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In vitro antioxidant and iron chelating effects of ficuspalmata extracts on thalassemia patients sample

Dunya Ahmed Nori[1], Elbaroudi G H[1], Choudhry H[1], Filimban F[1], Elassouli M Z[2] and Helmi N[3]
[1]University of Jeddah, Saudi Arabia
[2]King Fahad Mediacl Research Center, Saudi Arabia
[3]University of Jeddah, Saudi Arabia

Background: Thalassemia is a family of hereditary disorders characterized by impaired erythropoiesis and decreased rate of globin production[1]. It can be clinically classified into three forms: transfusion-dependent thalassemia major (TM), asymptomatic thalassemia trait (minor), and thalassemia intermedia[2,3]. Individuals with TM need regular blood transfusions, which result in iron accumulation and oxidative cell damage to tissues[4,5]. Many natural plants have been used for the development of new pharmaceutical drugs for the treatment of various diseases such as iron chelators and antioxidants for treatment of iron overload[6]. The aim of this study was to evaluate antioxidant and iron chelating effects of extracted of FicusPalmata(FP) plant that been harvested from mountain in Saudi Arabia on Thalassemia Patients.

Method: The active component of the FP was extracted with two solvents: water(W) and methanol(M). For measuring the antiradical activities of the extract, the scavenging result of the stable 2,2-diphenyl-1-picrylhydrazyl(DPPH) method was used[7]. To evaluate the iron chelator effect, 5ml of blood sample was collected from 20 thalassemic patients with iron overload. The FP extract was added at 5mg/ml final concentration on each sample then the iron levels were measured.

Result: The decolorization percentages of methanolic and water extracts of the FP were as follows, 96.1% M and 82.7% W compared to 96% of vitamin E as a control. Furthermore, all the treated sample showed significantly decreased (P-value =0000) in iron levels with extracted plant relatively to untreated samples.

Conclusion: Based on our results, the FP plant can be considered a good source for the antioxidants and can be used as iron chelation therapy especially with patients whom have iron overload. Thereby, it is recommended to establish further studies on specific compounds of antioxidants in order to give complementary study of the drug formulas and the toxic effect on the body tissues.

Biography

Dunya Ahmed Nori completed his Master degree in Science at the age of 29 years from king Abdu Alaziz university in 2017 with excellent degree in Biochemistry field. She got the Bachelor degree from the same university in the same field in 2013 with excellent degree - first honors. She has published two papers in reputed journals.

dany667@hotmail.com

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