

Table 2: Summary of studies included in systematic review on the association between physical activity and BMI or body composition

	Geographical region, year of birth and age in years	Gestational age, gender	Physical activity	Outcome BMI	Outcome body composition	Correlation physical activity and BMI	Correlation physical activity and composition
Longitudinal cohorts							
MLS(33)	USA 1993-1995	GA: 115 VP, 190 LMP (49% male)	96 (52%)	BMI centile N=185 <85 th	Not reported	Inadequate PA was associated with increased odds for obesity (2.13 (1.02–4.37)) or overweight (2.12 (1.01–4.46))	No data available
	Age: 11	No term control group	36 (69%) 49 (65%)	N= 42 85 th -95 th N= 75 >95 th			
Cohorts with cross sectional data presentation							
CIKL(35)	UK 1980 th	GA: 31 (±3)	PA level	BMI (SD)	BF%/FMI	Association between BMI and activity level was not analysed.	Higher PA level was associated with lower FMI (Coefficient -0.12, T-3.7 (p<0.001))
	Age: 11 (±0.9)	497 PT (51% male) 95 FT (55% male)	No data given	18 (3) 18 (3)	18 (6) / 3 (2) 21 (7) / 4 (2)		
GROWMORE(23)	UK 1993-1998	GA: 31 (26-34)	MVPA (>2296/min) as min./day	BMI IQR	BF%/FMI	BMI was not associated with MVPA.	FMI was not associated to MVPA.
	Age: 16 (12-19)	60 PT (42% male) No term control group	45 (35-62)	18 (16-20)	28 (24-35) / 5 (4-7)		
HeSVA(18)	Finland 1978-1985	GA: 29 (±2)	PA <30min./ PA <1/week	BMI (SD) male/female	BF% male/female	PA <30 min. was associated with higher BMI (β(95% CI): 1.7 (0.4-3.0) kg/m ²)	PA<1/week was associated with lower BF% (β (95% CI): 1.9 (0.6-3.3) %)
	Age: 22 (19-27)	163 VLBW (42% male) 188 FT (40% male)	≈15%/ ≈35% ≈5%/ ≈23%	22 (4) / 22 (4) 23 (3) / 22 (4)	20 (6) / 32 (6) 20 (5) / 32 (6)		
Wave VIII (27)	USA 1985-1989	GA: 30 (±3)	vigorous PA d/week	BMI (SD)	Not reported	Greater levels of PA was associated with lower BMI (b=-0.18, p < 0.05)	No data available
	Age: 23	129 PT (47% male) 38 FT (47% male)	1.4 (0.6) 1.4 (0.7)	26 (6) 27 (6)			
Cross sectional studies							
Oklahoma(34)	USA 1978-1986	GA: 29 (±3) 12 VP BPD (42% male)	PA level 7 sed., 5 mod., 0 active	Not reported	LBM/FM (kg) 28 (2) / 9 (2)	No data available	Higher PA level was associated with higher LBM and FM. The association disappeared after adjusting for age.
	Age: 12 (±2.6)	12 VP (42% male) 12FT (42% male)	3 sed., 4 mod., 5 active 0 sed., 4 mod., 8 active		32 (3) / 11 (1) 34 (3) / 11 (2)		
Forsyth Study(24)	USA 1992-1996	GA: 28 (24-36)	vigorous PA h/week	BMI z-score	BF %/FMI	BMI z-score was not associated with amount of vigorous PA in VLBW but FT.	Lower BF% and FMI were associated with more vigorous PA. (VLBW: Spearman correlation BF%: -0.42(p<0.01); FMI: -0.34 (p<0.01))
	Age: 15 (14-15)	165 VLBW (44% male) 45 FT (45% male)	1 (0-13) 3 (0-14)	0.4 (-1.6-2.3) 0.7 (-0.7-2.2)	25 (11-40) / 5 (2-13) 28 (11-47) / 6 (2-16)		

BPD: bronchopulmonary dysplasia; PT: preterm; FT: full term; VLBW: very low birth weight (<1500g); VP: very preterm; LMP: late or moderate preterm; BMI: Body mass index; FMI: fat mass index; BF%: body fat percentage; LBM: lean body mass, FM: fat mass; GA: gestational age given as mean (±SD) or median (25th-75th centile) for the preterm born group. Redman giving GA and age as median (5th-95th centile); PA: physical activity, inadequate PA (<5x30min. per week at >2 visits age 8,9,10 or 11); PA level CIKL: compared to peers (less, same, more, much more), Oklahoma: sedentary (sed.), moderately active (mod.), active.