Pancreatic Cancer Risk: The Relationship Among BMI, Smoking, and Type 2 Diabetes

Jennifer Hall
The University of Texas at Austin

Abstract
Pancreatic cancer (PaC) is one of the most fatal types of cancer with a 5-year survival rate of less than 5%. The poor prognosis associated with PaC is most likely due to its often late diagnosis. In order to improve survival rates, clinical clues of its presence must be identified. The purpose of this systemic review of the literature is to investigate evidence for the relationships among PaC risk and BMI, smoking status, and type 2 diabetes mellitus (T2DM). T2DM and smoking status have been separately associated with pancreatic cancer, but the interaction between smoking and T2DM in terms of PaC risk is still not clear. An association exists between obesity and T2DM, and obesity has been associated with malignancy, but whether there is an interaction between these three risk factors is still uncertain. 20 articles from CINAHL and PubMed databases that were published between January 1, 2005 and January 1, 2015 were included in this systematic review of the literature. From each article, pertinent information regarding T2DM, BMI, smoking, and demographic data of the sample was extracted and evaluated. A contradiction emerged among the articles, as approximately half the authors found a significant relationship between T2DM and smoking and T2DM and BMI on PaC risk, while the remaining found no significant relationship. While T2DM is a risk factor for PaC, it is unclear if a person’s smoking status and BMI have a compounding effect on this existing relationship. Further research on these and other risk factors for PaC is necessary to determine an effective screening strategy for the early diagnosis of PaC.