

Enzymatic Inhibition of Salivary Amylase Using *Physalis peruviana* Ethanolic Extract

Objectives: Alpha-amylase inhibitors reduce the presence of glucose and it has a particular importance in diabetics patients and possibly in patients with higher risk of dental caries. The objective of the present study was to determinate the inhibitor effect of *Physalis peruviana* ethanolic extract rich in galic acid on human salivary alpha-amylase.

Methods: 500 g of healthy fruits were selected, washed with distilled water and then liquefied with 850 ml of ethanol at 96 °for five minutes. They macerated for 48 hours. Subsequently, it was filtered with Whatman 40 paper and dried in an oven at 37 ° C. It was redissolved in 50/50 distilled water / alcohol 96%.

Phenolic compounds were determined using the 1/100 sample and gallic acid such as standard dilutions .To absorbance measuring was used spectrophotometer to 267nm. Alpha-amylase was contained in human total salivary no stimulated samples those which were obtained from 6 healthy younger patients. To evaluate enzymatic activity each salivary sample was diluted with distilled water (1/50). Samples were divided in 2 groups (control and experimental).

It used a kinetic method at 405nm for the determination using CNP-G3 substrate. The reagent used contained substrate, 5mmol/l calcium chloride, 70mmol/l sodium chloride, 900mmol/l potassium thiocyanate and buffer pH6.

To 1mL of reagent preincubated added 50UI salivary sample for control group (CG) and 50UI salivary sample+extract for experimental group (EG). Absorbance was read after 1 and 2 minutes determining the difference between the both and the enzymatic activity.

Results: The concentration of ethanolic extract was 44.28 mg/mL and the gallic acid was 0.0068mg/ml. Bonferroni correction was used for determine between which studied group had a significant difference. The enzymatic activity evaluated was 0.768 ± 2.5 U/l for CG and 0.401 ± 3.1 U/l for EG which showed significant reduction ($P < 0.05$).

Conclusions: *Physalis peruviana* ethanolic extract rich in galic acid reduce significantly the enzymatic activity of salivary alpha-amylase samples ($P < 0.05$).

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SESSION INFORMATION

Poster Session

Other Topics Related to Preventive Dentistry I

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