**Comparing Core Stabilization and Measures of Physical Activity and Fear Avoidance in People with Chronic Pain**

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**Background:** Lifestyle factors such as physical activity (PA) have the possibility to contribute to improved health and quality of life in the population as well as in people with chronic pain.

**Objectives:** The aim of this study was to investigate whether there is a difference in balance and core stabilization between patients with ankylosing spondylitis (AS) and healthy individuals.

**Methods:** 64 patients (40 male, 24 female) with AS and 64 healthy controls (39 male, 25 female) were included in this study. Demographic and physical characteristics (age, height, weight, body mass index) were recorded. Static and dynamic balance was evaluated with Biodex Balance System SD. Anteroposterior (AP), mediolateral (ML) and overall (OA) postural stability indices were obtained with bilateral stance (stable platform) and single leg stance (stable platform). Also overall, forward, backward, right and left limits of stability were evaluated. For evaluation core stabilization static and dynamic core endurance tests and hip abductor strength were used. Modified sit-up test for dynamic core endurance and four static endurance tests (flexor endurance, extensor endurance and lateral side bridge tests) recommended by McGill et al for static core endurance were used. Hip strength measurement were assessed by hand-held dynamometer.

**Results:** There were no significant differences between groups regarding to gender, age, weight, height, body mass index (p<0.05). Overall, anteroposterior and mediolateral indices for bilateral stance (stable platform) and left leg stance (stable platform) were statistically better in control group (p<0.05). All of the core endurance tests were statistically better in control group (p<0.05) table 1. Although all of the hip strength measurements were higher in control group than AS group, only statistically significant difference was found in hip abduction strength (p<0.05).

**Conclusions:** To our knowledge this is the first study that investigating core stability in AS patients. The findings of this study showed AS patients have reduced core endurance and hip abductor strength. According to our results AS has negative effect on bilateral stance, left leg stance postural stability and limits of stability.

**REFERENCES:**


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chronic diseases. Most often PA is self-reported while measures of the aerobic capacity are more seldom measured in subjects with chronic pain.

Objectives: The aim was to investigate the physical activity levels (self-reported and aerobic capacity) in people with chronic pain classified as regional or widespread and to compare the findings with a group that report no pain.

Methods: From the 2016 follow-up of the Swedish population based Epipain cohort (n=1321), 146 subjects were invited to a clinical assessment where the aerobic capacity was assessed by using a submaximal bicycle test, the Exboks-Bak test, together with assessment of the Borg scale for perceived exertion (RPE). Aerobic capacity was also classified as low, average or high according to data from the general population. Self-reported physical activity was coded as MVPArec if recommended levels of PA was reported (physically active on a moderate level ≥150 min/week (MPA) or on an vigorous level ≥75 min/week (VPA) or not). The Fear Avoidance Beliefs Questionnaire for PA (FABQ-PA, 0–24 best to worst) and for work (0–48 best to worst) were also assessed. The participants were classified as having chronic widespread pain (CWP), chronic regional pain (CRP) or no chronic pain (NPC) based on a pain mannequin presenting 0–18 pain regions and if pain had lasted for 3 months or more. Chi2 and Kruskal-Wallis tests were performed to study differences between the three pain groups.

Results: 141/146 (97%) subjects (mean (SD) age 59.4 (8.2) years) whereof 61% were women, could be classified into pain groups; 43 as CWP (84% women), 43 as CRP (42% women) and 55 as NPC (58% women). The group with CWP was slightly older than those with CRP (mean (SD) age 57.0 (7.6) years vs. 61.9 (6.9) years, p<0.02). The CWP group also had lower aerobic capacity (mean (SD) 2.2 (0.5) l/min vs. 2.6 (0.6) l/min, p=0.03), and a larger proportion was classified as having low aerobic capacity (CWP 21%, CRP 7% and NPC 10%, p=0.04). The proportion of MVPArec did not differ between the groups; CWP 70%, CRP 81% and NPC 74% (p=0.5). There was neither a difference between the groups in BMI, RPE or in sitting hours/week (p>0.6). However, differences were found in the FABQ where in the PA scale those with CRP had worse scores compared with NPC (mean (SD) 11.2 (7.3) vs. 6.0 (6.0), p<0.001), the difference between CWP and mean (SD) 8.9 (6.7) and NPC was p=0.06. In the work subscale (of FABQ, CWP had worse scores compared with CRP (mean (SD) 18.9 (15.7) vs. 10.0 (12.5), p<0.002) and CRP had worse scores compared to those with NPC (mean (SD) 10.0 (12.5) vs. 6.5 (9.1), p<0.001).

Conclusions: In this sample of subjects with chronic pain or no pain, having widespread pain tended to affect the aerobic capacity negatively while self-reports of recent physical activity levels of physical activity did not differ between the groups.

Fear avoidance in relation to physical activity and especially in relation to work was more noticeable in subjects with chronic pain compared to those with no pain.

Measures of aerobic capacity and information of fear avoidance beliefs might help health professionals to better tailor the non-pharmacological treatment for subjects with chronic pain.

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SAT0739-HPR OCCUPATIONAL EXPOSURE TO PESTICIDES INCREASES THE RISK OF RHEUMATOID ARTHRITIS: RESULTS FROM THE MALAYSIAN POPULATION-BASED CASE-CONTROL STUDY


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Background: Several studies have suggested farming occupation with exposure to pesticides as risk factor for rheumatoid arthritis (RA).

Objectives: We investigated the association between pesticides exposure and risk of RA subsets in the Malaysian population.

Methods: Data from the Malaysian Epidemiological Investigation of Rheumatoid Arthritis (MyEIRA) population-based case-control study involving 1055 early RA cases and 1057 age, sex and residential area matched controls were analysed. All study subjects answered a structured questionnaire on a broad range of issues including occupational exposures to pesticides. The self-reported information on ever/never occupationally exposed to pesticides was used to estimate the risk of developing ACPA-positive and ACPA-negative RA. Association between pesticides exposure and the HLA-DRB1 shared epitope (SE) was evaluated.

Results: The proportion of ACPA positivity in the RA patients was 64.4% and 1.9% in the normal controls. The presence of HLA-DRB1 SE alleles in RA patients was 40.2% and 15.8% in the normal controls. Our data demonstrated that occupational exposure to pesticides was significantly associated with an increased risk of developing RA in the Malaysian population (OR 2.31, 95% CI 1.12–4.73, p=0.03).

The association between occupational exposure to pesticides and risk of RA was observed with ACPA-positive RA (OR 3.10 95% CI 1.49–6.47, p=0.003), but not with ACPA-negative RA. A dramatically increased risk for ACPA-positive RA was seen in individuals who both exposed to pesticides occupationally and carried SE alleles (OR 28.06, 95% CI 3.58–220.09, p<0.0001).

Conclusions: This study demonstrates that occupational exposure to pesticides is associated with an increased risk of ACPA-positive RA in Malaysian population.

REFERENCES: