Article title: Biopsychosocial, work-related, and environmental factors affecting work participation in people with Osteoarthritis: A systematic review.

Journal name: BMC Musculoskeletal Disorders

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Additional File 5 Outcomes: leaving work before statutory retirement age

Author, year, country	Leaving work before statutory retirement age	Biopsychosocial factors and associations with outcomes
	1. Premature work loss / early exit from work / early retirement	
Wilkie *et al.*, 2014, United Kingdom [17]	23.6% with premature work loss (PWL). Primary care OA consulters off work due to sickness vs those without OA (33.8% vs 19.1%).	Male (OR: 1.97, 95% CI: 1.28–3.04), pain interference (OR: 1.51, 95% CI: 1.00–2.27) and low co-worker support (OR: 3.11, 95% CI: 1.78–5.42) independently associated with PWL in OA consulters.
Laires *et al.*, 2018, Portugal [42]	OA associated with: PWL (OR: 1.85, 95% CI: 1.27–2.69); but not official early retirement (OR: 1.43, 95% CI: 0.96–2.12). Knee OA strongly associated with PWL (OR: 2.25, 95% CI: 1.42–3.59). No significant association hand or hip OA. Unemployment associated with PWL (OR: 1.97, 95% CI: 1.27–3.06), especially knee OA (OR: 2.68, 95% CI: 1.58–4.53), and younger age (50–57) (OR: 3.47, 95% CI: 1.88–6.41).	Strong association pain interference and PWL, especially knee OA (OR: 1.52, 95% CI: 1.16–1.99). Knee OA: highest levels of disability (HAQ scores ≥ 2) at greatest risk PWL.
Kontio *et al.*, 2020, Finland [34]	On average 2.1 (95% CI: 2.0–2.2) potential working life–years lost. Those with polyarthritis/CMC joint OA lost significantly more working life–years (2.5, 95% CI: 2.3–2.5) than those with knee or hip OA (2.0, 95% CI: 1.9–2.1 and 2.0, 95% CI: 1.8–2.1, respectively).	Univariate model PWL predictors: male, older age, low education, long initial sickness absence, not returned to work sustainably after the initial sickness absence and receiving vocational rehabilitation. All physical work-related factors increased risk of PWL, but not significant in multivariate model.

Kontio et al., 2020, Finland [34]	**2. Disability pension / disability retirement** Annual proportion time spent in permanent disability retirement (mean time all persons/year) highest in polyarthritis/CMC joint OA group vs knee, hip, and other OA 17.7% vs 12.1%, 11.1% 12.0%, respectively.	
Hubertsson *et al.*, 2013, Sweden [14] (see Table 3 for data on absenteeism)	**Knee OA:** 21% women; 17% men received sickness benefit during previous year. More women than men received disability pension payment (32% vs 16%). Disability pension payment increased with age. Women = 94 (SD 149) days disability pension/person/year. Men = 47 (SD 115) days disability pension/person/year.	---
Hubertsson *et al.*, 2017, Sweden [30] (see Table 3 for data on absenteeism)	Risk of disability pension (adjusted for age and education): Knee OA increased: - in all job sectors vs business and administration. - for women in health care (OR: 10.25, 95% CI: 4.78–21.97), childcare (OR: 9.83, 95% CI: 4.36–22.17), and cleaning (OR: 16.70, 95% CI: 7.46–37.37). - men in construction (OR: 3.45, 95% CI: 1.96–6.09), metal work (OR: 4.35, 95% CI: 2.09–9.02), and transportation (OR: 2.09, 95% CI: 1.06–4.10). Hip OA increased: - in all studied job sectors vs business and administration. - for women in health care (OR: 6.91, 95% CI: 2.49–19.13), childcare (OR: 5.89, 95% CI: 1.92–18.07), and cleaning (OR: 5.44, 95% CI: 1.50–19.72). - men in farming (OR: 3.15, 95% CI: 1.16–8.55).	---

Kontio *et al.*, 2018, Finland [31]	No. full disability retired due to knee OA = 6117. Overall age-adjusted incidence = 60 (men); 72 (women)/ 100,000 person-years.	Physical work-related factors and disability retirement adjusted for age: all physical load factors (heavy physical work; kneeling/squatting ≥1 hr/day; heavy lifting ≥20kg, ≥10 times/day; sitting ≥5 hrs/day; standing or moving ≥5 hrs/day) statistically significantly associated with disability retirement due to knee OA in men (range: sitting (HR: 0.28, 95% CI: 0.25–0.32) to standing or moving (HR: 2.52, 95% CI: 2.32–2.73) and women (range: sitting HR: 0.23, 95% CI: 0.20–0.26) to heavy physical work (HR 2.75, 95% CI 2.57–2.95)). All physical load factors increased risk disability retirement apart from sitting which reduced risk. High risk disability retirement. Men: service workers, electricians, plumbers, construction workers, unskilled transport, construction, and manufacturing workers. Women: assistant nurses, building caretakers, cleaners, kitchen workers. Risk in manual workers strongly attributed to physically heavy work.

Key: CMC = carpometacarpal; OA = osteoarthritis; **Measures**: HAQ = Health Assessment Questionnaire; PWL = premature work loss (i.e., leaving work or losing job prior to State Pension age); **Other**: 95% CI = 95% confidence interval; HR = Hazard ratio; no. = number; OR = Odds ratio; SD = standard deviation; vs = versus.