

Assessment of the curriculum for undergraduates and postgraduates regarding obesity prevention and management



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Abstract

It was recommended in The Report of the National Taskforce on Obesity (2005) that the HSE establish that the curriculum for undergraduates and postgraduates in relevant health sciences should provide training in appropriate and sensitive obesity prevention and management. There are many courses and programmes available in Ireland that includes aspects of obesity prevention and management on their curriculum. However, it would be difficult to carry out a systematic assessment due to the diversity and quantity of courses available. Therefore the National Nutrition Surveillance Centre (NNSC) invited third level educational institutions to submit a case study, whereby they would be given the opportunity to describe if and how various aspects of obesity are covered in their curriculum. The aim of this report is to build a profile of exemplars of best practice in obesity education in the health sciences at undergraduate and postgraduate level in Ireland. In total, 10 institutions submitted case studies from a variety of courses including nursing, midwifery, medicine and allied health courses. Traditional lectures and tutorials ensure that students enrolled in these courses are inherently aware of the global concern of overweight and obesity. However, although obesity is not taught as an independent module thus far, it is integrated to varying degrees in allied modules with the focus being theory driven with particular emphasis on causes and prevention.

Introduction

The World Health Organisation defines overweight and obesity as 'abnormal or excessive fat accumulation that may impair health'¹. Rising rates of overweight and obesity pose a serious public health challenge worldwide, with particular marked

trends evident in Ireland, as the weight of adults and children increases disproportionately to height (WHO, 2010; Morgan *et al* 2007; Perry *et al* 2009).

According to the third national Survey of Lifestyle, Attitudes and Nutrition in Ireland self-reported adult overweight and obesity rates have increased from 31% and 11% respectively in 1998 to 36% and 14% in 2007 (Morgan *et al*, 2007). However, the latter figures are in contrast to an independently measured representative sub sample of the group where 39% of the adult population was overweight and 25% obese. Similarly, the North South Ireland Food Consumption Survey estimates that 39% and 18% of Irish adults are overweight and obese (IUNA 2001). It is important to distinguish between self-reported BMI which underestimates overweight and obesity (Shiely *et al*, 2010).

Obesity and overweight in children is also a concern, as demonstrated throughout the literature. A study carried out in 2008 by the WHO European Childhood Obesity Surveillance Initiative Ireland reported that 8% and 5% of seven year old girls and boys respectively were obese and 19% of girls and 13% of boys were overweight (Heavey *et al* 2010). Furthermore findings from longitudinal data sets on cohorts of Irish children found that one in four nine year olds was overweight or obese (ESRI 2009). These trends are comparable to those observed by Whelton *et al* (2002) who analysed data from the North South Survey of Children's Height, Weight and Body Mass Index 2002. It was found that almost one in four boys and over one in four girls in both Northern Ireland and the Republic of Ireland were overweight or obese. The data observed are consistent with results from the National Children's Food Survey of Ireland who found that 35% of Irish children aged five to twelve years were overweight and 13% were obese which signifies a two-to-fourfold increase in obesity in Irish children aged 8–12 years since 1990 (IUNA 2005). Interestingly a cross national research study of young people aged 11, 13 and 15 years old in England, Ireland, Scotland and Wales, The Health Behaviour in School-Aged Children (HBSC)

Study 2006, found that 13.5% of Irish children self reported that they were overweight (HBSC, 2006).

Obesity is a multisystem disease with devastating consequences. There are strong associations between obesity in childhood and obesity in adulthood with reports that four out of five obese teenagers remain obese in adulthood (Whitaker *et al* 1997). Moreover, it has been noted that over 60% of children who are overweight before puberty will be overweight in early adulthood thus reducing the average age at which non-communicable diseases become apparent (Branca *et al* 2007). As obesity in childhood frequently tracks into adulthood, increases in childhood overweight and obesity are major contributors to the adult obesity epidemic (Berenson 2002). Children who are overweight and obese will experience many of the health problems associated with adult obesity such as endocrine, musculoskeletal, psychological, cardiovascular and respiratory problems (WHO 2010; Ebbeling *et al* 2002). According to IARC (International Agency for Research on Cancer) avoiding weight gain reduces the risk of certain cancers (Calle and Kaaks 2004). There is a positive association between increased body weight and death from all cancers (Calle *et al* 2003).

Obesity has a multifactorial genesis (Palou *et al* 2000) encompassing a combination of metabolic, genetic, environmental and behavioural components (Oken & Gillman 2003). However, a major cause of overweight and obesity in children is similar to that in adults - a shift in the balance between energy intake and energy expenditure.

The National Task Force on Obesity (NTFO) was established by the Department of Health and Children in 2004 to 'develop a strategy to halt the rise and reverse the prevalence of obesity' in Ireland (DoHC 2005). The subsequent strategy document, 'Obesity – The Policy Challenge, The Report of the National Taskforce on Obesity 2005' identified 93 recommendations relating to actions across six target areas

namely high-level government, education, social and community, health, food commodity, production and supply, and physical environment.

Recommendation 10 (Action by the Health Sector) of the National Task Force on Obesity (NTFO) states that '*The curriculum for undergraduates and postgraduates in relevant health sciences should include training in appropriate and sensitive obesity prevention and management*' (DoHC 2005). A review of undergraduate and postgraduate curriculum in relation to obesity is necessary to develop this recommendation; to date there has been little progress on this proposal.

In 2009 the NNSC carried out a training needs assessment of health professionals in Ireland including GPs, nurses and dietitians (NNSC 2009) who work with overweight and obese children. When asked to assess their perceived skills for treating overweight children, approximately 78% of nurses and dietitians and almost 70% of GPs acknowledged that further training is required in this area. All groups expressed an interest in further training in all aspects of obesity management surveyed, with a high to moderate interest expressed in supplementary instruction in the use of behavioural management strategies in addition to guidance in parenting techniques. Moreover 92% and 85.4% of GPs and nurses respectively reported having received no formal training in the management of childhood overweight and obesity. Similarly, over half of all dietitians surveyed stated that they had not completed training in the management of childhood overweight and obesity.

The data observed are consistent with results from Kristeller *et al* (1997), who surveyed 1,222 physicians in the US regarding their attitudes toward managing obesity. It was reported that, among the six specialty groups studied (family practice, internal medicine, endocrinology, cardiology, gynecology and orthopedics), family practitioners, internists and endocrinologists in particular indicated that further skills training was important in weight management. Likewise Jay *et al* (2008), while

determining the obesity care training needs of senior residents in internal medicine, paediatrics and psychiatry at New York University School of Medicine, found that one in five residents self reported to be inadequately skilled in each survey item compiled to assess physicians perceived competency in treating and preventing obesity. Results showed that almost half of all respondents were unable to address their patient's questions relating to obesity treatment options and over 30% of residents were unable to set target weight loss, lifestyle and physical activity goals.

