Tackling obesity: the challenge of obesity management for practice nurses in primary care

Katie Phillips*, Fiona Wood and Paul Kinnersley

Institute of Public Health and Primary Care, School of Medicine, Cardiff University, Cardiff, UK.

*Correspondence to Katie Phillips, Institute of Primary Care and Public Health, Cardiff University, Third Floor, Neuadd Meirionydd, Heath Park Campus, Heath, Cardiff CF14 4YS, UK; E-mail: phillipsk15@cardiff.ac.uk

Received April 30 2013; Revised August 8 2013; Accepted August 25 2013.

Abstract

Background. Nurses in primary care, who see a large proportion of the population, are well placed to discuss weight with patients and offer management advice. Interventions to promote weight loss have shown that there are effective ways of making small changes for patients.

Objectives. To use qualitative semi-structured interviews to explore how practice nurses manage obesity within primary care and to identify good practice and explore barriers to achieving effective management.

Methods. Eighteen semi-structured interviews were conducted with practice nurses within two local health board areas in South Wales. Interviews were audio-recorded, transcribed and analysed qualitatively using a thematic approach.

Results. Nurses described two roles. One role was providing obesity management to patients who had co-morbid conditions and were seen regularly in chronic disease clinics. All nurses perceived that these patients needed their weight addressing routinely. The other role was to broach the subject with overweight but healthy patients. Nurses were of divided opinion whether to address obesity with these patients and what primary care had to offer. Weight management advice, when given, lacked consistency of approach.

Conclusions. Broaching the subject of weight opportunistically with healthy but overweight patients may require a deeper appreciation of their motivations for change and discussion beyond future health risks. These patients also need clearer follow up to monitor their progress with weight loss. All overweight patients also need clearer guidance tailored to their own particular circumstances as to how to lose weight. For patients being counselled about their weight, interventions that promote consistency of advice are advocated to improve care.

Key words: Communication barriers, health priorities, nurses, obesity, primary health care, qualitative methods.

Introduction

Over half the UK adult population could be obese in 2050 (1). In Wales as in other countries, higher prevalence of obesity is seen in more socially deprived regions. Areas of deprivation in South Wales, for example in the South Wales Valleys, have a prevalence of 63% overweight or obese, compared to neighbouring districts like the capital, Cardiff, with rates of 53% (2). Trends appear to be increasing at a similar rate in all geographical areas of Wales with a 2–3% increases in the proportion of those classified as obese over the last 7 years (2). Particularly, in deprived areas with higher baseline levels of obesity, this rate is alarming and has implications for increasing the burden of chronic disease as a consequence.

Primary care has been seen to be well placed to deliver obesity advice and management (3,4). Trials have evaluated interventions aiming to improve dietary advice, (5) exercise (6,7) or both. Interventions designed to increase patient readiness to change and increase motivation, confidence and understanding of the importance...
of change have also been evaluated (8,9). Educational interventions targeted at general practitioners are effective (10). Within the primary care team, there is evidence that intensive patient counselling with a dietician or nurse is more effective than low- or moderate-intensity clinician counselling (11). However, patients allocated to counselling by primary care clinicians had poorer results than those counselled by commercial weight loss professionals or by dieticians (12). Studies that have looked at primary care professional interventions in conjunction with other weight advisors have reported more positive results from a shared approach (13–15).

It is clear that interventions in primary care can improve obesity management but have shown only small results in weight change compared to other settings. This suggests that there may be difficulties involved in the obesity consultation in primary care that are not yet fully identified.

In Cardiff in South Wales, qualitative work done with young mothers suggests that public health messages such as the slogan ‘5 a day’ for fruit and vegetable intake are well known (16). However, these slogans are misinterpreted or purposely ‘adapted’ in order to fit in with lifestyles and preferences (16). For example, mothers might describe a ‘balanced meal’ as one which incorporates both unhealthy and healthy components. Patients may feel aware of healthy eating messages, but clearly interpret them in different ways.

Other work locally with primary care clinicians has evaluated simulated consultations where clinicians were asked to give advice on raised cholesterol levels and weight loss (17). This study illustrated that clinicians struggle to emphasize the importance of change and ‘what’ to change. Clinicians suggested a range of changes despite all undertaking a standardized scenario (17). If both the patient and the clinician have individual interpretations of healthy eating advice, it is unsurprising that the consultation lacks clarity and consistent weight loss is rarely achieved.

