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MEDICINAL USES AND PHYTOCHEMICALS OF PUNICA GRANATUM PEELS AND SEEDS

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ABSTRACT

This study is to introduce the *Punica granatum*. The historical uses of this herb include to treat diarrhea and ulcer. The medicinal properties were reported as antioxidant for treatment of cancer, antimicrobial, antidiarheal, anti-inflammatory and many more. The objectives of this research are to study the medicinal uses of the *P. granatum* peels and seeds via literature review. Next objective is to study the phytochemicals embedded in the pomegranate peels and seeds by literature review. Last objective is to extract main compounds of pomegranate peels and seeds from chosen products, then identify it using Thin Layer Chromatography (TLC). Nowadays not many products have been developed using the peels and seeds as the active ingredient, but there are still companies that have used them to produce their products for supplement and also cosmetic. Thus the products that available in the market today were mentioned in this study. Finally it was found that *P. granatum* peels and seeds give many benefits and medicinal uses for human. It is also believed that the compounds that are related to the medicinal uses are present in the samples.

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TABLE OF CONTENT

CHAPTER ONE : INTRODUCTION

P. granatum belongs to the *Punica* genus in Punicaceae family. It is originally planted in area between Iran and northern India such as Afghanistan, Libya and Tunisia. In the Punicaceae family, *Punica spinosa* and *Punica florida* are synonyms with *P. granatum* which means there is only one genus in its family. There are two species in Punicaceae which is the other one is named *Punica protopunica* which is little known about it.

Its tree commonly grows 12 to 16 feet as shrub or small trees. Its flower is big, red and funnel-formed. Its fruit is grenade-shaped with bright red, leathery rind, and with calyx. The fruit contains many seeds (arils). The juice is contained in the seeds. The peel encloses membranous, white tissue (endocarp) which in turn encloses the arils seeds.

P. granatum is popularly consumed as fresh juice, beverages and food products due to its sweet and delicious taste. It is also extracted to be used in herbal medicines or dietary supplement due to its benefits in human health. Thus, there are many supplements available in the market nowadays in which *P. granatum* extract is used as its active ingredients and is claimed can treat many diseases. Examples of its pharmacological activities include antioxidant, anti-tumors, anti-bacterial and anti-hepatoxicity. Moreover it also can be used for treatment of cardiovascular disease, diabetes, dental condition and protection from ultraviolet radiation (K. Bhandary et al., 2012).