A survey administered to a sample of internal medicine residents in the US found that 91% of respondents reported that they had received no 'special obesity training' despite estimating the prevalence of obesity in their patient population to be 70% or greater (Block *et al* 2003). Furthermore, over one third of residents surveyed miscalculated their own BMI and more than half felt unqualified to treat obese patients, subsequently recording unsuccessful treatment outcomes. The authors recognised that medical students and residents had a knowledge deficit in the means required to identify and evaluate obesity.

More recently a survey of residency program directors in the US found that just 18.1% of respondents recorded a formal curriculum in childhood obesity (Wolff *et al* 2010).

Aim

The aim of this report is to build a profile of exemplars of best practice in obesity education in the health sciences at undergraduate and postgraduate level in Ireland.

Methodology

Currently in Ireland there is a considerable range of health sciences programmes available at both undergraduate and postgraduate level. Due to the multiplicity of courses offered it was noted that a questionnaire/survey would not provide a comprehensive overview of the measure of obesity education provided in individual courses. Therefore it was agreed that by inviting third level educational institutions to submit a case study, each course would be given the opportunity to describe if and how various aspects of obesity are covered in their curriculum. Heading and topics, although not obligatory to apply were provided as a template (Appendix 1).

Third level institutions were invited to propound exemplars of best practice. The invitation to submit case studies was fielded between August 2010 and December 2010 and sent to course directors in the following disciplines:

Nursing, including midwifery courses

Medicine

Nutrition, Dietetic, Public Health courses

Education including physical education courses

In total, 31 letters were sent out to the various departments in different third level institutions. Non-responders were sent a reminder letter.

Results

In total, 11 courses submitted case studies. The following is a summary of exemplars of best practice regarding obesity education at undergraduate and postgraduate level within the health sciences. Exemplars are divided by course type, i.e. Nursing; Midwifery; Medicine; Sports Studies and Physical Education; Nutrition; and Education.

Nursing

Case Study 1: Dublin City University - Nursing

The School of Nursing at Dublin City University is running its inaugural nutrition module for nursing students entitled 'Food, Nutrition & Health', coordinated by Dr. Mary Rose Sweeney.

Indicative module content:

Introduction to nutrition as a science – history, evolution, current day use

Normal nutritional requirements in health – building blocks needed for normal growth and development

Normal caloric requirements – BMR, energy requirements/kcal/day, energy expenditure and factors affecting it

Macronutrients (proteins, carbohydrates and lipids) in normal human growth and development – roles, co-enzyme roles, deficiencies, excess, RDAs

Micronutrients (e.g. vitamins, trace elements) in normal human growth and development – co-enzyme roles, deficiencies, excess, RDAs

Under nutrition – famines, food security, impact of global warming on food security

Over nutrition – e.g. obesity, type II diabetes, CDH, cancer.

Research methods in nutrition – methods used for assessing nutrient intake and status – anthropometry, FFQs, weighed records, DEXA, metabolic markers, insulin, serum lipids etc

Social factors influencing diet choices and practices

Appreciate the negative role of commercialisation on food production and distribution

The course work on this programme is a single essay style assignment where the student is asked to explore the effectiveness of public policy in an area related to nutrition and to review the implementation of the most relevant / pertinent policy documents in the area. It is planned that this will be in relation to obesity for the first year of this module and the main document under study will be “The Report of the National Taskforce on Obesity, 2005”.

In addition to this Dublin City University has recently received accreditation for a new programme, BSc. Health and Society (Bachelor Honours Degree), which commences in September 2011 within the School of Nursing.

Case Study 2: University College Cork - Nursing

Obesity is not taught as an individual module on the BSc undergraduate nursing programme but it transcends across a lot of modules. It is covered in detail in the NU1034 and NU4024 modules (see description below). In the NU2032 (nutrition module) the incidence of adult and childhood obesity is discussed and obesity is discussed briefly in relation to risk factors for cancer in the NU3041 module. Obesity is addressed in relation to eating disorders and the significant weight gain which results as a major debilitating side effect from taking certain anti psychotic medications on the mental health programme.

Obesity Prevention, Management and Treatment

The NU1034 is a five credit module delivered to all BSc nursing students in Year 1 and the students have two separate lectures on obesity. The NU4024 is a 5 credit module delivered to fourth years across all disciplines and the lecture on obesity builds on two NU1034 module lectures on obesity completed in year 1 where students explore obesity.

The module content of the NU1034 module includes concepts of health; determinants of health; concepts of health; development of health promotion; theories of change; approaches to health promotion. The students have two separate lectures on obesity. One given by the Department of Epidemiology staff and the second from Nursing lecturers. Initially the students review obesity from an international Perspective and explore an International Obesity Task Force model. The students explore the determinants of obesity from a societal level and examine the current epidemiological perspective of obesity in all populations. The students review the prevention of obesity from a policy and societal perspective. The National Task Force on Obesity prevention model is examined and the role of the nurse explored. The students examine the prevention of obesity from an individual level using practice examples of planning a healthy diet using the food pyramid (Child pyramid used with child scenarios).

In the NU4024 module, the lecture on obesity builds on the two NU1034 module lectures on obesity completed in year 1 where students explore obesity. After exploring the global issue of obesity the students review the European problem of obesity. The implication of obesity / poor diet on health is examined. The multifactorial influences on diet, food choices and the obesogenic environment are examined. The social and cultural aspects of eating and meals are discussed (challenges / problems). The role of the nurse in the management and prevention of

obesity is examined at an individual level. The use of communication models are examined in relation to the facilitation of patient empowerment, education, motivation and skills acquisition for prevention and management of obesity.

The School of Nursing and Midwifery UCC also provided a summary of teaching for obesity in Intellectual Disability Nursing:

Currently for the BSc undergraduate programme obesity is discussed in the NU2043 and NU3034 module in relation to syndromes and conditions. All lectures are evaluated as part of the modules so therefore a specific evaluation on obesity would not be available.

Obesity and Intellectual Disability

The World Health Organisation (2004) has defined obesity as a major health concern on an international level for those with and without intellectual disabilities. It is generally accepted that people with intellectual disabilities are at an increased risk of being overweight and are three times more likely to be obese (Janicki, 2002) in comparison to their peers in the general population. The International Association for Scientific Study of Intellectual disabilities (Lennox et al 2002) has indicated that managing obesity in this population should be a priority as it can reduce life expectancy and place people at an increased risk of developing serious health conditions such as heart disease, diabetes and cancer (Bradley, 2005). Obesity has been described as the accumulation and excessive storage of fat on the body caused by excessive calorie intake. Level of obesity is calculated using Body Mass Index. Morbid obesity is classified when body weight is 70% more than the ideal weight for specific individuals (Freshwater and Maslin-Prothero, 2005).

Some determinants of obesity in people with intellectual disabilities include gender (women are more at risk), increasing age starting from 34 years of age onwards, level of learning disability (people with a mild or moderate intellectual disability are at an increased risk), the manifestation of specific syndromes (Down syndrome and

Prader-Willi), the side effects of medications (anti-depressants and anti-epileptic drugs) and living arrangements (those living at home or independently are at a higher risk) (Melville et al, 2007). Additionally, primary barriers to physical activity that have been highlighted include unclear policy guidelines, *ad hoc* provision of leisure opportunities, inadequate resources, transport and staffing constraints as well as low income. Secondary barriers include an individual's motivation, whether people are supported and encouraged to be more physically active and over protection and undermining of good practice by parents / carers. However, despite compounding evidence on the increases risk of obesity and related health concerns, there is a definite lack of evidence on how intellectual disability services can best address obesity and inactivity (Chapman, Craven and Chadwick, 2005).

