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Women's Experiences, Perceptions, And Barriers To Insulin Therapy In Gestational Diabetes Mellitus: A Systematic Review

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Abstract

Pregnant women very often suffer from gestational diabetes (GDM). In this condition, they are affected physiologically, psychologically and sociologically. These conditions lead them to different perceptions and experiences. Some barriers to insulin therapy can affect the effectiveness of treatment for GDM. Much research and reviews have been conducted on this topic. This systematic literature review seeks to update our information on various aspects related to GDM.

Thus, this systematic literature review aimed to undertake a more detailed review and analysis of the experiences, perceptions and barriers to insulin therapy among pregnant women affected with GDM. For this purpose, papers were identified from Google Scholar using the PRISMA flow process to screen and select the most appropriate 25 papers.

The review showed that women with GDM undergo many positive and negative experiences and possess many positive and negative perceptions depending on the care context and the study methods. They also identified many barriers to insulin therapy. Most reviewed studies provided the practical implications of these observations and offered solutions to some of the vexing problems in this regard.

Objective: To explore the experiences, perceptions, and barriers to insulin therapy among pregnant women with gestational diabetes mellitus across diverse cultural and healthcare settings.

Methods: A systematic literature review was conducted by including qualitative, quantitative, and mixed-methods studies examining women's lived experiences, perceptions, and barriers related to insulin therapy in GDM. A literature search was conducted using Google Scholar following PRISMA guidelines, together with screening of reference lists of relevant papers.

Results: Twenty-five studies involving women with GDM across 13 countries contributed to this review. Our results indicated that women with GDM commonly experienced fear, emotional distress, and stigma following diagnosis and insulin initiation. Key barriers to insulin therapy included fear of injection, concerns about fetal harm, lack of awareness, work-related challenges, and insufficient healthcare support. Facilitators included trust in healthcare providers, family support, concern for fetal well-being, and access to education and digital health tools. Most reviewed studies provided practical implications and proposed solutions to improve women's engagement with insulin therapy.

Conclusion: Women with GDM face significant emotional, social, and informational barriers to insulin therapy. Addressing these barriers through person-centred care, culturally tailored education, and enhanced social support is essential to improving treatment adherence and pregnancy outcomes.

Keywords: Gestational diabetes, pregnant women, insulin therapy, practical implications.

Introduction

Background

Women with gestational diabetes (GDM) often experience significant anxiety, fear, and emotional distress when prescribed insulin, as they tend to perceive it as a personal failure or a sign of a worsening condition (Alayed, 2023; Lazarou et al., 2023; Akinola et al., 2026). Despite these initial negative

reactions, many women are motivated to adhere to the regimen due to a strong desire to ensure the health of their foetus.

A Saudi observational study on 164 pregnant women with GDM by Alayed (2023) showed that the most reported personal barriers were a preference for alternative treatment methods over insulin (56.4%) and lack of awareness about insulin dose control (45.4%). A family-related barrier was the past experiences of insulin-related complications (23.6%). Side effects feared included fear of hypoglycaemia (59.4%) and fear of weight gain (50.9%). Misconceptions included 26% believing insulin is addictive and that injections must continue for life. Work-related barriers related to irregular eating and long working hours were reported by 55.2% of participants as obstacles to insulin use. The solutions offered most frequently were improving access to healthcare services (94%), involving patients in treatment planning and decision-making (91.6%), activating virtual clinics and social media platforms for remote follow-up (86.6%), and organising social support groups for pregnant women using insulin to share their experiences.

Using the data obtained from social media and interviews with 10 pregnant women with GDM, Lazarou, et al. (2023) identified four major themes: emotional response to GDM diagnosis consisting of anxiety, fear and panic; perceived inadequate guidance on the maintenance of blood glucose level; family support (mainly husbands) sometimes leading to unpleasant daily experiences, including pressure to change eating habits, enforced exercise, and strict glucose monitoring; and suggestions for healthcare providers to deliver diagnoses more gently and to provide clear, evidence-based information. Some women also proposed mandatory antenatal classes focused on GDM prevention.

In-depth semi-structured interviews with 20 pregnant women with GDM by Akinola, et al. (2026) led to the identification of barriers, such as fear of insulin, the time and cognitive effort to learn self-management, managing emotions related to the diagnosis and self-management with insulin, jobs and family friends' unawareness, making it difficult to manage GDM as recommended. Facilitators included training from the medical team, support from family/friends, and concern for the well-being of the foetus.

The above three papers provide an overview of the experiences, perceptions, and barriers to insulin therapy for GDM. Much research has been done on this topic. This systematic review aims to undertake a more detailed review and analysis of the experiences, perceptions and barriers to insulin therapy among pregnant women affected with GDMA.

Methodology

A systematic literature search was conducted using Google Scholar, which was selected for its broad, multidisciplinary coverage of peer-reviewed journal articles, conference proceedings, and reports across publishers and repositories (Haddaway, Collins, Coughlin, & Kirk, 2015). The search employed combinations of key terms, including "gestational diabetes," "GDM," "insulin therapy," "experiences," "perceptions," "barriers," and "facilitators," applied to titles, abstracts, and full texts. The search and selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). An initial pool of identified records was screened by title and abstract, after which full texts were assessed against the inclusion and exclusion criteria outlined in Table 1. This process yielded a final sample of 25 papers, as illustrated in the PRISMA flow diagram (Fig. 1).

