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CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Post-Partum Screening and Monitoring for Gestational Diabetes: Clinical Effectiveness and Guidelines

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Acknowledgments:

Research Questions

1. What is the clinical effectiveness of an intervention to screen and monitor patients post-partum gestational diabetes?
2. What are the evidence-based guidelines regarding post-partum gestational diabetes screening or monitoring?

Key Findings

Three systematic reviews, two randomized controlled trials, six non-randomized studies, and four evidence-based guidelines were identified regarding the screening and monitoring of post-partum gestational diabetes.

Methods

A limited literature search was conducted on key resources including PubMed, the Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No methodological filters were applied to limit retrieval to study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2013 and August 15, 2018. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Post-partum patients with gestational diabetes
Intervention	Compliance tools (e.g., text message, e-mail, mail reminder)
Comparators	Q1: Alternative comparators Q2: No comparator
Outcomes	Q1: Reducing harm, increasing compliance Q2: Guidelines
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Three systematic reviews, two randomized controlled trials, six non-randomized studies, and four evidence-based guidelines were identified regarding the screening and monitoring of post-partum gestational diabetes. No relevant health technology assessments were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

Three systematic reviews,[1-3] two randomized controlled trials,[4-5] six non-randomized studies,[6-11] were identified regarding the screening and monitoring of post-partum gestational diabetes. Generally, the results of these studies showed no or little difference between groups in terms of postnatal testing follow through. Details regarding the studies are provided in Table 2.

Four evidence-based guidelines[12-15] were identified regarding the post-partum management of gestational diabetes. The guidelines recommend that women with gestational diabetes be encouraged to breastfeed.[12,14] A fasting glucose test should be offered between six weeks[12-15] to six months[12,14] post-partum. An annual HbA1c test should be offered to women who had gestational diabetes but who test negative at their postnatal test.[15] Lifestyle advice, including weight control, diet, and exercise, should be provided postnatally.[12-13,15]

Table 2: Summary of Included Studies

Author, Year	Population, Setting, and Study Characteristics	Intervention	Comparators	Results and Authors' Conclusions
Systematic Reviews				
Jeppesen, 2015[1]	Women with previous GDM Primary and secondary healthcare facilities 6 studies	Reminder and reminder systems for post-partum screening for type 2 diabetes: • Letters • Emails • Personal telephone calls	Not specified	• The efficacy of reminders varied between studies • Two studies found that phone calls were good reminders • Reminding women or healthcare providers separately was more effective than reminding them together
Middleton, 2015[2]	Women with previous GDM One RCT	Any type of reminder	Control groups (not further specified)	• One low quality study was identified comparing mailed reminders with no reminder 3 months

Author, Year	Population, Setting, and Study Characteristics	Intervention	Comparators	Results and Authors' Conclusions
				after giving birth • Uptake of oral glucose tolerance tests was higher in groups who received a reminder
Carson, 2013[3]	Women with previous GDM 54 studies	Proactive patient contact programs: • Phone calls • Education programs • Postal reminders	No reminder	The use of a reminder system increased post-partum testing between 33% and 60%
Randomized Controlled Trials				
Khorshidi Roozbahani, 2015[4]	Women with previous GDM (N = 80)	Telephone follow-up on blood glucose levels during pregnancy and post-partum screening • Calls for 10 weeks during pregnancy and one call 6 weeks post-partum	Telephone follow-up 3 times during pregnancy and one call 6 weeks post-partum	The rate of post-partum glucose screening was statistically significantly higher in the intervention group
Van Ryswyk, 2015[5]	Women with previous GDM (N = 276)	Text message reminder system (n = 140): • Sent a reminder text at 6 weeks post-partum to attend OGTT • Additional reminder texts sent at 3 months and 6 months if required	Text message reminder system (n = 136): • Sent a reminder text 6 months post-partum to attend OGTT	• Attendance for OGTT was not significantly different between groups within 6 months post-partum • Although there was no difference between groups, the authors noted a high rate of test completion in both groups
Non-Randomized Studies				
Benhalima, 2017[6]	Women with previous GDM (N = 7269 registered)	GDM recall register • Registrants receive a yearly reminder to have a fasting plasma glucose test	No comparator	• Yearly response rates varied from 74.4% after the first year to 61.8% after the fifth year • Women who never responded were more often less than 30 years of age and were more often obese
Soffer, 2017[7]	Women with previous GDM (n = 107 pre-intervention and n = 42 post-intervention)	Advanced order sets for: • Glucose monitoring at 35-week pregnancy visit • Educational module • Nutritionist phone call reminders for post-	Before and after comparison	• The percentage of orders placed for post-partum glucose testing was higher after the intervention was implemented • There was no increased observed in

Author, Year	Population, Setting, and Study Characteristics	Intervention	Comparators	Results and Authors' Conclusions
		partum glucose testing		attendance of the 6-week post-partum appointment
Carral, 2015[8]	Pregnant women with diabetes (including gestational, type 1 and type 2) (N = 104) Prospective, single-center, interventional study	Telemedicine group monitored with follow-up by the Gestational Diabetes Unit and web-based telemedicine	Control group monitored by follow-up by the Gestational Diabetes Unit alone	• There were no significant differences observed in mean glycated hemoglobin level during or after pregnancy between groups
Carson, 2015[9]	Pregnant women with GDM (N = 40) Prospective cohort study	Blood drawn in the office for random sugar and HbA1c at the post-partum visit	OGTT testing at an outside laboratory separate from the post-partum visit	• All of the women who were eligible had their blood drawn in the office while only 53% in the OGTT group completed testing
Mendez-Figuerosa, 2014[10]	Women with previous GDM	1-year intensive follow-up program with nurse and outreach worker case management	Women with GDM attending the same clinic before the intervention was implemented	• Adherence to post-partum OGTT increased from 43.1% to 59.4% after implementing the program • The authors predicted the change would have resulted in the detection of an additional 12 cases of diabetes or pre-diabetes the previous year
Carson, 2013[11]	Women with GDM (N = 69)	Fingerstick blood glucose 4 times a day for 2 days at 6 weeks post-partum followed by an OGTT	No comparator group	• 18% of women participating in the study completed both the fingerstick and OGTT • 30% of participants completed at least part of the testing • The authors determined that the home testing option did not improve participation rates

GDM = gestational diabetes mellitus; OGTT = oral glucose tolerance test; RCT = randomized controlled trial.

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

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2. Middleton P, Crowther CA. Reminder systems for women with previous gestational diabetes mellitus to increase uptake of testing for type 2 diabetes or impaired glucose tolerance. *Cochrane Database Syst Rev*. 2014 Mar 18(3):CD009578. PubMed: PM24638998

3. Carson MP, Frank MI, Keely E. Original research: postpartum testing rates among women with a history of gestational diabetes--systematic review. *Prim Care Diabetes*. 2013 Oct;7(3):177-186. PubMed: PM23684416

Randomized Controlled Trials

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Non-Randomized Studies

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Guidelines and Recommendations

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See: 7.11 Postnatal Care, page 67
7.12 Follow up of Women with GDM, page 68

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See: Recommendation 11, page 669

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See: Postnatal Care, page 11

Appendix — Further Information

Systematic Reviews and Meta-Analyses– Alternative Outcomes

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Non-Randomized Studies – No Abstract Available

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Clinical Practice Guidelines – Methodology Not Specified

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Review Articles

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