Thus obesity presents many challenges for individuals with intellectual disabilities, their carers, and intellectual services and a variety of interventions can be employed in the management of this condition. Such interventions may include advice with exercise and diet, participation in health promotion initiatives, access to dietitian and behavioural interventions. Behavioural interventions may be particularly beneficial in the development of life skills around food preparation, food consumption and maintenance of balanced diets and exercise plans (Sharma, 2006). The prevention and treatment of obesity must focus on both physical activity and nutrition behaviours. Nutritional behaviours include the realisation that one must increase fruit and vegetable consumption, decrease fat intake, reduce carbonated drinks intake, ensure adequate consumption of water and restrict portion sizes (Sharma, 2007).

An example of a case study in intellectual disability nursing that students' have to address:

Jane is a 26 year old woman with moderate intellectual disability (IQ between 35-41 as defined by the ICD-10, World Health Organisation 1996) and Down syndrome. She lives in a community home with two of her peers with the support of a community

health care professional (Registered Nurse in Intellectual Disability [RNID]). She has good communication skills and enjoys interacting with people. Jane has poor muscle tone (hypotonia), suffers from obesity and does not like to participate in regular exercise. In relation to her diet she needs encouragement to eat fruit and vegetables as part of a balanced diet. Additionally, she has poor fluid intake and needs to be reminded to take drinks during the day. Recently it has been noted that Jane is spending a lot of time in her bedroom and is reluctant to help out with meal preparation.

- *How would you support Jane to minimise the effects of obesity?*
- *How would you ensure adequate food and fluid intake?*
- *What other actions might you consider to support Jane?*
- *What factors have influenced your decision?*

Case Study 3: Trinity College Dublin - Nursing

The School of Nursing, Trinity College Dublin, has a clear philosophy concerning clients and families and the profession of nursing; the provision of nursing education; and the conduct of nursing research. The School is dedicated to excellence in practice, education and research. The philosophy guiding undergraduate programmes in nursing at the School incorporates the concepts and principals of health, humanism and adult education. The practice of nursing endeavours to foster health which incorporates the process of social, physical and mental wellbeing of individuals, communities and families. Nursing knowledge is utilised to inform proactive and responsive actions, which are ethical, accountable and responsive to the health care needs of the individual, the family, the community and the society. This philosophy has driven our curriculum which is responsive to national and international policies and practices and it is in this context that instruction on obesity prevalence, prevention, and management and treatment is delivered.

All undergraduate nursing students (General, Psychiatric, Intellectual Disability and Children's) undertake a shared module on health promotion in Year 1 which focuses specifically on the recommendations of the Report of the National Taskforce on Obesity. Obesity is identified as a key determinant of health, its prevalence and implications for health care provision are examined and reference is made to the findings of the SLAN surveys. Assessment of this module requires students to choose from a list of health promotion topics, one of which is obesity.

Students enrolled in the Intellectual Disability Nursing strand of the undergraduate degree programme receive instruction on nutritional care for the person with an intellectual disability. This includes the importance of the use of BMI, recognition of the prevalence of obesity and the potential influence of medication. Similarly, students undertaking the Children's strand of the nursing programme receive instruction in the components of adequate nutritional intake for infants and children.

In Year 2 of the programme the nursing care of all the main medical and surgical conditions is taught. Obesity is discussed as a major factor contributing to the development of chronic illnesses such as hypertension, heart disease and diabetes. Nutritional assessment is explained as are the components of a balanced diet and healthy lifestyle, key aspects of the nurse's role in caring for patients. Many students, while carrying out assignments, discuss the role of the nurse in the prevention of obesity through promotion of healthy eating and exercise. Students from all nursing disciplines receive one lecture on the psychology of obesity. This is also one of four topics on which students present a poster and it is a popular choice among undergraduates. Those undertaking the psychiatric nursing strand of the programme receive instruction in obesity for people with mental illness. Complications as a result of obesity are also examined to highlight how complex care can become. Aspects of managing weight gain and obesity and exploring treatment options from health

education to bariatric surgery are covered also. NICE guidelines on obesity are used to cement the evidence base for practice.

The content assess student's knowledge of defining and diagnosing obesity e.g. using the BMI and role of the mental health nurse in some aspect of caring from someone who is obese and what this might entail for their mental and physical health. One of the main challenges in teaching this part of the psychiatric nursing strand of the programme is trying to get people to think outside of the mental health 'box'. This requires a change in attitude towards mental health care by looking at the clients physical needs also. Lecturers endeavour to explore how this theory can be used to improve the physical health of clients. Another challenge is to determine how the classroom teaching is improving practice and whether students have the support in practice to care plan for clients that are overweight or obese.

In Years 3 and 4 obesity is not taught specifically in one module or in isolation from other health care needs. Nursing students are expected to address, where relevant, how obesity can influence the development of some condition, the treatment and nursing care required from an individualistic perspective.

The MSc in Mental Health (Child, Adolescent and Family strands) includes specific content relating to diabetes and eating disorders in children and adolescents are addressed. Obesity, although not addressed in isolation, is often considered through student led course work.

Midwifery

Case Study 4: University College Cork - Midwifery

Summary of teaching for obesity in pregnancy

Currently for the Higher Diploma in Midwifery and the BSC Midwifery programme the School of Nursing and Midwifery at University College Cork incorporate a two hour

lecture on obesity in pregnancy and the implications associated with same. Another four hours is dedicated to incorporating the CMACE Report (2007) and recommendations into midwifery practice and also the CMACE/RCOG on the Management of Women with Obesity in Pregnancy (2010).

Women with a BMI above 29 are referred to the obstetric clinic for antenatal care as they are deemed to be at high risk during pregnancy and childbirth and thus would be monitored more closely.

Advice and pregnancy care is discussed below. Lectures are initially given in a didactic manner but once the students have gained information and clinical experience the sessions become interactive, student led and there is presentation of case histories.

In relation to diet and exercise in pregnancy lectures are given regarding what is a healthy diet? The importance of folic acid, zinc and iron in the diet of a pregnant woman and relate the information to the individual based on recommendations of the above reports. Also included are foods that may harm during pregnancy. Lectures are given re infant feeding – both formula and breast feeding and the lifelong implications on health of both mother and baby. The 20 hour UNICEF Breastfeeding program is given to all students.

All lectures are evaluated as part of a Midwifery module so therefore specific evaluations on subject matter would not be available.

The School of Nursing and Midwifery UCC provided an extract of the philosophy behind their Midwifery courses in addition to course content:

Obesity and Pregnancy

The meaning of being both obese and pregnant is living with a constant awareness of the body, and its constant exposure to the close observation and scrutiny of others. It involves negative emotions and experiences of discomfort. Feelings of

discomfort increase as a result of humiliating treatment, whilst affirmative encounters alleviate discomfort and provide a sense of wellbeing. In a study by Nyman et al – (in press) they state that:

‘The woman’s constant awareness of their obesity was something they could not hide; it was permanently scrutinised by others and created feelings of shame.’