Figure 1 PRISMA
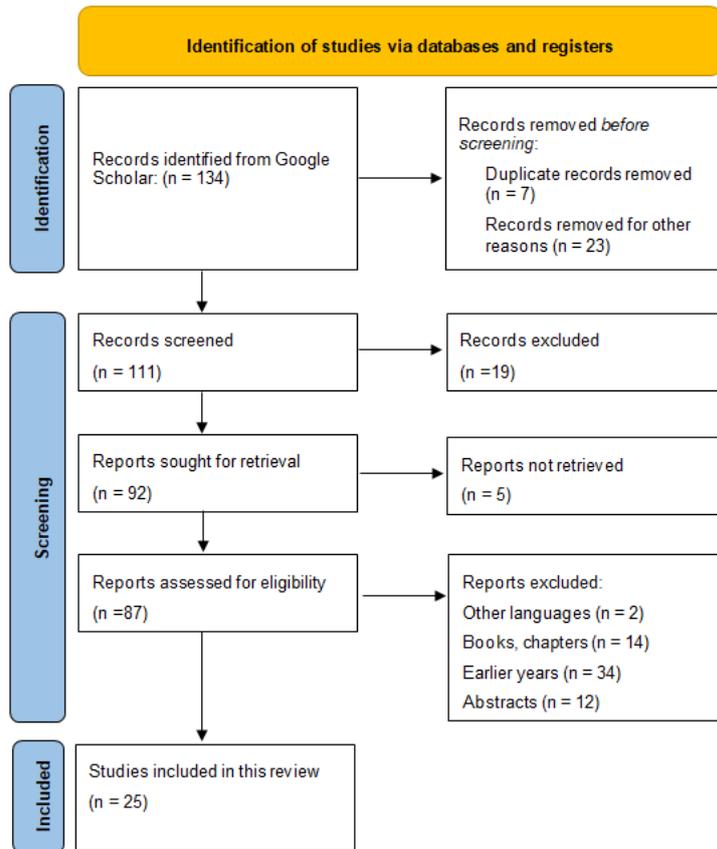
Criteria for inclusion and exclusion

Studies were included if they were published in English between 2022 and 2026, and reported on the experiences, perceptions, and/or barriers to insulin therapy among pregnant women diagnosed with GDM. Eligible study designs encompassed qualitative, quantitative, and mixed-methods studies, as well as systematic reviews. Only full-text publications were considered, including research articles and reports. Studies were excluded if they were published prior to 2022, written in a language other than English, or available only as abstracts, editorials, commentaries, book chapters, or dissertations. Studies focusing solely on women with pre-existing type 1 or type 2 diabetes, non-pregnant populations, or reporting only clinical and biochemical outcomes without capturing women's perspectives were also excluded.

In the next section, Results, highlights of the 25 papers have been presented. An Excel file has been prepared containing the reference, country, aim, method, findings, practical implications, and limitations. An overall quality assessment of the papers based on the adequacy of descriptions of these sections was done on a scoring range of 1 (lowest) to 5 (highest). This score is also included in the Excel file (attached).

Data extraction and quality assessment

Data extraction and assessment of quality were performed independently by two reviewers using a standardized form. Inconsistencies were resolved by discussion. Data extracted from the studies included characteristics of study participants (country, sample size, population source), study design and methods, diagnostic criteria for GDM, outcome measures related to women's experiences, perceptions, and barriers to insulin therapy, as well as facilitators and practical implications. Quality of individual studies was assessed using the Mixed Methods Appraisal Tool (MMAT). Each study was evaluated by considering the domains of clarity of research question, appropriateness of study design, recruitment strategy, data collection methods, data analysis, and whether findings were supported by the data. Studies were classified as high, moderate, or low quality according to the criteria defined in the MMAT guidelines (Higgins, Thomas, Chandler, Cumpston, & Li, 2019).

Results

From a systematic review of 30 qualitative studies, Xu, Han, Chen, Zhang, and Gu (2023) identified three themes: Knowledge and belief, Skills and abilities and Environment and social support. By understanding the self-reported barriers to self-management of GDM, it is possible to recommend precise interventions for these barriers, thereby saving health resources and helping to increase their willingness and ability to engage in self-management.

In a study consisting of two phases, phase 1 aimed to explore the perceptions of HPs and women with GDM regarding the use of mHealth for GDM self-management and to identify their needs from these technologies and phase 2 aimed to explore the perceptions of women with GDM about their experiences with a state-of-the-art app for managing GDM offered to them during the COVID-19 lockdown. In Phase 1, 16 semi-structured interviews were conducted on healthcare professionals, women with GDM, and women in the post-partum period with a history of GDM. In phase 2, semi-structured interviews were conducted with 10 women with GDM through Teams (Microsoft Corporation). These interviews contained 2 parts: the first part involved participants testing the proposed paper prototype, and the second part focused on participants' experiences with GDm-Health. Three themes were identified from the interviews on women with GDM in phase 1: fitting with women's lifestyle constraints, technology's design not meeting women's needs, and optimising the technology's design to meet women's needs. Three themes identified from the interviews with healthcare professionals were: optimising the technology's design to improve the quality of care, technology to support women's independence, and limitations in the care system and facilities. Two additional themes identified in phase 2 were: enhancing the information and functionalities, and optimising the interface design. In both phases, participants emphasised a simple and user-friendly interface design as the predominant positive influence on their use of technology for GDM management. These findings highlight poor usability, data visualisation limitations, a lack of personalisation, limited information, and a lack of communication facilities as issues related to the current GDM self-management (Safiee L. , Rough, George, & Mudenha, 2023).

