

評価対象論文リスト(要因:体格[やせ]、アウトカム:早産・低出生体重児・在胎不当過小児)

評価判定日:2023/8/24

①既存の系統的レビュー・メタ解析・統合解析

1	Liu P, Xu L, Wang Y, et al. Association between perinatal outcomes and maternal pre-pregnancy body mass index. <i>Obesity Reviews</i> . 2016;17(11):1091-1102. doi:10.1111/obr.12455
2	de Andrade Gonçalves EC, Augusto Santos Silva D, Gimenes Nunes HE. Prevalence and Factors Associated With Low Aerobic Performance Levels in Adolescents: A Systematic Review. <i>Curr Pediatr Rev</i> . 2015;11(1):56-70. doi:10.2174/1573396311666150501003435
3	Han Z, Mulla S, Beyene J, Liao G, McDonald SD. Maternal underweight and the risk of preterm birth and low birth weight: a systematic review and meta-analyses. <i>International Journal of Epidemiology</i> . 2011;40(1):65-101. doi:10.1093/ije/dyq195

②日本人個別研究(ランダム化比較試験、コホート研究、症例対照研究、横断研究などの個別疫学研究)

3	Nakanishi K, Saijo Y, Yoshioka E, et al. Severity of low pre-pregnancy body mass index and perinatal outcomes: the Japan Environment and Children's Study. <i>BMC Pregnancy Childbirth</i> . 2022;22(1):121. doi:10.1186/s12884-022-04418-3
4	Maeda Y, Ogawa K, Morisaki N, Sago H. The association between gestational weight gain and perinatal outcomes among underweight women with twin pregnancy in Japan. <i>Intl J Gynecology & Obste</i> . 2022;159(2):420-426. doi:10.1002/ijgo.14122
5	Utako Murai, Kyoko Nomura, Michiko Kido, Takeaki Takeuchi, Mitsuhiro Sugimoto, Mahbubur Rahman. Pre-pregnancy body mass index as a predictor of low birth weight infants in Japan. <i>Asia Pacific Journal of Clinical Nutrition</i> . 2017;26(3). doi:10.6133/apjcn.032016.11
6	Suzuki K, Nomura K, Takenoshita S, Ando K, Kido M. Combination of parity and pre-pregnancy BMI and low birth weight infants among Japanese women of reproductive age. <i>INDUSTRIAL HEALTH</i> . 2016;54(6):515-520. doi:10.2486/indhealth.2016-0088
7	Kasuga Y, Shigemi D, Tamagawa M, et al. Size for gestational age at birth according to offspring sex and gestational weight gain in underweight women. <i>J Dev Orig Health Dis</i> . 2019;10(5):536-541. doi:10.1017/S2040174418001150
8	Fujiwara K, Aoki S, Kurasawa K, Okuda M, Takahashi T, Hirahara F. Associations of maternal pre-pregnancy underweight with small-for-gestational-age and spontaneous preterm birth, and optimal gestational weight gain in Japanese women. <i>J of Obstet and Gynaecol</i> . 2014;40(4):988-
9	Fujita Y, Kouda K, Ohara K, Nakamura H, Iki M. Maternal pre-pregnancy underweight is associated with underweight and low bone mass in school-aged children. <i>J Bone Miner Metab</i> . 2020;38(6):878-884. doi:10.1007/s00774-020-01121-1
10	Harita N, Kariya M, Hayashi T, et al. Gestational bodyweight gain among underweight Japanese women related to small-for-gestational-age birth. <i>J of Obstet and Gynaecol</i> . 2012;38(9):1137-1144. doi:10.1111/j.1447-0756.2012.01848.x
11	Nagao T, Fukui S, Ohde S, Yamanaka M. The perinatal outcomes by gestational weight gain range at 30 weeks of gestation among pre-pregnancy underweight women. <i>J of Obstet and Gynaecol</i> . 2023;49(2):635-640. doi:10.1111/jog.15490
12	Watanabe H, Inoue K, Doi M, et al. Risk factors for term small for gestational age infants in women with low prepregnancy body mass index. <i>J of Obstet and Gynaecol</i> . 2010;36(3):506-512. doi:10.1111/j.1447-0756.2010.01170.x

■メタ解析、系統的レビュー

Reference			Include study				Design	Category	Relative risk (95% CI or p)	Weight	<u>Magnitude of association</u>
Author	Title	Year	Ref No.	First author	Year	Study period	Study location				
Han Z, Mulla S, Beyene J, Liao G, McDonald SD; Knowledge Synthesis Group.	Maternal underweight and the risk of preterm birth and low birth weight: a systematic review and meta-analyses	2011				78 studies in systematic review			LBW (9 studies include): overall	1.64 (1.38, 1.94)	↑ ↑

■コホート研究(コホートのプール解析含む)

Reference			Study subjects						Category	Number among cases	Relative risk (95%CI or p)	P for trend	<u>Magnitude of association</u>
Author	Title	Year	Study period	Number of subjects	Source of subjects	Event followed	Number of incident cases or deaths	Participant's race					
Kentaro Nakanishi et al.,	Severity of low pre-pregnancy body mass index and perinatal outcomes: the Japan Environment and Children's Study	2022	2011-2014	92260	Pre-pregnancy BMI < 16.9, Severe to moderate underweight			Japanese	PT	171 1.72 (1.46-2.03)		↑	
				2515	<17.0-18.4, Mild underweight				LBW	404 2.55 (2.27-2.86)		↑ ↑ ↑	
				11,933					SGA	381 2.53 (2.25-2.84)		↑ ↑ ↑	
									PT	604 1.26 (1.14-1.39)		↑	
									LBW	1297 1.64 (1.53-1.76)		↑	
									SGA	1245 1.66 (1.55-1.79)		↑	

■ケースコントロール研究

Reference			Study subjects					Category	Number among cases	Relative risk (95%CI or p)	P for trend	<u>Magnitude of association</u>
Author	Title	Year	Study period	Type and source	Definition	Number of cases	Number of controls					
Fujiwara K, Aoki S, Kurasawa K, Okuda M, Takahashi T, Hirahara F.	Associations of maternal pre-pregnancy underweight with small-for-gestational-age and spontaneous preterm birth, and optimal gestational weight gain in Japanese women	2014	2001-2012	1 institution	case; (BMI<18.5 kg/m2) control; Normal weight group (18.5-24.9 kg/m2)	1057	6954	SGA	147	1.50 (1.15-1.94)	<0.01	↑
					Infant birthweight (g)	case	control					
						2884.9 ± 420.3	2999.1 ± 442.5	LBW			<0.01	↑
					Gestational age at delivery (weeks)	38.7 ± 1.8	38.7 ± 1.6	0.78	PT		0.78	-
Murai U, Nomura K, Kido M, Takeuchi T, Sugimoto M.	Pre-pregnancy body mass index as a predictor of low birth weight infants in Japan	2017	2011		(BMI<18.5 kg/m2)	347	989	LBW	21	1.86 (1.04-3.31)	0.035	↑