Practice nurses in the UK have a strong secondary prevention and disease management role and may be best placed to deliver weight management interventions (18). Systematic review of interventions to treat chronic disease risk factors associated with obesity suggests that nurses can affect positive changes in weight, blood pressure, cholesterol, dietary and physical activity behaviour and readiness for change (19).

We, therefore, set out to explore through qualitative semi-structured interviews the opinions and experiences of practice nurses managing obesity. We aimed to discuss the elements of good practice and the barriers for effective management from the nurses’ perspective with particular focus on who they counselled, how the topic was broached, and what the consultation included.

**Methods**

**Study design**

Semi-structured face-to-face interviews were conducted with 18 practice nurses in South Wales.

**Participants**

Nurses were included in the sample frame if they were a practice nurse currently working in either Cwm Taf Local Health Board (LHB) or Cardiff and Vale University Health Board (UHB). Health care in Wales is organized by 7 LHBs, each responsible for a geographical area of the country. The two LHBs chosen provide care for two geographically neighbouring areas in South Wales; Cardiff and Vale UHB covers the urban capital city and a mix of coastal and rural areas with varying affluence, and Cwm Taf LHB covers a different population including isolated ex-mining populations in the South Wales Valleys. The mix of patient populations afforded through sampling from these two LHBs was chosen to add breadth to the experience nurses would have. There were no age, gender, or experience sampling criteria and nurses who had extra qualifications to become ‘nurse practitioners’ with consulting and prescribing roles were eligible for recruitment, given their background of practice nursing and continued exposure to obesity management. More than one nurse from each practice was eligible to participate. No financial incentive was given.

We sent an e-mail to the lead nurses for each LHB and asked them to disseminate it to all practice nurses in the area. In Cwm Taf, KP attended a teaching afternoon for all nurses in the locality. Interested nurses contacted the research team by e-mail or phone.

We sent each nurse the Participant Information Sheet before the interview. Written consent was taken at the interview.

**Sample**

The Townsend Score (a measure to calculate deprivation based on multiple personal and societal factors) was used to describe the relative deprivation of each practice population recruited. Data accessed from Public Health Wales Observatory (20) were used to assign a score to each practice that a nurse was recruited from, based on the postcode of the practice. Scores in Wales range from −7.64 (the least deprived area) to 11.93 (the most deprived score). We assessed data saturation after 16 interviews and made a decision to continue recruiting to 18 interviews due to the relative under-representation of affluent areas in Cwm Taf.

**Designing the interview schedule**

Following a literature review and discussion within the research team of the aims of the project, we designed an interview schedule (Appendix 1) incorporating a diagram based on a tool previously used in body-morph research (21). The body-morph diagram was used to facilitate discussion of which patients the practice nurse would approach. The diagram showed lines of Caucasian women and men with body sizes ranging from
underweight to obese in sequence. Participants were asked to focus on the overweight end of the spectrum and discuss who they would counsel in a variety of situations.

The interview schedule was piloted with a practice nurse and two questions adapted. The final interview schedule was piloted with another practice nurse and data from this interview were incorporated into the data analysis.

Analysis

Interviews were conducted, anonymized and transcribed by KP. Thematic analysis was adopted for analysis (22). A field diary and research diary were kept during data collection and informed inductive development of data themes as the interviews progressed. Data immersion during transcription and reading of all interviews also aided theme development. Provisional themes of ‘who is being counselled?’; ‘how is counselling being approached and done?’ and ‘what counselling is given?’ were generated. Transcripts were read again by KP, FW and PK and themes validated. Data were then coded under these major themes, with subnodes agreed and modified iteratively (Box 1). NVivo was used to manage data by constructing an accessible code book to assist in coding and extraction during analysis (23). Node labels and definitions were discussed before inputting data into NVivo in order to tighten definitions and explicate themes from each other as much as possible. When 10 of the interviews had been coded by KP, and FW used the coding stripes function in NVivo to check for appropriate standard of coding.

