



The anatomy room: A positive learning experience for nursing students



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SUMMARY

Background: Management of death and dying is an important aspect of nursing practice. Many nursing students have not been exposed to death prior to their commencement in nurse education and typically do not encounter dying and death until their clinical experience begins.

Objectives: To examine the effects and impact of exposure of nursing students to an anatomy room for anatomy teaching compared with students taught anatomy in a laboratory using plastic anatomical specimens.

Methods: Two groups of first year nursing students were surveyed; one group received tuition in anatomy using plastic specimens and the second group used dissected cadavers. Questionnaires were administered before and immediately after the first teaching experience and again 9 weeks later.

Results: Students studying anatomy using cadaveric specimens were more apprehensive of subsequent visits to the anatomy room. However, after 9 weeks there was no significant difference when compared to students using plastic specimens. The students using cadavers felt significantly more stressed and reported significantly more symptoms than those using plastic specimens after their first lesson. There was no significant difference in stress levels and symptom reporting between the groups after 9 weeks. While a large proportion of the students using both cadavers (97%) and plastic specimens (88%) found their learning experiences positive, 43% of the respondents using cadavers stated that as a result of this experience they felt more prepared to deal with death in a hospital and that they were happy to see death in a stress free environment. The responses from the group using plastic specimens were positive as essentially they had found the theory easier to learn.

Conclusions: The results suggest that learning anatomy using cadavers is a beneficial learning experience and could be a valuable way to encounter death for the first time in a protected environment rather than in the clinical setting.

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Introduction

Dissection of the human body has long been regarded as the cornerstone for teaching medical students the core of knowledge of the human body. Hence, most studies of students' reactions to the dissection room have focused on medical students. Medical students typically have the opportunity to confront fears or trepidations about death during their time in the anatomy room. However, while management of death and care of the dying are important and integral parts of the nurses' role, the majority of nursing students do not have this opportunity. Many people who embark on this career have not seen a dead person before they commence their nursing education or indeed until they begin to work in the clinical environment.

Finkelstein and Mathers (1990) reported that the anatomy room represents a significant emotional event for many medical students and even found symptoms suggestive of posttraumatic stress disorder

(PTSD) in 5% of students. Evans and Fitzgibbon (1992) reported that students experience stress on their introduction to dissection. Charlton et al. (1994) asked 173 medical students the following question: "what were your thoughts and reactions when you saw the cadaver for the first time". The responses were given on a scale of 1 to 10 where 0 = "not bothered" and 10 = "awful". Students answered this question at 2 time intervals 3 weeks and 3 months after their first visit to the anatomy room. The results demonstrated a highly significant reduction in scores (4.9 to 1.6 out of 10). The authors suggested that these results demonstrate that the students developed coping mechanisms that facilitated them to become accustomed to working with cadavers. McGarvey et al. (2001) surveyed levels of stress and physical symptoms resulting from the experience of the anatomy room in 188 first year medical students. Most students reported the prospect of their first visit to the anatomy room as exciting. A small number initially experienced unpleasant physical symptoms, but these improved significantly over a 10-week period. Most students suffered very little or no stress (80%) on their first visit with only 2% of respondents stating that their stress levels were high. Ten weeks later the majority (87%) experienced little or no stress with only 1% stating that they had high stress levels.

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Overall, therefore, evidence to date suggests that the initial introduction to cadaveric dissection can be a significant emotional event for medical students. Nevertheless the vast majority adapt to the situation quickly, ultimately finding the anatomy room experience to be a positive one (Dinsmore et al., 2001; McGarvey et al., 2001). In another study O' Carroll et al. (2002) reported that the emotional impact of the anatomy room experience was positive and even challenging. Winkelmann and Guldner (2004) described the attitudes of medical students in Thailand to cadavers, where people do not exhibit the same reservations about donating bodies for dissection as in European countries. In Thailand, donors are given the highly regarded status of *ajarn yai* – “great teacher”. Teachers in Thailand are highly respected. Students develop a relationship with their *ajarn yai*, a relationship that includes knowing the donor's name and other personal details. Students talk respectfully and fondly of their “great teacher” in subsequent years and after qualifying as doctors. This study highlights the importance of religion, culture and society to attitudes to cadavers, dissection and the anatomy room.

