biology and life sciences forum

MDPI

Environmental toxins and its risk factors contributing to the pathogenesis and prevention of diabetes mellitus.

Vikas Gautam[1], Kumar Gaurav Bajpai[2] , Syed Shabihe Raza Baqri[2] and Anand Murari Saxena [1,*]

[1] Department of Zoology, University of Lucknow, Lucknow 226007, U.P. India; vikasgautam209@gmail.com, anandmsaxena@rediffmail.com
[2] Department of Zoology, Shia P.G. College, Sitapur Road, Lucknow 226020, India; drkumar-gaurav_08@yahoo.com, ssrbaqri@gmail.com
* Correspondence: anandmsaxena@rediffmail.com, Tel: 91-9415028759
† Presented at the title, place, and date.

Abstract: Diabetes mellitus is a major public health concern on a global scale and warrants medical attention due to rapidly soaring figures of diabetics. It is a group of multifactorial disorders characterized by chronic elevated blood glucose levels (hyperglycemia), and impaired metabolism of key biomolecules such as carbohydrates, proteins and lipids. According to both molecular and pathological research, some environmental toxins have impact on insulin production by interfering with the activity of cells belonging to the pancreatic islets of Langerhans. Environmental factors like chronic exposure to arsenic, persistent organic pollutants (POPs), soil, unhealthy food, psychological stress, obesity, vitamin D deficiency, and immune system impairment etc have a major role in the etiology of diabetes mellitus as well as in multiple health conditions. Plant based diet, lowering stress, changing lifestyle habits along with focus on proper physical activity improves the body's glucose response, insulin signalling and insulin sensitivity. It is, therefore, necessary to conduct more sustained, long-term research to assess the significance of such environmental risk factors with reference to their implications in the prognosis of Diabetes mellitus.

Keywords: Hyperglycemia; life style disorder; toxins; pollutants; stress.

Citation: To be added by editorial staff during production.

Academic Editor: Firstname Lastname

Published: date