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Health behaviours and attitudes towards being role models

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Abstract

Nurses are often viewed by the general public as role models for health. This study investigated health behaviours in pre-registered nurses and their attitudes towards being role models to their patients. In total, 540 pre-registered nurses self-reported their level of physical activity, smoking habits, alcohol intake and dietary habits. Overall, 24% were overweight or obese, 47% were not physically active enough to benefit their health, 73% did not eat the recommended five portions of fruit and vegetables per day, 40% reported binge drinking and 17% were smokers. However, respondents commonly held the belief that nurses should be role models for health, although opinions varied according to the individual's own health profile. Despite being educated in health promotion practice, health behaviours were less than exemplary in this sample and for many, appeared contradictory to participant's beliefs that nurses should be exemplars for health. Nursing education should emphasise the importance of translating learning to their own health behaviours to support a healthy future NHS workforce.

Key words: Nurses, Role models, Health behaviours, Attitudes

Introduction

Prevention of ill health in the population is a key role for many nurses. Health professionals and nurses in particular, often have the most direct contact with patients and their families and therefore have the greatest opportunity to influence changes in health behaviours (Blaber, 2005). While it is widely recognised that nurses have a key role in improving the health of the population in the UK, government publications have called for a greater focus on the health and wellbeing of NHS staff themselves (DH, 2009); the NHS has pledged within its constitution to improve the health and wellbeing of its staff, placing responsibility on individual employees to maintain and improve their own health (DH, 2009; 2010).

Research has shown that a high proportion of NHS staff are not engaging in the positive health behaviours that many are expected to promote to their patients. Specifically, it has been shown that many are overweight or obese, are smokers, are not physically active enough to benefit their health and have poor dietary habits (Malik et al, 2011; Mo et al, 2011; Blake et al, 2012), despite being more informed than the general population about the impact of lifestyle choices on health.

Poor health in this population holds even greater significance since it not only impacts on the individuals concerned, but may impact negatively on NHS resources through reduced work productivity and increased sickness absence. Healthcare staff have themselves suggested that their personal health may negatively affect the quality of care they provide to their patients and clients (DH, 2009). Indeed, nurses with poor health behaviours may be less likely to promote advice about the benefits of regular exercise, diet, alcohol and smoking (McDowell et al, 1997). Furthermore, the health professional's attitudes and beliefs may influence the type of advice that they feel able

to give to their patients (Sejr and Osler, 2002).

The importance of good health among NHS employees has not gone unrecognised and has been flagged in several recent government documents. Lord Darzi's report, *High Quality Care for All*, suggested that all NHS staff had an important role in making themselves and their communities healthier (DH, 2008). Later, Clare Chapman, the Director General of Workforce said that the 'vision of the NHS staff was to be ambassadors of health for their patients, their families and within the communities in which they live' (DH, 2010). However, the notion that nurses should be role models for health is somewhat controversial.

It has long been recognised that there is pressure on nurses to live up to an idealistic view of their profession (Clarke, 1991) in order to maintain credibility in the eyes of their patients. To be an effective role model it has been suggested that a nurse needs an array of skills including self-confidence, the ability to communicate, warmth and empathy (Clarke, 1991; Holt, 2008; Popplewell, 2006). Early literature has proposed that it is these skills, together with the relationships nurses have with their patients, that are the most effective tools for helping patients to make the correct health choices (Clarke, 1991). This places less importance on nurses' own lifestyle choices.

Conversely, others have suggested that the lifestyle choices made by health professionals may be representative of their level of commitment to health promotion (Hope et al, 1998).

The attitudes and behaviours of pre-registered nurses are important since previous research has shown that the health profile of this group is relatively poor (Al-Kandari and Vidal, 2007; Blake et al, 2011). While poor health behaviours in this group may potentially be interpreted as part of a 'normal' student lifestyle (Hope et al, 1998), it

may be argued that health behaviours should be targeted in this particular population, not least because of the known long-term effects of health behaviours, but also because these individuals are the NHS workforce of the future (DH, 2010) who will become role models for guiding the general public. Given the arguments relating to the influence of nurses' own health behaviours or health profile on their ability or willingness to promote health to others, it follows that attitudes towards the role of the nurse in promoting health may potentially vary in those who exhibit negative health characteristics, and this has implications for health promotion practice. The aim of the study was to investigate health behaviours in pre-registered nurses, examine nurses' attitudes towards the role of the nurse in promoting health and compare the attitudes of those who are within a 'normal' weight range with those who are overweight or obese.

