# 評価対象論文リスト（要因：妊娠中に妊娠糖尿病があった人、アウトカム：循環器病）

評価判定日：2025/5/29

## ①既存の系統的レビュー・メタ解析・統合解析

| | |
|---|---|
| 1 | Alejandra MH, Ricardo ET, Guadalupe DL. Crosstalk between hypertension and diabetes: focusing on pregnancy and offspring. A systematic review. Front Physiol. 2025;16:1519410. Published 2025 Apr 25. doi:10.3389/fphys.2025.1519410 |
| 2 | Ullah I, Khan SA, Nayab D, et al. Long-Term Cardiovascular and Metabolic Health Outcomes of Gestational Diabetes Mellitus: A Systematic Review. Cureus. 2025;17(2):e79555. Published 2025 Feb 24. doi:10.7759/cureus.79555 |
| 3 | Jia Y, Hu Q, Liao H, Liu H, Zeng Z, Yu H. Global research trends and hotspots in gestational diabetes and long-term cardiovascular health: A bibliometric analysis. Diabetes Metab Syndr. 2024;18(10):103144. doi:10.1016/j.dsx.2024.103144 |
| 4 | Semnani-Azad Z, Gaillard R, Hughes AE, et al. Precision stratification of prognostic risk factors associated with outcomes in gestational diabetes mellitus: a systematic review. Commun Med (Lond). 2024;4(1):9. Published 2024 Jan 12. doi:10.1038/s43856-023-00427-1 |
| 5 | Xie W, Wang Y, Xiao S, Qiu L, Yu Y, Zhang Z. Association of gestational diabetes mellitus with overall and type specific cardiovascular and cerebrovascular diseases: systematic review and meta-analysis. BMJ. 2022;378:e070244. Published 2022 Sep 21. doi:10.1136/bmj-2022-070244 |
| 6 | Flachs Madsen LR, Gerdøe-Kristensen S, Lauenborg J, Damm P, Kesmodel US, Lynge E. Long-Term Follow-Up on Morbidity Among Women With a History of Gestational Diabetes Mellitus: A Systematic Review. J Clin Endocrinol Metab. 2022;107(9):2411-2423. doi:10.1210/clinem/dgac373 |
| 7 | Pathirana MM, Lassi Z, Ali A, Arstall M, Roberts CT, Andraweera PH. Cardiovascular risk factors in women with previous gestational diabetes mellitus: A systematic review and meta-analysis. Rev Endocr Metab Disord. 2021;22(4):729-761. doi:10.1007/s11154-020-09587-0 |
| 8 | Kramer CK, Campbell S, Retnakaran R. Gestational diabetes and the risk of cardiovascular disease in women: a systematic review and meta-analysis. Diabetologia. 2019;62(6):905-914. doi:10.1007/s00125-019-4840-2 |
| 9 | Grandi SM, Filion KB, Yoon S, et al. Cardiovascular Disease-Related Morbidity and Mortality in Women With a History of Pregnancy Complications [published correction appears in Circulation. 2019 Aug 27;140(9):e544. doi: 10.1161/CIR.0000000000000718.]. Circulation. 2019;139(8):1069-1079. |
| 10 | Li J, Song C, Li C, Liu P, Sun Z, Yang X. Increased risk of cardiovascular disease in women with prior gestational diabetes: A systematic review and meta-analysis. Diabetes Res Clin Pract. 2018;140:324-338. doi:10.1016/j.diabres.2018.03.054 |
| 11 | Hopmans TE, van Houten C, Kasius A, et al. Verhoogd risico op diabetes mellitus type 2 en hart- en vaatziekten na diabetes gravidarum: een systematische review [Increased risk of type II diabetes mellitus and cardiovascular disease after gestational diabetes mellitus: a systematic review]. Ned Tijdschr Geneeskd. |

## ②日本人集団の個別疫学研究

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| (参考) | Watanabe M, Sairenchi T, Nishida K, et al. Gestational Hypertension as Risk Factor of Hypertension in Middle-Aged and Older Women. Int J Environ Res Public Health. 2020;17(11):4052. Published 2020 Jun 5. doi:10.3390/ijerph17114052 |

