safefood

Weight management in primary care

Summary report

be safe be healthy be well

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    - Royal College of Nursing Northern Ireland
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    - The Association of Occupational Health Nurse Practitioners United Kingdom (UK)

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Introduction

Obesity - a public health issue

Worldwide, it is estimated that nearly 43 million children under the age of 5 years are overweight or obese and 1.5 billion adults, 20 years and older are overweight or obese (1). The island of Ireland (IOI) is no exception, with approximately two in three adults and one in four children being overweight or obese (Table 1).

Table 1 Rates of overweight and obesity among children and adults in NI and ROI

	Overweight* (%)	Obesity* (%)
Northern Ireland		
Adults (age 16 years+) (2)	36	23
Children (age 2-15 years) (2)	19	8
Republic of Ireland		
Adults (age 18-64 years) (3)	37	24
Children (age 7 years) (4)		
• Boys	13	5
• Girls	19	7

* Based on World Health Organisation (WHO) Body Mass Index (BMI) classification (5): underweight, BMI <19.9kg/m^2; normal weight, BMI 20-25.0 kg/m^2; overweight, BMI 25.1 – 29.9 kg/m^2; obese BMI >30.0 kg/m^2) with the International Obesity Taskforce (IOTF) cut-offs for BMI (6, 7) being used to determine body weight category for individuals <18 years.

Effect of obesity on health

The health consequences of obesity are many and varied, ranging from an increased risk of premature death to a range of debilitating illnesses that have an adverse effect on quality of life (8). It increases the risk of diseases such as Type 2 diabetes, cardiovascular disease and certain cancers (9, 10). Other health impacts of excess weight in which there is emerging evidence include asthma, gallbladder disease, osteoarthritis, chronic back pain, infertility, maternal and foetal mortality and morbidity (10-12). Body weight status during childhood and adolescence are important risk factors for the presence of adult overweight or obesity and the associated risks of increased morbidity and mortality (13).

Perception of overweight and obesity

While the prevalence of overweight and obesity has increased steadily in recent years, there is a growing body of evidence that a large proportion of the population may fail to identify themselves (14-17) or their children as overweight or obese (18-21). Despite two in every three adults being overweight or obese on IOI, less than four in ten adults actually believe that they are overweight (22). Research has shown that children and teenagers who are overweight are unlikely to see themselves as such (23, 24). In addition, parents of overweight children have been found to report that their children are 'about the right weight' for their height (23), with one study finding that 82 per cent of parents did not recognise their children's increased weight (25). This can happen for a variety of reasons such as overweight becoming visually and socially acceptable and, as a result, people often not recognising that they are carrying excess weight themselves (26). This may constitute an important barrier to dietary and lifestyle change.

Role of health professionals in identifying overweight and obesity

Health professionals are a key point of contact for adults and children regarding health matters. In the United Kingdom (UK) it is estimated that two thirds of the population visit their primary health care centre each year (27). In Northern Ireland (NI) and Republic of Ireland (ROI) the average number of GP visits per person yearly is 3.8 and 3.2, respectively (28). There is evidence to support a role for primary healthcare professionals in the management of obesity and overweight (29). The two policy documents which provide an obesity prevention framework for both NI (30) and ROI (31) have identified health professionals as playing a role in identifying, treating and preventing overweight and obesity. Within NI there are guidelines from the National Institute of Clinical Excellence (NICE) which advises health professionals on the level of interventions to discuss with the patient based on an initial assessment of their body mass index (BMI) and waist circumference (32). These interventions

range from giving general advice on healthy weight and lifestyle to considering drugs and surgery for treatment. In ROI, The Health Service Executive (HSE) and the Irish College of General Practitioners (ICGP) have developed a Weight Management Treatment Algorithm which provides guidance for GPs and primary care staff to assist in the prevention, detection and management of overweight and obesity in the community (33).

Attitudes of health professionals towards overweight and obesity

International studies have found that health professionals can have quite a strong assertion towards overweight and obesity (34-38). This is in relation to how they view their role in its management, with GPs believing that obesity does not belong within the medical domain (35), their low self-efficacy in advising patients about weight management (36-38) and their negative attitude towards overweight and obese patients (36-38). This may impact on both their approach and the type of advice that they give on weight management to their patients.

Purpose of this research

The aim of this research was to explore the current attitudes and skills of primary care health professionals on the island of Ireland towards weight management with a view to supporting them in identifying, treating and managing the public health challenge of overweight and obesity.