Box 1. Major themes and subthemes emerging from data analysis

Who are nurses discussing weight with?
   Who is primary care seeing?
   Opportunities to discuss weight with patients
   Priority patients to target

How are nurses discussing weight?
   Approaching the subject
   Relationships with patients
   Risk language used in discussion with different groups of patients
   Strategies for discussing weight with patients
   Guiding or directing patients to making lifestyle changes
   Monitoring patients

What is being discussed with patients?
   Dietary advice given
   Exercise advice given

Member validation

A member validation exercise was conducted. Participants received an anonymized summary of the project’s results and were asked to note their agreement/disagreement. Feedback was provided via an on-line survey.

Results

Respondent characteristics

A total of 18 nurses across the two health boards agreed to participate. Of the 18 nurses, 11 worked in Cardiff and Vale UHB (out of all nurses in the area, this is a response rate of 7%) and 7 worked in Cwm Taf LHB (response rate 8%). All participants were female. Sixteen percent of participants had <5 years of experience, 16% had 5–10 years of experience, 61% had 10–20 years of experience and 5% had >20 years of experience. Five participants (28%) had nurse practitioner roles above their practice nurse duties. Fourteen of the participants (78%) declared a specific interest in obesity management, with four (22%) reporting that they had previously run specific weight clinics and three (17%) being involved in obesity research in the past. During the course of the interviews, eight participants (44%) reported some training in brief interventions for smoking or alcohol counselling, which they used in weight counselling or an awareness of the principles of motivational interviewing.

The Townsend Index for each practice was recorded (Fig. 1). Positive scores on the scale reflect increasing deprivation, and negative scores reflect increasing affluence. There were more nurses from affluent areas participating in the study in Cardiff and Vale UHB than in Cwm Taf, which is representative overall of the areas.

Who are nurses discussing weight with?

Who is the primary care service seeing?

Nurses reported seeing a wide range of patients with whom they discussed weight reduction. These included people seeking advice about their weight and people who did not raise weight as an issue to be addressed.

Opportunities to discuss weight with patients

Nurses reported that a group of patients who consistently received weight advice was those attending chronic disease clinics. These patients received weight advice routinely. Patients newly diagnosed with hypertension or high cholesterol levels were also targeted. Similarly, nurses reported feeling a duty to address the issue of weight when patients presented with related problems such as painful knees, hips and backs.

There were times when patients consulted and weight was discussed even if not directly related to their presentation. Examples were new patient checks, medication reviews,
contraceptive pill checks, cervical smear appointments, immunization clinics and travel clinics. The nurses reported finding computer screen prompts to weigh patients generally useful. However, there was still concern that weight needed to be linked into discussion with a patient rather than approached opportunistically.

Fifteen nurses said they would not discuss weight with someone attending with a minor ailment largely due to time constraints. The second reason commonly reported was not being able to link weight to the presenting problem. Nurses feared stigmatizing the patient and jeopardizing the patient–nurse relationship. The following quote illustrates a nurse’s expectation of the patient being upset or alienated if the subject were broached in this unrelated fashion.

No, if they were coming for something completely unrelated because they would probably have had plenty of people doing it to them already, and it will have [annoyed them] to be quite honest. If I went to the doctors with conjunctivitis and had a weight problem I would be pretty [annoyed] to be quite honest if you then started telling me about my weight. (Participant 06)

Priorities for weight discussions
Nurses were unclear whether to target overweight healthy patients or the obese patients with co-morbidities. Three nurses from areas of high deprivation reflected that their practices were so burdened with patients who were very obese and had diabetes and other medical problems that the service could not accommodate overweight patients who were otherwise healthy. In practices where the nurse’s time was spent mainly with those who had a body mass index (BMI) >35, the perceived risk of those in the BMI 25–30 category was reduced as a consequence.

I think sometimes we can be a little bit extreme and a little bit looking for the perfect readings of BMIs and things. I think they are slightly extreme. I think we’re slightly unrealistic. ... I’ll look at them and think sometimes ‘well, you’re really not that bad’ but that is compared to what I’m dealing with in my weight management clinic and they’re not that bad compared to what I’m seeing. (Participant 11)

There was, however, consideration by some nurses of the potential importance of counselling healthy patients who were overweight.

I just feel that if we can catch people early before – when it’s only half a stone they need to lose rather than 5 stone, it would make sense to me that that’s going to be an easier process and hopefully a process that is preventing ill health and complications. (Participant 09)

How are nurses discussing weight with patients?
Broaching the subject
Nurses felt that they were skilled at assessing readiness to change in patients. They reported they did this for patients for weight loss as well as for smoking cessation and alcohol advice. Nurses also used personal experiences with their own weight loss to demonstrate empathy and understanding. Nurses reported broaching the subject indirectly, perhaps by asking the patient...
to be weighed, or during other activities such as during blood pressure readings. Negative experiences affected how willing the nurses were to raise the topic.