Obese pregnant women are a vulnerable group because obesity is highly visible. Caregivers tend to focus on providing care to obese patients somatically, but are additionally in need of knowledge about care from the woman’s point of view. Many obese women have negative experiences of health care that they have to overcome, therefore, it is necessary to individualise care for obese pregnant women, which involves taking time to give the women an opportunity to tell their own story. Caregivers have to promote health but it has to be done honestly and respectfully. In order to avoid judgemental attitudes and causing increased suffering for obese pregnant women, midwives and physicians need to be conscious of, reflect upon and verbalise their own attitudes and power.

Maternal weight and BMI is calculated at start of pregnancy. The average weight gain in pregnancy 7-18 kgs. Repeated weighing not indicated unless there are concerns such as:

- Low BMI (< 18)

Congenital abnormalities, IUGR, prematurity

- High BMI (<29)

Hypertension, DVT, diabetes

Maternal obesity carries significant risks for the mother and foetus. The risk increases with degree of obesity and persists after accounting for other confounding

demographic factors. The basis of many of the complications is likely to be related to the altered metabolic state associated with morbid obesity.

Compared to women with normal BMI, the following outcomes were significantly more common for women with a BMI 25-30 and BMI 30 respectively.

For the mother

- *Maternal death or severe morbidity*
- *Cardiac disease*
- *Spontaneous 1st trimester and recurrent miscarriage*
- *Pre-eclampsia*
- *Gestational diabetes mellitus*
- *Thromboembolism*
- *Induction of Labour*
- *Preterm births*
- *Delivery by emergency C/S*
- *Post caesarean wound infection*
- *Infection from other causes – puerperal sepsis*
- *Post partum haemorrhage*
- *Low breastfeeding rates*

For the baby

- *Stillbirth and neonatal death*
- *Congenital abnormalities*
- *Prematurity*

CEMACH (2007) state in their review that:

Obese pregnant women with a body mass index (BMI) > 30 are far more likely to die.

Where possible, obese women should be helped to lose weight prior to conception or receiving any form of assisted reproductive technologies (ART).

Women with BMI > 35 should receive additional A/N visits (high risk clinic) including thrombosis and anaesthetic assessment.

Obesity contributed to difficulties in the resuscitation of some of these women.

Content of lecture

Issues in accessing standard maternity care –

- *Large B/P cuffs required*
- *Difficult I/V access*
- *TED stockings – risk of DVT*
- *Difficult to palpate abdomen, auscultate FH, US difficult*
- *Appropriate beds, trolleys, staff for moving women*
- *Co-existing morbidities – diabetes, hypertension (can be missed)*

Antenatal discussion –

- *Reduced mobility*
- *Psychological factors for parents*
- *Nutritional advice – dietitian*
- *Dieting in pregnancy*
- *Advise on sensible eating*
- *Infant feeding*
- *Risks for woman – diabetes, hypertension, DVT, infection, instrumental birth*
- *Shoulder dystocia*
- *Baby – IUGR, macrosomia, preterm birth*

Plan for labour –

- *Spontaneous labour or induction*
- *Inform senior obs, anaes and paedS if in labour*
- *Assessment of progress may be difficult*
- *Assessment of foetal wellbeing*
- *Early epidural recommended*
- *I/V sited*
- *Vaginal birth preferred outcome*

Concerns for emergency C/S –

- *Anaesthetic risks, difficult intubation or spinal anaesthetic*
- *Epidural in labour preferred option for analgesia*
- *May be difficult to site so early epidural preferred (long cannulae required)*
- *HDU care post-operatively*
- *Respiratory support (O₂), chest physio, adequate analgesia*
- *Delayed wound healing infection, dehiscence*

Take home message –

- *Obesity carries increased risk of morbidity and mortality*
- *Obesity levels are increasing*
- *Morbidly obese women should be seen at high risk clinic*
- *Special equipment requires*
- *An early epidural in labour may be beneficial*
- *Avoid GA if possible*
- *Postpartum weight management advice*

UCC provided a reference list for (Midwifery) course content please see Appendix 2

An example of a case study in midwifery that students have to address:

Marie is a 27 year old and was delighted to find she was expecting her second baby. Her first pregnancy was uneventful. Marie's body mass index was 31kg/m²

At her 12 week booking visit and when she was reviewed at 18 weeks she had already gained 8kgs from her pre-pregnancy weight. On review of her lifestyle it revealed that she took no regular exercise and though her diet was predominantly vegetarian it was high in saturated fats and refined carbohydrates.

What is the normal weight gain in pregnancy?

What advice should Marie be given regarding her diet?

What advice should be given regarding exercise in normal pregnancy?

How should Marie's pregnancy be managed?

What are the increased risks to Marie and her unborn baby?

How effective is pre-pregnancy care in reducing risks of complications in women with a high BMI?

Case Study 5: Trinity College Dublin - Midwifery

Content related to obesity in midwifery at postgraduate level is delivered through specific modules. For example in Higher Diploma modules 7005 *Pathophysiology* and 7008 *Unexpected outcomes of pregnancy and childbirth* there are four hours dedicated to obesity in pregnancy, two hours directed study and two hours feedback from students using national guidelines and literature. Diet and exercise are taught as relevant for all overweight and obese women, however, extra emphasis on avoiding excessive extra weight gain in pregnancy as part of health promotion is included with reference to social theory to help students to address the social basis for differently distributed health issues such as obesity. In the submission of assessments and course work midwifery students are required to reference the CMACE/RCOG Report on the Management of Women with Obesity in Pregnancy (2010).

Medicine

Case Study 6: University College Dublin - Medicine

Within the School of Public Health, Physiotherapy, and Population Science final year medical students take a Public Health Medicine module which draws on the clinical knowledge of students and further develops the student understanding of the population perspective of health and public health medicine principles and practice. Part of the module focuses on the epidemiology of chronic disease and the corresponding formulation of health policy and health promotion to address these issues from a public health perspective.

Students are provided with a 2 hour lecture on obesity followed by a 1 hour small group tutorial where they are asked to review the Report of the National Taskforce on Obesity and also the subsequent progress report of the Obesity Implementation Group. Students are asked to discuss the reports with a view to understanding: the multifactorial nature of the diseases and the necessary multisectoral approach to tackling the problem;

The role of stakeholders, international advocacy groups;

The importance of surveillance information

The role of primary, secondary, and tertiary level health services in addressing the problem

The clinical management of obesity is taught through the School of Medicine where students are also provided with tuition from clinicians who are dealing with treatment of obese and morbidly obese patients in one of the county's leading centres for obesity management.

