



Experiences and perceptions of pregnant women diagnosed with gestational diabetes mellitus: A qualitative study

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ABSTRACT

Problem: The current antenatal care for women diagnosed with gestational diabetes mellitus in Cyprus does not adequately address their informational and emotional needs, resulting in significant gaps in support and overall care quality.

Background: Pregnancies complicated by gestational diabetes mellitus are classified as high-risk, with studies highlighting both diabetes-related distress and significant impacts on maternal and fetal health.

Aim: To explore the experiences and perceptions of women diagnosed with gestational diabetes mellitus in Cyprus to identify areas for improvement.

Methods: A qualitative descriptive study was conducted in Cyprus in 2020, using purposive sampling. Ten ($N = 10$) women with gestational diabetes mellitus and a gestational age greater than 30 weeks were included. Data was collected through a Facebook group page via semi-structured interviews and then analysed using thematic analysis.

Findings: Participants' experiences and perceptions were categorised into four themes: 1) feelings aroused after gestational diabetes mellitus diagnosis, 2) blood glucose maintenance, 3) family-related factors, and 4) suggestions for respectful care. Therefore, deep need for further information emerged throughout the four key themes which led to the development of a core theme identified as the "Overwhelming Need for Knowledge".

Conclusion: Antenatal care in Cyprus for managing gestational diabetes mellitus 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.

Statement of Significance

Problem or Issue

Pregnant women with Gestational Diabetes Mellitus (GDM) experience significant psychological stress, requiring comprehensive care beyond glucose management.

What is Already Known?

GDM is associated with adverse maternal and fetal outcomes, and midwives often lack an active role in GDM management in certain regions, including Cyprus. Limited antenatal support can lead to increased anxiety and a sense of isolation among women diagnosed with GDM.

What this Paper Adds?

This study provides insight into the emotional challenges of GDM women, highlighting a widespread need for respectful, inclusive care. The findings advocate for an expanded role of midwives and the need for more targeted antenatal education.

Introduction

Gestational diabetes mellitus (GDM) affects approximately 15 % of all pregnant women globally (Benton et al., 2023; Plows et al., 2018). Currently, stricter diagnostic criteria (Moon and Jang, 2022) along with various epidemiological factors, such as advanced maternal age and

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rising obesity rates among women of reproductive age, contributes to the growing prevalence of the condition (Goedegebure et al., 2018; Zehravi et al., 2021). Nevertheless, there are additional factors associated with the development of the disease, such as a history of GDM, pre-diabetes, infants over 4500 g, metabolic syndrome and specific ethnic backgrounds such as Arabian countries, south and southeast Asia and Latin America (Kautzky-Willer et al., 2019). These high-risk population groups should undergo an Oral Glucose Tolerance Test (OGTT) screening during their initial prenatal visit (Kautzky-Willer et al., 2023), while the gold standard for the general population is to conduct the test between the 24th and 28th weeks of gestation (Dias et al., 2018). However, screening protocols vary among international organisations in terms of OGTT glucose loads, duration, and permitted cut-off levels (Rani and Begum, 2016). Pregnancies complicated by GDM carry a significant risk of fetal morbidity and adverse short- and long-term outcomes for both the mother and the offspring (Kautzky-Willer et al., 2023; Brown et al., 2017). Some of these effects include the premature birth, large for gestational age (GA) neonate, neonatal hypoglycaemia, shoulder dystocia, congenital anomalies, preeclampsia and an increased risk of developing Type 2 diabetes, as well as cardiovascular and other metabolic diseases (Szmuiłowicz et al., 2019; Sweeting et al., 2022; Nakshine and Jogdand 2023).

Psychologically, an unexpected GDM diagnosis can significantly impact women's well-being (Benton et al., 2023; Lydon et al., 2012) therefore, leading to depression and anxiety (OuYang et al., 2021). In addition, GDM can diminish quality of life due to the distress a woman may experience from fearing the adverse consequences for her foetus's health (Craig et al., 2020).

