



INTERNATIONAL E-CONFERENCE CONTEMPORARY PHARMACY: ISSUES, CHALLENGES AND EXPECTATIONS

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ABSTRACT BOOK

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Research in phenolic composition of seeds of *Chaenomeles japonica* by the HPLC method

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Introduction: The *Chaenomeles* species belong to the *Rosaceae* family (Apple subfamily) and have been widely known in China for thousands years. In Europe, interest in these fruits has been systematically growing over the last twenty years. In vitro and in vivo studies have confirmed the anti-inflammatory, analgesic, antispasmodic, antioxidant, immunomodulatory and antibacterial effects of extracts from this fruit species. Japanese quince contains flavonoids (quercetin, luteolin, catechin, epicatechin, procyanidin B1 and B2), triterpenes (oleanolic acid and ursolic acid), phenolic acids or depsides (chlorogenic acid), carbohydrates, amino acids, proteins and tannins. In the literature, the results of the study of fruits are mainly given [1].

The aim of our research was to study the phenolic compounds of Japanese quince seeds by the HPLC method.

Materials and methods: Raw plant materials of *Chaenomeles japonica* were collected in October 2018 in the Botanical Garden - Center for Biological Diversity Conservation in Powsin (Polish Academy of Sciences, Poland) (52°06'17" N, 21°05'42" E). HPLC-DAD-MSn analysis was performed on a UHPLC-3000 RS system (Dionex, Sunnyvale, California, CA, US) with DAD detection and an AmaZon SL ion trap mass spectrometer with ESI interface (Bruker Daltonik GmbH) [2].

Results: The results showed that the seeds of *Chaenomeles japonica* are extremely rich in polyphenolic compounds, among which the highest concentration of procyanidin oligomers, followed by phenolic acids (caffeoylquinic, dicaffeoylquinic, chlorogenic, neochlorogenic, paracoumaroylquinic, feruoyl-dicaffeoylquinic acid) feruoyl-cateffeoylequinic-O-hexoside, quercetin-O-rhamnohexoside, quercetin-O-dirhamnoghexaside, kaempferol 3-O-β-D-(6"-O-(E)-p-coumaroyl) glucoside, kaempferol p-coumaroyl pentoside). Their quantitative content has been established.

Conclusions: The seeds of *Chaenomeles japonica* are very rich in phenolic compounds and are a promising raw material for obtaining new plant phytochemicals with various pharmacological effects.

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