

Current approaches to obesity management in UK Primary Care: the Counterweight Programme

The Counterweight Project Team*

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*See Appendix 1 for the author names of the Counterweight Project Team. Names in alphabetical order according to centre.

Abstract

Background/Aims Primary care is expected to develop strategies to manage obese patients as part of coronary heart disease and diabetes national service frameworks. Little is known about current management practices for obesity in this setting. The aim of this study is to examine current approaches to obesity management in UK primary care and to identify potential gaps in care.

Method A total of 141 general practitioners (GPs) and 66 practice nurses (PNs) from 40 primary care practices participated in structured interviews to examine clinician self-reported approaches to obesity management. Medical records were also reviewed for 100 randomly selected obese patients from each practice [body mass index (BMI) ≥ 30 kg m⁻², $n = 4000$] to review rates of diet counselling, dietetic or obesity centre referrals, and use of anti-obesity medication. Computerized medical records for the total practice population ($n = 206\ 341$, 18–75 years) were searched to examine the proportion of patients with a weight/BMI ever recorded.

Results Eighty-three per cent of GPs and 97% of PNs reported that they would raise weight as an issue with obese patients ($P < 0.01$). Few GPs (15%) reported spending up to 10 min in a consultation discussing weight-related issues, compared with PNs (76%; $P < 0.001$). Over 18 months, practice-based diet counselling (20%), dietetic (4%) and obesity centre (1%) referrals, and any anti-obesity medication (2%) were recorded. BMI was recorded for 64.2% of patients and apparent prevalence of obesity was less than expected.

Conclusion Obesity is under-recognized in primary care even in these 40 practices with an interest in weight management. Weight management appears to be based on brief opportunistic intervention undertaken mainly by PNs. While clinicians report the use of external sources of support, few patients are referred, with practice-based counselling being the most common intervention.

Introduction

The prevalence of obesity has reached epidemic proportions in the UK and is contributory risk factors for many serious conditions (Bajekal *et al.*, 2001; Must *et al.*, 1999). With two-thirds of the population visiting their general practitioner (GP) at least annually, primary care is expected to play a key role in tackling obesity (Bourn, 2001). Furthermore, the National Service Frameworks for diabetes and coronary heart disease (CHD) require primary care to develop and evaluate strategies to manage obese patients (DOH, 2000, 2001). Thus, a key question is, how do primary health care professionals manage obesity in their daily practices?

Studies have found only one-third to one-half of obese patients report having been advised to lose weight (Nawaz *et al.*, 1999; Fontanarosa, 1999). A recent study among British adults found, that while most obese adults correctly perceived themselves as overweight, only a minority had participated in a programme of weight control and few had received advice from health professionals (Wardle & Johnson, 2002). The National Audit Office report (Bourn, 2001) examined self-reported approaches to obesity management by clinicians, but found no studies which have contrasted perceived versus actual clinician's practice. Virtually no audits of routine management have been published.

Evidence suggests that physician-identified obesity is lower than the actual population prevalence (Galuska *et al.*, 1999; McArtor *et al.*, 1992). The value of GP documentation of obesity has however, been called into question. Studies have shown that obese patients know they are overweight and are aware of health risks, and that GPs can guess the body mass index (BMI) category reasonably accurately (Little, 1998). However, management strategies are more likely to be initiated when obesity is recorded (McArtor *et al.*, 1992), and patients who are advised to lose weight by health care professionals are significantly more likely to attempt to do so than those not advised (Galuska *et al.*, 1999; Levy & Williamson, 1998). Nevertheless weight issues are not often addressed during consultations with obese patients (Galuska

et al., 1999; Levy & Williamson, 1998; Potter *et al.*, 2001; Himmel *et al.*, 1994). This study aimed to determine current approaches to obesity management in UK primary care by examining self-reported and actual clinical practice.