1 Overview of study

The objectives of this study were two-fold:

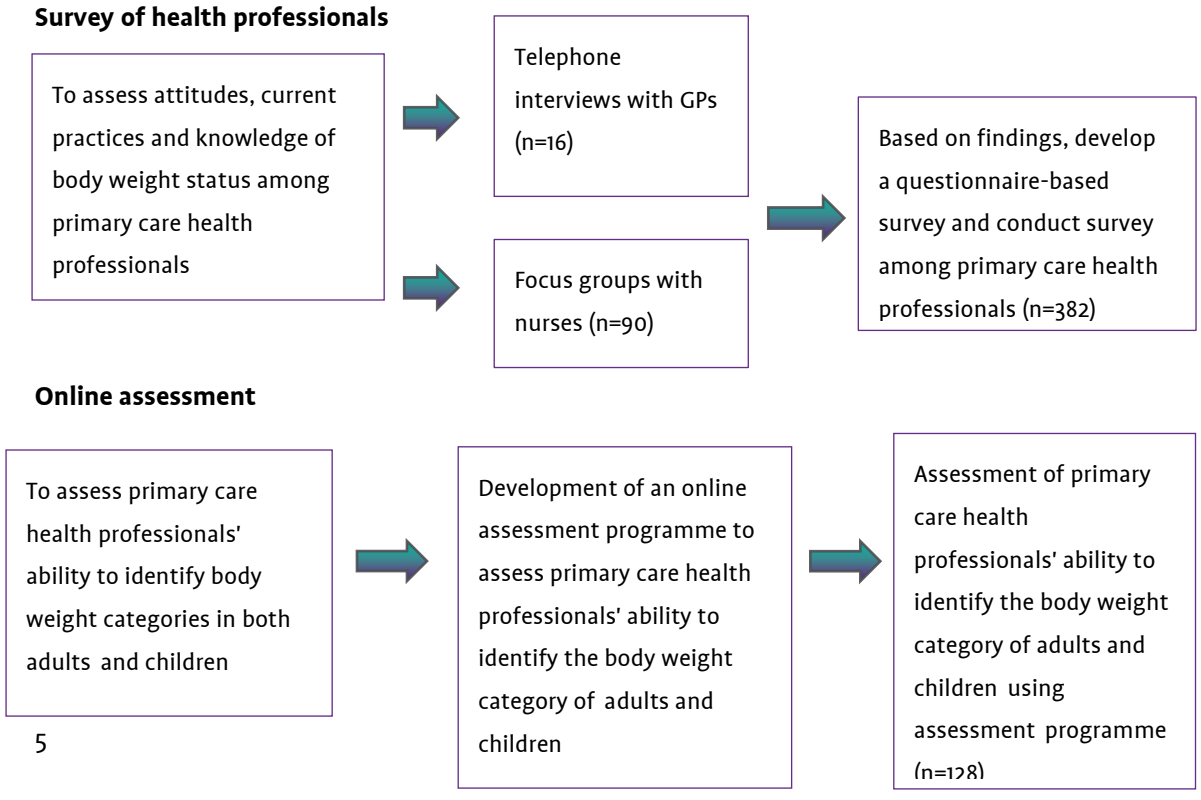
1. To assess attitudes, current practices and knowledge of body weight status among primary care health professionals.
2. To assess primary care health professionals' ability to identify body weight categories in both adults and children.

The target health professionals were as follows:

- Public health nurses (community)
- Public health nurses (schools)
- GPs and practice nurses
- Occupational health nurses.

In order to achieve the study objectives a mixed methods study using both quantitative and qualitative research methods was conducted. An overview is given in Figure 1.

Figure 1 Objectives of the study and corresponding methods



Ethical Approval

This project was approved by seven ethical/research governance committees: School of Communication, University of Ulster; Office for Research Ethics Committees Northern Ireland (ORECNI) NHS REC 1; Belfast Health and Social Care Trust; Western Health and Social Care Trust; National University of Ireland, Galway; Health Service Executive, University College Hospital Galway; and the Irish College of General Practitioners.

2 Survey of primary care health professionals

Methods

Approach

Initially, one-to-one interviews with GP's and focus groups with nurses were conducted to understand some of the issues in assessing the weight of their patients. The findings from these interviews and focus groups were then used to develop a questionnaire survey. The aim of the survey was to explore primary care health professionals' attitudes, current practices and knowledge of assessing their patients' weight.

Recruitment of participants

A study website was developed to support recruitment of participants. Health professional bodies, health trusts and centres, university nursing programmes, advertisements and articles in health professional bulletins/newsletters/websites and attendance at staff meetings, workshops and conferences were the methods used to recruit participants.

Interviews with GPs and nurses

GPs and nurses were interviewed by different means to take into account the most convenient way of engaging them. Individual telephone interviews were conducted with GPs and focus groups were run with nurses.

The interviews with GPs followed a questionnaire format whereby they were asked both open-ended and closed questions. The questionnaire included the Antifat Attitude (AFA) questionnaire (39) and the Attitudes Towards Obese Persons (ATOP) scale (40).

The focus group discussions took place in health centres, hospitals or universities which were convenient to the participants. All focus groups were recorded with participants' permission. An interview guide was used to lead discussion.

The questionnaire survey

Once the information from the interviews with GPs and focus groups with nurses was collected and analysed, a questionnaire-based survey was developed and piloted.

This survey explored primary care health professionals' views on the following:

- Assessing their patients' body weight: where and how they measure, the frequency and tools used
- What they consider to be the causes of overweight and obesity
- Knowledge and training around weight management
- Issues around discussing and tackling overweight and obesity with patients.

