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An evaluation of the effectiveness of a dedicated health and well being course on nursing students' health

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ABSTRACT

Background: Many studies have shown that the transition to college can have a negative effect on students' life style choices resulting in weight gain, increasing inactivity and stress. Additionally while this issue is well recognised there have been only limited attempts at targeted interventions aimed at the university student population. The establishment of poor behavioural choices at this stage in the student's life can lead to consistency of unhealthy lifestyle practices, ultimately placing students at risk of heart disease and other lifestyle related health issues. This is more problematic for nursing students who are identified within the public domain as health promoters and as such ought to model, or at least not grossly contradict, healthy lifestyle choices. The current intervention is proposed as a possible mechanism to interrupt this process and establish healthy lifestyle choices at this crucial time in students' life in the hope that this will have lifelong health benefits.
Aim: This is an innovative study aimed at evaluating the effectiveness of a health and well being module on nursing students' health.
Methods: Teaching on *Health and Well-Being*, a new course in the University, was provided to all first year undergraduate students at one university site in the Republic of Ireland (ROI) (n = 110). Approximately half the sample (Nursing students) underwent an intervention while the other half served as a comparison group, health behaviours of both groups were compared using pre and post-test measures.
Findings: The most important finding from the study was a statistically significant increase in psychological well-being in the intervention group with a corresponding decrease in psychological well-being in the comparison group. Findings also indicated an initial significant increase in physical activity in the intervention group although this was not maintained over time.
Discussion: Targeted health behavioural interventions that include stress management skills ought to be provided as mandatory to nursing students to ensure the health of our future professionals. Only in this way they can role model the behaviours required of clients in their care.

1. Introduction

The nature of health and disease has been evolving in recent decades, and increasingly the majority of deaths worldwide are likely to be due to preventable lifestyle risk factors (WHO, 2009). Lifestyle risk factors including diet, obesity and physical inactivity increase a person's risk of developing cardiovascular disease, cancer, and diabetes (WHO, 2009). While these factors are well known, people are not necessarily heeding health promotion advice. Worldwide, being overweight or obese causes significant health effects (WHO, 2009). Indeed almost a third of all people in Europe are overweight (Busse, 2010). These figures are a cause for concern. In the Republic of Ireland (ROI) this is also the case. For example the most recent figures arise from the National Adult Nutrition Survey involving 1500 adults (Walton, 2011) carried out by the Irish Universities Nutrition Alliance (IUNA) indicated that 61% of Irish adults were either overweight or obese (37% were overweight while 24% were obese). A much larger representative ROI survey is that of the Survey of Lifestyle, Attitudes and Nutrition (SLAN) (Morgan et al., 2007) which presents both self-reported and researcher measured data. Findings from this report concur that 61% of Irish adults are either overweight or obese (38% being overweight and 23% obese). Similarly recent DOH&C (2015) reported similar findings of 60% of the ROI population being either overweight or obese. Indeed the ROI was ranked in the middle with regard to European obesity levels (OECD, 2014). Of greater concern within Europe are predictions that by the year 2030 Europe will be facing an obesity epidemic (Breda et al., 2015). These predictions were made at the 2015 European congress on obesity held in Prague in 2015 (Breda et al., 2015). Here it was predicted that if rates of obesity continue to rise, by 2030, 90% of Irish men and 85% of Irish women will be

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overweight and the ROI will therefore lead the way in this epidemic (Breda et al., 2015). This rise in obesity levels is of concern, particularly so for nurses and nursing students who are charged with addressing the health of the nation through health promotion (Bickerstaffe and Williams, 2014) but also by role modelling healthy behaviours (Blake, 2013, Blake et al., 2011).

The benefits of healthy behaviours such as engaging in regular physical activity are well established (Plotnikoff et al., 2015; Reiner et al., 2013). Increasing physical activity can have a beneficial effect on disease prevention as well as improving musculoskeletal health, reducing body weight and positive effects on mood and symptoms of depression (WHO, 2009). However while there is concern that nurses may not always be ideal role models for health (Blake, 2013) there is little emerging evidence in the literature of the effects of physical or other health improvement initiatives on nurses' overall health. This is particularly true among nursing student cohorts, whose health is potentially at risk by virtue of having to balance a stressful occupation with the stresses and demands of college life (Patterson, 2013).

According to Patterson (2013) psychological stress and a career in nursing go hand in hand. Some of the reasons for this include the pressurised and immediate demands of the job in a rapidly changing health care environment (Patterson, 2013). Indeed nursing students also experience this stress as their requirements for clinical nursing practice experiences means that they too are closely involved in patient care (Patterson, 2013). Attending their *first* or new types of clinical placements are a particular source of stress for nursing students as they seek to adjust to this new world (Jimenez et al., 2010, Gibbons et al., 2008). This stress manifests in both physiological and psychological symptoms, although psychological symptoms are more frequent (Jimenez et al., 2010). While exams and assignments are recognised sources of stress for nursing students, as indeed all university students (Jimenez et al., 2010, Gibbons et al., 2008), the stress experienced due to the demands of clinical nursing practice outweighs this (Jimenez et al., 2010).