Method

Ethical approval was granted by the local medical school ethics committee. Participants were pre-registered nurses at a single site within a large university teaching hospital (n=1134). All pre-registered nurses who were present at university lectures on scheduled data collection days between June and October 2010 (n=753) were provided with a brief verbal explanation of the study and a printed study information sheet that invited them to collect a questionnaire as they left. Informed consent was taken to be return of the questionnaire within one week via an anonymous drop-box in a central area. Questionnaire items included demographic information (age, sex, ethnicity, branch, course, year of study, marital status), height and weight, and self-report measures of physical activity, smoking, alcohol, diet and attitudes towards being a role model.

Health behaviours

Weight and height were used to calculate body mass index (BMI) and participants were then categorised as 'underweight', 'healthy weight', 'overweight' or 'obese'. Physical activity was measured using the Stages of Exercise Behaviour Change Scale (Marcus et al, 1992) to identify participants' stage of readiness for exercise including pre-contemplation, contemplation, preparation, action and maintenance (Wyse et al, 1995). Using this scale, participants were categorised as 'active' or 'inactive' according to whether they reported meeting the recommendations for the level of physical activity required to benefit health at the time of the study; 30 minutes of moderate physical activity per day, for a minimum of five days a week' (DH, 2004).

To assess dietary habits, participants were asked whether they ate five portions of fruit and vegetables a day, and how frequently they ate food high in fat and high in sugar ('rarely', 'sometimes' or 'every day'). Participants were also asked to report their attitude towards their current dietary habits using four statements with a yes or no response, including: 'I currently eat healthily', 'I intend to eat healthily in the next six months', 'I have been eating healthily for the past 6 months', 'I used to eat healthily but I don't anymore'. Participants were asked whether they smoked or not. They were also asked whether or not they had smoked at any time during their nursing training. Participants were asked to report how often they drank alcohol, and also how much alcohol they consumed on each occasion.

Attitudes towards nurses as role models for health behaviours

Participants were given 10 statements relating to their attitudes towards nurses being viewed as role models for health. Statements were derived by the authors based on published literature in the field. For each statement response options were: 'strongly

agree', 'agree', 'neutral', 'disagree' or 'strongly disagree'. These were scored from 0 (strongly agree) to 4 (strongly disagree).

Data were analysed using SPSS version 18.0. Health behaviours and attitudes were compared between those who were within a healthy weight range and those who were overweight or obese using the Kruskal-Wallis tests and chi-square tests.

Results

Overall, 540 pre-registered nurses returned completed questionnaires (72% response rate: 91.5% female, 8.5% male). The age range was between 18 and 54 years (mean=23; SD=6.29). The female:male ratio and age range were comparable with the overall proportions in this setting. Of this sample, 24% were either overweight or obese (n=129). Demographic characteristics for the full sample and for each weight category are presented in *Table 1*.

Health behaviours

Physical activity—of the whole sample, 46.9% reported that they did not meet the recommended levels of physical activity required for the benefit of health (30 minutes per day of at least moderate to intense physical activity on five or more days of the week). Of these sedentary individuals, only 12.4% reported that they intended to undertake this level of activity within the next 6 months. Levels of physical activity varied according to weight category and as might be expected, those individuals who were within a healthy weight range were significantly more likely to meet the recommended levels of physical activity than those who were within a less healthy weight range ($p < 0.001$). Physical activity levels by weight category are presented in *Table 2*.

Dietary habits—just under three-quarters of the sample (72.8%) reported that they did not consume the recommended five portions of fruit and vegetables daily, and just under one-quarter of the sample reported eating foods that were high in fat (22.4%) or sugar (22.8%) on a daily basis, with no significant differences observed by weight category. Despite this, more than two-thirds of the sample considered that they ate healthily (67.2%). This varied according to weight category, with those participants who were within a healthy weight range being significantly more likely to consider that they currently ate healthily ($p=0.03$) and had been eating healthily for the past six months than those who were underweight, overweight or obese. Dietary habits by weight category are presented in *Table 3*.

