

'If you don't manage diabetes, it will manage you':
Type two diabetes self-management in rural Australia

Laura Jones

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School of Psychology

The University of Adelaide

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Abstract

The aim of this research was to investigate the barriers to effective type two diabetes self-management faced by people in rural and remote areas of Australia. This research is timely for several reasons including the current rise in the prevalence of type two diabetes across the world (International Diabetes Federation [IDF], 2009), and data supporting the fact that that type two diabetes is poorly managed, especially in rural and remote contexts (Australian Institute of Health and Welfare [AIHW], 2008a). Specifically, the research presented in this thesis aimed to identify barriers to effective self-management in rural and remote areas, to develop a tool for the measurement of these barriers, and to determine the importance of barriers to self-management in diabetes-dependant quality of life in both rural and urban populations.

A mixed methods framework was adopted to address the aims of this research. This approach involved two separate but related data collections and three separate data analyses. Study 1 utilised the methods proposed by Braun and Clarke (2006) in order to conduct a thematic analysis regarding barriers to self-management. Semi-structured interviews with health professionals (n=18) and people with type two diabetes (n=10), and one focus group with people with type two diabetes (n=8) provided the data for this thematic analysis. A socio-ecological framework was used to organise identified themes. Results of Study 1 were subsequently used to inform the development of a survey for collecting quantitative data, which were used in Study 2 and Study 3. Study 2 used Principal Components Analysis to validate an adapted measure of barriers to effective type two diabetes self-management in a mixed rural and urban population (n=326). Study 3 utilised univariate and multivariate analyses to investigate both the demographic predictors of barriers to self-management, and the barrier predictors of diabetes-dependant quality of life in rural and urban populations.

Study 1 identified barriers to effective self-management at intrapersonal, interpersonal, organisational and societal levels of influence. Across all levels of influence, the difficulty of maintaining lifestyle changes was emphasised. Results of Study 2 indicated that the adapted survey was valid in a mixed rural and urban population. Age, number of complications and remoteness were identified as significant predictors of various barriers to self-management in Study 3. Diabetes-dependant quality of life was similar in the rural and urban populations. Psychosocial barriers to management were the only significant predictor of diabetes-dependant quality of life in the rural population, while depression, psychosocial barriers and self-monitoring barriers were significant predictors of diabetes-dependant quality of life in the urban population.

The research presented in this thesis identified barriers to effective type two diabetes self-management in rural and remote areas of Australia, and indicates that, of the barriers identified, psychosocial barriers are the most important in predicting diabetes-dependant quality of life in both rural and urban populations. These results have useful implications for provision of care in that they lend support to the principle that psychological and social factors must be taken into consideration if the goals of type two diabetes self-management, specifically improving quality of life, are to be realised across settings.

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Laura Jones, and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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Laura Jones

Signed:

Date:

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Overview

The research presented in this thesis aimed to identify barriers to effective type two diabetes self-management in rural and remote areas of Australia. This is important considering increased rates of, and complications arising from, type two diabetes in rural and remote areas, compared to urban areas, in both an Australian and global context. Improving quality of life is a central aim of type two diabetes self-management. Therefore, this research also aimed to investigate which barriers to self-management are most important in diabetes-dependant quality of life in rural and urban areas of Australia.

Three independent but related studies were conducted to investigate barriers to self-management in a rural Australian context. The research which forms the basis for this thesis will be presented as three manuscripts which are either accepted for publication (Study 1) or under review (Study 2 and Study 3) in peer reviewed journals. These studies will be linked by chapters which provide a broader context for the research.

Chapter 1 consists of two parts. The first part contextualises the research as a whole by providing an overview of type two diabetes aetiology, descriptive epidemiology, burden, consequences and current management aims and recommendations. The second part of Chapter 1 provides a definition of the concept of 'rural' and a discussion of health and diabetes in rural and remote areas of Australia.

Chapter 2 provides a rationale for the research in this thesis by examining existing literature on type two diabetes self-management. This chapter begins with a definition and discussion of literature relating to adherence to self-management recommendations, followed by literature which investigates factors influencing adherence (barriers and facilitators). Finally, this

chapter provides a rationale for the research presented in this thesis by identifying gaps in the existent literature.

The next chapter, Chapter 3, provides a rationale for the theoretical framework adopted and the mixed methods approach used to conduct this research.

Chapter 4 (Study 1) presents the results of a qualitative investigation of barriers to effective management in rural and remote areas of Australia, as identified by people with type two diabetes and health professionals working with people with type two diabetes. This manuscript has been accepted for publication in the *Journal of Health Psychology*.

Chapter 5 expands on some of the findings of Study 1, and provides the background for the subsequent studies. This chapter outlines the development of a survey to collect quantitative data, which were analysed in Study 2 (Chapter 6) and Study 3 (Chapter 7).

Chapter 6 (Study 2) presents the results of the adaptation of the Diabetes Obstacles Questionnaire (DOQ) (Hearnshaw et al., 2007) to include barriers identified in Study 1, and the validation of this adapted measure in a population of both rural and urban dwelling Australians with type two diabetes. This study is presented in the form of a manuscript which is currently under review for the journal, *Rural and Remote Health*.

Chapter 7 (Study 3) presents the results of an investigation into the predictors of barriers to effective self-management, as measured by the adapted Diabetes Obstacles Questionnaire, and the associations between barriers to effective self-management and diabetes-dependant quality of life. This study is also presented in the form of a manuscript which is currently under review for the journal, *Rural and Remote Health*.

Chapter 8 provides an overall discussion of the three studies. The findings, implications, strengths and limitations are discussed for each study. The findings of the three studies are then integrated and important areas for future research are proposed. Finally, conclusions are drawn in an effort to making a unique contribution to understandings of the experiences of people managing type two diabetes in rural and remote contexts.