Relationships with patients
Many nurses reported the need to build a close relationship with patients, both to allow them to discuss certain aspects of obesity and to enable patients to be honest and open. Words such as ‘obese’ were only felt to be acceptable within a good relationship with the patient. Only two nurses queried the necessity of a close relationship. Familiarity was not always seen as a positive influence, and in three cases, weight loss clinics had been stopped because patients were coming for the social interaction and not losing any weight.

Risk communication
All nurses reported that they discussed the dangers of obesity with their patients in terms of cardiovascular health and other medical risks. This was true for patients who already had medical complications and for patients who were healthy but overweight. Nurses agreed that often patients did not respond to discussions about future risk of illness. There was little consensus of opinion on whether there were better ways to discuss weight with patients who had no medical complications.

Four nurses, however, gave suggestions for alternative discussions to engage people with the more immediate benefits of losing weight. These suggestions focused on the components of good nutrition, or on addressing symptoms like lethargy and constipation. Self-esteem and self-image were given as topics discussed with younger patients. Goals for weight loss were linked to events happening in patients’ lives, such as losing weight for a special occasion.

Strategies for discussing weight with patients
Despite using behaviour change strategies, the nurses reported varying levels of success getting patients to engage with lifestyle changes. A few specific strategies taken from motivational interviewing were considered to be helpful, such as assessing motivation and confidence to change. A common barrier cited was patient expectation of ‘quick fixes’ such as specific diet plans and medication. One nurse also commented that for very obese patients, there was an expectation that behaviour change should be done, but in reality, it is not likely to work. This is illustrated in the quote below, highlighting frustration with current approaches.

If he [the patient] was 5 stone you’d be admitting him [to hospital] and addressing his issues. But nearly at 35 stone no one is doing anything and it’s perceived that he can’t stop but nobody can help. You can’t say ‘you know, you should eat less. (Participant 15)

Guiding or directing patients to changes
When patients came into the consultation requesting medication or specific diet sheets, some of the nurses suggested that this would be counterproductive and that the patients needed to consider potential adaptations to their lifestyles in order for weight loss to be sustainable. This is illustrated in the quote below, where a nurse discusses patient understanding as inappropriate for change.

People do often want direction. They want quite a prescriptive diet plan rather than the general principles. That, I think, is to make things easy for themselves. ‘Eat this’ – I’d imagine, though I don’t know, that people don’t stick to very restricted diets. But that’s what they think they want. They don’t feel they can take away the general principles of this, this and this and then transfer them to their own lives. They want you to tell them. (Participant 10)

Although all nurses reported giving encouragement to patients to generate changes they could do themselves, in practice this was seen to be hard. Some patients did not have an adequate knowledge base or understand the general principles of healthy eating and exercise well enough to apply them to their own lifestyles. It took time to teach patients these principles to a level where the patient became capable of making appropriate suggestions for behaviour change, creating a barrier in busy clinics.

Many of the nurses reported that patients identified changes they should make but struggled to see how they could succeed.

Most people will come at you with the answers but then you’ve got to try and tell them how they can implement it which is the difficult bit. (Participant 08)

Monitoring patients for weight loss
Strategies for monitoring patients varied. There was little consensus regarding an optimum follow-up time, but patients with chronic disease tended to be followed up more regularly. For healthy patients, follow up was often with an ‘open door policy’ when the patients could refer themselves back to have their weight checked whenever they wanted. Specific weight loss clinics, in three of the four examples given, were unsuccessful with high drop-out rates and little effective weight loss observed. The one successful clinic involved clear goals, specific measurements to monitor, and clear plans regarding follow-up timings but was described as very labour intensive.

Two individual nurses incorporated ‘home tasks’ into weight loss monitoring to increase patient participation and motivation such as using smartphone apps, recording waist and other body measurements, and food diaries.

