

IT IS SUGGESTED THAT THE TABLES BELOW APPEAR AS ONLINE SUPPLEMENTARY DATA, RATHER THAN IN PRINT

Supplementary Table 4: Shift work and risk of miscarriage

Design	Study (reference)	Number of women/ Pregnancies	Exposure		RR (95% CI)	Potential for		Incomplete reporting	Meta-analysis ^b
			Contrast	Timing		Bias ^a	Confounding		
Prospective cohort	Fenster, 1997 (17)	5144/5144	Evening/night vs day	1 trim	1.03 (0.75-1.41)	+/-	No	No	Yes (A) ^c
	Zhu, 2004 (35)	33,694/33,694	3 shift vs day	1 trim	1.10 (0.78-1.57)	+/-	No	No	Yes (A) ^c
			Fixed night vs day		1.81 (0.88-3.72)	+/-	No	No	Yes (B) ^c
Retrospective cohort	Axelsson, 1984 (10)	745/1160	Shift work (nd) vs no shift work	1 trim	3.19 (1.36-7.47)	+	No	No	No
	Axelsson, 1989 (12)	463/970	Three shifts vs day	1 trim	1.50 (0.55-4.09)	+	No	No	Yes (A) ^c
			Fixed night vs day		0.93 (0.49-1.78)	+	No	No	Yes (B) ^c
	Whelan, 2007 (2007)	7688/7688	3 shifts vs day	1 trim	1.2 (0.9-1.5)	+	No	No	Yes (A) ^c
Fixed night vs day				1.6 (1.3-1.9)	+	No	No	Yes (B) ^c	
Case-control	Hemminki, 1985 (19)	788/788	3-shift vs day or rotating 2-shift	1 trim	1.5 (0.9-2.5)	-	No	No	Yes (A) ^c
	Infante-Rivard, 1993 (20)	1,324/1,324	Fixed evening vs day	Pregnancy	4.17 (2.19-7.92)	+/-	No	No	No
			Fixed night vs day		2.68 (0.53-13.43)	+/-	No	No	Yes (B) ^c
	Eskenazi, 1994 (16)	1,344/1,344	Evening/night vs day	First 20 weeks	0.8 (0.5-1.2)	+/-	No	No	Yes (A) ^c
El Metwalli, 2001 (14)	1,762/1,762	Before 8.00 and/or after 18.00 vs others	(nd)	1.57 (1.25-1.97)	+	Yes	Yes	No	
Cross-sectional	Axelsson, 1988 (11)	1,110/1,714	Shift work (nd) vs no shift work	1 trim	2.07 (0.98-4.34)	+	No	No	No
	McDonald, 1988 (25)	?/22,613	Changing shifts vs all women working >30 hours/week	Pregnancy	1.45 (1.0-1.9)	+/-	No	Yes	No
	Swan, 1995 (36)	444/444	Night (nd) vs day	1 trim	1.7 (0.73-3.7)	++	No	No	No
	Axelsson, 1996 (13)	1,587/2,667	Three shift vs day	1 trim	1.23 (0.78-1.94)	+	No	No	Yes (A) ^c
Fixed night vs day				1.30 (0.83-2.01)	+	No	No	Yes (B) ^c	

nd: not defined; gw: gestational week ^a ++ inflationary bias likely; + inflationary bias possible; +/- bias unlikely; - bias towards the null possible or likely.

^b Risk estimates for meta-analyses: A = shift work, and B = fixed night work

^c Included in sensitivity meta-analysis as study with lower potential for bias

Supplementary Table 5: Working hours and risk of miscarriage

Design	Study	Number of women/ pregnancies	Exposure			Potential for		Incomplete reporting	Meta-analysis (Women working at least 40-52 hrs/wk)
			Contrast	Timing	RR (95% CI)	Bias ^a	Confounding		
Prospective cohort	Fenster, 1997 (17)	5144/5144	Hours worked/week	1 trim	0.86 (0.59-1.26)	+/-	No	No	No
			31-35 vs ≤30						
			36-40 vs ≤30						
			>40 vs ≤30		0.82 (0.57-1.17)	+/-	No	No	Yes ^b
Retrospective cohort	Whelan, 2007 (33)	7688/7688	Hours worked/week ≥41 vs 21-40	1 trim	1.5 (1.3-1.7)	+	No	No	Yes ^b
Case-control	Eskenazi, 1994 (16)	1344/1344	Hours worked/week	First 20 weeks	1.3 (0.8-2.2)	+/-	No	No	No
			30-35 vs <30						
			36-40 vs <30						
			>40 vs <30		1.2 (0.8-1.9)	+/-	No	No	Yes ^b
Cross-sectional	McDonald, 1988 (25)	?/22,613	Working >46 hours/week vs all women	Pregnancy	1.33 (0.9-1.8)	+/-	No	Yes	Yes
	Klebanoff, 1990 (21)	2787/2787	In average 74 hours/week vs 38 hours/week	(nd)	1.17 (0.94-1.45)	+	No	Yes	Yes
	John, 1994 (37)	376/376	Hours worked/week ≥41 vs 35-40	1 trim	1.8 (0.9-3.8)	++	No	No	Yes
	Swan, 1995 (36)	444/444	Hours worked/day ≥9 vs <9	1 trim	1.2 (0.61-2.2)	++	No	No	Yes
	Schenker, 1997 (38)	345/711	Hours worked/week 35-45 vs <35 >45 vs <35	1 trim	1.5 (0.8-2.9) 3.1 (1.4-6.9)	++	No	No	No Yes
	Shiranga, 2008 (29)	442/940	Hours worked/week >45 vs ≤45	Few months before pregnancy	1.09 (0.69-1,71)	++	No	No	Yes