In a systematic review by Safiee, Rough, and Whitford (2022), out of 26 papers, 19 used quantitative methods, and seven used qualitative methods. Qualitative data yielded four themes: the benefits of using technology, engagement with people via technology, the usability of technology, and discouragement factors for the use of technology. The challenges identified were the usability aspects of the system, technical problems, data privacy, lack of emotional support, the accuracy of reported data, and adoption of the system by healthcare professionals. The facilitators of these technologies were convenience, improved GDM self-management, peer support, increased motivation, increased independence, and consistent monitoring. Quantitative data showed a potential for improving the usability of the GDM self-management systems, along with the facilities of convenience, usefulness, increasing motivation for GDM self-management, helping with GDM self-management, and being monitored by healthcare professionals for using the GDM self-management systems.

Semi-structured interviews with 20 women with GDM in Denmark led to the identification of five themes: victim-blaming narrative, identity threat, non-disclosure and anticipated stigma, stigma in a clinical setting, and stigma reduction in a clinical setting. Intersectionality was identified as an additional theme between GDM-specific stigma, notions of how to be a good mother, and stigma associated with having type 2 diabetes mellitus and being overweight. Impact of GDM-specific stigma included suboptimal GDM care and management, such as not attending screening for GDM, and not wanting to disclose the diagnosis. The findings may help both healthcare personnel and future health promotion interventions to minimise the reproduction of a victim-blaming narrative and thereby promote well-being among women with GDM (Davidsen, et al., 2023).

To explore the attitudes of women with GDM toward diet and exercise, and to obtain advice that would be useful for other women newly diagnosed with GDM, semi-structured interviews were conducted on 32 women with GDM. Common barriers to adopting healthy eating and physical activity plans included limited time, convenience challenges, and lack of educational awareness. Key enablers of change were meal planning and organisation. Women generally perceived their pre-diagnosis diets as healthy, requiring only minor adjustments-such as portion control-to align with recommendations. Partner support emerged as another significant facilitator, setting the foundation for sustaining dietary changes within the family after pregnancy. In contrast, exercise was consistently described as a "chore" in the management of GDM and was viewed as unlikely to be maintained long term. Practical advice offered

by participants to other women with GDM emphasised the importance of organisation, adopting realistic approaches, and avoiding self-blame. Women's views are crucial to providing clinicians with a comprehensive and holistic understanding of disease management. Involving women in self-care decisions and empowering women to manage their own health are key contributors to long-term behaviour change as well as service provision and policy implementation (Smyth, et al., 2023).

To explore the experiences and perceptions of women diagnosed with gestational diabetes mellitus in Cyprus, and to identify areas for improvement, Lazarou, et al. (2025) conducted semi-structured interviews with 10 women with GDM and a gestational age of more than 30 weeks. Participants' experiences and perceptions were categorised into four themes: feelings aroused after gestational diabetes mellitus diagnosis; blood glucose maintenance; family-related factors; and suggestions for respectful care. Thus, there is a deep need for further information throughout the four key themes, which led to the development of a core theme identified as the "Overwhelming Need for Knowledge". The findings highlight that antenatal care in Cyprus for managing GDM requires improvements in empowering and educating women and their families, emphasising the need for midwives to be involved in enhancing women's experiences through antenatal education.

Aiming to explore women's knowledge of GDM risk factors, perceptions of GDM and preconception health behaviours, Payne, et al. (2026) conducted semi-structured interviews with 23 women with GDM in the third trimester of pregnancy. The participants had minimal awareness of GDM before their pregnancies, with many only becoming informed about the condition during routine antenatal screenings. Their views on risk were mainly centred around weight or BMI, with fewer recognising the significance of other factors. Although participants frequently expressed a desire to enhance their diet quality and boost physical activity ahead of conception, these intentions seldom materialised into lasting behaviours. Reported obstacles included time limitations, caregiving duties, financial burdens, and a lack of access to clear, culturally relevant guidance. The level of pregnancy preparedness differed based on parity: women approaching their first pregnancy concentrated on general readiness and understanding the healthcare system, while those with previous experiences of GDM strategised around the possibility of recurrence, which involved early self-management and glucose monitoring. The findings reveal determining need-based priorities of strengthening communication and education at the time of GDM screening and diagnosis so that results and next steps are clear, supportive and person-centred; and providing universal, general preconception support delivered proportionately to need, alongside targeted interconnection pathways for women at higher absolute risk, following GDM in a need-based manner.

Aimed to study the barriers and facilitators to insulin treatment from the perspectives of patients with type 2 diabetes following treatment at Dessie Comprehensive Specialised Hospital, North-East Ethiopia, Bayked, Kahissay, and Workneh (2022) conducted a phenomenological study of 24 (11 male and 13 female) participants using semi-structured interviews. The most frequently cited facilitator of insulin treatment was its relative effectiveness, followed by its convenience, characterised by fewer gastrointestinal side effects, small needle size, and ease of use. Additional enabling factors included the perception of insulin as life-sustaining, trust in physicians' decisions, family support, and health insurance coverage. Conversely, the most common impediments were market failures, such as high cost and supply shortages, followed by limitations inherent to the treatment itself and patient-specific circumstances. Market failures, particularly supply shortages and high costs, emerged as the most significant barriers to insulin treatment. Addressing these challenges requires the implementation of a robust pharmaceutical supply management strategy focused on ensuring both the availability and affordability of insulin. In addition, expanding health insurance coverage is required to enhance patient access and reduce financial burdens.

