


## Chapter 24

# Understanding the Influence of Diabetes Management Practices on Co-Morbidity Development


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### ABSTRACT

*Diabetes type 2 is a chronic condition that currently has no cure. Hence, proper management is key as the best approach to ensure the wellness of sufferers. To establish the attitudes of self-care patients towards the management of this ailment, the authors designed a study that targeted 100 Australian residents in the first phase. These participants provided quantitative and qualitative information about various diabetes type 2 management practices that include exercising and diet management and the co-morbidities they currently suffer.*

### INTRODUCTION

As the population of people suffering from diabetes type 2 increases in Australia (Shaw and Tanamas 2012) and around the world (WHO 2016) due to factors that could be prevented, the need for proper management of the pandemic cannot be overstated. Effective management is therefore expected to rely heavily on the understanding and motivation of patients (Albright *et al.* 2001) who can better their quality of life through conscious self-management effort. To this end, exercising and diet management plans

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have featured prominently among the self-care options that contribute significantly to wellness (WHO 2016, Brown 1999). Considering the chronic nature of diabetes type 2 and the overall impact on the quality of life, healthcare resources, and the entire economy, researchers have worked hard to promote self-care strategies as possible options for bolstering the wellness of the patients. Hence, continuous education of the patients has been explored as a potential option for encouraging the sufferers to adhere to the best management practices (ADA 1989). This will enable them to know how several factors of self-management such as social context, which can come in the form of supports from family and friends, patient-doctor relationship, psychological stress, *etc.* play into an effective outcome (Albright *et al.* 2001).

It has been shown that the management of diabetes type 2 can be done effectively when patients contribute through exercising and diet management (Horton 1988, Bastiaens *et al.* 2009) following self-motivation inspired by the knowledge of the disease (Gould *et al.* 2019). Norris *et al.* (2001) also affirmed that self-management of diabetes type 2 holds numerous benefits in the short-term but the benefits can be sustained in the long-term if the patients are motivated and resilient and have other support networks (Powers *et al.* 2017). The quality of life outcome of the patients can be further enhanced through early intervention (Nolan *et al.* 2011). Therefore, the education of patients could be vital for the reversal of overnutrition and minimization of the adipose tissue defects when done at the early stages of diabetes type 2 diagnosis. Despite the difficulties associated with this change of lifestyle for the patients, adherence to the self-management strategies have been shown to be one of the most effective ways of managing diabetes type 2 (Nathan 2002).

We aim to explore how different diabetes type 2 management practices influence the development and risk factor of co-morbidities like arthritis, heart problems, vision loss, shaking and dexterity problems, asthma, and neuropathy. Although co-morbidities can be caused by genetic, environmental and ageing factors (Gijssen *et al.* 2001, Tahrani *et al.* 2011, Van Acker *et al.* 2009), the vulnerability of diabetes type 2 patients to certain diseases due to poor management practices and the duration of diagnosis cannot be overlooked. Imperatively, we seek to understand the relationship between these co-morbidities and the management practices using qualitative and quantitative analysis of the responses from interview questions from individuals (adults) diagnosed with diabetes type 2. Our study also explored the core influencers of poor diabetes management practices and the effects of self-management on the development and risk factors of the co-morbidities. We used different hypotheses to determine the influence of the management practices on the comorbidities, duration of diabetes type 2 diagnosis and the gender of the participants.

## **METHODOLOGY**

This study is designed to obtain qualitative and quantitative information from diabetes type 2 patients who are diagnosed with other diseases such as arthritis, heart problems, vision loss, shaking and dexterity problems, asthma, and neuropathy. Australian residents from the age of twenty-one were approached to provide information about different techniques for managing diabetes type 2, the level of their compliance to the management strategy and the other co-morbidities they have been formally diagnosed by a qualified physician. The participants also provided information about the duration of the diabetes type 2 diagnosis, age, and specific information about the management practices that are difficult for them. The participants were specifically asked to identify the management practices from exercise, diet management, understanding of diabetes, overall motivation and appointment scheduling. They were also given

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