Smoking behaviour—of the sample, 16.8% reported that they were a regular cigarette smoker, while 25.6% reported that they had smoked at some point during nursing training. No differences were observed in smoking behaviours between those of a healthy or unhealthy weight. Smoking behaviours by weight category are presented in *Table 4*.

Alcohol consumption—with regards to frequency of alcohol consumption, most participants reported consuming alcohol 2–4 times per month (40.4%) or 2–3 times per week (33.5%). While the largest proportion of participants consumed 3–4 drinks on each occasion (31.1%), 40% reported that they exceeded recommended limits for alcohol consumption and consumed five or more drinks on each occasion. There were no significant differences in alcohol consumption between those of a healthy or unhealthy weight. Alcohol consumption by weight category is presented in *Table 4*.

Attitudes towards nurses as role models for health

Almost three quarters of the sample (74.1%) thought that their physical appearance affected how they were perceived as a nurse. However, those who were overweight or obese were significantly less likely to agree with this statement than those who were underweight or a healthy weight ($p=0.05$). Most respondents (88.3%) felt that patients would be more likely to heed their advice on health behaviours if they appeared to be following that advice themselves. Those who were overweight or obese were less likely to agree with this statement than those who were underweight, or of a healthy weight, although this difference did not reach statistical significance.

More than half the sample (55.8%) stated that they would find it more difficult to promote health behaviours to others if their own health behaviours were poor. Those who were obese were more likely to agree with this statement (65.7%) than participants in other weight categories, although this difference did not reach statistical significance.

The image of the nurse was important to many, and more than two-thirds of participants (68.6%) felt that nurses should not be allowed to smoke while in uniform.

More than 60% (60.7%) felt that being a healthy weight is important for some nurse roles and this included more than half of those who were overweight or obese.

However, those participants who were overweight (56.7%) or obese (46.9%) were significantly less likely than those who were underweight or a healthy weight to agree that being a healthy weight is important to the nursing role ($p=0.04$). Most participants (79.5%) agreed that patients would find it easier to connect with them if they viewed nurses as a 'real person' regarding their health behaviours, rather than an idealistic one. However, opinions significantly differed by weight category with

participants who were overweight being significantly more likely to agree (84.6%) than those who were in other weight categories ($p=0.04$).

Less than 40% (39.8%) of participants agreed that their nursing training had impacted on their own health behaviours. The largest proportion of those who agreed that nursing education had changed their own health behaviours were classified as obese (53.2%), although no statistically significant differences between weight categories were observed.

More than two-thirds of the sample (69.7%) agreed that 'nurses should practice what they preach'. However, those who were overweight (63.9%) or obese (65.7%) were significantly less likely to agree with this statement than those who were underweight (83.3%) or of a healthy weight (73.4%) ($p=0.002$).

More than three-quarters of the sample agreed that nurses should present themselves as role models for health behaviours (79.1%). However, opinions varied according to weight classification, and those who were classified as overweight or obese were significantly less likely to agree with the statement than those who were underweight or a healthy weight ($p=0.001$).

Just under three-quarters of the sample (70.9%) agreed that being viewed as a role model for health behaviours was important to their particular branch of nursing. However, those who were underweight, overweight or obese were less likely to agree with this statement than those who were of a healthy weight ($p<0.001$). Attitudes towards each statement by weight category are presented in *Table 5*.

Discussion

These findings show that most pre-registered nurses believe that nurses should be role models for health behaviours; that their physical appearance, weight and image are important to the way in which they are perceived by patients, and that their own health behaviours will influence both their ability to promote healthy behaviours to others and on the lifestyle choices of their patients. Despite these attitudes, a large proportion of pre-registered nurses exhibit a poor profile of health behaviours that were not consistent with their expressed attitudes.

Studies have consistently identified poor health behaviours in nursing samples, showing that most practicing nurses are overweight (Allison, 2005; Miller et al, 2008), and that there is also a tendency towards low levels of physical activity and poor dietary habits in this population (Malik et al, 2011; Esposito and Fitzpatrick, 2011). While overweight and obesity rates were lower in this sample than those observed in the general population (DH, 2009; The NHS Information Centre, 2008a), and in other nursing groups (Malik et al, 2011; Blake et al, 2011; Esposito and Fitzpatrick, 2011), the known negative consequences of overweight and obesity for long-term health mean that both healthy dietary practices and physical activity should be actively promoted in this population to avoid negative consequences throughout life.