Therefore, GDM necessitates optimal management through a multi-disciplinary approach (Lende and Rijhsinghani, 2020), which involves midwives playing diverse roles in various psychosocial and educational contexts (Wallace and Stulz, 2020). Unfortunately, maternal care provided by midwives in Cyprus faces barriers (Hadjigeorgiou et al., 2023; Middleton et al., 2022), implying their exclusion also from the GDM care plan. Over the past decade, Cyprus has seen an increase in childbearing among women of advanced maternal age, which reached 28.1 % of childbirths in 2021 (Cyprus Ministry of Health, 2023) a trend likely to contribute to the rising prevalence of GDM.

In light of the above, it is crucial to address how these women experience this situation, by contributing to a deeper understanding of how they perceive various aspects of the GDM context and enabling the scientific community to develop targeted interventions aimed at enhancing their psychological well-being. This study aims to explore the experiences and perceptions of GDM among pregnant women in the Cyprus region and provide valuable evidence regarding the factors influencing their experiences.

Materials and methods

Design

A qualitative descriptive approach was selected as the most appropriate for the study, as it allows for the exploration and description of human experiences as perceived by the individuals themselves (lived experiences). The investigation of experiences and needs in healthcare research is mainly conducted through qualitative research methods (Renjith et al., 2021), and this design has been employed in previous studies with a similar purpose (Trutnovsky et al., 2012; Wah et al., 2019). The targeted population consisted of pregnant women who were permanent residents of Cyprus and had been diagnosed with GDM. The Standards for Reporting Qualitative Research (SRQR), a widely used reporting tool for qualitative research consisted of 21-items, guided the reporting of the present findings (O'Brien et al., 2014). The researchers involved held a Ph.D. or/and a Master's degree in Midwifery, were highly experienced in qualitative research, and fluent in Greek which is the local language. All researchers received training prior to data

collection, and none of them had prior relationships with the participants.

Setting

Regarding the context of the Republic of Cyprus, it is important to note that there is no official registration or a published prevalence percentage for women who are diagnosed with GDM, making it impossible to estimate the disease's prevalence within the country.

Sample and sampling

This study utilised a purposive sampling approach to ensure the inclusion of participants with lived experience of GDM. Due to the absence of national organisations or formal support groups for GDM in Cyprus, a convenience-based strategy was used for participant access and recruitment. Specifically, recruitment occurred between December 2019 and March 2020 through a widely used Facebook group for pregnant women residing in Cyprus. This group served as a rich and diverse online community where members regularly exchange information, experiences, and questions related to pregnancy. It provided access to women across a broad range of ages, educational backgrounds, and socio-economic statuses, thereby enhancing the variation in the experiences captured.

An open invitation in image format was posted weekly in the group by the primary researcher, clearly outlining the study's purpose and inclusion criteria. Social media users were also encouraged to share the post with others, thereby facilitating snowball sampling and expanding the recruitment pool beyond the immediate online community. Interested women contacted the researcher by phone or email to express interest and receive further information. Prior to participation, eligibility was confirmed through a standardised screening process, and interviews were subsequently scheduled.

Although a formal sample size calculation is not typically required in qualitative research, a preliminary estimation based on prior studies suggested a minimum of eight participants (Svensson et al., 2018; Nielsen et al., 2015; Abraham and Wilk, 2014; Razei et al., 2010). Sampling was guided by the principle of data saturation, defined as the point at which no new themes emerged during analysis (Morse, 2015). Data collection and analysis occurred concurrently, allowing for iterative refinement of themes. Ultimately, ten participants were included, as new insights continued to emerge slightly beyond the initial estimate. All individuals who expressed interest met the inclusion criteria and participated in the study ($N = 10$).

Data collection

Interested women who were willing to participate in the study, contacted the main author either by phone or email to receive comprehensive information about the study's purpose and procedures. The sampling method was purposive, targeting women previously diagnosed with GDM through an OGTT between 24th to 28th week of GA (Rani and Begum, 2016). Eligible participants had to be 18 years or older and were >30 weeks pregnant at the time of recruitment. This GA period was chosen to ensure a minimum of two (2) weeks between the GDM diagnosis announcement and the interview arrangement.

