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Perceived barriers to healthy lifestyle activities in midlife and older Australian women with type 2 diabetes

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Summary
Background: Type 2 diabetes is a leading cause of morbidity and mortality in midlife and older Australian women with known modifiable risk factors for type 2 diabetes including smoking, nutrition, physical activity and obesity. In Australia little research has been done to investigate the perceived barriers to healthy lifestyle activities in midlife and older women with type 2 diabetes.
Aims: The primary aim of this study was to explore the level and type of perceived barriers to health promotion activities. The secondary aim was to explore the relationship of perceived barriers to smoking behaviour, fruit and vegetable intake, physical activity, and body mass index.
Methods: The study was a cross sectional survey of women, aged over 45 with type 2 diabetes, recruited from four metropolitan community health clinics ($n = 41$). Data were collected from self-report questionnaires and analysed using quantitative methods.
Results: Women in the study had average total barriers scores similar to those reported in the literature for women with a range of physical disabilities and illnesses. The leading barriers for this group of women were: lack of interest, concern about safety, too tired, lack of money and feeling what they do does not help. There was no association between total barriers scores and body mass index, physical activity, fruit and vegetable intake or socio-demographic variables.

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Conclusion: This study contributes to understanding the perceptions of midlife and older women with type 2 diabetes about the level and type of barriers to healthy lifestyle activities that they experience. The participants reported a high level perceived barriers with a range of personal, social and environmental issues identified and described. This study suggests that health promotion education and interventions for risk factor reduction in women with type 2 diabetes may be enhanced by explicitly addressing perceived barriers to healthy lifestyle activities.

Introduction

Type 2 diabetes poses a significant challenge for the Australian and international community and continues to be a priority area for prevention and management policies and strategies (Australian National Health Priority Action Council, 2006; WHO, 2008). Data from the Australian Institute of Health and Welfare (AIHW) indicates that the prevalence of type 2 diabetes in Australia has more than doubled between 1989—1990 and 2007—2008, however this data do not represent the true prevalence as the illness often remains undiagnosed (AIHW, 2012). In women, the prevalence of type 2 diabetes increases markedly over the age of 45 years (AIHW, 2011) and in women aged over 65 years old it was the seventh leading cause of death in 2009 (AIHW, 2012) It is predicted that type 2 diabetes will be the leading cause of disease burden by 2023; partly due to the increasing rates of overweight and obesity (AIHW, 2010).

It is estimated that 80% of type 2 diabetes is preventable primarily through a healthy diet and regular moderate exercise (WHO, 2009). There is evidence that interventions to target these modifiable risk factors can reduce the relative risk of developing type 2 diabetes in at risk individuals (Lindström et al., 2003, 2006; The Diabetes Prevention Program Research Group, 2002; Tuomilehto et al., 2001) and may increase physical activity, reduce body mass index (BMI), and improve blood glucose control in women (Gilis-Januszewska et al., 2001; Walker, Piers, Putt, Jones, & O'Dea, 1999; Whittemore, Melkus, & Grey, 2005).

While the studies cited provide evidence that lifestyle interventions can reduce risk factors for type 2 diabetes in women, there is evidence that many people have difficulty modifying their behaviour to reduce risk factors. For example, The Diabetes Prevention Study evaluated the effects of a randomised controlled trial of a lifestyle intervention targeting diet and physical activity in middle aged men ($n = 172$) and women ($n = 350$) with impaired glucose tolerance (Lindström et al., 2006). The study found that the relative risk of diabetes was reduced by 58% ($p < .001$) however at one year follow up a third of participants in the intervention group met none or only one of the weight loss, dietary and physical activity study goals; with adherence to the intervention being described as a challenge for diabetes prevention programs.

While the reasons are no doubt multi-factorial and complex, one important social-cognitive factor is the *perceived barriers* that inhibit or prevent healthy lifestyle activities like regular exercise and healthy eating. The concept of 'barriers' was first described in Becker's (1974) health belief model as the obstacles or impediments to taking action to reduce the threat of illness. Pender's health promotion model further expands the definition of 'barriers' to include ''perceptions concerning the unavailability, inconvenience, expense, difficulty, or time consuming nature of a particular action'' (Pender, 2006, p. 53). There is strong evidence from research based on the health belief and health promotion models, that the concept of perceived barriers is an important predictor of health promoting behaviour (Glanz, Rimer, & Viswanath, 2008; Janz & Becker, 1984; Pender, 2006).

Barriers for well women

In the United States of America (USA), extensive research has been undertaken investigating the perceived barriers for well women, particularly African American, Latina and American Indian women (Heesch, Brown, & Blanton, 2000; Jones & Nies, 1996; Juarbe, Turok, & Perez-Stable, 2002; Wilcox, Bopp, Oberrecht, Kammermann, & McElmurray, 2003; Wilcox, Oberrecht, Bopp, Kammermann, & McElmurray, 2005; Wilcox, Richter, Henderson, Greaney, & Ainsworth, 2002; Williams, Bezner, Chesbro, & Leavitt, 2006). In most of these studies, the barriers of lack of time, fatigue, role and family responsibilities, effort of physical exertion, and low motivation were significant.

In the Australian context, Lee (1993) investigated stages of change in exercise patterns in older Australian women and also physical and practical barriers. While it was reported that the scales for measuring barriers had low to moderate reliability in this study, many respondents (30—50%) reported a reluctance to go out alone, use public changing facilities or gyms and fitness centres. In Queensland a relatively recent mixed method study used questionnaire and interviews to investigate exercise and dietary behaviour change in rural and urban midlife women (Anderson, 2008). In this study, which focused on self-efficacy, 29 participants were interviewed about facilitators and obstacles to change. The main obstacles identified were work commitments, care giving commitments, illness, and injury. Other studies have investigated both facilitators and barriers to physical activity in older Australians, including women, with barriers such as poor health, weather, lack of energy to exercise, fatigue, fear of injury and low motivation being significant factors (Bird et al., 2009; Newson & Kemps, 2007).

Barriers for women with chronic disease

Studies that explore perceived barriers for women with a chronic disease are fewer in number, but with similar barriers being consistently reported, including: time, cost, lack of energy, safety, and social support (Crane & McSweeney, 2003; Mosca, McGillen, & Rubenfire, 1998; Perry, Rosenfeld, & Kendall, 2008). Other barriers, reported