Methods

The study was conducted between October 2000 and May 2001, in seven UK centres (Aberdeen, Bath, Birmingham, Glasgow, Hammersmith, Leeds and Luton) as part of the Counterweight initiative to develop a sustainable weight management programme for primary care. Forty practices were selected from those responding positively to invitations to participate in the project. All general practitioners (GPs, $n = 180$) and practice nurses (PNs, $n = 98$) were invited to participate in structured interviews to determine approaches currently used in managing obese patients. Responses were categorized under five main approaches (based on the time spent, i.e. <2, >5 or >10 min, and whether the advice included assessing patient's current lifestyle, provision of supportive literature, personalized goal setting or individualized dietary prescription). GPs and PNs were also asked if they customarily referred patients to a PN, dietitian, commercial weight loss agency or exercise referral scheme. GPs and PNs responded to two statements: 'I feel obesity is worthwhile treating', 'As a clinician I feel motivated to treat obese patients' (answers were scored on a five-point scale from strongly agree to strongly disagree) as part of a written questionnaire that was completed anonymously.

Actual clinical interventions were assessed by reviewing the practice medical records for 100 randomly selected obese patients from each practice with recorded BMI ≥ 30 , aged 18–75 years ($n = 4000$). Records were retrospectively reviewed over 18 months to assess the number of patients documented as receiving practice-based diet counselling (defined as dietary advice or information given relating to weight reduction), referral to a dietitian or obesity centre or those prescribed orlistat (the only anti-obesity drug licensed for UK use at the time of the study). Frequency of weight checks were also collected.

The availability of clinical equipment such as weighing scales, height measures, large pressure cuffs, tape measures and accessibility of literature was noted for each consulting room. Samples of all patient literature were collected from practices and the source recorded. Practice-based computer systems were also searched for the proportion of the total practice population aged 18–75 years ($n = 206\ 341$) with a weight or BMI [BMI: weight (kg)/height (m)²] ever recorded. The prevalence of overweight (BMI ≥ 25 to < 30) and obesity (BMI ≥ 30) were determined from those with a BMI recorded. It is worth noting that in 14 practices, computer systems were too new or incomplete to allow accurate prevalence of obesity data to be obtained. Records were however sufficient to allow computerized lists of patients coded as obese or with BMI ≥ 30 to be generated. It is likely that these records were not a complete list of all obese patients in these practices due to limitations computerized records. Patients were randomly selected from these computerized lists however in the same way as the other 26 fully computerized practices.

The Counterweight Programme was approved by the West Midlands Multi-Research Ethics Committee (MREC) and subsequently by the Local Research Ethics Committee (LREC) in each region. Data were analysed using both descriptive and analytical statistics. The difference in obesity management between GPs and PNs was assessed using chi-squared test. Proportions of GPs and PNs agreeing or strongly agreeing obesity is worthwhile treating was examined using chi-squared test for trend. The characteristics of those receiving diet counselling, dietetic referral, referral to obesity centres, and obesity treatment were examined using logistic regression analysis.

Results

Self-reported practice

A total of 141 GPs (78%) and 66 PNs (67%) participated in the interviews and 115 GPs (64%) and 71 PNs (72%) completed the questionnaire. Of those completing the questionnaire, most GPs

(94%) and PNs (97%) strongly agreed or agreed that obesity is worth treating ($P < 0.01$). However, PNs felt more motivated to treat obesity than GPs (88% versus 75%; $P < 0.001$). Almost all PNs and most GPs reported raising weight as an issue with obese patients (97% versus 83%; $P < 0.01$). Few GPs however (15%) reported spending up to 10 min in a consultation discussing weight-related issues. In contrast the majority of PNs (76%) reported spending 5–10 min during a consultation to assess the patient and provide supportive literature. While around one-fifth of PNs claimed to spend more than 10 min with patients to set personal lifestyle goals, a surprising 62% claimed to provide individualized dietary prescription based on calculated energy needs. Approaches commonly reported by GPs were referral to a PN (78%), dietitian (58%), exercise referral scheme (50%) and commercial weight loss agency (41%). Similarly PNs referred to a dietitian (59%; NS) or exercise scheme (56%; NS), but PNs referred more often to commercial agencies (68%; $P < 0.001$) than GPs. The results are shown in Table 1.