All participants were fluent Greek speakers, as the interviews were conducted in Greek so to facilitate in-depth understanding of the topic discussed. Women with pre-existing diagnosis of diabetes or a history of GDM in a previous pregnancy were excluded, as their past experiences might influence their perceptions of the current situation.

The initial topic guide was developed based on the results of the preceding literature review. Before data collection, the guide was piloted with three GDM pregnant women to assess its feasibility and refine the questions. These individuals were not included in the final study sample. A committee consisting of a gynaecologist, a clinical midwife, a

psychologist and a professor in midwifery reviewed and approved the thematic guide structure. During this stage, the second interview question was revised from “How did you feel when you were diagnosed with GDM?” to “Can you describe your initial feelings when you received the diagnosis of GDM?” to elicit more specific responses about their experiences.

During the first part of the interview, demographic and somatometric data were collected, including maternal age, GA, body mass index (BMI), profession, marital status, educational level, type of physical activity, and any interventions and/or pharmaceutical treatments for GDM, if applicable. The thematic guide comprised nine questions ($Q = 9$), both closed- and open-ended, allowing participants the flexibility and freedom to express their views (Table 1).

Data collection, conducted from December 2019 to March 2020, involved audio-recorded semi-structured interviews performed by a trained clinical interviewer with a Ph.D. and a qualitative research qualification and the interviews were conducted consistently to minimise bias. Each interview lasted approximately 45–60 min, and field notes were taken during the sessions. Six (6) interviews took place at the participants’ homes whilst the remaining four (4) interviews were conducted via online video calls. In this study, reflexivity (Finlay et al., 2002) was integral to our qualitative approach. The research team engaged in ongoing discussions about their backgrounds, biases, and potential influences on the data collection and analysis. Each researcher brought diverse expertise in midwifery and qualitative research, which enriched the data interpretation process. Regular reflective practice, including maintaining journals, ensured that we acknowledged our assumptions and the impact they might have on the research outcome. This commitment to reflexivity helped enhance the study’s credibility and transparency.

Bioethics

All the ethical standards set forth by relevant national and institutional committees on human experimentation, in accordance with the Helsinki Declaration, were adhered to in the present study. The study received official approval from the Cyprus National Bioethics Committee (EEBK/EP/2019.01.21) on December 18, 2019, following submission of the research protocol. Participants were assigned codes to ensure confidentiality, so to make it impossible to identify any of the participants. In addition to this, any element that could potentially reveal participant’s identities was excluded from the study. Participants were fully informed about the scope and procedures of the study both verbally and in writing through a consent form, which was obtained before each interview. They were provided with additional information regarding the objectives and significance of the study, and they were reminded that their responses would be recorded anonymously.

Following the participants’ consents, all interviews were audio-recorded and all files were soft-copied and saved on a secured computer, accessible only by two researchers (EL, DM) and the supervising researcher (EH). The participants’ names were coded by saving the recorded interview with the initial “D” – Diabetes, followed by the date of the interview and a corresponding to the participant number.

Table 1
Interviews’ topic guide.

Open-Ended and Closed-Ended Questions
1. Describe your experience at the moment you heard of the GDM diagnosis announcement.
2. Can you describe your initial feelings when you received the diagnosis of GDM?
3. What types of healthcare providers (HCPs) are involved? And how do they manage your GDM care plan?
4. Describe how you manage with GDM, including any interventions related to diet, pharmaceutical treatment, exercise, and blood glucose monitoring.
5. Do you encounter any specific difficulties in managing GDM? If so, what keeps you motivated to continue?
6. Do you feel supported by your HCPs and family-members?
7. Which part of your care plan do you find more useful?
8. Please share any suggestions for improving GDM antenatal care in Cyprus.
9. Is there anything else you would like to add?

Data analysis

Data analysis was simultaneous with data collection at the end of each interview, and was independently analysed by three researchers (EL; PhD(c), DM; PhD and Assistant Professor, EH; PhD and Assistant Professor) through Braun and Clarke (2006) thematic analysis (Fig. 1). Each researcher analysed the data to identify themes related to the main research question. These themes were then organised and described in detail, allowing for the interpretation of various aspects of the research question.