■メタ解析、系統的レビュー

| Reference | | | Include study | | | | | Design | Relative risk (95% CI or p) | Weight | **Magnitude of association** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Author | Title | Year | First author | Year | Study period | Study location | Event (*Definition) | Category | | | |
| Xie W, et al | Association of gestational diabetes mellitus with overall and type specific cardiovascular and cerebrovascular diseases: systematic review and meta-analysis | 2022 | **Cardiovascular disease** | | | | Coronary artery diseases, Myocardial infarction, Angina pectoris,Heart failure, Cardiovascular procedures | | | | |
| | | | Carr | 2006 | NA | USA | | | 1.59 (1.02, 2.49) | 7.17 | |
| | | | Kessous | 2013 | 10 years | Israel | | | 1.91 (1.36, 2.69) | 8.33 | |
| | | | Savitz | 2014 | 1 years | USA | | | 1.50 (1.06, 2.13) | 8.24 | |
| | | | Goueslard | 2016 | 7 years | France | | | 1.77 (1.43, 2.18) | 9.69 | |
| | | | Retnakaran | 2017 | 10 years | Canada | | | 2.24 (0.91, 5.53) | 3.52 | |
| | | | Tobias | 2017 | 25.7 years | USA | | | 1.45 (1.05, 1.99) | 8.57 | |
| | | | Daly | 2018 | 2.9 years | UK | | | 2.78 (1.37, 5.66) | 4.74 | |
| | | | McKenzie-Sampson | 2018 | 14.5 years | Canada | | | 2.11 (1.91, 2.33) | 10.52 | |
| | | | Kabootari | 2019 | 14.1 years | Iran | | | 1.28 (0.93, 1.76) | 8.58 | |
| | | | Sun | 2021 | 12.8 years | Korea | | | 1.24 (1.07, 1.44) | 10.21 | |
| | | | Yu | 2021 | 16.2 years | Denmark | | | 2.78 (2.52, 3.06) | 10.53 | |
| | | | Lee | 2022 | 10.3 years | UK | | | 1.33 (1.10, 1.61) | 9.88 | |
| | | | **Overall** | | | | | | **1.72 (1.40, 2.11)** | **100** | ↑ |
| | | | **cerebrovascular diseases** | | | | Overall stroke, Ischaemic stroke, Haemorrhagic stroke | | | | |
| | | | Carr | 2006 | NA | USA | | | 1.67 (0.87, 3.22) | 1.4 | |
| | | | Savitz | 2014 | 1 years | USA | | | 1.30 (0.81, 2.09) | 2.66 | |
| | | | Goueslard | 2016 | 7 years | France | | | 1.28 (1.01, 1.62) | 10.71 | |
| | | | Tobias | 2017 | 25.7 years | USA | | | 1.10 (0.75, 1.61) | 4.1 | |
| | | | Daly | 2018 | 2.9 years | UK | | | 0.95 (0.51, 1.77) | 1.54 | |
| | | | McKenzie-Sampson | 2018 | 14.5 years | Canada | | | 1.40 (1.23, 1.61) | 32.97 | |
| | | | Sun | 2021 | 12.8 years | Korea | | | 1.24 (0.83, 1.84) | 3.77 | |
| | | | Yu | 2021 | 16.2 years | Denmark | | | 1.47 (1.30, 1.67) | 38.1 | |
| | | | Lee | 2022 | 10.3 years | UK | | | 1.69 (1.19, 2.41) | 4.75 | |
| | | | **Overall** | | | | | | **1.40 (1.29, 1.51)** | **100** | ↑ |
| Kramer CK, et al | Gestational diabetes and the risk of cardiovascular disease in women: a systematic review and meta-analysis | 2019 | **cardiovascular events** | | | | | | | | |
| | | | Kessous et al [15] | 2013 | | Israel | | | 3.00 (2.79, 3.22) | 11.81 | |
