

Self-reported access to and quality of health care for diabetes: Do the severely obese experience equal access?

ABSTRACT

Background: Given reported pejorative views that health professionals have about severely obese patients, we examined the self-reported views of the quality and availability of diabetes care from the perspective of adults with type 2 diabetes (T2DM), stratified by body mass index (BMI).

Methods: 1795 respondents to the Diabetes MILES – Australia national survey had T2DM. 530 (30%) were severely obese ($BMI \geq 35$), and these cases were matched with 530 controls ($BMI < 35$). Data regarding participants' self-reported interactions with health practitioners and services were compared.

Results: Over 70% reported their general practitioner was the professional they relied on most for diabetes care. There were no between-group differences in patient-reported availability of health services, quality of interaction with health practitioners, resources and support for self-management, or access to almost all diabetes services.

Discussion: Severely obese participants did not generally report greater difficulty in accessing diabetes care.

Introduction

The inexorable increase in adult body mass index (BMI) globally contributes to the increased prevalence and changed pattern of type 2 diabetes (T2DM) [1]. The prevalence of adult obesity in Australia is greater than 25%, leading to a disproportionate increase in those with severe obesity [2]. A doubling of the prevalence of obesity leads to 5-10 fold increases in those with a BMI >40 and >50 kg/m² respectively. This is the expected and observed change from shift to the right in population BMI leading to major change in the area within the very high portion of the population Gaussian curve [2-4]. In a recent national survey of Australians with T2DM, we reported that 30% were severely obese [5].

Severe obesity (BMI >35 kg/m², WHO Class II and III) with comorbid T2DM is associated with a compounding array of stressors including additional obesity-related comorbidity, lower socio-economic status, education and employment opportunity, and higher levels of unemployment, dependence on disability pensions, and depression [5]. These issues are exacerbated with increasing levels of BMI and are greatest in those with a BMI >45. The term ‘severe complex obesity’ is now often used to indicate the plethora of issues encountered in these higher BMI groups [6]. Within general practice, this will require a chronic disease management approach as obesity, T2DM and other obesity-related conditions are treatable, but not curable.

There is consistent evidence that health service providers, including general practitioners, have pejorative attitudes, beliefs and behaviours toward severely obese patients [7]. Indeed a large US survey found medical practitioners were one of the primary sources of weight bias reported by obese people [8]. Obesity bias is systemic within Western communities from an early age, affects all areas of society, and is most readily seen influencing employment, education and health care[9]. There is some evidence that this weight bias in healthcare settings acts as a barrier to engagement with health practitioners for people who are overweight or obese [10, 11]. In those with co-morbid obesity and T2DM, this weight-based bias may be confounded by a diabetes-related stigma [12], making positive and sustained healthcare engagement even more difficult.

The Diabetes MILES (Management and Impact for Long-term Empowerment and Success) – Australia survey dataset offers an opportunity to explore whether those with T2DM and severe

obesity report less access to, and lower quality of, diabetes care than those who are not severely obese.

Research Design and Methods

A brief summary of the study design and methods is provided here, as detailed description is published elsewhere [13]. Diabetes MILES – Australia received ethical approval from the Deakin University Human Research Ethics Committee (reference number 2011-046).

The survey focused on the topics of emotional well-being, self-management, healthcare and support in relation to diabetes using a series of validated questionnaires and study-specific items. The survey was available in hard copy and online. Hard copy survey booklets were posted to 15,000 randomly selected National Diabetes Services Scheme (NDSS) registrants with type 1 or 2 diabetes, aged 18-70 years. The online survey was advertised nationally.

Participants

In total, 3,338 eligible respondents took part in the survey using hardcopy or online formats, and 59% of the sample had T2DM (49% women; age 59 ± 9 years, 37% insulin-treated). The remainder had Type 1 diabetes. This paper focuses on the subset of participants with T2DM and co-morbid severe obesity, defined as a body mass index (BMI) of ≥ 35 kg/m² (n=530, or 30% of the T2DM cohort). For this case-controlled analysis, each severely obese participant was matched to one control participant with T2DM and BMI < 35 kg/m² on the basis of age, gender, duration of diabetes and use of insulin (Table 1). A total of 1,795 participants with T2DM had valid data for age, gender, diabetes duration, and height and weight (for calculation of BMI). Each control was used once only. This matching allowed for confounding differences between the groups to be minimized.

Data extracted for this analysis

Socio-demographic characteristics were extracted from the database, including marital-relationship status, living situation, education, household income, and employment, as also previously described[5]. Experiences with, and support provided by, the respondent's diabetes healthcare team was measured using the Resources and Support for diabetes Self-Management (RSSM) questionnaire[13, 14]. Participants were asked about which healthcare professionals

they had accessed in the past 12 months, their access to healthcare services generally, and to rate the quality of their consultations with the healthcare professional that they relied on most for their diabetes care (using items adapted from the Australian Longitudinal Study of Women's Health Survey [15]).