Case Study 7: National University of Ireland, Galway - Medicine

Since 2006 NUI Galway has introduced a 5 year integrated systems-based curriculum at their medical school. There is emphasis on horizontal and vertical integration between the basic sciences and the clinical sciences. The curriculum consists of modules, many of which have been created by collaboration between key academic staff. Learning about obesity is included in a number of these modules and this report gives a number of examples where aspects of obesity are addressed.

Year 1: Professionalism forms approximately 20% of the curriculum in Year 1 and includes a clinical methods module. In the clinical skills laboratory in Year 1 medical students role play and learn communication skills and a number of clinical procedural skills. This includes BMI and waist circumference measurement. With the aid of checklists students learn to accurately measure height and weight, avoiding common measurement errors and then calculate BMI. Similarly waist circumferences is taught and practised in the workshop. Interpretation of the BMI reading i.e. normal, overweight or obese and the waist circumference is included in this procedural skill training. Simulated patients participate in this workshop and students rotate with clinical skills tutor through each of the stations in this workshop. A checklist divided into two parts – communication skills and procedural skills – accompanies BMI and waist circumference training. In their Objective Structural Clinical Examination (OSCE), BMI has been included as one of the stations where students have been asked to measure, interpret and explain BMI findings to simulated patients.

In Year 2 the Understanding Health and Illness stream of Professionalism covers some aspects of obesity. General reference is made to obesity in the context of understanding health behaviours and lifestyle factors that can contribute to illness and disease. Obesity is also referenced in a lecture on chronic illness. Student's carryout case studies in small groups in semester 2 and one of these case studies

provide students with the opportunity to address the social and psychological implications of obesity and the non-pharmacological management of obesity. However not all students take this case study. Emphasis here is on evidence based medicine, literature review, health and illness concepts and quality of life issues in obese type 2 diabetics.

Clinical students, in particular the Year 3 medical students in Semester 2 and Year 5 students in Semester 1, all rotate through the diabetes and endocrine services. Here students sit in with doctors doing patient consultations at diabetes, endocrine and obesity clinics. Most of the diabetics are type 2 and have raised BMI's plus frequently other complications of obesity. The diabetes and obesity clinics introduce students to team management of weight reduction measures with lifestyle and pharmacological interventions. The obesity clinics additionally address the work-up process for bariatric surgery. Indications, contra-indications and post surgery management issues may arise at these clinics.

The recent appointment of Dr. Francis Finucane, an endocrinologist with a special interest in overweight and obesity, at University Hospital Galway has seen a more involved final year curriculum regarding same. All students in Year 5 attend a core topic on obesity and related metabolic disorders led by Dr. Finucane. A strong emphasis is placed on evaluation in the new curriculum – student evaluation opportunities are encouraged. Monthly Educational Committee Meetings and Curriculum meetings take place. Dr. Finucane wishes to work closely with these Committees to increase his input and the teaching of obesity in the undergraduate curriculum.

Postgraduate Curriculum

Grand rounds take place weekly. In the past 12 months Dr. Finucane has presented a case study on morbid obesity and bariatric surgery specialist Mr. McAnena has

also presented. Both undergraduate (Year 5 mostly) and postgraduate medical students attend these Grand Rounds. Dr. Finucane is travelling to Sligo General and Letterkenny General Hospitals in October / November 2010 to give grand rounds on obesity. Both of these hospitals are affiliated teaching hospitals and undergraduate and postgraduate students have the opportunity to attend these talks.

Sports Studies and Physical Education

Case Study 8: University College Cork – Sports Studies and Physical Education

The B.Ed Sports Science and Physical Education is now in its 7th year running. The first group of graduates were conferred in August 2010. The programme offers a number of health related modules throughout the four year programme. The initial health module in first year is compulsory module as addressing issues of health and wellbeing is integral to the role of the physical education teacher. Within this module, students are introduced to aspects of health across physical, psychological, social and emotional domains. One such lecture includes concepts of healthy eating, which further introduces students to overweight and obesity. They explore the topic of obesity in focus groups, covering nutrition, physical activity, health risks, psychological issues and available support / resources. Students are introduced to the findings of the Report of the National Taskforce of Obesity.

In third year, students have the option to continue to study health across the lifespan or to study coaching science. In Health 1: Health and Youth module, the topic of obesity is explored in detail in relation to youth and adulthood. In Health 2, aspects of Health Promotion are examined in detail.

Theoretical underpinnings of approaches to addressing obesity in the programme

In 1990 Boyer called for a major consideration of scholarship within the academy. He argues that scholarship beyond that of traditional research was needed. He identified that three additional forms needed to be embraced: the scholarship of integration to go across disciplines that would traverse the disciplines capturing and interpreting their work at intersections; a scholarship of application was necessary to address real problems of people and institutions and finally a scholarship of teaching that would both contribute to knowledge and further transform and extend it. Boyer's work encouraged a series of investigations into college teaching. Schon (1995) saw the scholarship of teaching as a platform for action research planned and conducted by faculty themselves. Shulman (2005) further extended these ideas to the need for a new type of documentation:

“ My argument is that until we find ways of publicly displaying, examining, archiving and referencing teaching as a form of scholarship and investigation, our pedagogical knowledge and know how will never serve us as scholars in the ways our research does. The archival functions of research scaffold our frailties of memory and we need something comparable for the scholarship of teaching”.

Hence, students are actively encouraged to embrace opportunity for hands on delivery of topics and further creativity to development of resource materials for use in school settings. Collaboration with all stake holders is a key component of this process.

This is highlighted in the following interactive case studies where third year students undertaking the Health 1 and Health 2 modules organised an Obesity Symposium. In their final year students also hold health symposiums (organise) for the elderly living in Cork city as part of the Health & Ageing module.

Case Study (3rd Year Health 1 and Health 2)

In 2009, third year undergraduate students collaborated with transition year students in five Cork city schools to establish what aspects of obesity they would like to explore in detail. Feedback included the following: 1. addressing our diet, 2. physical activity programmes that are varied and fun, 3. exploring body image, 4. how overweight and obesity can affect our health and finally 5. What clubs and amenities are available to us? In collaboration with the Health Action Zone (HSE North Cork) and the Glen Resource and Leisure Centre, the Sports Studies and Physical Education Dept organised an Obesity Symposium to address the issues highlighted in a series of workshops. One hundred transition year students and their class co-ordinators attended the five hour symposium, hosted in the Glen on March 29th 2009. The symposium was opened by Orla Cotter, a third year undergraduate student, who is a five time All Ireland Camogie winner with Cork Senior Ladies football team. Orla spoke of the importance of sport, healthy eating and activity based friendships to her life. Students rotated to each workshop in groups of twenty. Workshops were run by the undergraduate students and were interactive with practical hands on components. All workshops were facilitated by Community Health Workers (HSE) to ensure accuracy and sensitivity were upheld. "Addressing our diet" involved students actively making fruit smoothies, and culminated in a quiz exploring content of various foods and drinks. "Physical activity programme that is varied and fun" was a practical session with a number of outdoor activities that could be completed in a small space with a minimum amount of equipment; students were taken back to their childhood playing tag etc. "Exploring body image" involved students working in groups and cutting images out from magazines and papers of ideal body sizes and shapes and confronting and challenging why this is so. The underpinning message here was aim for a healthy shape and size. "How overweight and obesity can affect our health" explored issues of heart disease, hypertension, cerebral vascular accident and diabetes. Students were each given a handbook depicting how obesity contributes to these illnesses. A discussion group ensued about the importance of such disease