Audit of obese patients' records

Practice-based diet counselling (20%), dietetic (4%) and obesity centre (1%) referrals, and any anti-obesity medication (2%) were recorded over 18 months. In multivariate analysis, major obesity-related co-morbidities (diabetes, CHD, hypertension and dyslipidaemia) were independent predictors of receiving practice-based diet counselling and dietetic referral ($P = 0.01$) as was a higher BMI ($P < 0.001$). Patients referred to obesity centres were younger ($P < 0.05$) and more obese ($P < 0.001$). Those prescribed anti-obesity medication were more likely to be female ($P < 0.01$), and more obese ($P < 0.01$) but with similar co-morbidity prevalence to those not prescribed (Table 2).

Availability of clinical equipment

Equipment found in consulting rooms included: weighing scales (96%), height measures (89%), large pressure cuffs (88.6%), tape measures (36.7%) and accessible literature (36%).

Table 1 Self-reported general practitioner and practice nurse approaches to managing obese patients [*n* (%)]

Approach	GPs (<i>n</i> = 141)	PNs (<i>n</i> = 66)	<i>P</i> -value GP versus PN
Raise weight as an issue, encourage and motivate (2 min or less)	117 (83)	64 (97)	<0.01
Raise weight as an issue and provide supporting literature (2–5 min)	51 (36)	58 (88)	<0.001
Raise weight as an issue, patient assessment and provide supporting literature (5–10 min)	21 (15)	50 (76)	<0.001
Patient assessment, provide supporting literature and personalize goal setting (>10 min)	11 (8)	14 (21)	<0.001
Individualized dietary prescription based on calculated energy needs (>10 min)	18 (13)	41 (62)	<0.001
Exercise prescription	71 (50)	37 (56)	NS
Refer to dietitian	82 (58)	39 (59)	NS
Refer to practice nurse	110 (78)	N/A	N/A
Refer to commercial weight loss agency	58 (41)	45 (68)	0.001

NS, nonsignificant.

Table 2 Predictors of diet counselling, dietetic and obesity centre referral and use of anti-obesity medication for obese patients in primary care

	Diet counselling*		Dietetic referral		Obesity centre referral		Orlistat prescription	
	Odds ratio (95% CI)	<i>P</i> -value	Odds ratio (95% CI)	<i>P</i> -value	Odds ratio (95% CI)	<i>P</i> -value	Odds ratio (95% CI)	<i>P</i> -value
Age (years)	1.00 (0.99–1.01)	NS	0.99 (0.97–1.02)	NS	0.97 (0.94–0.99)	<0.05	0.98 (0.95–1.0)	NS
Gender								
Female	1.0 (ref.)		1.0 (ref.)		1.0 (ref.)		1.0 (ref.)	
Male	0.92 (0.78–1.09)	NS	0.77 (0.38–1.55)	NS	1.03 (0.49–2.17)	NS	0.26 (0.11–0.62)	<0.01
Body mass index								
30.0–32.0	1.0 (ref.)		1.0 (ref.)		1.0 (ref.)		1.0 (ref.)	
>32.0–34.0	1.34 (1.08–1.67)	<0.01	1.37 (0.42–4.52)	NS	1.07 (0.25–4.52)	NS	0.59 (0.19–1.8)	NS
>34.0–36.0	1.57 (1.24–1.99)	<0.001	3.42 (1.20–9.70)	<0.05	1.96 (0.52–7.36)	NS	1.2 (0.43–3.2)	NS
>36.0–38.0	1.21 (0.88–1.64)	NS	1.99 (0.49–8.08)	NS	3.31 (0.87–12.5)	NS	2.6 (1.0–6.6)	<0.05
>38.0–40.0	1.59 (1.12–2.25)	<0.01	3.14 (0.77–12.8)	NS	2.77 (0.53–14.5)	NS	2.5 (0.86–7.4)	NS
>40.0	2.29 (1.76–2.99)	<0.001	8.24 (3.06–22.2)	<0.001	14.1 (5.04–39.6)	<0.001	3.7 (1.6–8.5)	<0.01
Major co-morbidities [†]								
No	1.0 (ref.)		1.0 (ref.)		1.0 (ref.)		1.0 (ref.)	
Yes	1.86 (1.55–2.24)	<0.001	2.54 (1.23–5.25)	<0.001	0.84 (0.36–1.98)	NS	1.06 (0.52–2.19)	NS