Although the dietary information collected is limited, dietary practices are often difficult to measure accurately and while diet diaries have been found to be useful, compliance is often poor (Venter et al, 2006). A simple assessment of daily consumption of fruit and vegetables and foods that are high in fat and sugar, provides an indication of whether pre-registered nurses are applying their learning about

elements of a healthy diet to their own behaviours. The reported consumption of fruits and vegetables in this sample was relatively comparable with general population figures, which have shown that just 28-32% of the general population consume the recommended five portions of fruit or vegetables each day (Black, 2008; The NHS Information Centre, 2008b).

The cost of fresh foods and their perishable nature may help to explain why so few nursing students meet government guidelines, which recommend eating five-a-day, although the proportion of individuals in this sample who believed that they were eating a healthy diet despite poor dietary practices was alarming, and significantly greater than figures reported in a general population sample (40.6%; Hope et al, 1998). There may be a need to improve or reinforce nurse education regarding what constitutes a healthy and varied diet. This understanding is vital if pre-registered nurses are to achieve competence in promoting a healthy diet to patients and clients.

The reported prevalence of binge drinking was higher than binge drinking rates within the general population for this age group (38% of men; 29% of women; The Information Centre, 2010). While this is notable for those training within a 'health-promoting' profession, it has been reported that up to 63% of university students binge drink on a regular basis (Dantzer et al, 2006), and furthermore, binge drinking rates identified here were lower than figures reported previously in a comparable sample of pre-registered nurses (Blake et al, 2011). Nevertheless, given the prevalence of binge drinking in a large proportion of the authors' sample, a focus on promoting safe levels of alcohol consumption is warranted in pre-registered nurses to help to prevent excessive or problem drinking later on. This is particularly important since surveys of qualified nurses have identified that one-fifth drink more than 10

units on each occasion that they drink (DH, 2009).

The authors' sample included significantly fewer smokers (16%) than have been seen in general population figures (25%; Chow et al, 2008) and in other nursing samples (46%, Rowe and Clark, 2000; 18.5%, Malik et al, 2011). While this is likely to reflect national and local trends for a reduction in smoking prevalence in recent years, there is still scope for the promotion of smoking cessation among healthcare staff, particularly given that nurses often work in a health promotion role, yet have been shown to be less supportive of smoking bans than other health professionals (Arack, 2009).

While data collection relied on self-reporting, the observation that health profiles are far from exemplary is an important one. This is particularly relevant given that self-reported physical activity levels for example are frequently over, rather than under-estimated (Ekelund et al, 2006); whereas weight is often under-estimated since respondents can self-report at least 1.5kg under their actual weight (Colditz and Hankinson, 2005).

This study has demonstrated the continuing need for health education in the pre-registered nurse population coupled with increased emphasis on the importance of translating this learning into positive health behaviours, especially since studies have shown that pre-registered nurses often fare worse than their practicing nurse counterparts in a range of health behaviours (Malik et al, 2011). Health promotion targeted towards pre-registered nurses should seek to address barriers to healthy lifestyles. Pre-registered nurses have identified a range of barriers to healthy lifestyle choices (Monterio and Faro, 2006), which may include costs associated with healthy choices (e.g. high cost of gym memberships and of eating a healthier diet including

more fruit and vegetables), perceived lack of time, difficulty incorporating healthy regimes into shift patterns (e.g. due to irregular and short breaks, which make 'convenience' options more attractive), balancing shift work on placements with academic requirements, and balancing lifestyle choices with family responsibilities, such as childcare.

There is a need for health promotion provision that addresses these issues, and a need to identify the key motivating factors for engaging this population in positive lifestyle change. For example, health promotion strategies that focus on the negative consequences of health behaviours may be less effective since it has been shown that 'fear of their future health' is not always a motivating factor to change current behaviour in young people (Poobalan et al, 2012). Further research might investigate the role of social marketing techniques, message framing and novel intervention (e.g. use of technology) for encouraging healthy behaviours, specifically in pre-registered nurses.

