

UNIVERSITI TEKNOLOGI MARA MALAYSIA

**NICOTINE AND FEMALE REPRODUCTIVE
SYSTEM: A SYSTEMATIC REVIEW ON ANIMAL
STUDIES**

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ABSTRACT

Nicotine is known as a major constituent of cigarette, e-cigarette, nicotine gum and nicotine patch. Nowadays, there is increasing trend of smoking cigarette in women at child-bearing age. Besides, nicotine gum and nicotine patch is widely used as nicotine replacement therapy (NRT) in pregnant women. Although it is claimed that nicotine alone is safer than cigarette, there only few studies that reported on its safety. More information is required to ensure its safe use in female. This study objective is to review the available animal studies on effects of nicotine on female reproductive and to provide systematic review on it. Studies were search using PubMed and Medline database. Only studies with accessible full text are included in this study. From all the studies reviewed, nicotine is found to exert adverse effects on female reproductive system in animal.

CHAPTER 1

INTRODUCTION

1.1 Nicotine

Nicotine is an alkaloid extract from a tobacco plant (Hossain & Salehuddin, 2013). The tobacco plant was first introduced in year 1556 by a France ambassador in Portugal, Jean Nicot de Villamein, to the queen of France to treat her migraine. He claimed that it is effective in relieving the symptoms of headache he been having. The Latin word for tobacco plant, *Nicotiana tabacum*, was derived from his name. Nicotine is in clear liquid in its pure form, it is water soluble and it turns to brown when exposed to air (Mishra, Chaturvedi, Datta, Sinukumar, Joshi & Garg, 2015). Nicotine is dibasic compound. Its dissolution in body depends on pH (Brewer, Roberts, & Rowell, 2004).

Nicotine was first isolated in 1828 by Germanian, Wilhelm Heinrich Posselt who was a doctor and Karl Ludwig Reinman who was a chemist. They claimed that nicotine was a poison. In 1843, nicotine empirical formula was introduced by Louise Meisens, a Belgian chemist and physicist. Its structure was revealed on year 1893 by Adolf Pinner and Richard Wolffenstein, both are chemist from German. Nicotine was first synthesized in year 1904 by A.Pictet and P.Crepieux (Aleksoska, 2014).