prevention. The group dealing with “clubs, amenities and resources” compiled a detailed list of what was available in the area, cost and accessibility. They asked students to signpost their way to different locations and brainstormed how “incidental” exercise could become part of their lives. After a “healthy food” break, Joanne Corbett, a dietitian with the HSE, presented a talk on exactly what healthy eating entailed and dismantled a giant food pyramid and got the students to sort where all the foods belonged. Students were provided with question and answer sheets which they completed and placed in a box. The question and answer session was very informative as students explored issues of how to get their parents to buy more fruit, eating because of boredom, upset and bullying, craving sweets, coke and convenience foods and trying to evade the physical education class in school! The symposium was closed by Eoin Joy, another 3rd year undergraduate student who plays intercounty football with Limerick. Again, Eoin reinforced the benefits of participating in sport, physical activity and healthy eating. Participating transition year students and their teachers completed an evaluation form on the overall symposium and each of the workshops. There were 120 replies (i.e. 100% response), all extremely positive about the overall symposium and indeed the workshops. The most popular workshop was “Addressing our diet” (80%). All participant names were put in a box and an ipod shuffle, sponsored by a local GAA club, was presented to the first name out. Overall the event was considered a great success.

The culmination of this symposium involved students designing lesson plans around each of their designated topics which are currently being collated to a CD for transition year coordinators and Social Personal Health Education (SPHE) teachers to use in classes in these schools. These will be evaluated by the teachers later in the year. This follows a practical aspect in the Health Promotion module of second semester.

Health and Ageing

In 4th year, students study Health and Ageing. In this module, fourth year undergraduates invite members of the older population in inner city Cork to weekly health talks followed by a physical activity session. This is also run in collaboration with Health Action Zone (HSE North Cork) and local Community Workers. Participants receive talks on all aspects of diet, healthy eating, physical activity and risk factors associated with obesity. This module is currently in progress and very popular with the elderly and undergraduate students.

Readings

Our programme content across all health modules is supported by key government publications, core textbooks on health, health promotion across the lifespan and ongoing research publications accessed through the University databases.

Conclusion

This interactive approach to addressing the topic of obesity has proven very popular with all participants and students. It further meets the recommendations of the Report of the National Taskforce on Obesity where the curriculum of undergraduates provides training in appropriate and sensitive obesity prevention and management.

Nutrition

Case Study 9: University College Cork – Nutritional Sciences

The BSc in Nutritional Sciences honours degree programme is accredited with the Nutrition Society. Obesity is a central topic throughout the 4 year programme, progressing from identifying the issue as a concerning one to teaching students how to identify individuals across the life stage at risk of overweight. In addition to this, students examine why obesity is a central nutritional problem and how individual and

policy decisions impact on obesity on an individual and global level. Approximately 120 hours are assigned exclusively to the students understanding of obesity.

In first year, students are introduced to the concept of energy imbalance, from the point of view of the under-nutrition and over-nutrition dichotomy which characterizes the majority of nutritional disease worldwide. Obesity is presented as the number one nutritional challenge facing the developed world as well as many countries in economic transition.

Students in second year study the theoretical aspects of nutritional assessment including nutritional assessment, dietary and anthropometric techniques, novel and established methods for measurement of body composition and links between adiposity and disease, both from the clinical and public health perspectives. Energy balance, regulation of food intake and macronutrient digestion, absorption & utilization are also covered within a dedicated module on macronutrients and energy balance.

Third year sees further application of anthropometric techniques in the clinical, research and population survey settings with practical training sessions and use of body measurement and composition data in relation to population reference intervals for identifying individuals in need of weight management. The development of obesity in childhood is explored and the consequent long term impacts on healthy growth and development and risk of chronic diseases of adulthood, including diabetes and cardiovascular disease. Students also participate in a module dedicated to providing an up to date summary of the recent developments in the understanding of eating behaviour and the physiological, environmental and personal factors that influence it, including impacts on weight maintenance. Many students complete literature reviews on obesity-related topics during third year.

Fourth year students complete advanced courses in energy metabolism and public health nutrition, which deal extensively with the impacts of obesity on energy dysregulation and the consequent public health implications. Data from epidemiological research as well as more experimental data are reviewed across several modules which integrate issues such as genomic influences on obesity development, role of physical activity and sport, micronutrient metabolism in obesity and implications for chronic diseases of ageing. Additionally many students complete final year projects on diet and obesity-related areas.

Additional Information

Several third level institutions have explored the impact of certain health behaviours such as healthy eating and physical activity on the health of students and have incorporated specific curricular and extra curricular programmes to educate students. These initiatives may have positive implications for graduates in their prospective roles as health educators in the future.

Case Study 10: University College Dublin, MSc Public Health, Nutrition

Within the School of Public Health, Physiotherapy, and Population Science students participating in the Masters in Public Health have the option of taking a module in Nutritional Epidemiology. The overall aim of this modules is to ensure that the student develops an understanding of the role of nutrition in public health, the relationship with non-communicable disease, nutrition through the lifecycle, strategies to monitor nutrition, consequences of poor nutrition, and interventions to improve consumption patterns in the population.

As part of this module students are provided with 2 hours of teaching on the epidemiology of obesity including the national and international prevalence rates in adults and children, the health consequences of obesity, an overview of the determinants obesity, and implications for healthy public policy. Additional lectures cover methods of assessing body composition and the issues in relation to the application and interpretation of these measures in study design and reporting.

Additional Information

Dublin City University – School of Nursing

The School of Nursing at DCU has recently completed a pilot study looking at the prevalence of overweight and obesity among DCU students. *'Is it difficult for students to lead a healthy lifestyle while attending University? A pilot study'* was presented at the Nutrition Society's Summer Meeting 2010 (Appendix 3). On foot of the study results the School of Nursing established a steering group (Chaired by Dr. Mary Rose Sweeney) to examine the factors intrinsic to the University which could work to reduce rates of overweight and obesity. This established two main objectives which the School has now rolled out. Working closely with the gym in DCU the School established a programme for students at a cost much lower than the norm and invited staff and students to partake. The second initiative, which is still on-going, saw the School working closely with the catering staff in the restaurant to achieve a complete overhaul so the food served with an emphasis on low salt, high fat, high fibre, high fruit and vegetable ethos. The Irish Heart Foundation have now completed an audit of the facility and it is anticipated that the restaurant will achieve a "Happy Heart at Work" status shortly. If the initiative is successful it will be rolled out campus wide.