To qualitatively examine the experiences of individuals with gestational diabetes mellitus (GDM), an online survey was administered by Roesler, et al. (2024) to adults in Australia who had received GDM care within the past five years. A total of 815 participants responded to any of the three open-ended questions that investigated their positive, negative, and other experiences related to GDM. Thematic analysis was employed, and the identified themes were organised within the socioecological systems framework. At the system level, key themes included: (1) accessibility of care, encompassing the value of digital health, and (2) the rigid or inconsistent implementation of clinical guidelines. At the interpersonal level, themes highlighted the importance of (3) adequate health information provision and (4) supportive care, while also drawing attention to (5) experiences of stigma and the expressed need

for greater awareness of gestational diabetes mellitus (GDM). At the individual level, themes encompassed: (6) differential barriers to accessing care, (7) the negative emotional burden, (8) internalisation of stigma, (9) restrictions on dietary freedom and associated social impacts, and (10) opportunities for positive change arising from the experience of GDM. Findings show a demand for more supportive, person-centred GDM care, improved information provision (using digital technologies) and individualised implementation of clinical guidelines. Such mechanisms may support reduced barriers to accessing care or negative psychosocial impacts of GDM.

To explore the viewpoints of women with gestational diabetes regarding insulin usage through a phenomenological lens, 15 patients were interviewed by Düzgün, Polat, and Avdal (2023). The primary themes identified were "fear," "baby protector," and "last remedy." Expectant mothers with GDM can articulate their understanding of gestational diabetes thanks to the education they receive. Due to the sensitivity of the pregnancy period, these women often postpone managing their condition and using insulin for the sake of their babies' health. Additionally, they may encounter discomfort during injections and worry that it could negatively impact their babies. The results show that when patients are adequately informed and followed up, their fears decrease, treatment adherence increases, complications are more easily managed, and a healthy pregnancy is maintained.

A thematic analysis of interview responses from 14 women with current or recent GDM diagnosis by Sun, et al. (2023) identified four themes: experiences of distal GDM stigma, including stigmatising interactions with providers, stigma in non-medical spaces, and intersecting stigma related to weight; internalised GDM stigma, such as shame, guilt, and self-blame; psychological distress, involving stress, overwhelm, excessive worry, fear, loneliness, and isolation; and coping mechanisms that facilitate management, including acceptance of diagnosis, online GDM communities, active engagement in managing GDM, social and family support, and time for oneself. The findings highlight the significant role of GDM-related stigma in shaping mental health outcomes among individuals with GDM. Addressing both stigma and psychological well-being in this population is essential. Interventions that reduce stigma, foster psychological resilience, and promote positive coping strategies may support effective management of GDM and contribute to healthier birth outcomes.

Wan, Nankervis, Teede, and Aroni (2023) aimed to compare the views of ethnic Chinese and Australian-born Caucasian women and their HCPs, including endocrinologists, obstetricians, midwives, diabetes nurse educators and dietitians, about what constitutes optimal GDM care and how to improve woman-centred GDM care. In-depth, semi-structured interviews were conducted with 42 Chinese and 30 Caucasian women with GDM and 17 healthcare professionals (HCPs) from two large Australian hospital maternity services. Four of the nine themes revealed misalignments between patients' and HCPs' perspectives on GDM care, underscoring priority areas for strengthening woman-centred care. These included: (i) fostering consensus among HCPs on attitudes toward treatment targets; (ii) enhancing inter-professional communication; (iii) improving continuity of care during the transition from GDM to postpartum management; and (iv) delivering culturally tailored dietary guidance for Chinese patients. The findings reveal the need for reaching consensus on treatment targets, enhancing inter-professional communication, developing a perinatal care transition model from pregnancy to postpartum, and developing Chinese patient-oriented educational resources to improve woman- centred care.

To understand women's experiences of GDM-specific stigma, Benton, Hotung, Bird, Ismail, and Silverio (2025) conducted interviews with 53 women living in the UK with a current or past (within 4 years) GDM. Four themes were identified: preconceptions and misconceptions; locating, regaining, and negotiating agency; tension about and resisting the dominant discourse of stigma; and reclaiming control over the body. GDM-specific stigma was diverse and far-reaching and may have broader implications for perinatal mental health and postnatal wellbeing.

Holmes-Truscott, et al. (2025) aimed to explore experiences of stigma related to gestational diabetes (GDM) among Australian women and collaboratively develop a comprehensive item pool to assess experienced and internalised GDM-specific stigma. A GDM Lived Experience Advisory Group (G-LEAG; n=4) guided all stages of a two-phase qualitative study. In Phase 1, semi-structured online interviews were conducted with 20 women with current or recent GDM. Reflexive thematic analysis identified drivers and facilitators, markers, manifestations, impacts, and protective mechanisms of GDM stigma. These findings informed the development of an item pool, which was subsequently debriefed and refined through Phase 2 interviews with a subset of 10 participants. All participants

reported perceiving, experiencing, anticipating, and/or internalising stigma specific to gestational diabetes mellitus (GDM). They identified this stigma as being driven by stereotypes and blame, reinforced by societal norms surrounding motherhood and pregnancy, media messaging, and rigid or inconsistent healthcare policies. Reported consequences included social, emotional, and self-care impacts, alongside a perceived loss of autonomy in clinical decision-making. Participants also highlighted potential protective mechanisms, such as social and healthcare support, self-belief, self-compassion, and broader community awareness. In cognitive debriefing interviews, women confirmed that the draft items comprehensively captured their experiences of GDM-related stigma and provided suggestions for refinement, resulting in a 74-item pool. The findings offer nuanced insights into the experiences and impacts of stigma among women with GDM in Australia, culminating in the co-design of a GDM-specific stigma item pool. This pool is now prepared for psychometric evaluation and item reduction, enabling future quantification of the prevalence, consequences, and underlying mechanisms of GDM-related stigma.

