Obesity management in general practice: does current practice match guideline recommendations?

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Abstract

Objective: To assess the documentation of measures recommended in the National Health and Medical Research Council clinical practice guidelines for managing overweight and obesity in adults, adolescents and children in Australia.

Design, setting and participants: Retrospective analysis of routine general practice data from 270 426 adult patients. Data were extracted from the Melbourne East Monash General Practice Database, collected from general practice clinics located in the inner-eastern Melbourne region between 1 July 2011 and 31 December 2013.

Main outcome measures: Documentation of quantitative measures of obesity identified in the national guidelines — specifically, body mass index (BMI) and waist circumference.

Results: 22.2% and 4.3% of patients had a BMI and waist circumference, respectively, recorded in their computerised medical records. There were variations in BMI documentation across age and sex, with those aged over 75 years (odds ratio [OR], 1.60; 95% CI, 1.48–1.72) more likely, and women (OR, 0.86; 95% CI, 0.78–0.94) less likely to have a documented BMI. Patients with diabetes (OR, 1.85; 95% CI, 1.70–1.99) or who were prescribed diabetes-related medication (OR, 1.24; 95% CI, 1.12–1.35), those with hypertension (OR, 1.18; 95% CI, 1.11–1.24) or hyperlipidaemia (OR, 1.26; 95% CI, 1.20–1.33) were more likely to have a documented BMI.

Conclusions: Recording of measures of obesity in general practice is currently not consistent with guideline recommendations. Strategies to support general practitioners may improve their documentation of measures of obesity.

Primary health care, generally the first point of contact for people seeking health services, has been identified as a good environment for implementing strategies for preventing and managing obesity.[1] Clinical practice guidelines for managing overweight and obesity in adults, adolescents and children in Australia have been developed by the National Health and Medical Research Council (NHMRC), providing evidence-based recommendations that support a systematic approach to preventing overweight and obesity.[2,3] The guidelines emphasise patient engagement in decision making, tailored recommendations, co-management and/or referral, and long-term follow-up with regular monitoring by a general practitioner. We examined the documentation of quantitative measures as recommended in the NHMRC guidelines by GPs in a metropolitan region of Melbourne, to assess whether GPs' practice was consistent with these recommendations.

1 Characteristics of the cohort of 270 426 patients on the Melbourne East Monash General Practice Database*

Characteristic	Patients	Characteristic	Patients
Age group		Number of diagnoses recorded	
19–44 years	122 136 (45.2%)	0	136 858 (50.6%)
45–64 years	86 915 (32.1%)	1	60 079 (22.2%)
65–74 years	30 596 (11.3%)	2	32 574 (12.1%)
75 + years	30 779 (11.4%)	3 +	40 915 (15.1%)
Sex		Specific diagnoses recorded	
Male	109 346 (40.4%)	Hypertension	46 928 (17.4%)
Female	160 695 (59.4%)	Hyperlipidaemia	36 089 (13.4%)
IRSD (quintiles)		Musculoskeletal problems	35 329 (13.1%)
1 (most disadvantaged)	4 842 (1.8%)	Depression and anxiety	32 635 (12.1%)
2	5 393 (2.0%)	Diabetes	14 789 (5.5%)
3	11 977 (4.4%)	Cardiovascular-related†	14 538 (5.4%)
4	72 612 (26.9%)	Stroke	4 165 (1.5%)
5 (least disadvantaged)	174 487 (64.5%)	Kidney disease	3 177 (1.2%)

IRSD = Index of Relative Socio-Economic Disadvantage.
* Percentages may not sum to 100% because of missing data. † Includes acute coronary syndrome, myocardial infarction, chronic heart failure, heart failure, atrial fibrillation and chronic heart disease. ◆

Methods

Study population

We performed a retrospective analysis of general practice patient data retrieved from the Melbourne East Monash General Practice Database (MAGNET). This database holds patient data collected from the computerised medical records of 78 participating general practice clinics in the inner-eastern region of Melbourne between 1 July 2011 and 31 December 2013. The data are collected by Inner East Melbourne Medicare Local, one of 61 organisations across Australia tasked with improving primary care service delivery.

Data collection

We examined recommendations 1 and 2 of the NHMRC guidelines,

relating to the documentation of body mass index (BMI) and waist circumference. Data on "active" patients (those who had visited the same practice more than three times in the previous 2 years) aged over 18 years were extracted, along with other relevant demographic data such as the patient's age, sex, quintile on the Index of Relative Socio-Economic Disadvantage,[4] and clinical information related to diagnoses and prescribed medications. Ethics approval for the study was granted by the Monash University Human Research Ethics Committee.

Statistical analysis

Documentation of height, weight and waist circumference was examined across demographic and clinical groups. Patients with both a height measurement and weight measurement recorded in the previous 2 years were identified as having a documented BMI. Logistic regression by means of generalised estimating equations to account for clustering within practices (intracluster correlation, 0.25) was used to examine the associations between documentation of BMI and sociodemographic and clinical characteristics. Effect estimates were reported as odds ratios with associated 95% CIs, adjusted for sociodemographic and clinical characteristics. Analyses were conducted using SAS, version 9.4 (SAS Institute).