Case Study 11: St. Angela's College, Sligo (Recognised College of NUIG) –

Department of Nursing and Health Studies

St. Angela's College is currently the focus of lecturer Patsy Mc Sharry's PhD study in Health Promotion. This involves a quasi experimental research study whereby as part of the intervention Ms. Mc Sharry has designed and implemented a new module entitled *Health and Well Being* into the BNSC Nursing Curriculum (See Appendix 4 for module outline). The module, validated into the curriculum at programme Board in NUIG, was executed for the first time in January 2009 and ran again in January 2010. The aim of Ms. Mc Sharry's PhD study is to evaluate the impact of the inclusion of a Health and Well Being module in the undergraduate curriculum on selected health behaviours of a group of students. The selected health behaviours in question involve physical activity behaviours, healthy eating behaviours and psychological well being. All first year undergraduate nursing (BNSC) and home economics (B.Ed) students in St. Angela's College Sligo (n=120) made up the study population. The evaluation process involves comparing indicators of physical activity, healthy eating and psychological well being between both groups. Group 1 consisted of approximately 60 Home Economics students which served as the comparison group and group 2 consisted of approximately 60 BNSC students who made up the intervention group (haven taken the module).

Ms. McSharry believes that the module described within the study fulfils the criteria of obesity prevention particularly in the context of undergraduate students. She also believes that a module such as the one outlined could be introduced to all undergraduate college students in recognition of the growing evidence of increasing negative health behaviours among this group.

Background and Context

Rachette et al. (2005) suggests that weight gain and behavioural patterns during college may contribute to overweight and obesity in adulthood. Clement et al. (2004) adds that college students may develop physical activity and nutrition habits that will affect their health across the lifespan.

Lang (2003) highlights the significant weight gain among students during the first semester in college. Lang suggests that some of the causes of this weight gain include 'all you can eat dining facilities' and an increase in the number of evening snacks as well as an increased consumption of junk food.

The Obesity Strategy (2005) points out that one in eight Irish people are obese and every second person is overweight. They go on to highlight the fact the "insufficient physical activity" is one of the primary causes for the growth in obesity. The strategy also points out that the problem of inactivity is becoming increasingly prevalent in younger people, particularly among the 16-24 year old age group. They further recommend that all third level colleges should be encouraged to adopt "the health promoting college" concept where by colleges would become active in encouraging intervention in the intervention group and this improvement was statistically significant with a large size effect. The writer suggests the importance of friends social support may have been enhanced within the motivational workshop on health eating, whereby students who shared accommodation or made commitments to support each other in bringing about behavioural changes with regard to healthy eating.

Psychological well being

There was an improvement in both the intervention and the comparison group's psychological well being scores post intervention, however, there was a larger

Discussion

With increasing trends in childhood and adult obesity it is important that professional education reflects this prevalence. A variety of third level institutions submitted case studies outlining obesity teaching on their courses indicative of diverse health disciplines such as nursing, medicine, nutrition and public health courses and education. Overall, there was a good representation from obesity education in Irish universities and colleges.

The findings from these case studies indicate that most of the universities appear to provide undergraduate and postgraduate students with adequate contact hours for education about obesity. Traditional lectures and tutorials ensure that health sciences students are inherently aware of the global concern of overweight and obesity. Although not taught as an independent module thus far, obesity is integrated to varying degrees in allied modules, the focus being theory driven with particular emphasis on causes and prevention.

The subjects/modules that include the topic of obesity

Health promotion and public health modules are the main trajectory through which health sciences students receive obesity education. First year undergraduates usually undertake a compulsory module that identifies obesity as a key health issue, introduces the use of BMI measurement and frequently explores the Report of the National Task Force on Obesity. Following on from this in latter years the topic of obesity frequently emerges as a learning objective specific to a particular programme. For example, many of the specialty strands of nursing degrees offer students supplemental lectures on how obesity can affect their patient population, identifying pharmacological contraindications and additional mental and physical

(health) needs. A number of nursing and medical programmes identified obesity as a topic that regularly emerges in student led course work.

Contact hours spent on the topic

There is great diversity in contact hours spent on the topic of obesity throughout the school's curriculum which is further influenced by the student's module selection choice. With the exception of UCC's BSc. Nutritional Sciences, who commit approximately 120 direct teaching hours to obesity, the majority of programmes offer obesity education in terms of one or two hour lectures (per year), specific to their specialty.

Obesity prevention

Obesity prevention is examined quite thoroughly at an undergraduate level. Most educational institutions cite various national and international reports, best practice guidelines and literature used in the curriculum to instruct students about prevention at an individual and population level.

Obesity diagnosis

All programmes describe BMI and waist circumference measurements although few allow students the opportunity to apply and practice these skills in a simulated laboratory environment (however in some instances reference to this may not have been included in the submitted case studies). As a result healthcare professionals may be unable to accurately diagnosis overweight and obesity in their patient population. From the exemplars it appears that medical courses receive more experience in weight diagnosis as demonstrated by the School of Medicine at NUIG where the measurement, interpretation and explanation of BMI findings has been assessed in OSCE (Objective Structural Clinical Examination).

Obesity management and treatment

Students enrolled in non-asclepiad programmes may be over-looked when it comes to learning about obesity management and treatment. Unless a student has the opportunity to work in clinical practice or on a research project, there is little prospect that he or she will realise the practical elements of theory learned during their term as an undergraduate. Several nursing and medical programmes in Trinity College Dublin and NUIG respectively explore lifestyle and pharmacological interventions in addition to bariatric surgery.

The teaching and assessment methods that are employed and the perceived effectiveness of these methods

As previously highlighted obesity is not taught as an individual module but it is incorporated across many modules in undergraduate and postgraduate health science programs. As a result there is no explicit evaluation as to the student's knowledge on obesity specifically as topics/lectures are examined as part of overall modules. Assessment ranges from end of year written examinations to project-style continuous assessments. However, a number of nursing programmes identified obesity as a topic that regularly emerges in student led course work, giving the student a chance for greater focus on an area of obesity.

International approaches

Encouraging future health professionals to address the challenge of obesity on a personal level is core to a thorough understanding of the epidemic globally (Ben-Sefer 2008). Disease prevention is more cost effective than treatment. Barlow *et al.* proposed that all children should be targeted for obesity prevention from birth. Conversely however, lack of knowledge by health professionals regarding overweight and obesity could lessen the impact on patient care (Walker 2003). According to Block *et al* (2003) appropriate training in obesity measurement during a student's

education would improve identification of obesity thus increasing intervention and treatment rates.

A health care professional routinely deal with and address health behaviours (Barlow *et al* 2007) and therein represents a logical setting for the prevention and management of obesity. The opportunity to target people at an individual level, in addition to their children and families is a chance not to be missed. Campbell *et al* (2000) found that GPs are well placed to play a key role in obesity prevention and management but warns that that GPs' practice in this area may be constrained by inadequate or insufficient skills.

In 1990 US Congress introduced the National Nutritional Monitoring and Related Research Act. This directive instructed that nutrition education be included in the US medical school curriculum (Walker 2003). In addition, the National League for Nursing (2005) stated that Faculty must base their curriculum decisions, teaching practices, and evaluation methods on current research findings (Ben-Sefer 2008). Almost thirty years have passed since Wahlqvist (1981) called for the creation of a human nutrition unit in each medical school in Australia. It is necessary that obesity education assumes a greater position in the core curriculum hierarchy.

