Editorial

The Medicinal Importance of *Annona squamosa* fruits

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Annona squamosa is a medicinal plant with edible fruits and is commonly known as the sugar apple. This plant belongs to the Annonaceae family and has been used as a traditional medicine for many years with benefits for patients with various diseases.[1,2] However, there is little information regarding the medicinal basis of this plant and the action of its pods and seed oil. Recently, Adesanwo *et al*.[3] investigated the chemical constituents and anti-microbial activities of the fruits pods and seed oil extracts, as well as the antioxidant activity of seed oil. GC-MS analysis identified several potentially bioactive compounds, including numerous types of fatty acids and fatty acid esters. These results support previous observations regarding the presence of unsaturated fatty acids and acetogenins in seed oil.[4] Functional studies have also revealed that the purified fruit pod extracts and seed oil of *A. squamosa* exhibit broad-spectrum antibacterial properties. Interestingly, previous antibacterial activities previously reported from *A. squamosa* leave extracts on some bacterial strains.[5–7] In addition, the seed oil extracts of *A. squamosa* have been found to exhibit potent antioxidant activity, extending previous reports on seed,[8] leave,[5,9] and fruit pulp[10] extracts. Such novel findings may help in understanding the pharmacological actions of *A. squamosa* and potentially open a new direction for further investigations.

Previous studies have shown that various chemical compounds, such as alkaloids, carbohydrates, tannins, phenolic compounds, isomeric hydroxyl ketones**,** cyclopeptides and acetogenins can be found in different parts of the *A. squamosal* plant.[11,12] GC-MS analysis of *A. squamosa* fruit pod extracts has recently shown that 9,10-dehydro-isolongifolene, androsterone and spathulenol are major compounds found in the plant. These results extend previous reports as spathulenol has been reported to be present in fruit pulp extracts and essential oil.[13,14] Furthermore, the determination of the chemical parameters of *A. squamosa* seed oil, including iodine, saponification, acid and peroxide values, as well as total phenol content is valuable for nutritional, industrial and medicinal utilization. In addition, the phenolic content of *A. squamosa* is associated with its anti-bacterial and antioxidant activity.[5,15]

It is still unclear whether the human body can digest *A. squamosa* to generate such chemical molecules *in vivo* and which chemical components have beneficial biological effects *in vivo.* Therefore, further phytochemical evaluations of *A. squamosa* pods (including more polar fractions) and seed oil with different extraction and chromatography methods are necessary to identify specific compounds with potent biological activities. Given that natural products play a special role in pharmacotherapy, the findings from this work may help develop new medicinal therapies for clinical applications.

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Conflict of interest

There is no conflict of interest.

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Abbreviations: GC-MS, gas chromatography–mass spectrometry.

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