A Mixed Methods Approach to Understanding Leisure-Time Physical Activity and Musculoskeletal Pain among Construction Workers: Findings from a Pilot Study

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SUMMARY

Objective: Exercise is beneficial for some musculoskeletal pain conditions. In a small pilot study, we investigate the association between musculoskeletal pain and leisure-time physical activity (LTPA) among construction workers.

Methods: A sequential explanatory mixed-methods design was employed using a job-based survey (n=43) among workers at two commercial construction sites and one focus group (n=5).

Results: Over 93% of these construction workers engaged in LTPA and 70% reported musculoskeletal pain. Lower levels of LTPA were associated with higher age, lower education, being married, and having health insurance, although not statistically significant. Focus group analyses indicate “being too tired from work” and “no interest” as barriers and “insurance incentives” as potential motivators for LTPA.

Conclusion: Pilot study findings suggest that construction workers work in and through pain and the worksite may experience pain during LTPA.

STUDY OBJECTIVE

- We reviewed the relationship of self-reported musculoskeletal pain with engagement in leisure-time physical activity (LTPA) among construction workers and further investigated the potential relationships of socio-demographic correlates and type of LTPA on this association.

USING MIXED-METHODS

STUDY DESIGN

- Sequential explanatory mixed-methods pilot study design was employed to investigate if self-reported musculoskeletal pain is associated with engagement in LTPA among construction workers.

- We collected anonymous, self-administered questionnaire data in calendar year 2011 from 43 workers employed at two large commercial construction sites in the New England area. In addition, one semi-structured focus group was conducted with five different construction workers at one of the workites.

SURVEY INSTRUMENT

- The survey instrument collected individual data on socio-demographic information, musculoskeletal pain, and leisure-time physical activity utilizing measures from established survey instruments such as the National Health Interview Survey and the Nordic questionnaire.

FOCUS GROUPS

- To complement survey data, we recruited 5 construction workers for a one hour focus group utilizing a discussion guide that focused on four domains: workplace characteristics, ergonomics, physical activity/exercise, and musculoskeletal pain. The discussion guide was developed by project staff, including researchers and construction industry members.

DATA ANALYSIS

- Survey data with continuous variables were expressed as mean ± standard deviation and categorical variables as frequency and percent.

- Characteristics of workers who engaged in LTPA were compared to those who did not using the independent sample t test or Mann-Whitney U test (continuously measured characteristics) or Pearson’s Chi-square test or Fisher Exact Chi-square test for two groups (categorical measures).

- The study protocol was approved by the institutional review board of the Harvard School of Public Health.

WORKING IN WITH AND PAIN

SURVEY DATA

- Among the 43 workers who completed surveys (63% worksite response rate), approximately 70% of workers reported musculoskeletal pain in the 3 months prior to study interview, 54% experienced two or more body sites with pain, and 19% reported five or more sites [Table 1].

- Fifty-six percent of workers reported that in the seven days prior to survey administration their musculoskeletal pain interfered with their work from a “little bit” to “quite a lot.” The top twenty most frequently engaged leisure-time physical activities are in Table 2.

FOCUS GROUP DISCUSSION THEMES

- Content analysis of focus group discussions with the 5 construction workers revealed two major thematic domains across two main focus group topics: (1) musculoskeletal pain and (2) physical activity.

- During the musculoskeletal pain discussion, the first thematic domain that emerged was on the topic of having to work with pain and the second theme that emerged dealt with mechanisms to prevent and cope with pain.

- The second topic on physical activity also revealed two major thematic domains, the first of which dealt with exercise on the job and the second theme included a physical activity discussion topic on barriers and motivators to engagement in LTPA.

TAKE HOME MESSAGE

- Construction workers work in and through pain on the worksite and experience musculoskeletal pain during their leisure-time physical activity.

- Workers engage in varying levels of either moderate or vigorous physical activity during their leisure-time despite reporting musculoskeletal pain.

REFERENCES