

ABSTRACT

RELATIONSHIP BETWEEN *RAEACTIVE OXYGEN SPECIES* IN PLASMA WITH NOISE INDUCE HEARING LOSS IN AUTOMOTIVE VOCATIONAL HIGH SCHOOL STUDENT

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Introduction

Learning process of automotive vocational high school students has a large portion in using practicum machines, that can raises noise and threatens the hearing of students. Noise causes hearing loss known as noise induce hearing loss (NIHL), and it can be permanent, so prevention efforts are very important.

Methods

This study was included in observational analytic research with cross sectional study design and was held at ORL-HNS OPD of Neurotology Division, Installation of Clinical Pathology and Central Installation of Biomaterial Bank at Soetomo General Hospital Surabaya in May 2018.

Results

The range of age population is 17-20 years, The measurement of ROS levels in plasma with NIHL obtained a minimum value of 3.00 ng/ml and a maximum value of 9.70 ng/ml with a mean (SD) of 4.4894 ng/ml (1.7148). The ROS level in plasma without NIHL obtained a minimum value of 0.86 ng/ml and a maximum value of 2.81 ng/ml with a mean (SD) of 2.1047 ng/ml (0.5790). The Mann-Whitney test showed significant results between ROS levels in plasma and NIHL ($p < 0.05$).

Conclusion

There is a corellation between ROS levels in plasma and NIHL in automotive engineering vocational school students. ROS levels in students with NIHL were higher than ROS levels in students without NIHL.

Keywords : automotive vocational high school, students, reactive oxygen species, noise induce hearing loss, level.