Text Messaging and Upper Extremity Symptoms in College Students

Gold JE*, Kandadai V*, Hanlon*‡
*** Department of Public Health, Temple University, Philadelphia, PA; ‡ School of Nursing, University of Pennsylvania.**

INTRODUCTION

The use of hand-held computers or personal digital assistants (PDAs) is increasingly common in occupational settings. However, no published studies have examined an association between PDA exposure and musculoskeletal symptoms. This study aimed to determine if there was an association between self-reported musculoskeletal discomfort and number of text messages sent per day in college students.

METHOD

Research Design: Cross-Sectional Study

Setting:

- Large Urban University

Categorical Independent Variable:

- 0, 1-10, 11-20, 21+ Daily Text Messages Sent

Dependent Variable:

- Pain/Discomfort in Upper Extremity or Back, Neck/Back, Shoulder, and Elbow/ Distal Arm as Determined Through a Body Map

Potential Confounding Variables:

- Gender, Age

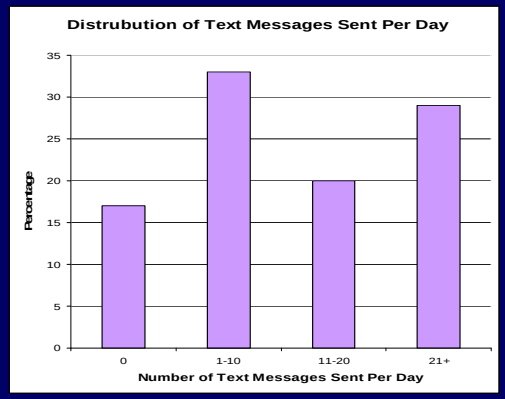
Participants:

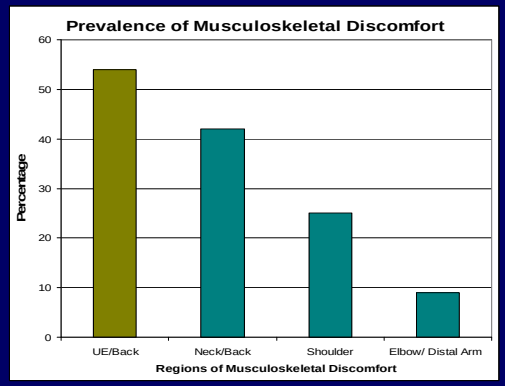
- College students (*n*=138)
- 58% Female
- Mean age = 21 ± 5 years

Data Collection & Analyses:

Potential study participants were approached at several campus locations including computer labs, student centers, coffee shops, and classroom areas. A questionnaire was provided to each student and was used to define categorical number of daily text messages sent, musculoskeletal discomfort, and potential confounding variables. Separate generalized linear models determined prevalence ratios (PR) for UE/back (all regions above the waist excluding the chest), shoulder, and neck symptoms.

RESULTS





Multivariable Modeling:

- For the total cohort, an association between shoulder discomfort and the number of text messages sent was found (PR = 1.40, 95% CI: 1.05-1.86).
- No association with age was found in any model
- When stratifying on gender, an effect for shoulder discomfort was observed in males (PR = 1.94, 95% CI: 1.22-3.06), but not in females (PR = 1.10, 95% CI: 0.76-1.60).
- Effect modification by gender for neck discomfort was also found (PR = 2.52, 95% CI: 1.16-5.46 males; PR = 0.93, 95% CI: 0.6-1.43 females).

CONCLUSIONS

The number of daily text messages sent may increase the risk of shoulder or neck discomfort, particularly in males. However, further research is necessary to validate these findings. These findings suggest a need to monitor musculoskeletal symptoms in workers exposed to handheld devices.

Special thanks to Nadja Thomas and Jeffrey Driban.