This simultaneous approach provided opportunities to revise codes and categories, leading to the development of new themes and refinement of prior categorisation. The data were organised in a manner that directly addressed the research question. Upon finalisation of the analysis, all researchers involved reached a consensus regarding the study’s findings and then a second interview with each participant was arranged to inform them of the results derived from their responses and to seek their agreement. This participant feedback confirmed the rigor and trustworthiness of the study. Furthermore, the rigour and trustworthiness of the study were evaluated based on the successful application of all nine of Munhall’s criteria for research rigour (Karanikola, 2019).

Results

Participants’ demographic characteristics

In total, ten ($N = 10$) eligible women contacted the researcher, of whom eight ($n = 8$) were informed about the research through social media, whilst two ($n = 2$) were referred by peers. All ten ($N = 10$) participants were Greek-Cypriots and permanent residents of Cyprus, exhibiting diverse characteristics (e.g., GA, age, parity etc.).

Participants’ ages ranged from 24 to 36 years old, with the majority ($n = 6$) being between 28 and 30 years old. Most of the sample reported a tertiary educational level ($n = 8$) and the majority were employed ($n = 6$). The GA of participants ranged from 30 to 36 weeks, and all of them were experiencing GDM for the first time.

Regarding parity, four women were nulliparous ($n = 4$), five women were primiparous ($n = 5$), and one woman was anticipating her fourth child ($n = 1$). In terms of GDM management, seven ($N = 7$) women utilised dietary modifications (A1), two ($n = 2$) received medication (A2) and only one ($n = 1$) did not implement any interventions. The majority reported engaging in daily exercise, primarily consisting of a thirty-minute walk. Participants’ characteristics are detailed in Table 2.

Themes

Through analysing the data, a core theme emerged, defined as the “Overwhelming Need for Knowledge,” reflecting the participants’ collective desire for additional information. This need was evident from the diagnosis and persisted throughout their suggestions for improvement, and, indeed, across all the themes identified. The experiences and perceptions of women with GDM were categorised into the following themes: 1) feelings aroused after GDM diagnosis, 2) maintenance of