It is generally accepted that the general public have certain expectations of nurses as role models for health, and that there is some level of pressure for these expectations to be met in order for nurses to be seen as credible (Rush et al, 2005). However, less has been known about nurses' attitudes towards the concept of 'practicing what you preach'. The attitudes expressed in this study have demonstrated that in general pre-registered nurses agree that nurses should be role models for health behaviours, and recognise the importance of their own health behaviours and how this may influence the quality of patient care.

While it has been suggested that barriers associated with organisational culture have a marked effect on health promotion delivery by nurses (Kempainen et al, 2012) the

authors' findings suggest that nurses' own lifestyle behaviours may also have a significant role in how willing or able they feel to promote healthy behaviours. This is consistent with recent research that has shown that nurses who believe in health promotion and embrace healthy behaviours themselves are more likely to be positive role models and teach healthy behaviours to their patients (Esposito and Fitzpatrick, 2011).

In the authors' study, while those nurses who were an unhealthy weight were less likely to agree that 'nurses should be role models for health', many overweight and obese nurses expressed the view that being a healthy weight is important for some nurse roles, specified that they would find it difficult to promote health behaviours to others if they did not follow their own advice, and felt that this would have a knock-on effect on patients, who they believed would be less likely to heed their advice if they were not seen to be following that advice themselves. While more than 60% of the sample reported that their nursing training had not influenced their own health behaviours, the largest proportion of those who felt that nursing education had impacted on their lifestyle choices were of an unhealthy weight.

Conclusion

Despite education in health promotion practice, many pre-registered nurses' health behaviours are less than exemplary and are inconsistent with their own beliefs and attitudes about the importance of nurses as role models for the general public.

Intervention is required to influence positive change in health behaviours within this population to ensure a healthy public health workforce for the future. To inform intervention development, future research should consider the barriers and facilitators of healthy lifestyle choices in pre-registered nurses. There is scope for nurse training

programmes to go beyond health promotion with patients and clients, and to educate nursing students about the importance of translating their knowledge of health behaviours to their own lifestyle choices.

Conflict of interest: none

KEY POINTS

- In general, pre-registered nurses believe that they should be role models for health
- Most agree that their own lifestyle choices influence the way in which they are perceived by their patients and whether patients would heed their advice
- The minority who disagreed were more likely to be an unhealthy weight themselves
- Many pre-registered nurses exhibited negative health behaviours that were inconsistent with their attitudes and beliefs
- Nurses who feel they should be role models for health should be supported in making healthy lifestyle choices that are consistent with their beliefs and preferences

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Box 1. Statements relating to nurses' attitudes to being role models for patients' health behaviours

Patients will listen to my advice on health behaviours if I appear to follow that advice myself
I find it difficult to promote health behaviours if I do not carry them out myself
Smoking while wearing a nurse's uniform should be banned
My learning on my nursing training course has changed my own health behaviours
My physical appearance affects the way I am perceived as a nurse
Being an 'ideal' weight is important for certain roles as a nurse
Patients will find it easier to connect with me if they view my health behaviours as those of a 'real person' rather than an idealistic one
Nurses should practice what they preach
Nurses should present themselves as role models
Being seen as a role model is important in my branch of nursing