A variety of outcomes for monitoring weight were discussed. Some nurses described avoiding weight targets and aimed for improved general wellbeing or continued motivation as the primary target. Other nurses based outcomes around weight loss,
either accepting any weight loss as a benefit or describing clear targets. These targets varied between 5% and 20% weight loss. The time patients were given to achieve these targets varied from stopping follow up if they put on weight or did not lose weight over two consecutive meetings, to having no fixed timescale. Five nurses reported they measured biochemical markers such as cholesterol and glucose levels.

What is being discussed with patients?

Dietary advice
All nurses agreed on the ‘calories in versus calories out’ concept of weight loss advice, promoting dietary changes and increased activity levels. This advice was adapted and tailored to individual patients as the following quote demonstrates:

You gauge the patient on that first meeting. So if they, ‘I don’t know what I’m doing’ then you kind of make it to suit – you know, you go back to basics. Right, we’ll do a food diary, we’ll do this week, I give them little goals. But if you get patients that come in and say ‘Look, I’ve done weight-watchers, I know what I should be doing, I know what I shouldn’t be eating and I know I should be exercising, and I know I should be doing this and this’ And they’ve got more of an idea, then you do it a little bit differently. You say, ‘OK, lets try this’. Your approach with them is slightly different because of their knowledge. (Participant 01)

Specific advice varied between nurses. In general, they reported discussing healthy eating, portion size, substituting high fat and high sugar foods for healthier options, promoting five portions of fruit and vegetables a day and eating regularly. Box 2 summarizes a collated list of advice discussed by nurses.

Weight loss clubs in the community had mixed support from the nurses. Some felt as if they promoted a ‘quick fix’, which was unhelpful for sustaining weight loss. Other nurses supported the service as a good resource in the community for individual patients who respond well to the group setting and motivation.

Exercise advice
The nurses in this study all promoted activity that patients could enjoy, incorporate into their daily lives and sustain. They emphasized small changes and increasing intensity over time. Specific recommendations included walking, swimming and leisure centre classes. Home exercise was recommended by four nurses, and particularly tailored in areas of higher ethnic mix to women who were limited in taking up group exercises in the community.

The majority of nurses described barriers generated by patients, which restricted the uptake of the recommended 30 minutes of moderate activity five times a week. The following quote describes a problem with patient engagement. Patients referred to the National Exercise Scheme were thought not to understand that exercise needed to be done outside of these two sessions a week.

We do refer people to the gym as well. A lot of people don’t like that they have to pay, I think they have to pay £1.50, a lot of people begrudge paying that. They have to go twice a week as well to stay on the programme. What they’re doing – they’re not doing any exercise in between those times, because when you ask them they say ‘no, I’m going to the gym twice a week’, and they think that’s all they have to do. (Participant 14)

For morbidly obese patients, nurses reported struggling with exercise advice. In two cases, nurses reported encouraging arm and leg exercises while sitting, and one nurse reported encouraging getting up to switch channels on the television rather than using a remote. Many of the nurses interviewed offered dietary rather than exercise advice to this group of patients with little confidence that exercise could be effective.

Discussion
This qualitative study of 18 practice nurses’ experience of weight loss management in primary care highlights diversity in opinion on how best to talk about weight loss and a lack of effective, clear messages for change. Nurses identified two roles. They all identified the importance of routinely providing obesity management to patients who had co-morbid conditions and were seen regularly in chronic disease clinics. The other role was to broach the subject with overweight but healthy patients. However, the nurses were of divided opinion about the benefits of raising obesity management with this group of patients. Weight management advice, when given, lacked consistency of approach.

Initiating discussions of weight in consultation
Particular uncertainty exists around whether to approach patients who are healthy with no co-morbid medical illness but who are at risk because of their weight. A paradox exists, with the nurses not wanting to alienate the patient but also feeling that weight loss may be more achievable and sustainable at this stage than if weight increases above a BMI of 30kg/m² or if co-morbidity develops.
We have confirmed that patients with co-morbidities are significantly more likely to be approached about their weight than patients with no co-morbidities (24). This is despite awareness that patients, particularly women, acknowledge weight problems and are willing to discuss weight with primary care clinicians (25). Personal attributes in nurses such as their own weight can affect the consultation, (26) illustrating the complex problem unique to weight loss consultations. From this study, key factors in overcoming these complexities appear to include feeling confident that a good relationship has been established with the patient before the subject of weight is addressed and discussing weight in relation to medical complications that can arise.

