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## Physical Activity and Low Back Pain: Cross-sectional study of Japanese male workers

(身体活動量と腰痛の関連：首都圏に勤務する日本人男性を対象にした横断研究)

橋本 有子 (はしもと ゆうこ)

博士 (スポーツ健康科学)

### Abstract

Background: There are several studies on the relationship between low back pain and physical activity. However, the results of these studies vary, and the relationship between them remains unclear. Therefore, we conducted a cross-sectional study to evaluate the association between objectively measured physical activity and low back pain in Japanese men. The study included 4022 Japanese men (average age:  $47 \pm 10$  years). Daily amount of moderate-vigorous physical activity (MVPA) and step counts were measured using an accelerometer. Low back pain, drinking and smoking, and lifestyle-related diseases were surveyed using a self-administered questionnaire. A logistic regression model was used to evaluate the relationship between physical activity and step counts, and persistent low back pain after adjusting for confounders.<sup>[[SEP]]</sup> Persistent low back pain was reported in 428 participants. The multivariable-adjusted odds ratios of presenting persistent low back pain across quartiles of amount of MVPA were 1.00 (reference), 0.93 (95% confidence interval 0.70 – 1.22), 0.97 (0.74 – 1.28), and 0.67 (0.50 – 0.90) (P for linearity = .012).<sup>[[SEP]]</sup> We found a significant inverse relationship between objectively measured physical activity and persistent low back pain.