Results

A total of 270 426 active patients were included in the study (Box 1). Three-quarters of the patients (77.3%) were aged between 19 and 64 years, and the sociodemographic distribution of patients was strongly skewed (64.5% living in areas of least disadvantage). Hypertension was the most commonly recorded condition, followed

2 Frequency of recording for height, weight, body mass index (BMI) and waist circumference

Variable	BMI	Waist circumference	Adjusted odds ratio* (95% CI) for BMI documentation
Total patients with records	59 987 (22.2%)	11 684 (4.3%)	
Age group			
19–44 years	18 498 (15.1%)*	2 114 (1.7%)	1 [Reference]
45–64 years	21 533 (24.8%)	4 782 (5.5%)	1.31 (1.25–1.38)
65–74 years	8 618 (28.2%)	2 348 (7.7%)	1.20 (1.13–1.27)
75 + years	11 338 (36.8%)	2 440 (7.9%)	1.60 (1.48–1.72)
Sex			
Male	26 498 (24.2%)	6 163 (5.6%)	1 [Reference]
Female	33 471 (20.8%)	5 520 (3.4%)	0.86 (0.78–0.94)
Number of diagnoses recorded			
0	20 583 (15.0%)	2 832 (2.1%)	1 [Reference]
1	13 497 (22.5%)	2 565 (4.3%)	1.25 (1.21–1.30)
2	9 622 (29.5%)	2 185 (6.7%)	1.45 (1.38–1.52)
3 +	16 285 (39.8%)	4 102 (10.0%)	1.69 (1.59–1.79)
Specific diagnoses recorded ("yes")†			
Hypertension	17 886 (38.1%)	4 515 (9.0%)	1.18 (1.11–1.24)
Hyperlipidaemia	13 859 (38.4%)	3 238 (9.6%)	1.26 (1.20–1.33)
Musculoskeletal problems	12 606 (35.7%)	2 896 (8.2%)	1.07 (1.02–1.12)
Depression and anxiety	8 352 (25.6%)	1 845 (5.7%)	0.94 (0.90–0.98)
Diabetes	7 484 (50.6%)	2 520 (17.0%)	1.85 (1.70–1.99)
Cardiovascular-related‡	5 509 (37.9%)	1 268 (8.7%)	0.91 (0.85–0.97)
Stroke	1 513 (36.3%)	356 (8.6%)	0.87 (0.78–0.95)
Kidney disease	1 316 (41.4%)	295 (9.3%)	0.99 (0.90–1.08)
Medication ("yes")†			
Blood pressure/cardiovascular	12 157 (34.7%)	2 800 (7.9%)	1.07 (1.02–1.12)
Depression and anxiety	9 183 (25.3%)	1 935 (5.3%)	1.07 (1.03–1.11)
Diabetes-related	3 390 (49.0%)	1 002 (14.5%)	1.24 (1.12–1.35)
Lipids	6 172 (36.1%)	1 549 (9.1%)	1.01 (0.96–1.06)
Anticoagulants	5 899 (36.5%)	1 362 (8.4%)	1.02 (0.95–1.08)

*Adjusted for Index of Relative Socio-Economic Disadvantage and all other variables in this Box. †Reference category is "no" for each diagnosis and each type of medication. ‡Includes acute coronary syndrome, myocardial infarction, chronic heart failure, heart failure, atrial fibrillation and chronic heart disease. ◆

by hyperlipidaemia, musculoskeletal problems and depression or anxiety.

Documentation of height, weight and waist circumference

Height was recorded for 99 704 patients (36.9%), while 69 807 patients (25.8%) were found to have a weight recorded in the previous 2 years. Consequently, 59 987 patients (22.2%) had a documented BMI, and 11 684 patients (4.3%) had a waist circumference measurement recorded (Box 2). Documentation varied across age groups, with older patients generally having better documentation.

Predictors of BMI documentation

Box 2 shows that patients aged over 75 years were more likely to have a BMI recorded, and women had lower levels of BMI documentation than men. Patients with three or more listed diagnoses were most likely to have their BMI recorded. Specific diagnoses of diabetes, hyperlipidaemia, hypertension and musculoskeletal problems were found to be associated with an increase in BMI documentation (Box 2). Lower levels of BMI documentation were associated with diagnoses for depression and anxiety, and stroke. The prescription of medications related to diabetes, depression and anxiety, and for blood pressure and cardiovascular disease, were found to be associated with increased BMI documentation.

Discussion

Documentation of BMI and waist circumference was found to be considerably lower than that observed in studies in other primary care settings, although legislative requirements in these systems and the age of the patients in some studies may account for the higher rates.[5-8] The documentation rates we found in this study imply a continued need for programs of support to increase screening for obesity and documentation of related clinical information, in accordance with the recommendations in the NHMRC guidelines. Increasing screening for obesity in general practice has been found to be problematic for a number of reasons, including problems in identifying obesity in the patient, difficulty in approaching the discussion of obesity, a perceived lack of appropriate training, and clinical software restrictions.[9-15] Factors have been identified that can contribute to improved support for implementation of guidelines, particularly those aimed at enhancing organisational capacity.[16] For example, Inner East Melbourne Medicare Local has initiated support to general practices by assigning practice liaison officers to generate regular feedback reports for individual practices on data quality and population-level health indicators. This facilitates good data governance and standardised collection and recording throughout practices, and has resulted in improved data quality and completeness.[17,18]

Our study has some limitations. It was not possible to assess free-text components of the patient medical records for instances where height and weight had been entered in free-text form rather than in the specific height and weight fields, which may also have led to an underestimation of BMI reporting. Also, because patient identifiers were practice-specific, it was not possible to track patients across practices.

By examining routine general practice data, we found that further support is needed to improve levels of screening for obesity and overweight in Australian general practice. Continued research is required to assess how documentation of obesity-related clinical information changes over time as the NHMRC guidelines on managing overweight and obesity become embedded in clinical practice, and to examine barriers and enablers to increased obesity screening. To improve the quality of patient care, GPs should be supported to increase levels of obesity screening in accordance with the NHMRC guidelines.

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