This medical approach to discussing weight, even broaching the topic by saying ‘your weight may be damaging your health’, (27) is interesting in the context of patients who are overweight but healthy. Nurses in this study recognized that often it is a social event such as a wedding that provides incentive for patients to consider weight loss rather than future risks of hypertension, diabetes or other conditions. The nurses, however, prefer to raise obesity as a medical issue, feeling more comfortable with that and less likely to offend the patient. This gap between a patient’s motivation to lose weight and the nurses’ view of the importance of future medical risks may be wide. The nurses’ report feeling that patients are asking for prescriptive advice as they would for other medical conditions and this may be as a consequence of their ‘medical’ approach. Initiating the subject of weight loss by discussing wider aspects of an individual’s understanding of obesity may improve patient engagement. Developing the ‘risk language’ that nurses use with patients may inform what then gets discussed and improve the quality of individually tailored advice (28).

Applying a motivational interviewing perspective, this group of patients may consider losing weight for health reasons as being of relatively low importance (29). This means that if the nurses assume a higher level of importance and focus on confidence to change their efforts will be unsuccessful. Interventions focusing on raising importance both about health and accepting the patient’s own motivations may be more effective.

Weight loss advice
Price et al. (30) reported 25 years ago that clinicians’ approach to obesity management was to advise patients to decrease calorie consumption, increase physical activity, consider weight loss groups and refer patients to dieticians. This approach is still supported by national guidelines (28). The nurses in this study were providing advice to patients consistent with this approach. However, the interviews identified at times there was difficulty giving advice to patients, especially when the nurses tried to tailor the advice to particular patients such as the morbidly obese for whom exercise is very difficult.

Lack of clarity discussing healthy eating has been previously documented (17,31,32). Trying to help the patient assess what changes to make but eventually making directive suggestions for them could make the consultation confusing and unproductive. Interventions currently being trialled, such as incorporating a comprehensive list of the top 10 tips for healthy eating into the consultation, (33) may go some way toward addressing these inconsistencies.

Follow up
The majority of nurses’ workload in the South Wales areas sampled for this project was concentrated on obesity management with patients who had related co-morbidities. These patients are under regular follow up in nurse-lead chronic disease monitoring clinics and national guidelines form prompts to address weight as part of ongoing management (28). However, within this follow-up system, there was little consistency in approach to how best weight loss should be monitored and this is mirrored in other literature (17).

This study suggests interactions with well patients who are overweight do not have the same continuity of care as patients with co-morbidities. These patients may not present again for long periods of time and intervention may need to be brief. Various efficient, cost-effective strategies are being investigated (7). If studies show that commercial weight loss professionals produce similar or more effective weight changes than primary care clinicians, (12) perhaps the role of primary care for this healthy group of patients is to highlight concern, increase confidence and motivation to change, and recommend follow up in weight loss groups.

Strengths and limitations
Design of study
Comparing individual interviews enables comparison of opinions and practices. Volunteer nurses from two LHBs were interviewed so that the study covered a wider area and included more variation in patient populations and deprivation as well as nurse experience, improving the breadth of results and theoretical generalizability. Member validation was sought once results had been analysed and all respondents felt that the results represented their views.

Reporting bias
Interviews are at risk of reporting bias with participants wishing to portray themselves as good clinicians. Reporting bias in the study could overestimate the range of advice that nurses discussed giving to patients. This study, however, enables analysis of whether nurses perceive difficulties in obesity management and if so, where these were seen to lie. Nurses actively volunteered for the study, which reduces chances of reluctance to discuss these issues.
Participation bias
The opt-in design of this study could bias the results through recruiting nurses who have more interest and confidence in the topic, as reflected in the response rate with a high proportion of nurse practitioners and those who had experience of running obesity clinics in the past or had researched the topic during degree studies. However, understanding the opinions and experience of the most knowledgeable or confident nurses on this topic is perhaps a benefit since it was hoped to discuss ways in which nurses anticipate barriers and manage these effectively.

