

Patient-reported disability in the general Japanese population was associated with medical care visits for low back pain, regardless of pain intensity

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Abstract

Background Race/ethnicity is known to affect pain severity and the emotional aspects of pain, with medical care visits also reported to differ according to race/ethnicity. It has been hypothesized that there is an interactive relationship between pain intensity and patient-reported disability and that the interactive relationships are related to medical care visits. However, it remains unclear whether the association between patient-reported disability and medical care visits for low back pain (LBP) are dependent on the pain intensity. The aims of this study were to examine the

prevalence of medical care visits among members of the Japanese general population and to analyze the association between patient-reported disability and medical care visits for LBP patients, regardless of the pain intensity.

Methods From a random sample of the general Japanese population ($n = 2962$), we focused on those who experienced LBP within the past month. Subjects were asked about the number of medical care visits (medical clinic or complementary/alternative medical clinic) for LBP. Patient-reported disability was assessed using the Roland-Morris disability questionnaire (RDQ). Pain intensity of LBP was assessed by visual analog scale. To examine the association between RDQ and medical care visits among people with LBP, we used multiple logistic regression analysis and the trend analysis for the RDQ.

Results Of 841 reporting LBP in the past month, 285 (33.9 %) visited a medical care facility. After adjusting for pain intensity and other confounding factors, the odds ratios for the RDQ categories 1–5, 6–10, 11–15, and ≥ 16 were compared with the RDQ categories 0, 1.13 (95 % CI 0.73–1.73), 2.05 (95 % CI 1.17–3.60), 2.21 (95 % CI 1.06–4.62), and 4.0 (95 % CI 1.60–9.98), respectively (p for trend < 0.01).

Conclusions Patient-reported disability was associated with medical care visits for LBP, regardless of the pain intensity, with the results similar to those obtained for other races/ethnicities.

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Introduction

Approximately 80 % of people experience some degree of low back pain (LBP) during their lifetime [1]; 20–40 % of these patients are experiencing LBP in any given month [2–4]. Of the people who experience LBP, about 75 % report having at least one recurrence within 12 months after the

initial event [5]. A medical care visit that provides appropriate treatment and education on self-management is the first step required to prevent LBP recurrence. While many people with LBP do not seek medical care [6, 7], a recent study has examined and reviewed the factors associated with LBP medical care visits [8]. Pooled results showed that being female and having a history of back pain, high pain intensity, and high levels of disabilities were associated with medical care visits. Racial/ethnic differences have also been reported to affect pain severity, the emotional aspect of pain, and pain behavior [9, 10]. In addition, socioeconomic factors have mediated between the observed racial/ethnic differences and medical care visits and the pattern of care utilization [11, 12]. The majority of research examining the differences between various races/ethnicities or cultures has been derived from comparisons with Caucasian, Black, and Hispanic populations. Thus, factors responsible for medical care visits for LBP among Asians, in particular, remain unknown.

Patient-reported outcome is used to describe the objective symptoms of patients as well as to indicate how disabilities affect their daily activities. The scores are used not only to evaluate outcomes of their medical treatments [13, 14], but additionally as a way to predict mortality and hospitalization [15, 16]. Both pain intensity and patient-reported disability have been found to be prevalent factors associated with medical care visits [8]. Although it has been hypothesized that the interactive relationship between pain intensity and patient-reported disability is related to medical care visits, it is unknown whether the association between patient-reported disability and LBP medical care visits is dependent on the pain intensity.

In the current study, we examined the prevalence of medical care visits in the Japanese general population and analyzed the association between patient-reported disability and LBP medical care visits that occurred, regardless of the pain intensity.

Methods

Setting and subjects

A cross-sectional survey was conducted in October 2002. The source population consisted of all registered residents in Japan between the ages of 20 and 79 years who were able to complete the questionnaire on their own. A two-stage, stratified, random sampling method was used. Each of the nine geographic regions examined in Japan (Hokkaido, Tohoku, Kanto, Hokuriku, Tokai, Kinki, Chugoku, Shikoku, and Kyushu) was divided into strata based on five population distribution categories (large metropolitan areas, rural areas, and areas with populations of more than 150,000, between

50,000 and 150,000, and less than 50,000). Since there were no large metropolitan areas in two of the nine geographic regions examined in Japan, the total number of strata was 43, i.e., [(9 regions × 5 strata) – 2 strata]. We then divided each stratum into sampling areas based on the distribution of the population recorded during the 2000 national census. Out of these sampling areas, we selected 300 at random, with 15 people per area, and then randomly selected from the residents' registry (potential total participants = 4500). Of the 4500 people initially singled out for participation, 2996 (66.6 %) were ultimately enrolled in our study. Valid answers to the questionnaire were submitted by 2992 of the participants. Of these, 906 (30.3 %) reported experiencing LBP in the month prior to the study.

This study protocol was approved by the Ethics Committee of the Graduate School and Faculty of Medicine of Kyoto University. Written informed consent was obtained from all participants.

Questionnaire

Questionnaires were hand-delivered by trained investigators who visited potential participants' homes, delivered the questionnaires, and then returned within 2 weeks to collect the completed questionnaires.

LBP was defined as pain located anywhere from the second and third lumbar interspaces through the gluteal area that lasted longer than 24 h. Prevalence of LBP in the 1-month period prior to the study was determined in the questionnaire by asking the participants, "Have you experienced low back pain within the past month?" If the participants responded positively, we subsequently inquired about the number of LBP medical care visits (at either a medical clinic or complementary/alternative medical clinic) and the number of days of hospitalization required for LBP by asking each subject, "How many times did you seek medical care for low back pain within the past month?" Due to legal requirements that state that all physical therapy must be done under the supervision of a medical doctor, in Japan, all physical therapy is performed at medical clinics and hospitals.

The questionnaire further asked all participants to grade the pain intensity using a visual analog scale (VAS), which ranges from 0 (no pain) to 10 (worst condition), in addition to responding to the Japanese version of the Roland-Morris disability questionnaire (RDQ), which is one of the most commonly used measurements for patient-reported disability. The Japanese RDQ version is a useful scale with proven reliability, validity, and responsiveness when assessing patients with low back pain. Scores range from 0 to 24, with higher scores indicating "worse" disability in terms of increased pain and inhibition of daily activities [17].

The mental health status of the LBP participants was assessed via the mental health (MH) score of the SF-36

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