The questionnaire also included the AFA questionnaire (39) and the ATOP scale (40).

Procedure

The questionnaire was available to complete online on the project's website or by hard copy.

Sample size

Based on previous research (41-43), the response rate for online surveys with health professionals is around 50 per cent. Given a confidence level of 95 per cent and a confidence interval of ±5 an overall sample size of 364 was required to give a representative sample of community-based practitioners.

Data analysis

Quantitative data was analysed using SPSS Version 19. Descriptive statistics and frequencies were used to summarise quantitative data. Data was statistically analysed by region (NI/ROI), health professional group, age, gender, years of experience, and BMI of the health professionals, using chi-square, Spearman correlations, Mann-Whitney and Kruskal-Wallis tests, as appropriate. Qualitative

data was transcribed and analysed using computer software NVivo 9. The data was examined using thematic analysis (44).

Results

Interviews with GPs

In total, 16 GPs participated in the telephone interviews, with eight each from NI and ROI. Table 2 shows the demographic information of the GPs. They were asked to provide their own weight and height and their BMI was calculated. The average BMI for all participants was 24.8 (within the normal weight range).

Table 2 Gender and mean (standard deviation) age, years of clinical experience and BMI of GPs (n=16)

Gender		Age (years)			Years of clinical experience			BMI*		
M	F	Total	ROI	NI	Total	ROI	NI	Total	ROI	NI
11	5	42.9 (9)	40.4 (7.9)	45.5 (9.8)	15.3 (10.1)	12.5 (8.7)	18.1 (11.1)	24.8 (4.5)	23.4 (3.9)	26.3 (4.9)

* based on self-reported weight and height measurements

The following is a summary of the findings from the interviews with GPs with corresponding quotes defining the themes (Table 3).

Table 3 Summary of the findings from the interviews with GPs (n=16)

Theme	Comment
Training	The majority reported receiving limited or no training on body weight/obesity related issues. Training was usually in the form of a short information session. *"One day courses usually each year on a range of topics"* GP, Belfast (NI)
Measuring patients' weight	The majority reported regularly measuring patients' weight and BMI. However, when they did not have time they asked their patients to report their own weight. *"If under time pressure, patient self-reports their weight"* GP, Warrenpoint (NI)
Causes of obesity	They described there being multiple causes of obesity but they felt that overeating, a lack of physical activity, a person's attitude and family issues were the main causes. *"Patients need to be more aware of the consequences of overeating"* GP, Dublin (ROI)
Management of obesity	Participants felt that the management of obesity should involve a person changing their diet and increasing their physical activity and also one or more of the following: a person changing their attitude, regularly monitoring their weight, reducing alcohol consumption, and education. In addition, GPs emphasised the need for them to have a protocol on how to increase awareness of the issue and advise overweight/obese patients. *"Obesity management is the combination of changing a person's attitudes and lifestyle approaches such as increasing physical activity"* GP, Hollywood (NI)

GPs did not report negative attitudes towards overweight and obese people according to the AFA questionnaire and the ATOP scale. The overall score for the AFA questionnaire for all 16 GPs was 2.48 (scale from 0-9 with a lower score indicating less negative attitudes to overweight and obesity).

Focus groups with nurses

In total, there were 12 focus groups with 90 nurses (5 male, 85 female) conducted with four in NI (n=32) and eight in ROI (n=58). No new themes emerged after 12 focus groups and so no further groups were conducted. Table 4 shows the breakdown of the type of nurses interviewed. This demographic information did not differ significantly between NI and ROI.

Table 4 Mean (standard deviation) age, years of clinical experience and BMI of the nurses in the focus groups (n=90)

Health professional group	n	Age (years)	Years of clinical experience	BMI*
Public health nurses (community)	42	39.1 (11)	15.5 (11.9)	27.8 (4.1)
Public health nurses (schools)	15	44.2 (7)	21.5 (6.7)	25.1 (4.6)
Practice nurses	20	38.9 (10.5)	17 (10.6)	24.8 (5.5)
Occupational health nurses	13	44 (7.7)	16.6 (10.6)	26 (4.4)

* based on self-reported weight and height measurements

6 main themes were identified from the analysis of the focus group interviews. These are described in Table 5 with corresponding quotes defining the themes.

