

Table 1 Characteristics of studies included in the systematic review

S. No	Author/Year/Country	Ethnicity	Sample Size	PA Instrument	Gestational Period	PA Definition	Outcomes	Diagnostic Criteria	Newcastle-Ottawa Score
1	Nguyen et al. 2018 Vietnam	Southeast Asian (Vietnamese)	1987	PPAQ Questionnaire	Early	FITT	GDM	WHO	8
2	Mishra and Kishore 2018 India	South Asian (Indian)	Cases: 100 Controls: 273	IPAQ Questionnaire	Mid	FITT	GDM	Carpenter and Coustan	7
3	Padmapriyah et al. 2017 Singapore	East, South and Southeast Asian	1083	IPAQ Questionnaire	Mid	FITT	GDM	WHO	7
4	Nasiri-Amiri et al. 2016 Iran	Middle East	Cases: 100 Controls: 100	PPAQ Questionnaire	Mid	Type and intensity	GDM	Carpenter and Coustan	7
5	Morkid et al. 2014 Norway	Western Europe South Asia Middle East	759	Questionnaire Accelerometer	Early-Mid	FITT	GDM	IADPSG	9
6	Currie et al. 2014 Canada	Not reported	1749	Questionnaire	Pre-Early- Mid	FITT	GDM	SOGC	7
7	Chasan-Taber et al. 2014 USA	Hispanic	1241	PPAQ Questionnaire	Pre-Early- Mid	FITT	GDM	Not reported	6
8	Redden et al. 2010 USA	White African-American Asian Native-American Hispanic	11,403	Questionnaire	Pre	FITT	GDM	Not reported	8

PA, physical activity; PPAQ, pregnancy physical activity questionnaire; FITT, frequency, intensity time and type; GDM, gestational diabetes mellitus; WHO, world health organisation; IPAQ, international physical activity questionnaire; IADPSG, international association for diabetes in pregnancy; SOGC, society of obstetricians and gynaecologists of canada guideline

Table 2 Association between physical activity and GDM risk by ethnicity

S. No	Ethnicity	Aim	Results OR (95% CI)	P value
Nguyen et al. 2018	Southeast Asian (Vietnamese)	To assess the association between PA during pregnancy and the prevalence of GDM accounting for sitting time.	0.74 (0.57, 0.97)	0.017
Mishra and Kishore 2018	South Asian (Indian)	To identify the association between PA during pregnancy and GDM risk.	5.9 (3.6, 9.8)	<0.001
Padmapriyah et al. 2017	East, South and Southeast Asian	To examine the association between PA and SB during pregnancy and GDM among Asian women.	0.56 (0.32, 0.98)	0.04
Nasiri-Amiri et al. 2016	Middle East	To determine and compare the type and intensity of PA performed by pregnant females with GDM and healthy pregnant females in the first 20 weeks of pregnancy.	1.09 (0.30, 3.96)	0.001
Morkid et al. 2014	Western Europe South Asia Middle East Others	To assess the association between objectively recorded PA in early gestation and GDM.	Pre-pregnancy 0.66 (0.46, 0.94) Early pregnancy 0.79 (0.65, 0.97) 0.032	0.02
Currie et al. 2014	Not reported	To examine the association between PA in the year pre-pregnancy and the first half of pregnancy with GDM.	Pre-pregnancy 0.6 (0.24, 1.48) Early pregnancy 0.56 (0.22, 1.47)	0.24 0.28
Chasan-Taber et al. 2014	Hispanic	To examine the relationship between PA during pre-, early and mid-pregnancy and risk of GDM.	Pre-pregnancy 0.79 (0.32, 1.97) Early pregnancy	0.64

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			0.69 (0.27, 1.73)	0.72
			Mid-pregnancy	
			1.24 (0.38, 4.05)	0.999
Redden et al. 2010	White African-American Asian Native-American Hispanic Others	To investigate the association between recreational PA pre-pregnancy and GDM.	0.69 (0.46, 1.03)	0.1

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PA, physical activity; GDM, gestational diabetes mellitus; SB, sedentary behaviour; OR, odds ratio; CI, confidence interval