Table 1. Demographic characteristics of nurses who took part in the study: general information					
	Full sample n=540	Underweight n=18	Healthy weight n=332	Overweight n=97	Obese n=32
Age	n=534 (M 23.02, SD 6.29)	n=17 (M 20.12, SD 3.73)	n=332 (M 21.97, SD 4.86)	n=96 (M 26.02, SD 8.30)	n=32 (M 25.78, SD 6.57)
Sex	n=540	n=18	n=334	n=97	n=32
Male	46 (8.5%)	0 (0%)	31 (9.3%)	7 (7.2%)	3 (9.4%)
Female	494 (91.5%)	18 (100%)	303 (90.7%)	90 (92.8%)	29 (90.6%)
Highest qualification	n=539	n=18	n=334	n=97	n=32
Degree	43 (8.0%)	0 (0%)	21 (6.3%)	10 (10.3%)	6 (18.8%)
A-Level or equivalent	434 (80.5%)	16 (88.9%)	291 (87.1%)	69 (71.1%)	19 (59.4%)
Other	62 (11.5%)	2 (1.1%)	22 (6.6%)	18 (18.6%)	7 (21.8%)
Year of study	n=539	n=18	n=332	n=97	n=32
1	257 (47.6%)	12 (66.7%)	155 (46.4%)	35 (36.1%)	15 (46.9%)
2	132 (24.4%)	4 (22.2%)	81 (24.3%)	27 (27.8%)	11 (34.4%)
3	113 (20.9%)	2 (11.1%)	74 (22.2%)	29 (29.9%)	2 (6.3%)
4	37 (6.9%)	0 (0%)	24 (7.2%)	6 (6%)	4 (12.5%)
Branch	n=539	n=18	n=332	n=97	n=32
Adult	407 (75.4%)	12 (66.7%)	247 (74.0%)	79 (81.4%)	27 (84.4%)
Child	77 (14.3%)	3 (16.7%)	58 (17.4%)	10 (10.3%)	0 (0%)
Mental health	43 (8.0%)	3 (16.7%)	21 (6.3%)	8 (8.2%)	5 (15.6%)
Learning disabilities	12 (2.2%)	0 (0%)	8 (2.4%)	0 (0%)	0 (0%)

M = mean; SD = standard deviation

Table 2. Demographic characteristics of nurses who took part in the study: exercise						
	Full sample n=540	Underweight n=18	Healthy weight n=334	Overweight n=97	Obese n=32	P
Do you take part in physical exercise for more than 30 minutes on most days of the week?	n=534	n=18	n=331	n=96	n=32	
Yes, for more than 6 months	201 (37.2%)	6 (33.3%)	148 (44.3%)	29 (29.9%)	8 (25.0%)	0.001***
Yes, for less than 6 months	93 (17.2%)	2 (11.1%)	50 (15.0%)	24 (24.7%)	7 (21.9%)	
No, but intend to in next month	93 (17.2%)	2 (11.1%)	54 (16.2%)	20 (20.6%)	7 (21.9%)	
No, used to	58 (10.7%)	4 (22.2%)	38 (11.4%)	4 (4.1%)	4 (12.5%)	
No, but intend to in next 6 months	67 (12.4%)	3 (16.7%)	31 (9.3%)	16 (16.5%)	6 (18.8%)	
No, do not intend to	22 (4.1%)	1 (5.6%)	10 (3.0%)	3 (3.1%)	0 (0%)	
Do you meet recommendations for physical activity?	n=534	n=18	n=331	n=96	n=32	
Yes	294 (55.1%)	8 (44.4%)	198 (59.8%)	53 (55.2%)	15 (46.9%)	0.008**
No	240 (44.9%)	10 (55.6%)	133 (40.2%)	43 (44.8%)	17 (53.1%)	