Using semi-structured interviews and focus groups, Lucas, et al. (2022) explored understandings of GDM and its relationship to future diabetes risk and prevention among patients with public or no insurance (n = 36), healthcare providers (n = 21), and clinic staff (n = 9) from Federally Qualified Health Centres. Five key themes emerged: general awareness of GDM diagnosis, with emphasis on neonatal complications; variable recall of recommendations regarding diet, exercise, and weight management; overwhelming demands of medication regimens and self-monitoring routines; short-term orientation toward type 2 diabetes risk and screening; and limited knowledge of the full range of diabetes prevention options. The findings may be useful for diabetic screening and preventive interventions in primary care settings.

To understand the experiences and views of women with GDM in the Republic of Ireland, Dunne, et al. (2025) conducted a survey on 231 women with GDM. Among the participants, 70% experienced a single GDM pregnancy. Only 6% correctly identified their increased level of risk for developing type 2 diabetes. About 44.5% of respondents reported sufficient time with health professionals to address GDM-related questions. About 54.3% reported attending for diabetes screening at 6–12 weeks postpartum. A majority of 66% wanted postpartum information, especially on healthy eating and physical activity. More recent GDM experience was correlated with a stronger preference for weaning and weight management information. Qualitative analysis showed inconsistencies in healthcare messaging, serious concerns about a GDM diagnosis' impact on the pregnancy experience, and financial costs of diagnosis. The findings reveal women's desire for appropriate information and support during and after pregnancy with GDM. Future interventions should address these needs to effectively promote chronic disease prevention after GDM.

To understand the experiences and perceptions of diabetes distress in women with preexisting diabetes during pregnancy, Tschirhart, Landeen, Yost, Nerenberg, and Sherifali (2024) interviewed 18 participants with type 1 and type 2 diabetes. Four themes emerged: worry for baby's health (What's this going to do to the baby?"); feeling overwhelmed with diabetes management (It just seemed unattainable); living with diabetes (There's no way out); and the cycle of diabetes distress. Diabetes distress frequently manifests as a cyclical and multifaceted issue during pregnancy. This distress may include concerns regarding the health of the unborn child, challenges associated with diabetes management, and negative experiences related to the condition. Diabetes educators are well-qualified to offer emotional support and person-centred self-management education to individuals managing diabetes.

Javanshiri, Modig, Nymberg, and Calling (2025) aimed to explore women with a recent history of GDM in southern Sweden and their experience of the GDM diagnosis and prenatal healthcare, interviewed 17 women with GDM. Three themes were identified: experience of diagnosis, a complex relationship with food, and experience of prenatal care. Suddenly transitioning from being an expectant mother to a patient left many women feeling overwhelmed by the diagnosis and its implications. They recognised the importance of healthy eating, even though it restricted their daily lives. This highlighted a complex relationship with food. While women felt supported during their pregnancy, they experienced a sense of abandonment after childbirth. They sought more information and emotional support from healthcare professionals, as well as a heightened awareness and understanding of the treatment challenges associated with gestational diabetes, improved individualised care, and collaboration among healthcare providers to ensure better assistance in mitigating future disease risk.

To explore the facilitators of and barriers to attending postpartum screening for T2D that women experience, Cronin, et al. (2023) conducted in-depth interviews with 27 women who had recently experienced GDM. Facilitators and barriers to postpartum screening were identified across three levels: personal, intervention, and healthcare system. The most common facilitators included women's concern for their own health and receiving clear explanations about the importance of screening from health professionals. In contrast, the most frequently reported barriers were confusion regarding the test itself and disruptions caused by the COVID-19 pandemic. The findings will help to design interventions for improving rates of attendance at postpartum screening to reduce the subsequent risk of developing T2D.

In a systematic review of 57 articles, Pham, Churruca, Ellis, and Braithwaite (2022) observed that qualitative methods dominated in the reviewed papers. They did not have an explicit theoretical orientation. The majority of research was carried out in urban regions of affluent nations, with recruitment and investigations predominantly happening in clinical and healthcare environments. Many women identified insufficient information as a significant challenge, while support from healthcare professionals was seen as a crucial element. The experiences related to prescribed diets, medications, and monitoring differed considerably between various settings. Some studies highlighted that the additional expenses linked to managing gestational diabetes mellitus (GDM) posed a challenge. Thus, there are both commonalities and differences in the global scenario of GDM.

To explore the knowledge and practice of diabetes educators and dietitians on diet and lifestyle management in women with GDM, Hanks, Hume, Lim, and Grieger (2022) interviewed 13 dietitians and educators. Four themes were identified: guidelines and resources, dietary intervention, management delivery, and communication. Diabetes educators and dietitians exhibited consistent knowledge of nutritional management for GDM and uniform delivery methods. However, a lack of culturally diverse resources and a lack of continuity of care were revealed across the multidisciplinary team. Barriers towards uptake of dietary intervention were women showing signs of guilt and stress, and disengaging from the service. Language and cultural barriers and resources are the key priority areas to support the care of women of ethnic minorities.