Table 5 Themes and quotes from the focus groups with the nurses (n=90)

Theme	Comment
Causes of obesity	Nurses reported a range of causes of obesity, the most common being large portion sizes; a change in family eating patterns with more eating fast food and takeaways; economic issues with healthy food perceived to be more expensive; lack of exercise; lack of cooking skills; sedentary lifestyle, especially among children; psychosocial issues leading to comfort eating, depression; media/advertising. *"They don't have a lot of money, they are going into shops and they are giving them lots of things that are really cheap but they are not healthy food."* School Nurse, Belfast, (NI)
Responsibility of obesity	There was a general consensus by the nurses surveyed that obesity was the patient's responsibility and in the case of children, the parents' responsibility. A few stated that nurses should take responsibility. *"A lot of patients don't blame themselves. They don't see themselves as the problem. The problem is that a lot of the problem is with themselves and their own lack in motivation."* Practice Nurse, Dublin, (ROI)
Measuring body weight status	The vast majority of the nurses discussed how they measure their patients' weight mainly so they could calculate their BMI. Nurses reported issues regarding measuring body weight status as a lack of resources, lack of training and a lack of bariatric equipment. *"I do their body mass index. Their height, their weight and their target weight."* Public Health Nurse, Dublin (ROI)
Current practice in obesity management strategies	The two main obesity management strategies employed by health professionals were providing advice to patients on reducing their weight and recommending commercial dieting programmes. Providing weight management advice often depended on the nurse's relationship with their patient. *"It can sometimes be easier if they have a relationship with the patient already…."* Public Health Nurse, Galway (ROI)
Barriers to weight loss and management	Various barriers to weight loss and weight management were reported, the main ones included: sedentary lifestyles, patients not admitting they are overweight, lack of patient motivation, consultation time and lack of patient awareness of obesity. *"I don't think patients look at their weight as an issue for them for their general health unless they have a chronic illness … There's definitely a disconnect between being overweight…they don't see how it impacts or that it could impact."* Public Health Nurse, Dublin (ROI)
Training on	There was a consensus that there was limited training in relation to obesity and the need for further continuous professional development (CPD) courses were highlighted.

Obesity

"I think it would be lovely to have training. I think it would be great with the risks attached..." Public Health Nurse, Galway (ROI)

Questionnaire survey

The paper version was provided to 116 primary care health professionals. The electronic version was distributed to 371 primary care health professionals and 266 returned the survey. In total, 382 primary care health professionals (365 females, 17 males) completed the survey. 110 participants were from NI and 272 from ROI (Table 6).

Table 6 Mean (standard deviation) age, years of clinical experience and BMI of the health professionals

Health professional group	N	Age (years)			Years of clinical experience			BMI*		
		Total	ROI	NI	Total	ROI	NI	Total	ROI	NI
Public health nurses (community)	115	43.4 (9.1)	45.1 (10.0)	42.6 (8.6)	17.6 (11.6)	22.0 (10.3)	15.5 (11.7)	25.7 (4.5)	25.5 (4.3)	25.8 (4.6)
Public health nurses (schools)	74	43.2 (9.5)	47.6 (7.5)	41.9 (9.7)	17.7 (10.5)	25.1 (7.2)	15.7 (10.4)	25.4 (4.2)	26.0 (5.3)	25.2 (3.8)
GPs	25	48.8 (7.2)	49.2 (6.9)	48.5 (7.5)	24.3 (8.2)	25.0 (7.7)	23.8 (8.7)	24.2 (8.4)	24.6 (4.9)	23.9 (9.2)
Practice nurses	124	41.8 (9.2)	46.9 (7.2)	40.8 (9.5)	18.7 (9.2)	22.1 (10.3)	18.2 (9.4)	27.2 (12.6)	27.9 (6.3)	27.0 (13.1)
Occupational health nurses	44	44.2 (8.5)	45.2 (9.4)	43.5 (7.9)	20.9 (9.3)	21.0 (10.9)	20.8 (8.3)	25.5 (4.8)	26.6 (3.0)	24.7 (5.6)
Total	382	43.7 (9.0)	46.6 (8.6)	42.5 (8.9)	19.2 (10.3)	23.0 (9.5)	17.7 (10.3)	25.9 (7.7)	26.4 (4.8)	25.8 (8.6)

* based on self-reported weight and height measurements

Assessing body weight

The majority of primary care health professionals reported that they regularly measure their patients' weight (79%) and monitor or take follow-up measurements (72%). The most reported measuring tools were weighing scales (92%) and tape measure (71%). Only 24 per cent of respondents asked patients to self-report their weight. There was some variation in the tools they used to calculate BMI with some using charts and others on-line calculators. Health professionals reported a range of issues that impacted on them measuring their patient's weight. The majority agreed that short patient consultations (66%), time constraints (64%) and limited training in assessing body weight status (58%) impacted them. More than half disagreed that a lack of knowledge (56%) or awareness (61%) of the issue impacted on them measuring their patients' weight.

Causes of overweight and obesity

Respondents were asked to identify, from a list provided, what they perceived to be the main causes of overweight and obesity. The most common causes were lack of physical activity (97%), eating refined foods e.g. convenience foods (96%), eating larger portions (94%) and comfort eating (87%).

Knowledge and training around weight management

Primary care health professionals were asked what they felt were the most relevant methods to manage obesity. The majority felt that the health professional's personal attitude and experience (95%), patient's current level of physical activity (94%), dieting (92%), having a multidisciplinary approach (89%) and commercial weight loss programmes (65%) were important. They rated medical interventions such as medication (33%) and surgery (27%) lower than lifestyle interventions. The majority of respondents reported that they provide advice to their overweight and obese patients on diet (70%), physical activity (74%), behavioural change (60%) and lifestyle change (65%).

