range of motion. More research is needed to determine if these factors can be modified through treatment programs in order to decrease disability caused by osteoarthritis of the knee.

Epidemiology & Health Services Research

345

IMPACT OF TOTAL PHYSICAL ACTIVITY IN YOUNGER AGE ON PHYSICAL AND MENTAL HEALTH IN PEOPLE WITH OSTEOARTHRITIS OF THE KNEE

Arthritis Res. Ctr. of Canada, Vancouver, BC, Canada

Purpose: The relationship between physical activity and osteoarthritis remains controversial. The purpose of this study was to determine the effect of total physical activity (TPA) up to middle age and prior to the occurrence of osteoarthritis (OA), on health-related quality of life (HRQoL) in persons with knee OA at the age of 50 or older.

Methods: Data were collected from the Physical Activity and Joint Health (PAJH) online survey conducted across Canada. Participants (age 50+) completed an adaptive lifetime physical activity questionnaire (L-PAQ) to measure total PA, and a new computer adaptive test (CAT-5D-QOL), which contains the following five HRQoL domains: Walking (WALK), Handling Objects (HAND), Daily activity (DAILY), Pain and discomfort (PAIN), and Feelings (FEEL), were included in the study. Total PA, including work-related, domestic, and recreational activities, accumulated between the ages of 20 and 45, was measured by average energy expenditure (METS). Subjects were classified into 5 categories (quintiles) of TPA: very low, low, moderate, high, and very high. The relationships between TPA and CAT-5D-QOL domain scores (50/10 norm-based scores, higher indicating better health) were investigated in multivariate linear regression models, after adjusting for confounding variables age, gender, and hip pain.

Results: Among participants with self-reported symptomatic knee OA (n=839), the effect of TPA on CAT-5D-QOL scores was non-linear and showed 3 types of general patterns in the 5 HRQoL domains (Fig. 1). Compared to the least active group (reference), low physical activity (2nd quintile) between ages of 20-45 was associated with improved WALK (1.63 scores above the reference group, 95%CI -0.19, 3.44) and HAND (1.96 above, 95%CI -0.31, 4.23). However, further increase in TPA (3rd to 5th quintile) was associated with a decrease in WALK and HAND scores, with the high and very high activity groups having significantly lower scores than the most inactive group. The progressive increase in TPA was associated with a corresponding decrease in DAILY and increase in PAIN. In contrast, as TPA increased, FEEL scores increased or did not go below the reference group. The highest level of FEEL was reported by those who conducted moderate activity (3rd quintile), which was on average 2.5 scores (95%CI 0.25, 4.76) higher than the most inactive group.

Conclusions: High levels of total physical activity conducted between ages 20 and 45 are associated with more pain and worse physical function in persons age 50+ with self-reported knee OA. Low to moderate activity has little effect on pain or daily activity and correlates with better walking and handling abilities. But, physical activity in young-to-middle age, especially at moderate level, is associated with better subsequent emotional health in persons with OA.

346

ASSOCIATION BETWEEN WEIGHT OR BODY MASS INDEX AND HAND OSTEOARTHRITIS: A SYSTEMATIC REVIEW

E. Yusuf1, R.G. Nelissen2, A. Ioan-Facsinay1, V. Stojanovic-Susulic3, J. DeGroot4, G. van Osch5, S. Middeldorp5, T.W. Huizenga1, M. Kloppenburg1

Purpose: To investigate the association between weight or Body Mass Index (BMI) and the development of hand osteoarthritis (HOA).

Methods: We searched Medline, Web of Science, Embase and CINAHL databases up to April 2008 and selected studies with data on the association between weight or BMI and HOA. HOA was defined as involvement of at least one hand joint clinically or radiographically. Data extraction were performed and studies were scored using a 19 criteria scoring system. A Forest Plot of studies which presented odds ratio (OR) or relative risk (RR) was generated. No meta-analysis was done since observational studies are in nature heterogenic and data pooling is less appropriate. Instead, a best-evidence synthesis, modified from guidelines on systematic review of Cochrane Back Review Group was performed. This synthesis leads to a level of evidence with possible levels: strong, moderate, limited, conflicting and no evidence. The level was determined on study quality scores and study designs. Studies which scored above the mean score of all studies were deemed