【Original Article】

Cross-sectional and Longitudinal Analysis of Sports Participation with Focus on Age, Frequency, and Type of Sport during Adolescence and Middle Age: Descriptive Study Using the Data from the Survey on Time Use and Leisure Activities Over a 15-year Period

Yosuke Shibata[1)], Shinya Hayasaka[1)], Tatsuya Noda[1)],
Chiyoe Murata[1)], and Toshiyuki Ojima[1)]

Abstract

Purpose: Although many surveys on physical activity exist, studies on sports activity and frequency are limited. This study aims to determine the state of sports participation, discussing such aspects as type of sport and participation frequency, of Japanese adults aged 20 to 59 using a cross-sectional and longitudinal analysis.

Methods: We analyzed the data from the Survey on Time Use and Leisure Activities, conducted by the Japanese Ministry of Internal Affairs and Communications, for 1991, 1996, 2001, and 2006. Sample selection was via a two-stage stratified sampling method, with the sample size ranging between 180,000 and 250,000. (1) We analyzed the data for 2006 to obtain the current state of sports participation. We calculated the high-frequency (<1 time/week) and low-frequency (≥1 time/week) participation rates of 21 types of sports by age categories. (2) We analyzed the data for 1991, 1996, 2001, and 2006 to obtain the longitudinal participation figures. We calculated the age-adjusted participation rates, and compared sports participation in 1991 and 2006 for 12 types of sports. Nine types of sports, including "walking and light physical exercise," were excluded in this longitudinal analysis.

Results: (1) In the analysis of high-frequency participation rate, walking and light physical exercise had the highest participation rate (age-adjusted rate: 13.5% for males, 20.8% for females). Training with gym equipment and cycling also had high participation rates. In the analysis of low-frequency participation rate, bowling had the highest participation rate (age-adjusted rate: 25.2% for males, 22.0% for females). Swimming, and walking and light physical exercise also had high participation rates. (2) For longitudinal analysis, jogging and marathon running had a high age-adjusted high-frequency participation rate (3.4-4.1% for males, 1.4-1.8% for females), and bowling had the highest age-adjusted low-frequency participation rate (25.2-38.5% for males, 22.0-30.0% for females) consistently. The low-frequency participation rate decreased for all sports, while the high-frequency participation rate decreased in all but a few sports.

Conclusions: (1) In the analysis of high-frequency participation rate, walking and light physical exercise had the highest participation rate. Further, the participation rate for walking and light physical exercise was considerably higher than those for the other sports. In the analysis of low-frequency participation rate, bowling had the highest participation rate. People participate in many other sports less frequently. (2) Although walking and light physical exercise was not included in the longitudinal analyses, the number of people participating in sports activities decreased, particularly for low-frequency sports.

Key words: sports, leisure activities, frequency, sex distribution, age distribution

1) Department of Community Health and Preventive Medicine, Hamamatsu University School of Medicine, Shizuoka, Japan