*SD = standard deviation ***p<=0.001 **p<=0.01 * p<=0.05*

Table 3. Dietary habits (full sample and by weight distribution)						
	Full Sample	Underweight	Healthy weight	Overweight	Obese	P
	n=540	n=18	n=334	n=97	n=32	
Do you eat five servings of fruit and vegetables each day?	n=536	n=18	n=332	n=95	n=32	
Rarely	72 (13.3%)	3 (16.8%)	44 (13.2%)	11 (11.3%)	6 (18.8%)	0.21
Sometimes	316 (58.5%)	14 (77.8%)	187 (56.0%)	58 (59.8%)	16 (50.0%)	
Everyday	148 (27.4%)	1 (5.6%)	101 (30.2%)	26 (26.8%)	10 (31.3%)	
Do you eat food that is high in fat?	n=535	n=18	n=332	n=94	n=32	
Rarely	98 (18.1%)	1 (5.6%)	67 (20.1%)	16 (16.5%)	5 (15.6%)	0.76
Sometimes	316 (58.5%)	12 (66.7%)	189 (56.6%)	58 (59.8%)	22 (68.8%)	
Everyday	121 (22.4%)	5 (27.8%)	76 (22.8%)	20 (20.6%)	5 (15.6%)	
Do you eat sugary foods?	n=535	n=18	n=332	n=94	n=32	
Rarely	156 (28.9%)	8 (44.7%)	103 (30.8%)	26 (26.8%)	6 (18.8%)	0.09
Sometimes	256 (47.4%)	3 (16.7%)	163 (48.8%)	42 (43.3%)	16 (50.0%)	
Everyday	123 (22.8%)	7 (38.9%)	66 (19.8%)	26 (26.8%)	10 (31.3%)	
I currently eat healthily	n=483	n=14	n=229	n=85	n=31	
Yes	363 (67.2%)	10 (55.6%)	239 (71.6%)	60 (61.9%)	20 (62.5%)	0.03*
No	120 (22.2%)	4 (22.2%)	60 (18.0%)	25 (25.8%)	11 (34.4%)	
I intend to eat healthily in the next six months	n=426	n=17	n=251	n=80	n=28	
Yes	398 (73.7%)	16 (88.9%)	239 (71.6%)	73 (75.3%)	26 (81.3%)	0.36
No	28 (5.2%)	1 (5.6%)	12 (3.6%)	7 (7.2%)	2 (6.3%)	
I have been eating healthily for the past six months	n=400	n=13	n=240	n=72	n=27	
Yes	250 (46.3%)	8 (44.4%)	168 (50.3%)	40 (41.2%)	11 (34.4%)	0.002**
No	150 (27.8%)	5 (27.8%)	72 (21.6%)	32 (33.0%)	16 (50.0%)	
I used to eat healthily but I don't anymore	n=378	n=13	n=223	n=69	n=27	
Yes	70 (13.0%)	3 (16.7%)	37 (11.1%)	13 (13.4%)	7 (21.9%)	0.73
No	308 (57.0%)	10 (55.6%)	186 (55.7%)	56 (57.7%)	20 (62.5%)	

***p<=0.001 **p<=0.01 * p<=0.05

Table 4. Smoking habits and alcohol consumption (full sample and by weight distribution)

Smoking habits						
	Full sample n=540	Underweight n=18	Healthy weight n=334	Overweight n=97	Obese n=32	P
Do you smoke cigarettes?	n=539	n=18	n=333	n=97	n=32	
Yes	88 (16.3%)	3 (16.7%)	51 (15.3%)	15(15.5%)	5 (15.6%)	0.61
No	451 (83.5%)	15 (83.3%)	282 (84.4%)	82 (84.5%)	27 (84.4%)	
Have you ever smoked while on the course?	n=534	n=18	n=330	n=96	n=32	
Yes	138 (25.6%)	5 (27.8%)	83 (24.9%)	28 (28.9%)	8 (25.0%)	0.94
No	396 (73.3%)	13 (72.2%)	247 (74.0%)	68 (70.8%)	24 (75.0%)	
Alcohol consumption						
	Full sample n=540	Underweight n=18	Healthy weight n=334	Overweight n=97	Obese n=32	P
Frequency of standard drink	n=540	n=18	n=334	n=97	n=32	
Never	39 (7.2%)	2 (11.1%)	23 (6.9%)	5 (5.2%)	5 (15.6%)	0.092
Monthly or less	75 (13.9%)	1 (5.6%)	35 (10.5%)	20 (20.6%)	9 (28.1%)	
2-4 times a month	218 (40.4%)	6 (33.3%)	148 (44.3%)	36 (37.1%)	7 (21.9%)	
2-3 times a week	181 (33.5%)	8 (44.4%)	108 (32.3%)	33 (34.0%)	10 (31.3%)	
4 or more times a week	27 (5.0%)	1 (5.6%)	20 (6.0%)	3 (3.1%)	1 (3.1%)	
Number of standard drinks per drinking day	n=540	n=18	n=334	n=97	n=32	
Do not drink	39 (7.2%)	2 (11.1%)	21 (6.3%)	5 (5.2%)	6 (18.8%)	0.12
1-2	119 (22.0%)	3 (16.7%)	64 (19.2%)	31 (32.0%)	9 (28.1%)	
3-4	168 (31.1%)	7 (38.9%)	107 (32.0%)	31 (32.0%)	8 (25.0%)	
5-6	125 (23.1%)	3 (16.7%)	86 (25.7%)	16 (16.5%)	6 (18.8%)	
7-9	54 (10.0%)	1 (5.6%)	39 (11.7%)	5 (5.2%)	1 (3.1%)	
10 or more	35 (6.5%)	2 (11.1%)	17 (5.1%)	9 (9.3%)	2 (6.3%)	