Mohammadkhah, Kamyab, Pezeshki, Norouzrajabi, and Jeihooni (2025) aimed to investigate the effect of training intervention based on the health belief model of self-care behaviours in women with GDM. An interventional study was conducted on 160 women with GDM (80 in the interventional group and 80 in the control group), who were under treatment in healthcare centres in the city of Fasa in Fars Province, Iran. The questionnaires were filled out before the intervention and again six weeks after it. The women in the intervention group participated in six sessions lasting 50 to 55 minutes each. Measurements of fasting blood sugar levels, blood sugar levels two hours post-meal, A1C haemoglobin, as well as the necessity for insulin and its dosage, were documented. In the intervention group, the average scores across all components of the health belief model showed significant differences when compared to the post-intervention scores. The fasting blood sugar levels, A1C haemoglobin, and blood sugar levels taken two hours after meals all significantly reduced in the intervention group. Additionally, the requirement to elevate insulin dosages in the intervention group was less than that observed in the control group. Therefore, the health belief model (HBM) proved effective in enhancing the clinical outcomes of self-care practices among women with gestational diabetes. HBM was crucial in recognising the care and support essential for these women. Consequently, the likelihood of various illnesses can be reduced, allowing mothers with GDM to experience less vulnerability than before. It can also serve as a framework for designing, executing, and assessing health programs aimed at women with gestational diabetes.

To examine the holistic (emotional, social, economic, and spiritual) care needs of women with GDM, Davis, et al. (2024) systematically reviewed 28 studies covering 958 women with GDM. Five themes reflecting women's holistic needs through their journey from initial diagnosis to postpartum were identified: psychological impact, information and education, making change for better health, support, and care transition. It is important to provide holistic care to women with GDM to improve their experiences and enhance clinical outcomes.

Jia, Wang, Li, Lu, and Yang (2025) aimed to identify the influencing factors of dietary intervention compliance among pregnant women with GDM using the capability, opportunity, motivation, and behaviour (COM-B) model. The authors conducted semi-structured interviews with 19 women diagnosed with gestational diabetes mellitus (GDM). Eight themes-six barriers and two facilitators-were mapped onto the COM-B model, highlighting factors influencing compliance with dietary

interventions during pregnancy. The facilitators included strong trust in professional support and a positive perception of the benefits of dietary management. The barriers comprised limited nutritional knowledge during pregnancy, insufficient skills in dietary management, inadequate family support, low perception of disease risk, negative experiences with dietary interventions, and reduced self-efficacy in managing diet. These findings provide a valuable foundation for designing dietary interventions for pregnant women with GDM. They also underscore the need for healthcare professionals in China to strengthen guidance and support for dietary behaviours, enhance patients' self-efficacy, and actively involve family members in supporting dietary modifications.

Merchant, et al. (2025) aimed to examine patient perspectives on social support's role in gestational diabetes (GDM) management during pregnancy and early postpartum. Semi-structured interviews were conducted on 38 participants at 4 to 12 weeks post-partum. Of the 38 participants, 55% reported having a family member or friend with a history of gestational diabetes mellitus (GDM), type 1 diabetes, or type 2 diabetes. The analysis identified four themes: (1) communal support, (2) indirect GDM support (e.g., removing logistical barriers to care), (3) direct GDM support, and (4) barriers to social support (e.g., stigma), which hindered disease understanding. Participants described communal support as a catalyst for lifestyle change and a source of advice and emotional encouragement. Indirect support encompassed practical assistance such as transportation, while direct support involved active engagement in GDM care. Barriers, particularly stigma, limited the effectiveness of social support and impeded participants' comprehension of the disease. These findings indicate that harnessing social support may be a key strategy to activate and sustain lifestyle and self-management skills in GDM and should be considered in intervention development.
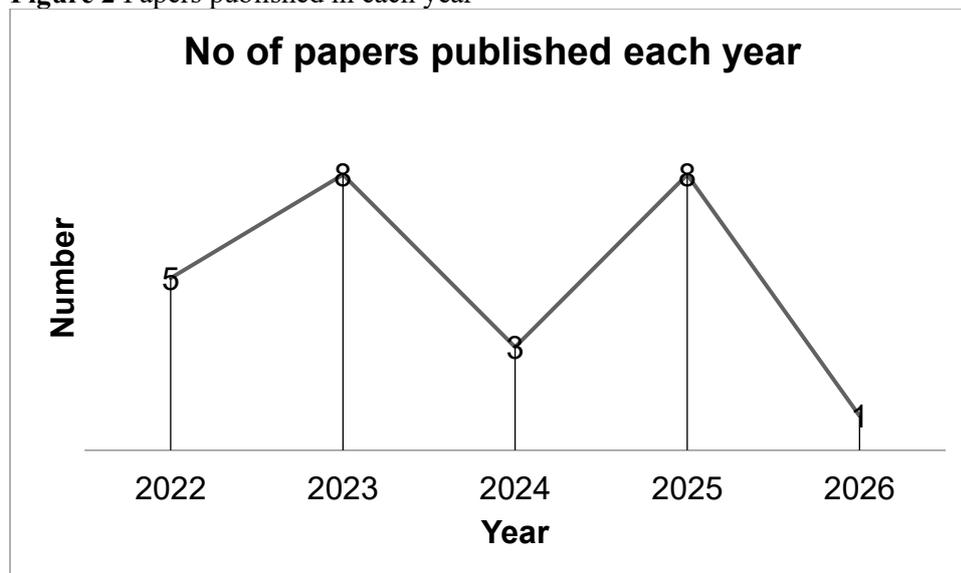
Discussion

Numerical synthesis
Some numerical trends about the reviewed papers are presented below.

Publication Year
Fig.2 provides the information on the number of papers published each year of the review from 2022 to 2026.

**Figure 2** Papers published in each year

The trend of papers published across the years is irregular. The highest number of eight papers was published in 2023 and in 2025. The lowest number of papers was published in 2026, and three were published in 2024.

No of papers per country

The data on the number of papers published from different countries are presented in Fig.3.