Conclusion and Recommendations

The National Task Force on Obesity (NTFO) was established by the Department of Health and Children in 2004 to 'develop a strategy to halt the rise and reverse the prevalence of obesity' in Ireland. The subsequent strategy document, 'Obesity – The Policy Challenge, The Report of the National Taskforce on Obesity 2005' identified 93 recommendations relating to actions across six target areas namely high-level government, education, social and community, health, food commodity, production and supply, and physical environment. As part of these recommendations it also stated that the 'Curriculum for undergraduates and postgraduates in relevant health

sciences should include training in appropriate and sensitive obesity prevention and management. From this report it can be seen that third level institutions are engaging in teaching obesity prevention, management and treatment through a variety of methods. The content of all courses is evidence based and the majority focus on the theory and aetiology of obesity. Many courses extend this to applied learning and development of transferable skills for the students. However, this varies greatly among different institutions and there are differences in the time dedicated to this topic. It is essential that obesity education is addressed in a more coherent manner and assumes a greater position in the core curriculum hierarchy. Based on the learning's from the exemplars submitted and from international findings the following recommendations are suggested:

Recommendations

- All health science courses should include a dedicated number of hours to obesity education
- All aspects of obesity education should be explored including aetiology, prevention, diagnosis and treatment of obesity
- All health professionals should be trained in the practical aspects of diagnosing and monitoring obesity
- Health professionals should be taught the skills required to work with patients such as behavioural modification techniques
- The HSE/DoHC should make available to all third level institutions recent publications and reports

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Appendix 1: Case Study: Points you may like to consider:

The subjects/modules that include the topic of obesity

Contact hours spent on the topic

Obesity prevention

Obesity diagnosis

Obesity management and treatment

The teaching and assessment methods that are employed and the perceived effectiveness of these methods

Evaluation of the programme

Challenges, problems encountered and overcome, creative thinking, and innovative ways of incorporating obesity education into your curriculum

Appendix 2: UCC reference list for (Midwifery) course content

CMACE/RCOG (2010) Joint Guideline on the Management of Women with Obesity in Pregnancy. RCOG

CEMACH (2007) Saving Mother's Lives London: RCOG

DOHC (2005) Obesity the policy challenges. The Report of the National Taskforce on Obesity Dublin: DOHC

Fraser D. Cooper M (2006) Myles Textbook for Midwives

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Appendix 3: DCU – School of Nursing

Is it difficult for students to lead a healthy lifestyle while attending University? A pilot study. By M.R. Sweeney¹, A. Boilson¹, A. Staines¹, C. Kelleher², E. Bateman¹ and J. Conlon¹, *School of Nursing, Dublin City University Dublin, Republic of Ireland and UCD School of Public Health and Population Science, University College Dublin, Dublin, Republic of Ireland*

Several US studies have shown that propensity to weight gain amongst ‘freshman students’ (first-year university students)⁽¹⁻³⁾ a common trend, with variability in weight gain ranging from two to fifteen pounds. These findings indicate that entry into the 3rd level education system (university and colleges of higher education) may be a critical time-point in the pathway to adult overweight and obesity for some students. While several Irish studies have examined the dietary intakes and weights of Irish schoolchildren⁽⁴⁻⁵⁾, teenagers⁽⁶⁻⁷⁾ and adults⁽⁴⁻⁵⁾, currently there are no comprehensive dietary intake and weight studies amongst Irish university students.

The present pilot study set out to explore whether entry into 3rd level education has any negative impact on diet, lifestyle and weight status.

The pilot study was conducted at Dublin City University (DCU). Thirty students from each of the Schools or Faculties in DCU were recruited, giving a total of 120. After informed consent participants completed a short questionnaire exploring whether their diet, lifestyle and weight status had improved, deteriorated or remained the same since starting University. Subjects were weighed using a portable calibrated weighing scales in their bare feet with their outer clothing removed. Heights were also recorded, an equal gender mix was sought at each School or Faculty but was not always achieved. First-year students were excluded. Data were analysed by SPSS version 11 (SPSS Inc., Chicago, IL, USA).

Males represented 46.2% of the participants and 53.8 % were females. The range was 18-36 years, overall mean age 22.05 years, males 22.69 years, females 21.50 years. The majority of participants (80.7%) were undergraduates. Health since starting college was rated ‘less healthy’ by **39.5 %**, ‘the same’ by 37.8% and ‘healthier’ by 22.7 %. Weight was reported by **58 %** to have ‘increased’ since starting college, the range of weight gain being from <3.17 kg stone 15.6 % to > 12.7kg 4.7 % of participants. Weight was reported by 25.2 % to have ‘stayed the same’ and 16.8 % reported a ‘decrease in weight’. Diet was stated to be ‘less healthy’ since starting college by **42.4 %** of participants, while 40.7 % said it was the ‘same’

and 16.9 % said it was 'healthier'. If the participants **41.2 %** said that they 'exercised less' since starting college, 30.3 % said they 'exercised the same' and 28.6 % said they 'exercised more'. An 'increase' in alcohol intake since starting college was reported by **58.7 %** of respondents. It was found that **32.8 %** of participants were overweight, of whom 63.9 % were males and 36.1 % were females. Those who fell into the obese category comprised **6.4 %** of the sample.

These results indicate that entry into the 3rd level education system may indeed be a critical point in the pathway to a less-healthy lifestyle and diet as well as a shift in weight status towards overweight and obesity and may indicate a time-point for a strategic policy intervention. Further research is needed.

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Appendix 4: St. Angela's NUIG

Course Outline

Course Title:	BNSC Nursing
Module Title:	Health and Wellbeing
Credit Weighting:	6 Credits
Total hours:	120 hours, subdivided as follows: 30 hours lectures 45 hours directed 45 hours self-directed
Teaching Period:	Year 1 Semester 2

Module Description

This module will introduce the students to the concepts of health and well being. Self-awareness in examining personal health behaviours will be explored and developed in the context of evidenced based recommended health behaviours. Particular emphasis will be placed on the important contribution that physical activity, healthy eating and psychological well being make to overall health.

Learning outcomes:

On completion of this module students will:

- Have an understanding of the complexity of the concept of Health.
- Have an understanding of the various dimensions of health which influence overall health and well being.
- Have an understanding of how individual lifestyle behaviours' influence health.
- Have an understanding of the effects of physical activity/exercise on overall health and be able to demonstrate an awareness of personal health and fitness status.
- Have an understanding of the effects of nutrition and diet on health and be able to describe the components of a healthy diet.
- Be able to discuss the relevance of psychological well being to overall health.
- Explore how stress affects health and well being and be able to describe various coping strategies to help combat stress.
- Identify personal barriers and facilitators to maintaining a healthy lifestyle.

- Practise dealing with negative emotions by applying techniques such as “positive self talk”.
- Discuss the importance of social support in the maintenance of psychological well being.

Indicative content:

Theory:

- The concept of Health
- The concept of Mental
- Dimensions of Health

Indicative Reading

A European framework to promote physical activity for health (WHO, 2007) World Health Organisation: Regional office for Europe.

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