

More sustained combined target control leading to less cardiovascular events and all-cause mortality in patients with type 2 diabetes mellitus

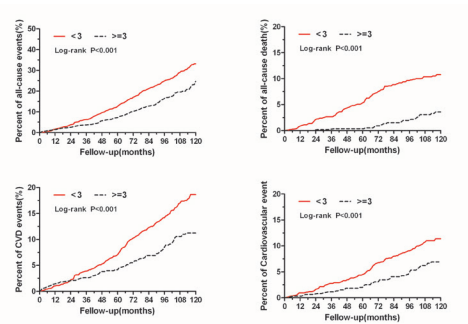
Mingxia Yuan¹, Gang Wan², Guangran Yang¹, Xuelian Zhang¹, Liangxiang Zhu¹, Jianping Feng¹, Rongrong Xie¹, Ning Zhuang³, Hanjing Fu¹ and Shenyuan Yuan¹

¹Beijing Tongren Hospital, Capital Medical University, China

²Beijing Ditan Hospital, Capital Medical University, China

³Jinsong Community Health Service Center, China

Chronic complications are the major causes of disabilities and death for diabetic patients. It is well-established that intensive glycemia, blood pressure and lipid management in people with diabetes reduces the risk of microvascular and macrovascular complications, mainly on the basis of evidence from large randomized clinical trials. Yet, translation of these interventions to day-to-day-life settings remains a major challenge. Meanwhile, the GPs from the local healthcare community remain a relatively untapped pool of resources in China. An urgent problem is whether the quality of diabetes care will be compromised as diabetes care shifts increasingly from specialist to primary level. We thus launched the 10-year Beijing Community Diabetes Study (BCDS), to develop a community-hospital integrated management system, with the purpose of translating optimal care to the real-world clinical practice by increasingly involve community GPs in diabetes management.



Objective: To assess the quality and effort of the community-hospital integrated diabetes care model, focusing on the effect of the 10-year combined target control on all-cause mortality and cardiovascular events for the patients with type 2 diabetes mellitus (T2DM).

Methods: The patients aged 20 to 80 years with T2DM from 15 community health centers among five urban districts were recruited at the baseline (between August 2008 and July 2009), and were followed up to September 2018. Management adjustment strategies on guidelines have been applied by a group of collaborative team members consisting of 15 specialists from tertiary hospital and 120 community GPs. A systemic scheduled training course, including hand-by-hand tutor at the outpatient clinic, were applied to the GPs. The follow-up visit for the patients was completed on schedule. All the metabolic variables were detected. HbA1c was measured at a central laboratory by high-pressure liquid chromatographic assay. To ensure the integrity and also quality of data collection, a supervision team which includes four trained specialists has been checking

the study progress and data records in every community center once or twice yearly. The primary outcome was defined as the proportion of patients reaching an optimal control of glycaemia, blood pressure and lipids. The clinical outcomes such as the incidence and progress of diabetic complications, including cardiovascular events and all-cause mortality were recorded. All of the endpoint events were evaluated and approved by the specialist committee. The database has been established using Epidata version 3.0 and audited for accuracy.

Results: 1. 3581 patients with T2DM were recruited in 2008, 2940 (82.1%) patients completed the study. 2. By updated analysis in 2018, 23.5% met all the HbA1c, blood pressure, and LDL-C target values after 10-year intervention, which showed a significant increase compared with that 13.1% in 2013, and 5.9% at the baseline. 3. A total of 1801 patients who went through 10-year follow-up visit and have complete information were analyzed. Among them 613 patients (34.04%) reached combined target equal to or more than 3 times during the 10 years, while the rest of 1188 patients (65.96%) were up to standard less than 3 times. The incidence of all-cause deaths, cardiovascular events and total composite endpoint events in patients who were up to standard more than 3 times was significantly lower than that of patients who were up to standard less than 3 times ($P < 0.001$). The log-rank test showed that the cumulative risks of all-cause deaths, cardiovascular events and the total composite endpoint events in patients who were up to standard more than 3 times were significantly lower than that of patients who were up to standard less than 3 times ($P < 0.001$). The community GPs improved their familiarity with expertise and experience in diabetes management by systematic training. 49 research papers written by the GPs were published.

Conclusion: The community-based community-hospital integrated care system was proved to be more effective. The incidence of all-cause deaths and cardiovascular events were significantly reduced by constant combined target control.

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Biography

Mingxia Yuan is the chief physician and vice-director of department of Endocrinology, Beijing Tongren Hospital, Capital Medical University and vice-Director of the office of diabetes prevention and control in Beijing. She has completed her master's degree from Capital Medical University in 1998.

yuanmx@vip.126.com

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