**Figure 3** No of papers per country
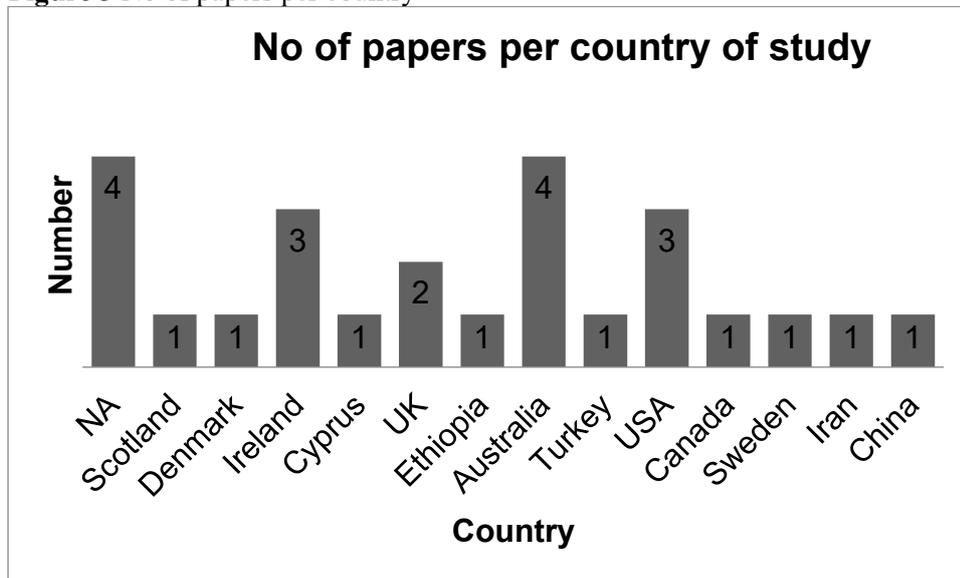
NA denoted "Not Applicable" as four papers were reviews. Out of 13 countries, Australia topped with four papers, followed by Ireland and the USA with three papers each. Barring the UK with two papers, only one paper was published from the other nine countries.

Methodological trends
The methods of data collection used in the reviewed papers are provided in Fig.4.

Figure 4 Methods of data collection
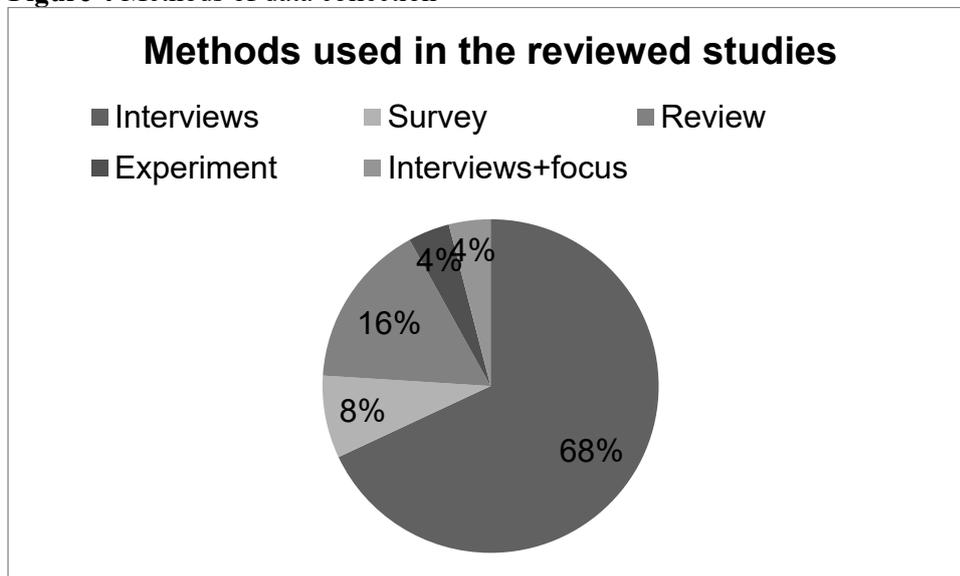
Out of 25 papers, 17 (68%) used semi-structured interviews with different stakeholders of GDM. This was followed by the four (16%) reviews. Two papers (8%) used surveys. Interviews with focus groups and experiments were used by one paper (4%) each. Thus, semi-structured interviews with thematic analysis were used in most of the reviewed papers, the titles indicating qualitative approaches.

Quality of the reviewed papers
There was not much variation in the quality of papers, as all of them provided all the essential details. Thus, the quality of papers showed a narrow range between 4.2 and 4.7. The results are presented in Fig.5.