*Defined as dietary advice or information given relating to weight reduction in the practice.

[†]Major co-morbidities included diabetes, coronary heart disease, hypertension and dyslipidaemia.

Patient education literature

Only 36% of consulting rooms had weight management literature accessible for use during consultation. There were 65 different leaflets used for patient education across all practices (mean 3.80 leaflets per practice, range 0–8). Literature was from food and pharmaceutical industries (37%), local sources (26%), Health Education Authority (18.5%), Health Education Board for Scotland (6%), popular press (5%), Diabetes UK (1.5%), World Cancer Research Fund (1.5%), British Hypertension Society (1.5%) and unknown sources (3%).

Weight screening rates

In this section data on patient numbers with weight and BMI recorded and prevalence of obesity were available in 26 (*n* = 117 785, 57.1% of total population) of the 40 practices. Limitations with practice-based computer systems in the other 14 practices made data incomplete. Women were more likely than men to have weight (69.2% versus 57.0%; *P* < 0.001), or BMI (70.6% versus 57.7%; *P* < 0.001) ever recorded. Recording of BMI was greater than for weight, as some practice systems allowed entering of a calculated BMI

without the actual weight. Of patients with BMI recorded, prevalence of overweight (and not obese) was higher in men compared with women (36.6% versus 27.4%; $P < 0.001$) but prevalence of obesity was higher in women (15.8% versus 13.1%; $P < 0.001$).

Discussion

The study findings indicate that there is an under-recording of obesity as a diagnosis (ICD10 code E.66) in primary care and that weight management appears to be based on brief opportunistic intervention undertaken mainly by PNs. GPs and PNs feel obesity is worthwhile treating, but one-quarter of GPs are uncertain about their motivation to treat. This may reflect previous findings of widespread uncertainty amongst GPs about the effectiveness of different obesity interventions (Kushner, 1995; Hiddink *et al.*, 1995). While clinicians report the use of external sources of weight management support, in reality very few patients are referred, with practice-based counselling being the most common intervention. Poor access to good-quality patient education literature may also be a barrier to primary care involvement in obesity management.

Around one-third of GPs and PNs did not complete the questionnaire or participate in the structured interviews. Time pressures and being unavailable at the time of the study were the main reasons for nonparticipation. This is fairly typical of response rates in primary care. While very few clinicians refuse to take part because of lack of interest in the area, it is possible that the clinicians more involved in obesity management participated. It is also possible that clinicians may have overestimated the level of intervention they provide to obese patients. For example, half of the PNs claim to be able to provide individualized dietary prescription based on calculated energy needs. However, during upskilling sessions that followed the interviews, virtually no PNs were actually able to do this in practice. Clinicians may not have understood fully what was meant by various interventions, or felt under pressure to be seen to be providing a higher level of intervention than what was actually occurring. For these reasons

it is reasonable to assume that these results may overestimate the level of obesity intervention typically provided in UK primary care.

Overall, 64.2% of all patients had a BMI recorded in the 26 computerized practices. Less than half the expected number of overweight and obese patients were identified based on population survey estimates (Prescott-Clark & Primatesta, 1999). Our results will underestimate the number of patients weighed as we relied on searches on practice-based computer systems, which ignore weights or BMIs in free text or paper-based notes, and patients may have been weighed without recording. Some patients had a single weight or BMI more than 1 year old (42% >2 years; 19% > 5 years), and it is likely that a proportion of these patients will have increased in weight, a possible explanation for part of the low incidence.

