

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

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①既存の系統的レビュー・メタ解析・統合解析

1	LifeCycle Project-Maternal Obesity and Childhood Outcomes Study Group, Voerman E, Santos S, et al. Association of gestational weight gain with adverse maternal and infant outcomes. <i>JAMA</i> . 2019;321(17):1702. doi:10.1001/jama.2019.3820
2	Marchi J, Berg M, Dencker A, Olander EK, Begley C. Risks associated with obesity in pregnancy, for the mother and baby: a systematic review of reviews. <i>Obesity Reviews</i> . 2015;16(8):621-638. doi:10.1111/obr.12288
3	Fakhræi R, Denize K, Simon A, et al. Predictors of adverse pregnancy outcomes in pregnant women living with obesity: a systematic review. <i>IJERPH</i> . 2022;19(4):2063. doi:10.3390/ijerph19042063
4	McDonald SD, Han Z, Mulla S, Beyene J, on behalf of the Knowledge Synthesis Group. Overweight and obesity in mothers and risk of preterm birth and low birth weight infants: systematic review and meta-analyses. <i>BMJ</i> . 2010;341(jul20 1):c3428-c3428. doi:10.1136/bmj.c3428
5	Faucher M, Hastings-Tolsma M, Song J, Willoughby D, Bader SG. Gestational weight gain and preterm birth in obese women: a systematic review and meta-analysis. <i>BJOG</i> . 2016;123(2):199-206. doi:10.1111/1471-0528.13797
6	Schellong K, Schulz S, Harder T, Plagemann A. Birth weight and long-term overweight risk: systematic review and a meta-analysis including 643,902 persons from 66 studies and 26 countries globally. Hernandez AV, ed. <i>PLoS ONE</i> . 2012;7(10):e47776. doi:10.1371/journal.pone.0047776
7	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
8	Xu Z, Wen Z, Zhou Y, Li D, Luo Z. Inadequate weight gain in obese women and the risk of small for gestational age (Sga): a systematic review and meta-analysis. <i>The Journal of Maternal-Fetal & Neonatal Medicine</i> . 2017;30(3):357-367. doi:10.3109/14767058.2016.1173029
9	Oteng-Ntim E, Mononen S, Sawicki O, Seed PT, Bick D, Poston L. Interpregnancy weight change and adverse pregnancy outcomes: a systematic review and meta-analysis. <i>BMJ Open</i> . 2018;8(6):e018778. doi:10.1136/bmjopen-2017-018778
10	Yu Z, Han S, Zhu J, Sun X, Ji C, Guo X. Pre-pregnancy body mass index in relation to infant birth weight and offspring overweight/obesity: a systematic review and meta-analysis. Baradaran HR, ed. <i>PLoS ONE</i> . 2013;8(4):e61627. doi:10.1371/journal.pone.0061627
11	Timmermans YEG, Van De Kant KDG, Oosterman EO, et al. The impact of interpregnancy weight change on perinatal outcomes in women and their children: A systematic review and meta-analysis. <i>Obesity Reviews</i> . 2020;21(3):e12974. doi:10.1111/obr.12974
12	Torloni MR, Betrán AP, Daher S, et al. Maternal BMI and preterm birth: A systematic review of the literature with meta-analysis. <i>The Journal of Maternal-Fetal & Neonatal Medicine</i> . 2009;22(11):957-970. doi:10.3109/14767050903042561
13	Nguyen G, Hayes L, Ngongalah L, et al. Association between maternal adiposity measures and infant health outcomes: A systematic review and meta-analysis. <i>Obesity Reviews</i> . 2022;23(10):e13491. doi:10.1111/obr.13491
14	Kanadys WM, Leszczyńska-Gorzela B, Jedrych M, Oleszczuk J. Matczyna otyłość przedciazowa a ryzyko porodu przedwczesnego--przeład systematyczny badań kohortowych z metaanaliza [Maternal pre-pregnancy obesity and the risk of preterm birth: a systematic overview of cohort studies with meta-analysis]. <i>Ginekol Pol</i> . 2012;83(4):270-279.