Despite evidence that seems to indicate long-term positive experiences of exposure to the anatomy room, some reports of adverse reactions have contributed to the value of cadaveric dissection in anatomy education being called into question. There is, therefore, a considerable ongoing debate about the value of using cadaveric dissection in the teaching of anatomy to under-graduate students. Some of the newer UK medical schools have opted not to use cadaveric material in the delivery of anatomy teaching (McLachlan, 2004). The emotional impact of anatomy room dissection and the implications of this impact for subsequent formation of attitudes to cadavers are cited as one of the disadvantages of cadaveric teaching (Charlton and Smith, 2000; Finkelstein and Mathers, 1990; McLachlan, 2004). Students may find the experience of delaying with death and human remains stressful (Alt-Epping et al., 2014; Penney, 1985) A scale has been developed to quantify the impact of such emotionally charged events. Horowitz et al. (1979) developed the Impact of Event Scale (IES) initially for the study of bereaved individuals. However, the scale soon became used to assess the psychological impact of a range of different events. The scale was devised before the diagnosis of PTSD was entered into the DSM-III (American Psychiatric Association, 1980) and, although many measures of PTSD have been developed, the IES remains widely used and is considered useful and valuable as a measure of stress reactions and identifying individuals who require treatment (Sundin and Horowitz, 2002).

A related issue is whether exposure to the anatomy room results in anxiety specifically about death and dying. While death anxiety may arise in response to the anatomy room experience (referred to as ‘state’ anxiety), it may also be a stable feature of an individual (referred to as ‘trait’ anxiety) (Spielberger et al., 1983). Anxiety about death and dying is likely to influence considerably the reaction of students to cadaveric dissection. While one of the suggested benefits of dissection in the undergraduate curriculum is controlled exposure of students to death, this view has been questioned (McLachlan, 2004), with evidence to suggest that, for some students, attempts to cope with the stress of anatomy dissection may result in the development of inappropriate attitudes towards cadavers (Charlton and Smith, 2000; Finkelstein and Mathers, 1990; McLachlan, 2004). However, the level of death anxiety in individual students may act as a strong determinant of stress reactions experienced and, therefore, the likelihood of developing inappropriate coping responses.

While anatomy teaching using cadaveric dissection has been the norm to date with undergraduate medical students and has been used in teaching physiotherapy and occupational therapy students, it is not a usual experience for undergraduate nursing students. In the context of this student undergraduate nursing students were taught anatomy in the anatomy room as part of the curriculum. An integral part of this course involved student nurses attending the anatomy room and learning with the aid of human prosected specimens, i.e., parts of the human body that have been dissected in advance for the purposes of teaching

and examinations. These prosected specimens of the limbs, abdominal regions and thorax along with prosected organs e.g. hearts and lungs were used as appropriate to the teaching. Whole bodies were not used for these teaching purposes nor faces of the cadavers were exposed. As the teaching of anatomy using prosected specimens is not traditionally associated with nursing education, there is no literature relating to the reactions of these students to the experience. However, as multi-professional and inter-professional learning become popular approaches in education for health professionals, the teaching of anatomy to nursing students (amongst others) in the anatomy room may be on the increase (Mitchell et al., 2004).

In order to gain a truer assessment of the emotional impact of exposure to cadaveric dissection, it is important to address the impact of this emotionally significant event in students who experience anatomy teaching in this way compared with those who do not. To date while this area has been widely researched with medical students it has not been assessed with nursing students. While it is not expected that there would be a difference necessarily the novelty of teaching anatomy in the environment of the anatomy room with nursing students as a teaching method is worthy of exploration. Such research would add to the debate as to whether teaching anatomy to nursing students in the anatomy room is a positive learning experience and one that would contribute to their preparation for the clinical environment. This study arose from an opportunity to assess two groups of nursing students studying anatomy in the first year of their course, one group of whom were taught anatomy using prosected specimens as described above, the other taught anatomy in a laboratory situation using plastic anatomical specimens. Although the two groups were taught anatomy in different locations, both groups were examined using the same examination marks and standards. Each group received weekly lectures on anatomy, with didactic teaching reinforced with practical classes, one group in the anatomy dissection room, the other in a laboratory.

Aims

The aim of this study was to examine the impact of exposure of nursing students to an anatomy room for anatomy teaching compared with students taught anatomy in a laboratory using plastic anatomical specimens. The same examination marks and standards were applied to both sets of students.

Materials and Methods

Sample

The sample comprised two sets of first year nursing students recruited to two separate undergraduate nursing programmes, surveyed in the first semester of their respective courses. One group of students studied the biological sciences component of their course in a medical school (N = 129) and received anatomy tuition in an anatomy room, using prosected anatomical specimens (referred to henceforward as “anatomy room group”). The second group studied biological sciences in a nearby university (N = 107) and received anatomy tuition in a laboratory setting using plastic anatomical specimens (referred to henceforward as “laboratory group”). Timetables for both groups were comparable in the sequence and schedule of lectures and also in the scheduling of laboratory time.

Measures

A self-report questionnaire containing the following was completed by both sets of students:

- i) Questions derived from a previous study (McGarvey et al., 2001), including student age, sex and any previous exposure to a dead body: Students were asked to rate whether they were experiencing physical symptoms (nausea, vomiting, dizziness, difficulty

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