Less than half of the respondents reported ever receiving training around issues related to weight management (Table 7).

Table 7 Percent of respondents that received training in weight management topics

Topic for training	% of respondents that received training
Healthy living/lifestyle issues	43
Nutrition issues	49
Overweight/obesity issues	38
Other lifestyle-related issues	46

Training around weight management increased with increasing age (p=0.001; Spearman correlation) and more respondents from NI had received such training than those in ROI (p=0.003; Mann Whitney).

Issues around discussing and tackling overweight and obesity with patients

The majority of respondents were positive about their role in giving information about weight (Table 8).

Table 8 Response of primary care health professionals to statements about communicating with patients about overweight and obesity (n=382)

Statement	Strongly disagree/disagree (%)	Neutral (%)	Agree/strongly agree (%)
I don't feel it is my role to give obesity advice	85	8	6
I find it difficult to sensitively address obesity issues	58	14	27
I identify my patients who are overweight /obese and provide advice/information on weight loss	15	19	65
My patients receive my advice/information on obesity favourably	12	26	61
Communication of obesity messages is complex and challenging	7	11	81

The main methods used by primary care health professionals to communicate with patients about overweight and obesity was through talking with individual patients (94%) and giving out leaflets (82%). These health professionals also used resources which were developed by their professional bodies (59%) and websites (49%). The main reported communication needs for health professionals were as follows:

- More information on obesity prevention (82%)
- Information on management of obesity (84%)
- More resources (85%)
- Health communication training (61%).

Fifty six per cent of respondents agreed that there is a need for clear and consistent messages. Primary care health professionals from ROI agreed significantly more with this than those in NI ($p<0.001$). The main barriers for respondents in communicating with their patients about their weight were having limited time in patient consultations (74%), limited access to appropriate information (57%) and being unsure where to get appropriate resources (54%). Primary care health professionals in ROI were significantly more likely than those in NI to identify having 'limited access to appropriate information' and being 'unsure where to get appropriate resources' as barriers to communication ($p<0.05$).

Primary care health professionals' attitudes to overweight and obesity

The overall mean score for the AFA questionnaire was 0.11 indicating a generally positive attitude towards people who are overweight. There were some significant differences in responses ($P<0.05$) for the age, region (NI/ROI) and BMI of the primary care health professionals. Older respondents had more negative views on being overweight and those with a lower BMI and also those from ROI had an increased fear of gaining weight. However, there were no significant differences between primary care health professional groups.

The ATOP scale was also used to measure primary care health professional attitudes towards people who were obese. Most respondents either slightly, moderately or strongly agreed that most obese people are more self-conscious than other people (81%); that most people who are obese feel that they are not as good as other people (60%) and obese people are usually sociable (58%). Eighty seven per cent of respondents strongly, moderately or slightly disagreed that severely obese people are usually untidy and that obese people are more emotional than others. Significantly more respondents who reported having a higher BMI agreed that 'obese people are as happy as non-obese people'. Significantly more older respondents agreed that 'most obese people feel that they are not as good as other people' and that 'obese workers cannot be as successful as other workers'. However, like with

the AFA questionnaire, there were no significant differences between primary care health professional groups (GPs, PHNs, practice nurses and occupational health nurses).

3 Online assessment

Methods

Approach

There was no tool available for the researchers to assess health professionals' ability to recognise underweight, normal weight, overweight and obesity in their patients. Therefore, an initial assessment programme was developed and this was then used in a survey of primary care health professionals.

Development of the assessment programme

An assessment study was developed as an online video programme containing a series of images of 20 individuals, which rotated 360° on the screen. The individuals were of different ages and body weight sizes. In total there were five age categories and within each category there was a person who was underweight, normal weight, overweight and obese[1]. The five age categories were as follows:

- Child under 10 years of age
- Teenager (13-19 years)
- Young adult (20-39 years)
- Middle-aged adult (40-59 years)
- Older adult (60+ years).

Each model was presented three times.

- Screen 1: video of the model rotating 360° in their own clothes with information on their gender, age and height
- Screen 2: as per screen 1 but now in the project's clothes (shorts and T-shirt)
- Screen 3: as per screen 2 but with additional information on weight.

[1] Based on WHO BMI classification (5) and IOTF cut-offs for BMI (6,7)

The images were presented in random order. On each of the three screens, underneath the video image, participants were asked:

'From what you see, in what body weight category do you consider this individual to be?'

- Underweight
- Normal weight
- Overweight
- Obese.

The participants then selected their chosen response. See Appendix 2 for an example of one of the screens shown in the assessment study.

Following review of all 20 case studies, the participants were asked questions regarding the tools they use to measure body weight status, and to rate their confidence in assessing the adult and child case studies.

Sample size and recruitment of participants

Based on the findings of a previous study in the United States (US) that 25 per cent of GPs failed to recognise their patients were overweight (45), a sample size of 128 participants was calculated with significance set at 0.05 and 80 per cent power using a 2-tailed t-test.
As with the research in Part 1, primary care health professionals were recruited to the online assessment study in the same way as the survey. The majority of primary care health professionals were recruited from staff meetings, workshops and conferences.