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)

15	Hirooka-Nakama J, Enomoto K, Sakamaki K, Kurasawa K, Miyagi E, Aoki S. Optimal weight gain in obese and overweight pregnant Japanese women. <i>Endocr J</i> . 2018;65(5):557-567. doi:10.1507/endocrj.EJ18-0027
16	Minato-Inokawa S, Hashiguchi A, Honda M, et al. Weight trajectories since birth, current body composition and metabolic traits in young, normal-weight Japanese women with high percentage body fat. <i>BMJ Open Diab Res Care</i> . 2022;10(6):e003045. doi:10.1136/bmjdr-2022-003045
17	Enomoto K, Aoki S, Toma R, Fujiwara K, Sakamaki K, Hirahara F. Pregnancy outcomes based on pre-pregnancy body mass index in Japanese women. Wang G, ed. <i>PLoS ONE</i> . 2016;11(6):e0157081. doi:10.1371/journal.pone.0157081
18	Sugimura R, Kohmura-Kobayashi Y, Narumi M, et al. Comparison of three classification systems of prepregnancy body mass index with perinatal outcomes in Japanese obese pregnant women: a retrospective study at a single center. <i>Int J Med Sci</i> . 2020;17(13):2002-2012. doi:10.7150/ijms.47076
19	Toma R, Aoki S, Fujiwara K, Hirahara F. Associations of pre-pregnancy obesity with adverse pregnancy outcomes and the optimal gestational weight gain in Japanese women. <i>Clin Exp Obstet Gynecol</i> . 2017;44(2):190-194.
20	Murakami M, Ohmichi M, Takahashi T, et al. Prepregnancy body mass index as an important predictor of perinatal outcomes in Japanese. <i>Arch Gynecol Obstet</i> . 2005;271(4):311-315. doi:10.1007/s00404-004-0629-7

■メタ解析、系統的レビュー

Author	Title	Year	Include study		Category	Relative risk (95% CI or p)	Magnitude of association	
			First author	Year				Event (*Definition)
Marchi, J., et al.	Risks associated with obesity in pregnancy, for the mother and baby: a systematic review of reviews	2015	Heslehurst	2008	PTB (<32 weeks),	BMI ≥ 30	1.59 (1.47–1.72)	↑↑
			McDonald,	2010	PTB (<33 weeks)	BMI ≥ 30–34.9,	1.49 (0.89–2.50)	-
			Torloni,	2009	PTB 32-36 weeks	BMI 30	2.02 (1.24–3.29)	↑↑↑
Marchi, J., et al.	Risks associated with obesity in pregnancy, for the mother and baby: a systematic review of reviews	2015	Heslehurst	2008	LBW	BMI ≥ 30	0.81 (0.78–0.91)	↓
			McDonald,	2010	LBW(<2,500 g)	BMI ≥ 35, NS	0.63 (0.34–1.19)	-
			Yu	2013	LBW(<2,500 g)	BMI ≥ 34.9 to ≥40	0.81 (0.42–1.53)	-
					BMI ≥ 30	0.81 (0.80–0.83)	↓	

■コホート研究(コホートのプール解析含む)

Author	Title	Year	Study subjects					Category	Number among cases	Relative risk (95%CI or p)	P for trend	Confounding variables considered	Magnitude of association
			Study period	Number of subjects	Source of subjects	Event followed	Number of incident cases or deaths						
McDonald SD, Han Z, Mulla S, Beyene J; Knowledge Synthesis Group.	Overweight and obesity in mothers and risk of preterm birth and low birth weight infants: systematic review and meta-analyses	2010		755089			274998		PTB(<37 weeks)	26633	1.06 (0.87 to 1.30)	-	
				293762			overweight and obesity 99624		LBW	4700	0.84(0.75 to 0.95)	↓	
Toma R, Aoki S, Fujadverse	Associations of pre-pregnancy obesity with pregnancy outcomes and the optimal gestational weight gain in Japanese women	2017	2001-2012	6801	Obesity(BMI>=30 kg/m2)		207		PTB	28	2.75(1.71-4.42)	<0.001	↑↑↑

■ケースコントロール研究

Author	Title	Year	Study subjects					Category	Number among cases	Relative risk (95%CI or p)	P for trend	Confounding variables considered	Magnitude of association
			Study period	Type and source	Definition	Number of cases	Number of controls						
Enomoto K, Aoki S, Toma R, Fujiwara K, Sakamaki K, Hirahara F.	Pregnancy Outcomes Based on Pre-Pregnancy Body Mass Index in Japanese Women	2016	2013		Obesity(BMI>=30 kg/m2)	2805	69126						
								SGA	198	0.790(0.688–0.908)	<0.001	↓	
								PTB	338	1.187 (1.044–1.350)	<0.001	↑	
Sugimura K, Kohmura-Kobayashi Y, Narumi M, Furuta-Isomura N, Oda T, Tamura N, Uchida T, Suzuki K, Sugimura M, Kanayama N, Itoh H	Comparison of three classification systems of Prepregnancy Body Mass Index with Perinatal Outcomes in Japanese Obese Pregnant Women: A retrospective study at a single center	2020	2010-2019		Obesity(BMI>=30 kg/m2)	194	4239						
								SGA	5	0.11 (0.04–0.28)	0.01 (vs normal weight)	↓↓	
								PTB (s)	5	0.31 (0.10–0.96)		↓↓	

(s) : spontaneous