

UNIVERSITI TEKNOLOGI MARA (UiTM)

**BIOCHEMICAL ANALYSIS OF OBESE-INDUCED
WISTAR MALE RATS FED WITH CRUDE
EXTRACT OF *TINOSPORA CRISPA***

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ABSTRACT

The efficacy of *Tinospora crispa* as one of the traditional medicines has been verified previously in various animal studies. The potential effect of *T. crispa* as an anti-obese was inspected through the analysis in the induced-obese male *Wistar* rat. The rats were separately divided into four groups: a normal control (NC); high fat diet control (HFD); a *T. crispa* treatment group fed with high fat diet (HFDTC) and an Orlistat treatment group fed with high fat diet (HFDO). In this study, *T. crispa* was administered into HFDTC group at single dose of 100mg/kg for continues 28 days. The treatment with *T. crispa* had showed a significantly decreased ($P < 0.05$) in percentage of body weight compared to HFD group. Also, the biochemical analysis of this study indicates that *T. crispa* demonstrated significantly ($P < 0.05$) control the rise of total cholesterol, triglycerides and glucose in blood serum that caused by the consumption of high fat diet. As a result, consumption of *T. crispa* has appeared to be one of the alternative solutions to overcome the problem related to obesity.

Keywords: *Tinospora crispa*, obesity, *Wistar* rats, high fat diet

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Globally, there is an increment in prevalence of non-communicable chronic diseases such as cardiovascular diseases, cancer, diabetes and hypertension (Nair et al., 2012). Researchers suggested that the growing prevalence of the chronic diseases are linked to the excess of weight or obesity (Hossain et al., 2007).

Obesity is linked to the abnormal of fat distribution in body and closely related to the upper and lower obesity (Pi-Sunyer, 2012). Currently, managing obesity is challenging and no effective drugs. Treatment that are available for long term therapy in treating obesity such as sibutramine and orlistat, are known to induce many side effects (Klein, 2004). Moreover, the modification of lifestyle such as less physical activity and increase in calories intake are difficult to control (Wadden et al., 2004). As a result, this makes controlling obesity is not easy.