Figure 5 Quality of papers
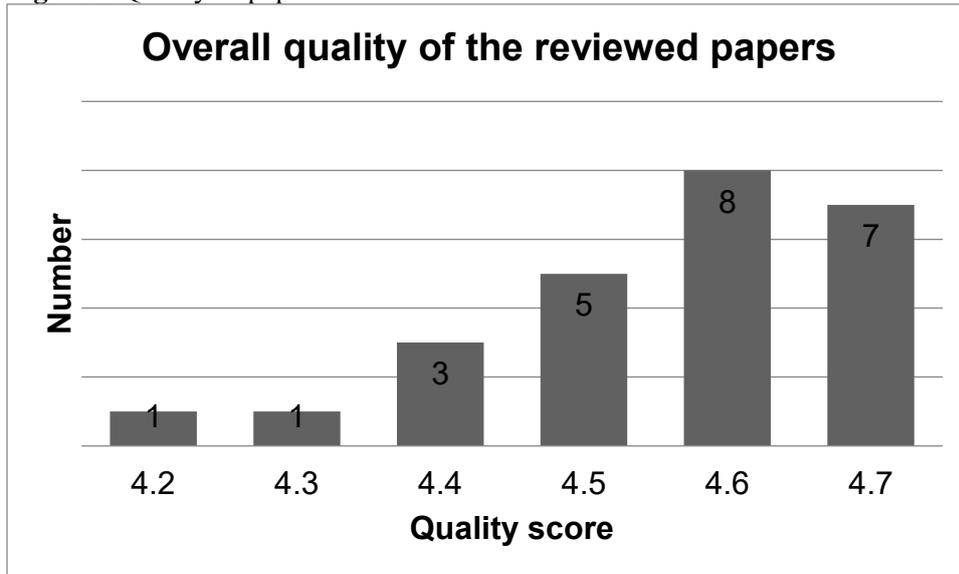
If we assume that a score below 4.5 indicates a relatively poorer quality and a score of 4.5 or above indicates a relatively better quality, out of 25 papers, 20 were of better quality. Only five were of poorer quality.

Synthesis of findings: Qualitative meta-analysis

Managing GDM effectively requires addressing barriers related to knowledge, behaviour, and access to care. Xu et al. (2023) found that limited knowledge and beliefs about GDM, along with weak self-management skills, are among the most common barriers women face. Smyth et al. (2023) and Payne et al. (2026) added that maintaining healthy lifestyle changes is difficult when women are dealing with time pressures and caregiving responsibilities at home. Jia et al. (2025) used the COM-B model to explain these barriers, highlighting that women need both the capability and the motivation to make consistent dietary changes.

Digital tools can support GDM self-management, but only when they are well designed and easy to use. Safiee et al. (2022; 2023) found that women were more likely to engage with technology when it was simple, convenient, and included peer support features. However, technical problems, concerns about privacy, and the absence of emotional support were reported as barriers. This suggests that digital tools need to go beyond providing information and also offer a sense of connection and reassurance to be truly useful for women with GDM.

There is often a gap between what women expect from their care and what healthcare professionals deliver. Wan et al. (2023) and Roesler et al. (2024) found that women and their providers frequently had different priorities. Women valued culturally appropriate dietary guidance and consistent care, while providers tended to focus on clinical targets. Closing this gap is important for building trust and improving the overall quality of GDM care.

Social support from partners and family members was consistently identified as one of the strongest facilitators of GDM self-management (Smyth et al., 2023; Bayked et al., 2022). Trust in healthcare providers and support from peers also helped women accept insulin therapy and engage with digital tools. On the other hand, poor continuity of care, cultural and language barriers, and limited access to resources made it harder for women to stay engaged with their management plan (Hanks et al., 2022; Javanshiri et al., 2025).

Stigma remains a serious but often overlooked barrier. Davidsen et al. (2023) and Holmes-Truscott et al. (2025) found that many women experienced blame and judgment because of their diagnosis, which made them feel ashamed and less willing to seek help. Women also reported losing confidence in making their own decisions about their care. Self-belief, compassion, and supportive healthcare environments were identified as protective factors that helped women cope with stigma.

The emotional impact of a GDM diagnosis is also significant. Tschirhart et al. (2024) described how women experience ongoing distress, including worry about their baby, feeling overwhelmed, and

struggling to live with the demands of the condition. Javanshiri et al. (2025) noted that the sudden change from being a healthy pregnant woman to a patient with a medical condition can be very difficult to accept. Davis et al. (2024) confirmed that this emotional burden does not end at birth but continues throughout the postpartum period.

At the system level, Roesler et al. (2024) identified unequal access to care and inconsistent use of clinical guidelines as major concerns. Hanks et al. (2022) and Dunne et al. (2025) pointed to confusing healthcare messages, a lack of culturally relevant resources, and the financial costs of GDM management as further challenges. Cronin et al. (2023) noted that unclear postpartum screening processes, worsened by the COVID-19 pandemic, reduced follow-up care attendance. Although insulin is effective, high costs limit its use in some contexts (Bayked et al., 2022), while Mohammadkhah et al. (2025) showed that structured education programmes can improve blood sugar control and reduce insulin needs.

In short, improving GDM outcomes requires combining accessible technology, strong social support, culturally sensitive education, and system-level changes that address the real barriers women face in their daily lives.

Conclusions

This review shows that women with GDM face many challenges that go beyond medical treatment. These challenges include emotional distress, lack of knowledge, stigma, limited social support, and gaps in healthcare services. Together, these barriers make it harder for women to manage their condition effectively during pregnancy.

One of the key findings is that self-management of GDM is not simply a personal responsibility. It is shaped by many factors, including the support women receive from their partners and families, the quality of care provided by health professionals, and whether healthcare services are accessible and culturally appropriate. When these factors are missing, women struggle to follow dietary recommendations, monitor their blood sugar, or use insulin correctly.

The findings also highlight the important role of midwives in GDM care. Midwives are well placed to provide emotional support, deliver clear and culturally sensitive education, involve families in the care process, and help women navigate the healthcare system. Digital health tools can also support women in managing GDM, but they need to be easy to use and designed with women's needs in mind.

More research is needed to understand the long-term experiences of women with GDM, particularly after birth, when the risk of developing type 2 diabetes remains high. Future studies should also include women from diverse cultural and language backgrounds, as their experiences are often underrepresented in the current literature.

Improving GDM care requires more than clinical treatment. It requires person-centred care, culturally relevant education, strong social support, and health systems that address the real-life barriers women face every day.

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