

Community-based non-pharmacological interventions for pregnant women with gestational diabetes mellitus: a systematic review

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Abstract

Background Non-pharmacological interventions are the first line of Gestational diabetes mellitus (GDM) management. Community-based interventions are cheaper, more accessible, with higher patient satisfaction. **Objectives** To systematically review community-based non-pharmacological interventions and evaluate their effectiveness for GDM. **Search Strategy** Twelve bibliographic databases and reference list of related studies from inception until January 2022. **Selection Criteria** All primary studies of community-based non-pharmacological interventions for GDM reported in English which investigated any behavioural or clinical outcome(s). **Data Collection and Analysis** Data were extracted using modified Cochrane's data extraction template. Studies were evaluated using Cochrane Collaboration's risk of bias tool. **Narrative synthesis** was used to summarise findings. This study is registered with PROSPERO (CRD42021257634). **Main Results** 27 studies involving 6,242 pregnant women with GDM involved self-management programmes, medical nutrition/diet therapy, exercise/physical activity, combined diet and exercise, calcium plus vitamin D supplementation, and continuous glucose monitoring. Self-management programmes were more effective than routine care in improving self-efficacy, two-hour postprandial blood glucose, and lifestyle behaviours but were as effective as routine care in improving infant birth weight. Self-management programmes were superior to or as effective as usual care in improving fasting blood glucose, blood glucose control, glycated haemoglobin, macrosomia, and preterm delivery. Medical nutrition/diet therapy was more effective than usual care in improving postprandial blood glucose levels. Limited/conflicting evidence was found for other outcomes and interventions. **Conclusions** Community-based non-pharmacological interventions are more effective than placebo; and are more/as effective as usual care. Self-management programmes and medical nutrition/diet therapy had the most promising GDM outcomes.

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Figure 1 PRISMA flowchart BJOG.docx available at <https://authorea.com/users/480703/articles/567999-community-based-non-pharmacological-interventions-for-pregnant-women-with-gestational-diabetes-mellitus-a-systematic-review>

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