***p<0.001 **p<0.01 * p<0.05

Table 5. Attitudes towards being a role model for health behaviours (full sample and by weight distribution)

	Full sample n=540	Underweight n=18	Healthy weight n=334	Overweight n=97	Obese n=32	P
Patients will listen to my advice on health behaviours more if I appear to follow that advice myself	n=537	n=18	n=334	n=97	n=32	
Strongly agree	148 (27.4%)	4 (22.2%)	102 (30.5%)	23 (23.7%)	8 (25.0%)	0.59
Agree	329 (60.9%)	13 (72.2%)	199 (59.6%)	61 (62.9%)	19 (59.4%)	
Neutral	43 (8.0%)	0 (0%)	25 (7.5%)	9 (9.3%)	5 (15.6%)	
Disagree	14 (2.6%)	1 (5.6%)	7 (2.1%)	3 (3.1%)	0 (0%)	
Strongly disagree	3 (0.6%)	0 (0%)	1 (0.3%)	1 (1.0%)	0 (0%)	
I find it difficult to promote health behaviours if I do not carry them out myself	n=537	n=18	n=334	n=97	n=32	
Strongly agree	69 (12.8%)	0 (0%)	48 (14.4%)	9 (9.3%)	6 (18.8%)	0.38
Agree	232 (43.0%)	10 (55.6%)	147 (44.0%)	38 (39.2%)	15 (46.9%)	
Neutral	121 (22.4%)	3 (16.7%)	74 (22.2%)	28 (28.9%)	7 (21.9%)	
Disagree	101 (18.7%)	5 (27.8%)	57 (17.1%)	19 (19.6%)	3 (9.4%)	
Strongly disagree	14 (2.6%)	0 (0%)	8 (2.4%)	3 (3.1%)	1 (3.1%)	
Smoking while wearing a nurse's uniform should be banned	n=538	n=18	n=334	n=97	n=32	
Strongly agree	192 (35.6%)	7 (38.9%)	110 (32.9%)	45 (46.4%)	15 (46.9%)	0.10
Agree	178 (33.0%)	6 (33.3%)	118 (35.3%)	21 (21.6%)	12 (37.5%)	
Neutral	115 (21.3%)	3 (16.7%)	72 (21.6%)	21 (21.6%)	2 (6.3%)	
Disagree	44 (8.1%)	1 (5.6%)	31 (9.3%)	8 (8.2%)	2 (6.3%)	
Strongly disagree	9 (1.7%)	1 (5.6%)	3 (0.9%)	2 (2.1%)	1 (3.1%)	
My learning on the course has changed my own health behaviours	n=535	n=18	n=334	n=97	n=32	
Strongly agree	27 (5.0%)	0 (0%)	17 (5.1%)	7 (7.2%)	2 (6.3%)	0.42
Agree	188 (34.8%)	3 (16.7%)	111 (33.2%)	32 (33.0%)	15 (46.9%)	
Neutral	200 (37.0%)	9 (50.0%)	125 (37.4%)	38 (39.2%)	10 (31.3%)	
Disagree	110 (20.4%)	5 (27.8%)	74 (22.2%)	17 (17.5%)	4 (12.5%)	
Strongly Disagree	10 (1.9%)	1 (5.6%)	4 (1.2%)	3 (3.1%)	1 (3.1%)	
My physical appearance affects the way I am perceived as a nurse	n=535	n=18	n=334	n=97	n=32	
Strongly agree	81 (15.0%)	2 (11.1%)	60 (18.0%)	10 (10.3%)	4 (12.5%)	0.05*
Agree	319 (59.1%)	14 (77.8%)	197 (59.0%)	59 (60.8%)	16 (50.0%)	
Neutral	90 (16.7%)	1 (5.6%)	53 (15.9%)	16 (16.5%)	8 (25%)	
Disagree	40 (7.4%)	1 (5.6%)	20 (6.0%)	12 (12.4%)	2 (6.3%)	
Strongly disagree	5 (0.9%)	1 (5.6%)	2 (0.6%)	0 (0%)	2 (6.3%)	