Conclusions and recommendations for future research
This small-scale qualitative study suggests that nurses are aware of national guidelines in managing adult obesity (28) but illustrates that there is a wide variety in individual clinician interpretation and discussion with patients. The interviews conducted in this study suggest two key roles in obesity management that practice nurses are well placed to perform. A priority role, which already demands nurse time and resources, is with patients who have obesity-related co-morbidities. Improving clarity of information on healthy eating and physical activity for this group of patients is necessary, in line with developing effective and cost-effective interventions that nurses can confidently implement. The second important role is in identification of patients who are overweight and healthy. This patient group is not routinely approached about their weight. However, the potential to halt the development of co-morbidities through healthy eating and increased physical activity is compelling. Interventions to bring the importance of healthy weights to patients’ awareness early on may be very cost-effective and improve quality of life along with reduction of co-morbid states. These interventions, particularly improving the risk language nurses have to engage patients about their weight, and that aim to improve an understanding of the importance of change, merit further investigation in future.

Acknowledgements
The authors would like to acknowledge the contribution of the 18 practice nurses who participated in this study.

Declaration
Funding: This project was not externally funded.
Ethical approval: Ethical approval was granted by Cardiff University School of Medicine Research Ethics Committee. SMREC Reference 12/25. Both Cardiff and Vale UHB and Cwm Taf LHB gave permission through the R&D office via the NISCHR Permissions Coordinating Unit, NISCHR PCU Ref: 108592.
Conflict of interest: none.

References
1. McPherson K, Marsh T, Brown M. Modelling Future Trends in Obesity and the Impact on Health. London, UK: Foresight, Government Office for Science, 2007.
2. WHS. Welsh Health Survey 2011. www.wales.gov.uk/topics/statistics/headlines/health2012/ (accessed on 5 December 2012).
3. Stafford RS, Farhat JH, Misra B, Schoenfeld DA. National patterns of physician activities related to obesity management. Arch Fam Med 2000; 9: 631–8.
4. Ward R. Talking with your patients about dietary cholesterol, diet and nutrition: best practices for family physicians. Int J Clin Prac 2009; 63: 22–26.
5. Brunner E, Rees K, Ward K, Burke M, Thorogood M. Dietary advice for reducing cardiovascular risk. Cochrane Database of Systematic Reviews 2007, issue 4. Art. No.: CD002128. doi:10.1002/14651858
6. Shaw K, Gennat H, O’Rourke P, Del Mar C. Exercise for overweight or obesity. Cochrane Database of Systematic Reviews 2006, issue 4. Art. No.: CD003817.
7. Garrett S, Elley CR, Rose SB, O’Dea D, Lawton BA, Dowell AC. Are physical activity interventions in primary care and the community cost-effective? A systematic review of the evidence. Br J Gen Pract 2011; 61: e125–33.
8. Hardcastle S, Blake N, Hagger MS. The effectiveness of a motivational interviewing primary-care based intervention on physical activity and predictors of change in a disadvantaged community. J Behav Med 2012; 35: 318–33.
9. Butler CC, Simpson SA, Hood K et al. Training practitioners to deliver opportunistic multiple behaviour change counselling in primary care: a cluster randomised trial. BMJ 2013; 346: f1191.
10. Flodgren G, Deane K, Dickinson HO et al. Interventions to change the behaviour of health professionals and the organisation of care to promote weight reduction in overweight and obese people. Cochrane Database of Systematic Reviews 2010, issue 3. Art. No.: CD000984. doi:10.1002/14651858.
11. Tsai AG, Wadden TA. Treatment of obesity in primary care practice in the United States: a systematic review. J Gen Intern Med 2009; 24: 1073–9.
12. Jolly K, Lewis A, Beach J et al. Comparison of range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: lighten up randomised controlled trial. BMJ 2011; 343: d6500.
13. Hardcastle S, Taylor A, Bailey M, Castle R. A randomised controlled trial on the effectiveness of a primary health care based counselling intervention on physical activity, diet and CHD risk factors. Patient Educ Couns 2008; 70: 31–9.
14. Bennett GG, Herring SJ, Paleo E, Stein EK, Emmons KM, Gillman MW. Web-based weight loss in primary care: a randomized controlled trial. Obesity 2010; 18: 308–13.