Lee, 2012 (23)	1000/?	Hours worked/week							
		44-47 vs <44	Pregnancy	2.05 (1.15-3.63)	++	No	No	No	No
		48-51 vs <44		1.81 (1.02-3.22)	++	No	No	No	No
		≥52 vs <44		2.08 (1.16-3.74)	++	No	No	No	Yes

nd: not defined; gw: gestational week; trim – trimester ^a ++ inflationary bias likely; + inflationary bias possible; +/- bias unlikely; - bias towards the null possible or likely

^bIncluded in sensitivity meta-analysis as study with lower potential for bias

Supplementary Table 6: Occupational lifting and risk of miscarriage

Design	Study	Number of women/ pregnancies	Exposure		RR (95% CI)	Potential for		Incomplete reporting	Meta-analysis (Lifting ≥100 kg/day)
			Contrast	Timing		Bias ^a	Confounding		
Prospective cohort	Ahlborg, 1990 (9)	3906/3906	Any weight <10 (times/week) vs 0	1 trim	1.03 (0.70-1.53)	+/-	No	No	No
			<12 kg ≥10 vs 0		0.97 (0.53-1.78)	+/-	No	No	No
			≥12 kg 10-50 vs 0		1.11 (0.77-1.58)	+/-	No	No	No
			≥12 kg >50 vs 0		1.06 (0.62-1.81)	+/-	No	No	Yes ^b
	Florack, 1993 (18)	170/170	Lifting ≥1hour/day vs <1 hour/day	1 trim	1.07 (0.34-3.35)	+/-	No	No	Yes ^b
	Fenster, 1997 (17)	5144/5144	Lifting >7 kg (times/day) 1-9 vs 0	1 trim	1.14 (0.77-1.70)	+/-	No	No	No
			10-15 vs 0		0.99 (0.47-2.10)	+/-	No	No	No
>15 or constantly vs 0			0.40 (0.16-1.00)		+/-	No	No	Yes ^b	
Retrospective cohort	Axelson, 1984 (10)	745/1160	Heavy lifting (nd) vs other	1 trim	1.36 (0.91-2.02)	++	No	No	No
	Axelson, 1989 (12)	463/970	Heavy lifting (nd) vs no heavy lifting	1 trim	0.99 (0.75-1.31)	++	No	No	No
Case-control	Taskinen, 1986 (30)	160/160	Lifting >10kg continuously vs no lifting	1 trim	3.6 (1.0-13.7)	+	No	No	Yes ^b
	Kyyrönen, 1989 (22)	419/419	Lifting >20kg >6 times/day or equivalent	1 trim	1.9 (1.0-2.8)	++	No	No	Yes
	Taskinen, 1989 (31)	371/371	Lifting >25kg/day vs <25 kg/day	1 trim	1.7 (1.0-2.8)	++	No	No	No

	Taskinen, 1990 (32)	687/687	Lifting >10 kg or patient-transfer (times/week) 5-49 vs <5 ≥50 vs <5	1 trim	1.2 (0.8-1.7) 3.5 (1.1-9.0)	++ ++	No No	No No	No Yes
	Eskenazi, 1994 (16)	1344/1344	Lifting >7.5 kg (times/day) 1-9 vs 0 10-15 vs 0 >15 vs 0	First 20 weeks	1.3 (0.9-1.7) 0.6 (0.3-1.3) 1.1 (0.6-2.0)	+ + +	No No No	No No No	No No Yes ^b
	Elliott, 1999 (15)	116/116	Lifting heavy objects Yes/no	1 trim	0.69(0.31-1.53)	++	No	Yes	No
	El Metwalli, 2001 (14)	1762/1762	Lifting (nd) yes/no	(nd)	2.04(1.66-2.49)	++	Yes	Yes	No
	Maconochie, 2007 (24)	?/4142	Lifting heavy objects or people (nd) yes/no	1 trim	1.08 (0.85-1.38)	++	No	No	No
Cross-sectional	Axelsson, 1988 (10)	1110/1459	Heavy lifting (nd) vs no heavy lifting	1 trim	1.15 (0.78-1.72)	++	No	No	No
	McDonald, 1988 (25)	?/22,613	Lifting heavy weights>15 times/day vs other pregnant women	Pregnancy	2.0 (1.5-2.5)	+	No	Yes	Yes
	Swan, 1995 (36)	444/444	Lifting >7 kg ≥1 time/day vs none	1 trim	1.5 (0.84-2.8)	++	No	No	Yes
	Axelsson, 1996 (13)	1587/2667	Lifting >10kg (times/week) <10 vs seldom 10-50 vs seldom >50 vs seldom	1 trim	0.93 (0.71-1.22) 0.84 (0.62-1.13) 0.74 (0.46-1.19)	++ ++ ++	No No No	No No No	No No Yes
	Lee, 2012 (23)	1000/?	Lifting >5kg vs ≤5 kg	Pregnancy	3.39 (2.06-5.6)	++	No	No	No