Data analysis

Percentage agreements between the primary care health professionals' responses to the case studies' body weight categories and the case studies' correct categories were calculated, as defined using BMI. Percentage agreements were analysed by region and primary care health professional group (chi-square), and age, BMI and years of professional experience (Spearman correlations).

Results

128 primary care health professionals took part in the study (Table 9). The majority (91%) of participants were female (n=117).

Table 9 Mean (standard deviation) age, years of clinical experience and BMI of the primary care health professionals (n=128)

Health professional group	n	Age (years)			Years of clinical experience			BMI*		
		Total	ROI	NI	Total	ROI	NI	Total	ROI	NI
Public health nurses (community)	32	44.9 (8.1)	47 (3.4)	44.3 (9.1)	18.1 (9.6)	23.6 (2.0)	16.2 (10.4)	24.5 (3.8)	21.6 (0.3)	25.4 (4.0)
Public health nurses (schools)	29	45.6 (7.6)	50.0 (8.5)	43.9 (6.7)	22.8 (8.7)	28.5 (9.3)	20.7 (7.8)	22.8 (5.1)	23.3 (1.8)	22.7 (5.9)
GPs	16	46.5 (5.9)	45.4 (8.9)	47.7 (4.1)	23.6 (11.2)	20.6 (14.6)	26.6 (6.3)	24.6 (5.2)	25.3 (5.0)	24.0 (5.4)
Practice nurses	20	52.3 (7.5)	57.1 (10.2)	49.0 (4.8)	21.6 (8.5)	18.9 (10.9)	22.9 (5.0)	28.2 (7.2)	28.8 (7.9)	27.8 (6.7)
Occupational health nurses	31	41.6 (7.5)	50.9 (7.1)	38.8 (5.0)	17.1 (6.4)	25.5 (8.0)	14.8 (3.0)	25.2 (3.7)	28.5 (3.8)	24.1 (3.1)

* based on self-reported weight and height measurements

Primary care health professionals' ability to assess body weight status

Tables 10 to 14 show the percentage agreement of the health professionals assessing underweight, normal weight, overweight and obesity in the models for each of the different age categories.

Children

Respondents were more accurate in identifying the images of normal weight children and least accurate identifying overweight and obese children (Table 10)

Table 10 Percent of primary care health professionals that accurately identified the weight category of the images of children in their own clothes, the study clothes and with additional information on their weight

Weight category	Own clothes	Study clothes	Study clothes and additional information
Underweight	35	59	88
Normal weight	95	93	73
Overweight	7	9	12
Obese	11	12	13

Teenagers

Within this age category primary care health professionals were most accurate in recognising the image of a teenager who was overweight and least accurate identifying underweight or obese teenagers. For all four weight categories, their accuracy improved when the teenager wore the study clothes and also information on their weight was given, except in the case of overweight teenagers (Table 11).

Table 11 Percent of primary care health professionals that accurately identified the weight category of the teenagers in their own clothes, the study clothes and with additional information on their weight

Weight category	Own clothes	Study clothes	Study clothes and additional information
Underweight	5	10	77
Normal weight	56	48	61
Overweight	77	73	82
Obese	23	29	41

Young adults

Primary care health professionals were most accurate assessing underweight in the young adult and were least accurate assessing obese young adults. In general, the respondents were more accurate with assessing young adults in the project clothes and with information on weight compared to their own clothes, except for the underweight young adult where accuracy was aided by the young adult wearing their own clothes (Table 12).

Table 12 Percent of primary care health professionals that accurately identified the weight category of the young adults in their own clothes, the study clothes and with additional information on their weight

Weight category	Own clothes	Study clothes	Study clothes and additional information
Underweight	93	81	81
Normal weight	75	80	81
Overweight	61	69	84
Obese	2	5	41

Middle-aged adults

Primary care health professionals were more accurate in assessing the normal weight middle-aged adult and less accurate with the overweight and obese middle-aged adults. Similar to the other images, the respondents were able to identify the correct weight categories of the middle-aged adults in the project clothes compared to in their own clothes, except for the obese middle-aged adult (Table 13).

Table 13 Percent of primary care health professionals that accurately identified the weight category of the middle-aged adults in their own clothes, the study clothes and with additional information on their weight

Weight category	Own clothes	Study clothes	Study clothes and additional information
Underweight	23	24	54
Normal weight	77	77	89
Overweight	21	33	77
Obese	50	31	13

Older adults

For the older adults, the primary care health professionals were most accurate in identifying normal weight older adults and least accurate in identifying obese older adults. Health professionals were better able to correctly identify normal weight older adults in their own clothes than in the project clothes, but this trend was the opposite for the other body weight categories of the older adults (Table 14).

