

Abstract:

Diabetes (DM) and tuberculosis (TB) were the most common diseases and these two diseases often occurred together that was known TB in diabetes. This research would like to analyze the prevalence and relative risk of TB in diabetes and to investigate the relative factors that influence the medical demands for diabetes patients and TB patients with diabetes.

This research used national health insurance dataset of diabetics that included all nationwide diabetes claim data from 1996 to 2002 to analyze the prevalence, occurrence, and the relative risk of diabetic patients to general population to suffer from tuberculosis. In addition, public health nurses used structured questionnaires to interview patients by phone in central Taiwan to investigate the treatment status and patients' medical demand. There were total 616 valid questionnaires to be collected. Chi-square test was used to test the significant difference between diabetics and TB patients with diabetes in patients' characteristics, treatment status and health behaviors. Two-sample t-test was used to compare the different medical demands between diabetics and TB patients with diabetes. Stepwise regression method was applied to analyze the significant factors that influence patients' demands.

The results showed that the prevalence of diabetes was increased from 3.19% in 1996 to 4.56% in 2002. The occurrence of diabetes was dropped down from 163.77 per ten thousand population in 1997 to 101.12 per ten thousand population in 2002. For TB in diabetes, the highest occurrence was 69.55 per ten thousand persons in 1997, and it was increased from 39.71 per ten thousand persons in 1998 to 46.38 per ten thousand persons in 2002. The new diabetics were followed for one year to four years, and we found the relative risk of diabetics combined TB compared to general population was 1.93 to 1.97. TB patients with diabetes and TB had higher physical demands and social support demands than diabetics only. According to regression analysis, patients with higher demands had the following characteristics such as living in the institution, with DM complication, with chronic diseases, forgotten eating medicine, needed family's care, high economic burden and high life or work pressure.

The relative risk for diabetics to suffer from TB was higher than general population. TB patients with DM had higher demands than DM patients. Finally, this research has some recommendations for health policy decision makers as follows: (1) TB patients with DM should be tracked regularly by CDC monitor system. (2) TB prevention policy should include the DM patients whose relatives have TB disease, and treat these DM patients as high risk population. (3) Government should reduce the financial burden for TB patients with DM. The recommendations for hospitals or physicians are the following: (1) Enhance the recognition of TB prevention knowledge for DM patents. (2) Increase the professional medical support for TB patients with diabetes. (3) Improve the communication between patients' family and physicians to increase the supports from patients' family.

Keywords : tuberculosis ; diabetes mellitus ; tuberculosis in diabetes mellitus ; patient needs ; odds ratio