

19<sup>th</sup> Annual

## MEDICINAL &amp; PHARMACEUTICAL SCIENCES CONGRESS

March 25-26, 2019 Hong kong

**Evaluation of antidiabetic potential of selected herbal preparations****Wieczorek M, Grzanka K, Cielecka-Piontek J and Studzinska-Sroka E**

Poznan University of Medical Sciences, Poland

**Introduction & Aim:** Diabetes is a metabolic disease causing many serious complications. Currently, there is a growing interest in natural methods of alleviating the symptoms of the disease. Among the antidiabetic drugs glucosidase inhibitors occupy an important place. Selected plant raw materials also have the property of inhibiting intestinal glucosidase. Therefore, the aim of the study was assessment of the  $\alpha$ -glucosidase inhibitory activity, analyze of the antioxidant properties and determination of polyphenols and flavonoids contents of selected herbal preparations with potential antidiabetic action: (1) Mori albi folium 100%; (2) Mori albi folium 70%, Cinnamomi cortex 30%; (3) Phaseoli pericarpium 40%, Urticae herba 17%, Mori albi folium 15%, Taraxaci herba 15%, Graminis rhizoma 13%; (4) Phaseoli pericarpium 40%, Urticae herba vel Urticae folium 30%, Graminis rhizoma 20% and Taraxaci herba et radices 10%.

**Methods:** The water extracts obtained from herbal preparations were subsequently examined in regards to  $\alpha$ -glucosidase inhibition and evaluation of antioxidant properties (DPPH analysis), by using UV spectrophotometric measurements. The phytochemical studies were carried out by determining the total content of polyphenols using the Folin-Ciocalteu reagent, while the content of flavonoids was investigated by using a methanol solution of aluminum chloride (III).

**Results:** The strongest inhibition of  $\alpha$ -glucosidase was observed in the case of (3) and (1) plants, respectively. This activity correlates with the higher antioxidant activity and content of polyphenols and flavonoids, compared to other preparations.

**Conclusion:** Mori albi folium extract demonstrates the high ability to inhibit of  $\alpha$ -glucosidase activity presence of Mori albi folium in the herbal blends increases its biological activity, the hypoglycemic activity of Mori albi folium may be amplified by addition of Cinnamomi cortex and total content of polyphenols and flavonoids can combined with the ability of extract to inhibit  $\alpha$ -glucosidase activity.

**References:**

1. Khangholi S, Majid FAA, Berwary NJA, Ahmad F, Aziz RBA (2016) The Mechanisms of Inhibition of Advanced Glycation End Products Formation through Polyphenols in Hyperglycemic Condition. *Planta Med*; 82: 32-45.
2. Kim Y, Keogh JB, Clifton PM (2016) Polyphenols and Glycemic Control. *Nutrients*; 8(1): 17.

**Biography**

Mateusz Wieczorek is a Pharmacist and graduate of the Poznan University of Medical Sciences. His works deals with the antidiabetic properties of herbal medicines and areas of interest are pharmacognosy, pharmacology, antidiabetic therapies.

mateuszwieczorek23@gmail.com

**Notes:**