CHEMICAL COMPOSITION AND BIOLOGICAL ACTIVITIES OF *Cucurbita pepo* SEED OIL

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Plants contain a reservoir of phytochemicals which are responsible for the treatment of several diseases including oxidative stress related diseases among others. Oxidative stress stems from an imbalance between the production and accumulation of oxidant species and a biological system's ability to readily detoxify the reactive intermediates (radicals) or easily restore the resulting damage (Milatovic *et al.*, 2016; Monon *et al.*, 2015 and Pizzino *et al.*, 2017). This poses severe injury to cellular systems and threatens an organism's health, leading to many chronic diseases such as diabetes, cancer, hypertension, ageing, Alzheimer's disease, and cardiovascular diseases. Other effect due to oxidative stress damage include atherosclerosis, rheumatoid arthritis, post-ischemic perfusion injury, myocardial infarction, chronic inflammation, stroke and septic shock, ageing and other degenerative diseases in humans (Uttara *et al.*, 2009). To counter this decay, researchers have now sought antioxidants of plant origin and have reported their potential against reactive oxygen species (Meitha *et al.*, 2020).

Antioxidants are important bioactive compounds due to their health benefits and their pivotal role in delaying oxidative rancidity of numerous foods (Moharram and Youssef, 2014). They play important roles in boosting the ability of the human mechanism to fight diseases associated with oxidative stress. They eliminate free radicals immediately and are considered beneficial for protecting against premature ageing and degenerative diseases caused by free radical damage (Carlos *et al.*, 2007).