| | | | Fadl et al [16] | 2014 | | Sweden | | | 1.80 (1.46, 2.23) | 10.88 | |
| | | | Savitz et al [17] | 2014 | | USA | | | 5.76 (4.96, 6.68) | 11.39 | |
| | | | Kaul et al [18] | 2015 | | Canada | | | 2.02 (1.74, 2.34) | 11.39 | |
| | | | Goueslard et al [8] | 2016 | | France | | | 1.55 (1.36, 1.78) | 11.49 | |
| | | | Tobias et al [6] | 2017 | | USA | | | 1.21 (0.97, 1.51) | 10.78 | |
| | | | Retnakaran and Shah [9 | 2017 | | Canada | | | 1.55 (1.49, 1.61) | 11.9 | |
| | | | Daly et al [19] | 2018 | | UK | | | 1.59 (1.03, 2.46) | 8.45 | |
| | | | McKenzie-Sampson | 2018 | | Canada | | | 1.50 (1.45, 1.55) | 11.91 | |
| | | | **Overall** | | | | | | **1.98 (1.57, 2.50)** | **100** | ↑ |
| | | | **cardiovascular events (the risk of cardiovascular events in studies with ≤10 years of follow-up)** | | | | | | | | |
| | | | Kessous et al [15] | 2013 | | Israel | | | 3.00 (2.79, 3.22) | 16.93 | |
| | | | Fadl et al [16] | 2014 | | Sweden | | | 1.80 (1.46, 2.23) | 16.19 | |
| | | | Savitz et al [17] | 2014 | | USA | | | 5.76 (4.96, 6.68) | 16.6 | |
| | | | Kaul et al [18] | 2015 | | Canada | | | 2.02 (1.74, 2.34) | 16.6 | |
| | | | Goueslard et al [8] | 2016 | | France | | | 1.55 (1.36, 1.78) | 16.68 | |
| | | | Retnakaran and Shah [9 | 2017 | | Canada | | | 1.55 (1.49, 1.61) | 17 | |
| | | | **Overall** | | | | | | **2.31 (1.57, 3.39)** | **100** | ↑↑↑ |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Grandi SM et al | Cardiovascular Disease-Related Morbidity and Mortality in Women With a History of Pregnancy Complications | 2019 | **Cardiovascular-related morbidity and mortality*** | | | | | | | | (*Including coronary artery disease, myocardial infarction, coronary revascularization, peripheral arterial disease, transient ischemic attack, and stroke) | |
| | | | 8 Cohort | | Gestational Diabetes | | | No Gestational Diabetes | | | OR (95% CI) | |
| | | | | | Cases | | Controls | Cases | | Controls | | |
| | | | Dawson et al. 2009 | 2009 | NR | | NR | NR | | NR | 9.92 (0.83, 119.07) | |
| | | | Goueslard et al. 2016 | 2016 | 1,515,387 | | NR | NR | | NR | 1.26 (1.06, 1.48) | |
| | | | Heida et al. 2015 | 2015 | 16,649 | | NR | NR | | NR | 1.04 (0.71, 1.48) | |
| | | | Kaul et al. 2015 | 2015 | 222,494 | | NR | NR | | NR | 1.40 (0.94, 2.09) | |
| | | | Kessous et al. 2015 | 2015 | 47,909 | 439 | | 4,489 | 1,332 | | 2.60 (2.25, 3.00) | |
| | | | Pintaud et al. 2016 | 2016 | 15,404 | 30 | | 3,921 | 46 | | 1.90 (1.03, 3.56) | |
| | | | Savitz et al. 2014 | 2014 | NR | | NR | NR | | NR | 1.50 (0.99, 3.00) | |
| | | | Shah et al. 2008 | 2008 | 89,653 | | NR | NR | | NR | 1.13 (0.59, 2.16) | |
| | | | **Random Effects Summary** | | | | | | | | **1.68 (1.11, 2.52)** | ↑↑ |