

Supplemental Table 1. Odds ratio (OR) [95% confidence interval (CI)] for the association of sleep quality [a single item from the Pittsburgh Sleep Quality Index (PSQI)] or restless sleep [a single item from the Center for Epidemiology Study of Depression (CES-D)] with knee pain worsening stratified by number of painful joint sites of baseline widespread pain status

	Sleep quality in past week in the PSQI			p-trend
	0,1=Poor (Referent group)	2=Fairly good	3 =Very good	
Widespread pain absence (N=2746)				
Pain sites \leq 2 (N=1562)				
Knee (n/N) ¹	20/142 (14.1%)	140/778 (18.0%)	88/642 (13.7%)	
OR (95% CI) ²	1.0 (ref)	1.46 (0.79, 2.68)	1.06 (0.56, 2.01)	0.36
Pain sites >2 (N=1184)				
Knee (n/N)	67/216 (31.0%)	164/698 (23.5%)	71/270 (26.3%)	
OR (95% CI)	1.0 (ref)	0.69 (0.45, 1.05)	0.74 (0.45, 1.23)	0.34
Widespread pain presence (N=1912)				
Pain sites \leq 8 (N=992)				
Knee (n/N)	63/176 (35.8%)	197/624 (31.6%)	46/192 (23.9%)	
OR (95% CI)	1.0 (ref)	0.84 (0.54, 1.35)	0.56 (0.31, 1.00)	0.045
Pain sites >8 (N=920)				
Knee (n/N)	113/294 (38.4%)	162/492 (32.9%)	41/134 (30.6%)	
OR (95% CI)	1.0	0.62 (0.42, 0.91)	0.51 (0.29, 0.90)	0.01

	Restless sleep in past week in the CES-D			p-trend
	More than 3-4 days (Referent group)	1-2 days	< 1 day	
Widespread pain absence (N=2746)				
Pain sites ≤ 2 (N=1562)				
Knee (n/N)	15/168 (8.9%)	17/634 (18.5%)	116/760 (15.3%)	
OR (95% CI)	1.0 (ref)	2.48 (1.29, 4.74)	2.04 (1.04, 4.00)	0.36
Pain sites > 2 (N=1184)				
Knee (n/N)	66/266 (24.8%)	136/540 (25.2%)	100/378 (26.5%)	
OR (95% CI)	1.0 (ref)	1.12 (0.74, 1.71)	1.13 (0.72, 1.77)	0.63
Widespread pain presence (N=1912)				
Pain sites ≤ 8 (N=992)				
Knee (n/N)	90/260 (34.6%)	133/440 (30.2%)	83/292 (28.4%)	
OR (95% CI)	1.0 (ref)	0.83 (0.56, 1.23)	0.76 (0.48, 1.19)	0.24
Pain sites > 8 (N=920)				
Knee (n/N)	132/358 (36.9%)	110/340 (32.4%)	74/222 (33.3%)	
OR (95% CI)	1.0 (ref)	0.71 (0.48, 1.05)	0.69 (0.43, 1.10)	0.10

¹ Number of knees: n (knees with pain worsening or incident joint pain) / N (total number of knees)

² Model adjusted for age (years), sex (men vs. women), race (white vs. non-white), study site, BMI (kg/m²), education level (college and above vs. below college), tobacco use (pack-years), Charlson's comorbidity index (range 0-9), fatigue (10-point scale), CES-D depression indicator (yes, no), and prescription use of NSAIDs (yes, no).