI of respondents. There is a significant relationship between age and blood pressure (Systolic, p=0.041 / Diastolic, p=0.00). There is also a significant relationship between BMI and blood pressure (Systolic, p=0.000 / Diastolic, p=0.000). In conclusion, this study does not show the significant relationship between occupational noise exposure and blood pressure among newspaper printing plant workers.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Noise is generally viewed as being one of a number of general biological stressors. It is felt that excessive exposure to noise might be considered a health risk in that noise may contribute to the development and aggravation of stress related conditions such as high blood pressure, coronary disease, ulcers, colitis, and migraine headaches. Growing evidence suggests a link between noise and cardiovascular problems (U.S. Environmental Protection Agency, 1981).

It has long been known that noise is capable of producing short term systemic stress reactions in animals and humans. A large number of retrospective epidemiological studies have been done assessing the cardiovascular effects of occupational noise studies indicate that long-term exposure to high levels of occupational noise is associated with increased rates of high blood pressure and other cardiovascular health problems. Field studies have also been conducted on various other groups - people living near airports, and school children exposed to traffic noise - showing that there may be some risk for these people (U.S. Environmental Protection Agency, 1981). Noise may be potentially more dangerous to those who already suffering from circulatory and heart problems since it can aggravate an existing health problem (U.S. Environmental Protection Agency, 1981).