Abstract

We present a joint-dysfunction simulation lab activity for Human Anatomy and Physiology students. This simulation allows students to experience some of the physical limitations of aging, specifically arthritis, by asking them to perform activities of daily living (ADLs) while wearing simulation equipment to inhibit their range of movement. The lab also serves as a sensitizing exercise for allied health students who will be working with the elderly in their future professions. Students experienced significant (p<0.001) increases in time-to-task for ADLs (opening a pill bottle, tying shoes, etc.) and self-reported significant increases (p<0.001) in understanding of difficulties encountered by the elderly.

Introduction

• Ageism, prejudice and discrimination based on age, can have profound effects in health care when treating geriatric patients. According to Lorraine et al. (1998), patients often complain that physicians are insensitive and lack understanding and concern for them as individuals. Much of the education in geriatric classes is academically oriented but lacking in simulation exercises.

• However, health profession training schools have started to incorporate programs in their curriculum that sensitize students to geriatric issues, which aim to teach students how to help or treat older patients. A valuable opportunity is presented when students have the option to experience what their patients are feeling first hand.

• Arthritis is a common condition associated with growing old, making it an appropriate condition to incorporate into a joint laboratory. The aim of this experiment is to develop and assess a joint-dysfunction simulation learning activity that would effectively simulate the feeling of osteoarthritis.

• The simulation exercise not only allows students to experience frailties associated with aging but will also allow students to have more impactful experiences with elderly individuals in professional school.


Results

Pre-Simulation Survey

What profession are you pursuing?

Post-Simulation Survey

Did you experience difficulty/observe difficulty with the tasks with taped hands?

Methods

• Two surveys were given to student participants (318). The pre-simulation survey was given to assess the participants’ future profession along with familiarity with and attitudes about the elderly. Students worked in groups of two (Subject and Attendant) to complete the simulation activity. The Subject performed four ADLs (tying their shoe, signing their name, opening a pill bottle, and texting a message) while the Attendant timed them from beginning to end.

• The Subject’s hands were then taped to simulate arthritis (instructions provided by Dr. Robin Parish, UMMC) by covering each finger with athletic tape and then wrap the thumb so that it is pointed slightly inward. A button was placed over the carpometacarpal (CMC) joint to further restrict mobility at that joint.

• The Subject then completed the same ADLs while the Attendant timed them once more.

• The post-simulation survey was given to determine the success of the simulation as a learning activity and sensitization exercise.

Conclusions

• As anticipated, most students were pursuing a career in the health professions and had moderate understanding of arthritis.

• The student’s reported comfortableness with the elderly was higher than expected possibly from societal pressures or exposure to the elderly with shadowing opportunities.

• There was a significant increase in the time it took students to complete the task with a taped hand versus when they performed the task normally, which was expected given the obvious handicap associated with the addition of tape.

• When Subjects were asked whether they experienced difficulty with the tasks performed, most of them agreed or strongly agreed, which indicates that the restrictions were successful. Most students agreed that this simulation will be useful in their future professions and allowed them to understand the difficulty associated with joint disorders.

• Sympathy to arthritis by health care professionals would help with the treatment by improving the relationship between care providers and patients, which will ultimately encourage patients to feel comfortable sharing their pains.