Table 14 Percent of primary care health professionals that accurately identified the weight category of the older adults in their own clothes, the study clothes and with additional information on their weight

Weight category	Own clothes	Study clothes	Study clothes and additional information
Underweight	59	57	64
Normal weight	98	92	86
Overweight	59	73	79
Obese	39	45	55

Association between primary care health professional characteristics and accuracy in identifying weight category

Primary care health professionals with lower BMI (self-reported) ($P<0.05$; Spearman correlation) and increasing age ($P<0.05$; Spearman correlation) were more accurate in assessing body weight categories. There were some differences in the accuracy with which some primary care health professional groups assessed weight status, however, there were no clear trends revealed. For example, public health nurses in schools (83%) were the most accurate in identifying the overweight young adult, and GPs and practice nurses (33%) were the least accurate. In the case of overweight teenagers, occupational health nurses (39%) were the most accurate in identifying this category, and public health nurses in the community (6%) were the least accurate.

Summary

As can be clearly observed, there was a general trend that primary care health professionals were most accurate at assessing normal weight individuals when presented with models in project clothes and when they had the individual's weight. For most weight categories, accuracy improved when the models were presented in the study clothes and information on the height and weight was given. Primary care health professionals were more accurate assessing the weight categories of adults followed by teenagers and then children. The primary care health professional's own BMI and also their age influenced their accuracy in assessing the weight categories.

Additional feedback from health professionals

Primary care health professionals were asked additional questions regarding the weight related measures which they take in clinical practice. Ninety one per cent measure weight, 86% height, 50% waist circumference, 15% hip circumference, and 26% other. They reported a lack of confidence in assessing bodyweight status in adults and children, and were significantly ($P<0.001$; Friedman test) less confident assessing body weight in children compared to adults.

4 Discussion

This is one of the first projects from IOI that has investigated the attitudes, current practices, and behaviours and knowledge of body weight status among key primary care health professional groups and their ability to identify body weight categories in both adults and children. However, there are some limitations to this research. There was poor representation of GPs within the sample for both parts of the research, with a greater response rate from nurses, most of whom were female. Among the GPs that participated in the studies the findings were consistent, with most citing a lack of training around weight management and a lack of guidelines on how to deal with overweight and obesity in general practice.

An additional limitation is the possibility of response bias, with health professionals who were interested in the research possibly being more likely to participate. Finally, this research reports on the use of an online assessment tool that was developed to evaluate primary care health professionals' ability to recognise weight categories in the models presented. This tool was developed for this specific purpose and further validation of it is needed in future studies. In addition, because the tool was online, the findings from this may differ in actual 'real life' practice.

This research has shown that primary care health professionals working in primary care settings on IOI have generally positive attitudes towards their role in preventing and managing overweight and obesity and also towards overweight individuals. This is positive as research from the UK, US and Australia has found that health professionals can have negative attitudes towards overweight and obesity (34, 35, 37, 38). Primary care health professionals generally reported having a role in communicating messages about overweight and obesity and also in providing information on obesity prevention and management. However, they lack confidence and training in both addressing and assessing body weight status. In addition, many reported having a lack of time to communicate with their patients about weight management. Primary care health professionals reported a perception that communication of messages around overweight and obesity were both complex and challenging. The main communication needs reported by them were for more information on obesity prevention and management, more resources and training, and the need for clear and consistent messages which

they can communicate to their patients. For the treatment of overweight and obesity, they favoured lifestyles interventions over medical interventions such as medicine and surgery.

Overall, based on the methods used, primary care health professionals were poor at assessing body weight status in a range of study models. This was particularly poor for overweight and obese body weight categories and when viewing individuals in their own clothes, rather than the study's clothes of shorts and a T-shirt. The images of the models in their own clothes is, however, reflecting reality in practice, as this is the image health professionals see in clinical and community settings. Primary care health professionals with lower BMI (based on self-reported weight and height) were more accurate in assessing body weight categories. This may indicate that those with a lower BMI were better able to perceive what the different weight categories looked like. While primary care health professionals were overall poor in assessing body weight status from the online assessment programme, they did report a lack of confidence in this and were significantly less confident in assessing body weight in children compared to adults. Failure to recognise and address overweight and obesity in the community and general practice setting, presents a barrier to preventing and managing these issues on the island of Ireland.

There were regional differences reported in this project between NI and ROI. The main findings were that primary care health professionals in ROI reported having received significantly less training and also a higher need for training than their counterparts in NI. In addition, those in ROI identified a greater need for information and resources around weight management. The HSE in ROI is currently training health professionals in how to use a Weight Management Treatment Algorithm which provides guidance for GPs and primary care staff to assist in the prevention, detection and management of overweight and obesity in the community. This is a new initiative and so the health professionals that were surveyed in this research may not yet have been aware of it. Differences were also identified between primary care health professionals that were older and those that were younger. In general, advice and negative attitudes towards obese persons and the accuracy in assessing body weight status significantly increased with increasing age of health professionals. However, the frequency of measuring patients' weight significantly decreased with increasing age of the health professionals. This may reflect that older primary care health professionals had more experience of dealing with weight management in practice and so were better at assessing patient's weight category, however, with this experience came less optimism about the outlook for overweight patients.

