



## THESIS ABSTRACT

### Pedometer-Derived Physical Activity in Normal Weight and Overweight Female Nurses

By Lila Ojeda

For: Master of Science (MS) in Health Studies from Portland State University

Presented: May 6, 2003

#### **Background:**

Nearly 60% of all Americans are currently considered overweight or obese. This epidemic is increasing the risk of many chronic diseases, and it is not limited to adults, as children have also been affected by increasing rates of overweight and obesity. Although there are many factors related to obesity, including inactivity, there is no clear answer to whether overweight individuals are less active than their normal weight counterparts.

Nurses are an important population to examine because many have high BMI levels (i.e., BMI > 25 kg/m<sup>2</sup>), and high incidences of smoking and Type 2 diabetes, as reported in the *Nurses Health Study*. However, no study to date has examined pedometer-derived physical activity in normal weight and overweight female nurses.

#### **Methods & Results:**

For approximately 1 week the number of steps/day was recorded from 29 normal weight (BMI: 22.5 ± 1.6 m/kg<sup>2</sup>) and 30 overweight (BMI: 33.0 ± 3.3 kg/m<sup>2</sup>) female nurses. Lifestyle and health variables were assessed with the Health Questionnaire to determine their relationships with step counts. An independent t-test supported the hypothesis that the overweight group accumulated significantly fewer steps/day (8907 ± 2614) than the normal weight group (10372 ± 2699).

Overweight nurses also reported significantly worse health status (i.e., diastolic blood pressure, heart rate), health behaviors (i.e., exercise, eating habits), and health outlook (i.e., quality of life, motivation to exercise). The significant variables were analyzed and entered into a backward elimination multiple regression analysis, which revealed that exercise during the study ( $p=0.006$ ), mean arterial blood pressure ( $p=0.047$ ), and bodyweight ( $p=0.102$ ) were associated with steps/day (adjusted  $R^2 = 0.305$ ).

### **Conclusions:**

The results support previous studies that suggest overweight individuals are less physically active than their normal weight counterparts. Subjects who exercised during the study accumulated 1970 additional steps/day compared with subjects who did not, however, nearly twice as many of the normal weight nurses exercised than the overweight nurses (82.8% versus 43.3%). Thus, if the overweight nurses exercised moderately for 30 minutes/day, they would accumulate at least 2000 more steps/day, meet the ACSM-CDC exercise guidelines, and presumably realize positive health outcomes.