nd: not defined; gw: gestational week; trim - trimester

^a ++ inflationary bias likely; + inflationary bias possible; +/- bias unlikely; - bias towards the null possible or likely

^bIncluded in sensitivity meta-analysis as study with lower potential for bias

Supplementary Table 7: Standing at work and risk of miscarriage

Design	Study	Number of women/ pregnancies	Exposure			Potential for		Incomplete reporting	Meta-analysis (Standing ≥6-8 hours/day)
			Contrast	Timing	RR (95% CI)	Bias ^a	Confounding		
Prospective cohort	Fenster, 1997 (17)	5144/5144	Standing (hours/day) 3-7 vs <3	1 trim	0.90 (0.71-1.13)	+/-	No	No	No
			>7 vs <3		1.03 (0.73-1.46)				
Case-control	Taskinen, 1986 (30)	162/162	Standing (nd) vs sedentary work	1 trim	1.4 (0.5- 4.4)	+	No	No	No
	Eskenazi, 1994 (16)	1344/1344	Standing (hours/day) 3-7 vs <3	First 20 weeks	1.1 (0.8-1.4)	+	No	No	No
		≥ 8 vs <3	1.6 (1.1-2.3)		+	Yes ^b			
	Savitz, 1996 (28)	421/421	Standing (nd) vs non-hazardous jobs	2-6 weeks after conception	0.8 (0.5-1.5)	+	No	No	No
Maconochie, 2007 (24)	?/4192	Standing > 6 hours day yes vs no	1 trim	0.89 (0.69-1.14)	++	No	No	Yes	
Cross-sectional	McDonald, 1988 (25)	?/22,613	Standing >8 hours/day vs all women	Pregnancy	1.32 (1.1-3.5)	+	No	Yes	Yes
	John, 1994 (37)	376/376	Standing (hours/day) 7-8 vs <7	1 trim	0.9 (0.4-1.9)	++	No	No	No
		≥9 vs <7	1.0 (0.4-2.6)		++	No			
Ronda, 2010 (27)	94/94	Standing (hours/day) ≥8 vs <8	1 trim	1.3 (0.1-12.3)	++	No	No	Yes	

nd: not defined; gw: gestational week; trim - trimester

^a ++ inflationary bias likely; + inflationary bias possible; +/- bias unlikely; - bias towards the null possible or likely

^bIncluded in sensitivity meta-analysis as study with lower potential for bias

Supplementary Table 8: Physical workload and risk of miscarriage

Design	Study	Number of women/ pregnancies	Exposure		RR (95% CI)	Potential for		Incomplete reporting	Meta-analysis
			Contrast	Timing		Bias ^a	Confounding		
Prospective cohort	Florack, 1993 (18)	170/170	>3.5 * basal metabolic rate vs ≤3.5* basal metabolic rate	1 trim	1.2 (0.5-2.6)	+/-	No	No	No
	Fenster, 1997 (17)	5144/5144	Physical intensity at job Very strenuous vs somewhat, not very or not at all strenuous	1 trim	1.12 (0.74-1.71)	+/-	No	No	No
Case-control	Wong, 2010 (34)	1752/3006	Physical activity	≤20 gw	0.32 (0.17-0.61)	+	No	No	No
			Light vs sedentary						
			Medium vs sedentary						
Heavy vs sedentary	0.43 (0.23-0.80)	+	No	No	No				
					0.44 (0.16-1.23)	+	No	No	No
Cross-sectional	McDonald, 1988 (25)	?/22,613	Physical effort (nd) vs all women	Pregnancy	1.87 (1.4-2.3)	+	No	Yes	No
	Naidoo, 2011 (26)	887/4796	Physical exertion score ≥6 on a 1-9 scale	(nd)	1.5 (1.0-2.2)	++	Yes	Yes	No

nd: not defined; gw: gestational week; trim - trimester

^a ++ inflationary bias likely; + inflationary bias possible; +/- bias unlikely; - bias towards the null possible or likely