This project found that primary care health professionals acknowledge that they have a role in the prevention and management of overweight and obesity. They identified their role being one of providing clear and consistent advice and support. It is important that primary care health professionals do this in order to reduce the health and economic burden of the projected increasing trends in overweight and obesity. For primary care health professionals to achieve this role, they need guidelines and training around best practice in overweight and obesity prevention.

5 Recommendations

Based on the findings of this research, it is clear that primary care health professionals feel that they have a role in the prevention and treatment of overweight and obesity. Therefore, it is important that this role is harnessed and maximised to best effect.

Training and support

- Guidelines on how to assess the body weight status of patients (both adults and children) should be provided to health care workers with refresher information circulated regularly. These guidelines should include standardised protocols such as NICE guidelines (32) in NI and the Weight Management Treatment Algorithm (33) for health professionals in ROI.
- Training should be made available to health professionals with an emphasis on the prevention of overweight and obesity, assessment of body weight status and treatment for overweight and obesity.
- Training around counselling skills on how to approach the topic of being overweight with patients should be provided.
- Support should be available to primary care health professionals in the form of referral options for the patient to see a dietitian, physiotherapist, physical activity specialist or psychologist.

Prevention

- Measuring patients' weight, height and waist circumference should become routine standard practice in primary care, and discussion about weight management should become the norm.
- Health professionals need to be made aware of a shift in norms related to body weight and that what society perceives to be 'normal weight', 'overweight' and 'obese' may not be accurate. Health professionals should measure the weight and height of their patients and should not assess their weight category based on perception alone.
- Resources on weight management should be centralised and health professionals should be made aware of how to access these.

- Health professionals should know their own weight and should recognise that this may influence their perception of overweight and obesity in their patients.

Collaboration

There needs to be a collaborative approach in weight management to ensure clear and consistent messages. This would include collaboration by key stakeholders such as public health bodies and private sector e.g. media and voluntary sector organisations promoting awareness around overweight and obesity.

Appendices

Appendix 1

Members of the Research Steering Committee

Dr. Donna Fitzsimons, University of Ulster/Belfast Health and Social Care Trust

Dr. Margaret Cupples, Queen's University Belfast/Belfast Health and Social Care Trust

Sharon Lowry, Belfast Health and Social Care Trust

Dr. Padraig MacNeela, National University of Ireland, Galway

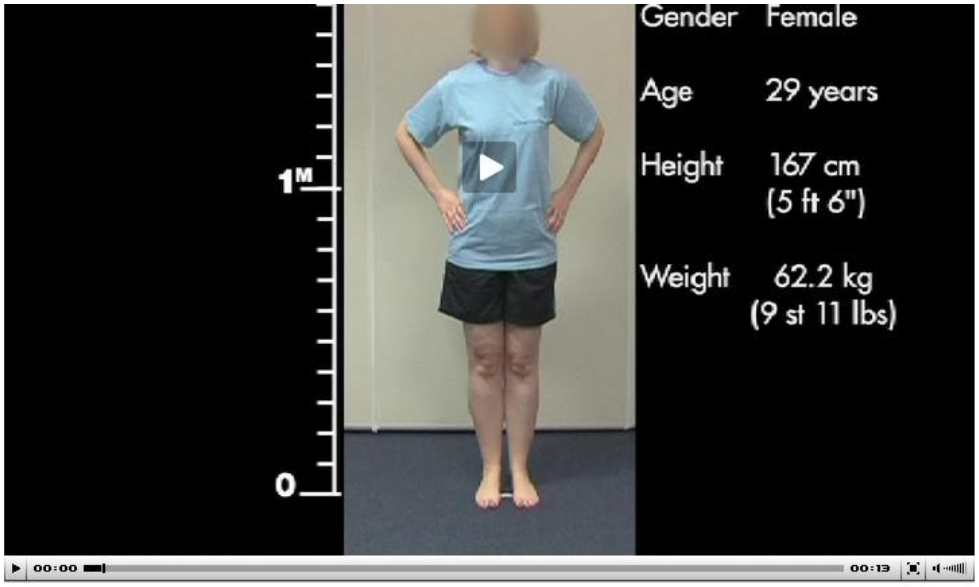
Marguerite O'Donnell, Primary, Community and Continuing Care HSE West

Kathy McSharry, Professional Development Co-ordinator for Practice Nurses (Galway, Mayo and Roscommon) HSE

Alan Ferrett, Belfast

Appendix 2

Screen shot of one of the images shown in the online assessment



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***safe*food:**
7 Eastgate Avenue, Eastgate, Little Island, Co. Cork
7 Ascaill an Gheata Thoir, An tOiléan Beag, Co. Chorcaí
7 Aistyett Avenue, Aistyett, Wee Isle, Co. Cork
Tel: +353 (0)21 230 4100 *Fax:* +353 (0)21 230 4111
Email: info@safefood.eu *Web:* www.safefood.eu