2. Background

Studies have demonstrated that the transition to college can have a negative effect on lifestyle choices (Fielder-Jenks, 2010, Ferrara, 2009). This manifests as progressive inactivity, weight gain, and increase in stress (Vadeboncoeur et al., 2015, Fielder-Jenks, 2010, Ferrara, 2009). Indeed stress levels among college students have been found to be higher than in the general population (Bewick et al., 2010) and approximately 35% of all college students are overweight or obese (Ferrara, 2009). The first year of college presents as a particular risk with resultant inactivity and weight gain as well as higher consumption of junk food (Vadeboncoeur et al., 2015). The move to college environment forces changes in the dietary habits of students, especially for those who are living on their own for the first time (Stran et al., 2016). Many college students eat frequently in fast-food restaurants, which can accelerate weight gain. Indeed starting college is viewed as a critical period for students in establishing weight management habits (Fedewa et al., 2014). This novel lifestyle precipitates behavioural changes such as changes to eating, sleeping, physical activity patterns and increased alcohol intake due to its potential novelty and availability without overt parental control (Fedewa et al., 2014), which, in addition to stress, synergistically affect students' health. Indeed the term 'Freshman 15' has been coined in the USA to signify the average weight gain of 15 lb that students experience during the first year of college (Vadeboncoeur et al., 2015). In addition and indeed due to multiple lifestyle adjustments, the first year of college is also a stressful time for students and many struggle with this (Brougham et al., 2009). Many of these factors have synergistic negative consequences, for example stress is also associated with decreased physical activity (Nguyen-Michel et al., 2006) and so the health situation worsens with resultant weight gain for many (Vadeboncoeur et al., 2015). Adapting to college life is often seen as an extremely busy time and students are forming relationships with peers and trying to fit in to college routines. It is often at this time that physical activity routines from the past may be abandoned and physical activity can become a low priority. With regard to healthy eating, many students often have to take responsibility for buying and cooking their own food for the first time. This often coincides with students learning how to manage and budget their finances. Thus, healthy eating may be challenging.

At the same time internationally universities have become increasingly aware of the need to promote student health (Dooris, 2012). Indeed it has been suggested that universities are important settings for the promotion of regular exercise and weight maintenance strategies (Ferrara, 2009). In the ROI, the Obesity Strategy (DOH&C, 2005) recommended that third level colleges needed to adopt specific targeted health promoting approaches including encouraging students to adopt more positive health behaviours especially in relation to healthy eating and physical activity. Similarly, there have been recommendations in the ROI related specifically to third level settings (Devaney, 2005) that urged institutions to explore opportunities for integrating health promotion into the curricula.

3. Literature Review

Adults should undertake moderate activity for a minimum of 30 min a day, five days a week (DOH&C/HSE, 2009). However significant barriers exist to this such as lack of time, high workload, lack of interest or motivation (La Caille et al., 2011), lack of social support or lower socio-economic status (Kelly et al., 2008). All of these aforementioned factors affect university students and it is estimated that a surprising 60% of them are physically inactive (Keating et al., 2005). While there have been some intervention studies to increase activity among college students that resulted in positive effects on health outcomes (Ferrara, 2009), most of these are now quite dated (Keating et al., 2005, D'Alonzo et al., 2004, Leslie et al., 2001, Calfas et al., 2000, Adams and Brynteson, 1992, Slava et al., 1984).

However more recently In the United States of America (USA), in response to decreasing physical activity levels in college students, Dougall et al. (2011) reported on an intervention with first year college students ($n = 146$). Results showed that intentions to perform physical activity and use of the fitness facilities were present among the students when starting college. However the intervention study did not significantly show a decline in this intention between the intervention and control groups (Dougall et al., 2011).

Also in the USA, Sailors et al. (2010) undertook a study to expose college students to exercise. It was called the Training Interventions and Genetics of Exercise Response (TIGER) study. It was designed to introduce sedentary college students to regular physical activity and identify genetic factors that influence response to exercise. The 1567 students who participated in the study underwent 30 weeks of exercise training 3 days per week (40 min duration each time) across two semesters. The study also included an educational component and students received college credit for each semester in which they enrolled. An online activity-monitoring programme available to all participants supplied them with immediate feedback in estimated calorie expenditure as well as daily and weekly activity levels. The main focus of the study was on introducing students to the knowledge and skills necessary to utilise exercise as a means towards weight control now and in the future. Sailors et al. (2010) showed how that an introduction to exercise could prove useful in managing weight in college students. The main drawback with this large study appears to be the fact that no control or comparison group existed. Additionally neither of these studies (Dougall et al., 2011, Sailors et al., 2010) was specifically related to nursing students. Thus, in summary intervention studies in this area, while mostly dated, a not necessarily applied to nursing students, do indicate that the introduction of a physical activity education course at university is necessary and can improve physical activity participation.