15. Wadden TA, Volger S, Sarwer DB et al. A two-year randomized trial of obesity treatment in primary care practice. N Engl J Med 2011; 365: 1969–79.
16. Wood F, Robling M, Prout H, Kinnearley P, Houston H, Butler C. A question of balance: a qualitative study of mothers’ interpretations of dietary recommendations. Ann Fam Med 2010; 8: 51–7.
17. Phillips K, Wood E, Spanou C, Kinnearley P, Simpson SA, Butler CC; PRE-EMPT Team. Counselling parents about behaviour change: the challenge of talking about diet. Br J Gen Pract 2012; 62: e13–21.
18. Brown I, Psarou A. Literature review of nursing practice in managing obesity in primary care: developments in the UK. *J Clin Nurs* 2008; 17: 17–28.
19. Sargent GM, Forrest LE, Parker RM. Nurse delivered lifestyle interventions in primary health care to treat chronic disease risk factors associated with obesity: a systematic review. *Obes Rev* 2012; 13: 1148–71.
20. PHWO. LSOA Townsend Deprivation Scores. www.wales.nhs.uk/sitesplus/922/page/49861. (accessed on 20 June 2013).
21. Bulik CM, Wade TD, Heath AC, Martin NG, Stunkard AJ, Eaves LJ. Relating body mass index to figural stimuli: population-based normative data for Caucasians. *Int J Obes Relat Metab Disord* 2001; 25: 1517–24.
22. Green J, Thorogood N. *Analysing Qualitative Data. Qualitative Methods for Health Research*. London, UK: SAGE Publications Ltd, 2004.
23. NVivo. NVIVO Qualitative Data Analysis Software [Program]. Version 8. Burlington, MA: QSR International Pvt Ltd, 2008.
24. Flocke SA, Crabtree BF, Stange KC. Clinician reflections on promotion of healthy behaviors in primary care practice. *Health Policy* 2007; 84: 277–83.
25. Potter MB, Vu JD, Croughan-Minhane M. Weight management: what patients want from their primary care physicians. *J Fam Pract* 2001; 50: 513–8.
26. Brown I, Thompson J. Primary care nurses’ attitudes, beliefs and own body size in relation to obesity management. *J Adv Nurs* 2007; 60: 535–43.
27. Swift JA, Choi E, Puhl RM, Glazebrook C. Talking about obesity with clients: preferred terms and communication styles of U.K. pre-registration dieticians, doctors, and nurses. *Patient Educ Couns* 2013; 91: 186–91.
28. NICE. NICE clinical guideline 43. *Obesity* 2006.
29. Miller WR, Rollnick S. *Motivational Interviewing: Preparing People for Change*. New York, NY: The Guilford Press, 2002.
30. Price JH, Desmond SM, Krol RA, Snyder FF, O’Connell JK. Family practice physicians’ beliefs, attitudes, and practices regarding obesity. *Am J Prev Med* 1987; 3: 339–45.
31. Allen Greiner K, Hall S, Hou Q, Ahluwalia JS. Discussing weight with obese primary care patients: physician and patient perceptions. *J Gen Intern Med* 2008; 23: 581–87.
32. Noordman J, Koopmans B, Korevaar JC, van der Weijden T, van Dulmen S. Exploring lifestyle counselling in routine primary care consultations: the professionals’ role. *Fam Pract* 2013; 30: 332–40.
33. Beeken RJ, Croker H, Morris S et al. Study protocol for the 10 Top Tips (10TT) trial: randomised controlled trial of habit-based advice for weight control in general practice. *BMC Public Health* 2012; 12: 667.

**Appendix 1 Finalized interview schedule**

**General questions**
Can you tell me about your exposure to obesity in this practice?
How much of your workload relates to obesity?
Do you enjoy working within the field of obesity and its management?

**When to bring up obesity**
Could you please estimate which of these bodymorphs is over a BMI of 25 and which one is over a BMI of 30?
What makes you bring up the topic with a patient? (e.g. ‘is it seeing the patient walk in, or knowing they have hypertension/high cholesterol/diabetes/chronic disease?’)
When do you bring up the topic with a patient?
If you notice that a patient is overweight but is coming for another reason which is unrelated to their weight, do you bring it up?
How do you bring it up?

**Awareness of topic**
Where do you access information about obesity?
Do you ever get asked about referrals for obesity surgery or medications? How do you manage these?

**Practice**
What advice do you give?
What diet advice do you give? Can you give examples for individual patients where you have adapted this?
What exercise advice do you give? Can you give examples for individual patients where you have adapted this?
Does this change depending on the age of the patient you are seeing?
When you are giving advice, what outcome are you hoping to achieve?

**Summary questions**
Have you got positive/negative examples of discussions that you’ve had feedback on from patients? – either by their comments or by their behaviour.
Do you feel alone or part of a team when managing obesity?
What would help?