Weight recording data was unable to be retrieved from 14 practices who were not fully computerized. There were no differences in terms of practice size or number of GPs and practice nurses in practices that were not fully computerized, and excluded from the analysis, compared with fully computerized practices. However practices volunteering for the Counterweight Programme might have a higher interest in, and therefore greater documentation of obesity, than average.

Why should obesity be under-recognized in primary care? Weighing scales in primary care are often limited to 125 kg (20 stone). The value of weight and height documentation has been disputed (Little, 1998), on the grounds that a high BMI is usually easily identifiable and the fear of stigmatization may result in reluctance to identify obesity as a clinical issue. Uncertainty of clinicians in managing obesity, and lack of evidence of effectiveness of weight management interventions in primary care, may also contribute (Galuska *et al.*, 1999; McArtor *et al.*, 1992; Little, 1998; Kushner, 1995; Hiddink *et al.*, 1995). The situation may be even worse, if heights and weights are self-reported by patients.

However, documenting BMI is necessary to quantify the scale of the problem and to assess progress in management. A failure to document is associated with a failure to intervene or counsel

(Galuska *et al.*, 1999; Himmel *et al.*, 1994). If obesity is not recorded, obesity-related symptoms may be misattributed and treated inappropriately. For example, breathlessness, oedema or depression caused by obesity often respond poorly to bronchodilators, diuretics or antidepressants, respectively.

In agreement with other studies, we found patients with co-morbidities and those with higher BMI are being prioritized for practice-based diet counselling and dietetic referral (Bourn, 2001; Nawaz *et al.*, 1999). Patients with co-morbidities may attend the practice more frequently and hence maybe more likely to receive diet counselling. Increasing demand from growing numbers of obese patients tax already limited GP, PN and dietetic time, with many dietetic departments declining to see obese patients who have not as yet developed co-morbidities. While prioritization of obese patients with co-existing conditions is appropriate, treating only those with co-morbidities means that prevention is largely ignored in this patient group. In contrast anti-obesity medication may have been driven by patient demand with more prescriptions given to younger patients with higher BMI and females, with no influence of co-morbidity status. Orlistat had not yet had National Institute for Clinical Excellence (NICE) endorsement at the time of the study, which may be a factor in the low prescribing rates.

Conclusion

Although the results should only be generalized with caution, bearing in mind the selective nature of the sample, our findings demonstrate that obesity is under-reported, and probably under-recognized in primary care. As very few patients are being managed outside general practice, it is crucial that primary care clinicians are well equipped to address weight management issues. The up-skilling and resourcing in obesity management and establishing locally endorsed guidelines are priorities. Studies on effective weight management interventions in primary care are clearly needed if general practice is to play a role in managing the obesity epidemic.

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Contributors

The WMAs contributed to study design and conducted the audit, co-ordinated by HR. The principle investigators in each centre are members of the project board (IB, Chairman; JPDR, Vice-Chairman) and designed the study. RL collated and analysed the data and wrote the first draft with JPDR and Dr A. Montazeri. All authors reviewed and contributed to the final manuscript.

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Competing interests

HGD, JB^{1,2,3,5}, RAL³, JPDR^{1,3}, PN³, SK^{1,2,3}, ELM-cC³, MEJL^{1,2,3,4}, FGL³, GSF⁵, MSQ³, JHB^{1,2,3,4}, SMH³, NF^{1,2,3,4,5}, HMR³ declare potential competing interests, where, ¹acted as consultants, ²have received lecture honoraria, ³have attended national/international meetings as guests of Roche Products Ltd, ⁴involvement as above with other pharmaceutical companies with an interest in obesity, ⁵research grant

HMR is employed by Roche Products Ltd, but reports to the Counterweight Project Board.

Appendix 1

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