Statistical Methods

The analysis involved comparing cases with controls, and an examination of increasingly severe obesity by stratifying the severely obese group into Class II (BMI 35- <40 kg/m²), Class IIIa (BMI 40-45 kg/m²), and Class IIIb (BMI >45 kg/m²) to assess relative associations with increasing BMI.

Cases and controls were compared using Chi-square tests for proportions, student t-tests for normally distributed outcomes (mean±SD) or Mann-Whitney U tests otherwise (median±IQR). Controls and the three levels of severe obesity were compared using one way analysis of variance, Kruskal-Wallis tests for non-parametric continuous variables, and linear association for proportions.

SPSS statistical software 19 (SPSS Inc, Chicago, Il) was used for all analysis and a two-sided p-value of 0.05 was considered to be statistically significant.

Results

The characteristics of the 1,795 participants who reported having T2DM and reported their height and weight (enabling BMI to be calculated) are shown in Table 1. The mean BMI for this cohort was $32.5 \pm 7.9 \text{ kg/m}^2$. Men (51.6%) were more highly represented in the overweight category but women comprised the majority in the Class II ($\text{BMI} \geq 35$) and, in particular, Class III ($\text{BMI} \geq 40$) categories (Table 1).

The 530 participants with a $\text{BMI} \geq 35$ (cases) were successfully matched with 530 other participants with a $\text{BMI} < 35$ (controls), as shown in Table 2. Table 2 also details the demographic, socioeconomic, clinical characteristics, and comorbidities of the controls and cases (including stratification by BMI). As also described previously, increasing levels of obesity were associated with lower income, greater likelihood of financial assistance with unemployment and disability pension benefits (Table 2)[5].

More than 70% of participants reported that the healthcare professional they rely on most for diabetes care is their general practitioner (GP) and this did not differ between controls and cases (Figure 1). The remaining participants nominated diabetes specialists (endocrinologist), nurse educators and dietitians. Responses did not vary by BMI category. The proportion of participants accessing professional healthcare for their diabetes and the type of practitioners accessed is shown in Table 3. Ninety-three percent of both the severely obese and control participants visited a GP in the past 12 months. Severely obese participants reported similar utilization of medical specialist services, and were more likely than controls to have had appointments with diabetes educators and dietitians (Table 3).

In respect of rating aspects of their interactions with the healthcare professional they relied on most, there were no differences between cases and controls, and across BMI categories. The time with the practitioner, their personal manner, level of skills and interest were all comparable (Table 3).

The resources and support for self-management that participants reported receiving from their diabetes healthcare team were no different between cases and controls, and across the BMI categories (Table 3). Severely obese participants reported generally the same level of utilization and access to health services as controls for GP services, hospital access, psychologists and dietitians, but less access to medical specialists if they were needed (Table 3).

Discussion

Findings from this analysis of the Diabetes MILES cohort indicate that severely obese and non-severely obese Australian adults with T2DM report the same levels of access to and satisfaction with diabetes-related healthcare. An important finding of this analysis was that most patients, whether severely obese or not, tend to rely on their GP for their diabetes management, over and above any other healthcare professional. Given that almost 30% of the survey participants with T2DM were also severely obese, a combination that we have previously described as having compounding socioeconomic, medical and psychosocial stressors [5, 16], the GP is therefore in a pivotal position to assess these issues and provide the guidance and support needed for improved health outcomes.

It is reassuring that severely obese Australians with T2DM report similar good access, support and satisfaction with their primary health practitioner as the controls in this study, given the previously reported level of bias, stigmatization, and pejorative attitudes that medical practitioners can exhibit towards obese individuals [7]. . It is important to consider however that these perceptions may not reflect actual equity of access and service. This is suggested in the small but significant difference between cases and controls in their rating of accessibility of specialist medical care if needed (Table 3). The slightly lower rating on this item by severely obese patients could have been brought about by a cost barrier, due to lower levels of private health insurance, and this would be worth exploring further. Examination of actual access of health services, for example via Medicare claims analysis, would also strengthen this analysis.

The results of the present analysis differ from our previous findings from focus groups conducted with severely obese women, which found that those of younger age (<35years) were more likely to report health provider discrimination [11], and also of others who have assessed physicians' reported pejorative attitudes toward managing obesity in primary care [17].

Differences in research design may be the reason for the differing results and certainly highlight the need to continue to investigate the issues of healthcare providers' attitudes toward and management of obese patients.

Adults with T2DM and severe obesity report equity of access to, and satisfaction with, almost all aspects of diabetes care in Australia, compared with those in a non-severely obese range. The finding that the majority of patients list their GP as their principal diabetes care-provider

highlights the need for GPs to understand that they are integral to diabetes care and that management of severe obesity must be considered as a part of optimal diabetes care [2]. In addition adequate resources should be directed to GPs in line with their role as principal providers.

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