UNIVERSITI TEKNOLOGI MARA

PRELIMINARY STUDY OF SUPEROXIDE DISMUTASE ENZYME ACTIVITY IN VAPING, SMOKING, AND HEALTHY SUBJECTS

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ABSTRACT

Electronic cigarette as known as e-cigarette was designed to give the look and feel like the normal cigarette smoke. At the present time, the use of e-cigarette had becoming progressively popular among the smokers, maybe because they consider it as a healthier alternative compared to conventional smoking. Some of the smokers also claims that e-cigarette had helps them to quit or reduce smoking. It is confirmed that cigarette smoke has been implicated to several degenerative pulmonary, cardiovascular, and many other diseases. This is due to fact that cigarette smoke was generous source of free radicals where it induces oxidative stress, and subsequently promotes development of diseases. By now, many studies had proven concerning the relationship between oxidative stress and cigarette smoke, yet its correspondence with e-cigarette is still not well-defined. Thus, the aim of this study was to assess the correlation between e-cigarette and oxidative stress by comparing level of oxidative stress in vaping, smoking and healthy subjects. The level of oxidative stress was measured by Superoxide Dismutase (SOD) Assay Kit. The result of this study showed there was no conclusive evidence suggesting that vaping is safe or vaping will induces oxidative stress among its consumer.

CHAPTER 1

INTRODUCTION

1.1 Background Study

There are billions users of nicotine and tobacco products worldwide, and it is estimated that there are almost two billion people consume tobacco through cigarette smoking regularly. The usage of tobacco via cigarette smoking is the heading of avoidable cause of death in the world, yet it kills approximately four million people every year (George & Malley, 2004). Cigarette smoking remains to be a significant public health concern, this is because cigarette smoking or even passive smoking will lead to many diseases, disability, and most severe is death (Tuon et al., 2010). It is confirmed that cigarette smoke has been implicated to several degenerative pulmonary and cardiovascular disease, including chronic obstructive pulmonary disease (COPD), bronchitis, emphysema, pulmonary fibrosis, myocardial infarction, atherosclerosis, cancer and many others (Qamar & Sultana, 2008; Seet et al., 2011; Yuan et al., 2013).