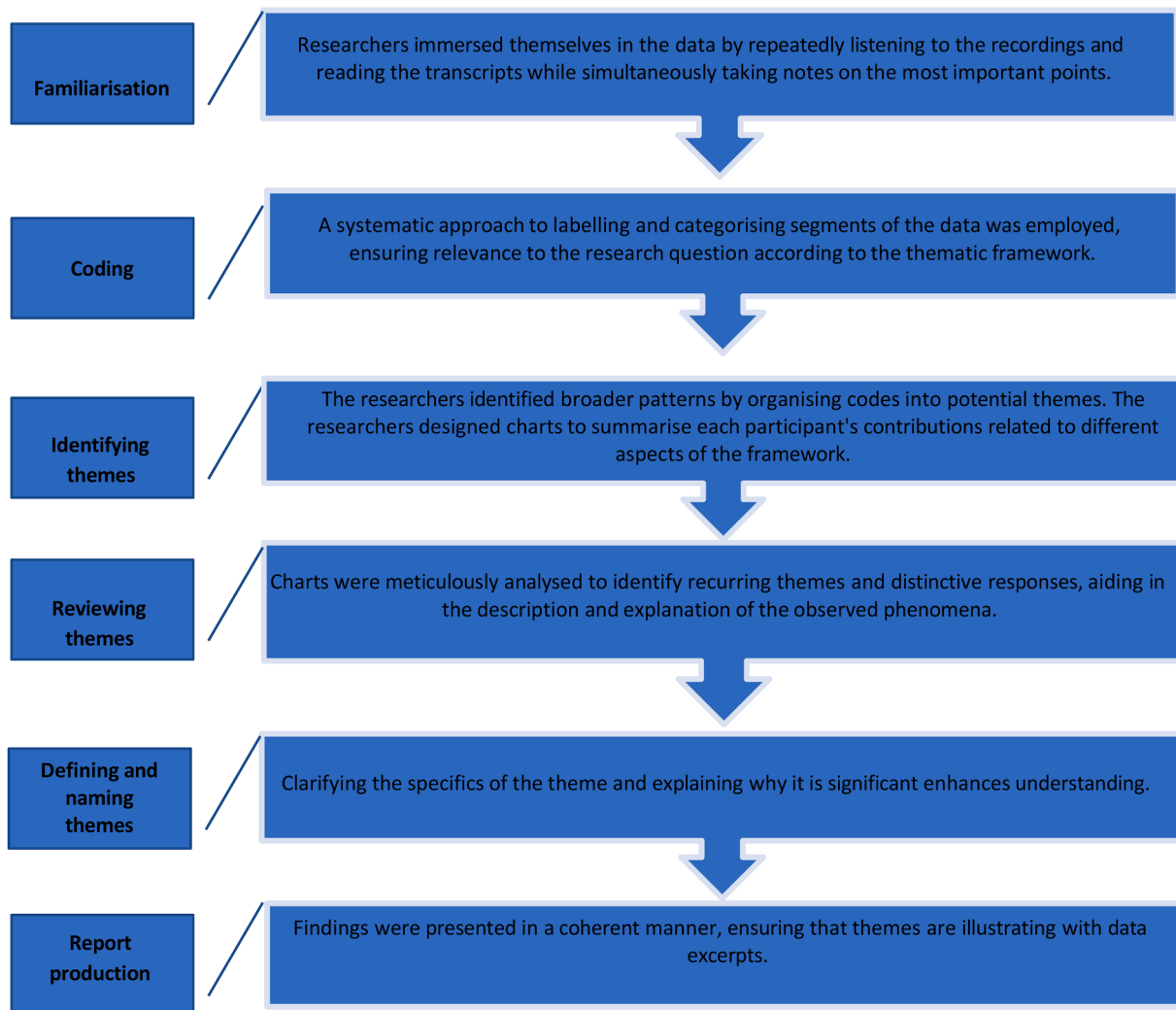


Fig. 1. Braun and Clarke's thematic analysis.

Table 2
Participant's characteristics.

Code	Age (in years)	GA (in full weeks)	Parity	BMI (kg/m ²)	GDM treatment/intervention	Physical Exercise	Profession/Occupation	Educational Status	Marital Status
P1	24	33	0	23.80	A1	Walking	Student	Bachelor's Degree	Engaged
P2	25	31	0	23.44	A1	Walking	Unemployed	Bachelor's Degree	Engaged
P3	28	36	1	21.51	A1	Pilates	Unemployed	High school	Engaged
P4	28	33	0	21.26	A1	Walking	Accountant	Bachelor's Degree	Engaged
P5	28	34	1	22.53	A1	Not applied	Graphic Designer	Bachelor's Degree	Married
P6	30	35	1	25.04	A2 (Insulin)	Walking	Unemployed	High school	Married
P7	30	32	0	23.59	A1	Walking	Accountant	Master's Degree	Engaged
P8	30	30	3	26.13	A1	Not applied	Secretary	Bachelor's Degree	Engaged
P9	32	34	1	24.68	A2 (Metformin)	Walking	Sales Manager	Master's Degree	Married
P10	36	30	1	23.88	A1	Not applied	Teacher	Master's Degree	Married

blood glucose levels, 3) family-related factors, and 4) suggestions for respectful care (Table 3). Notably, women reported experiencing anxiety, fear and panic following their GDM diagnosis (Fig. 2).

Feelings aroused after GDM diagnosis

The announcement of a GDM diagnosis was described as an emotional and stressful experience, with most participants expressing feelings of fear, anxiety, guilt, sadness and distress. In terms of their perceptions, some women felt prepared while others were sceptical, thus

Table 3
Theme findings.

Core theme	Main themes	
Overwhelming need for knowledge	<p>1. Feelings aroused after GDM announcement</p> <p>Identified feelings</p> <ul style="list-style-type: none"> • Panic • Sadness • Fear • Anxiety • Guilt 	<p>Reason(s)</p> <ul style="list-style-type: none"> • Lack of knowledge/education • Unprepared • First time contact with DM • Ungentle diagnosis announcement <p>Factors helped</p> <ul style="list-style-type: none"> • Doctor's advices and guidance • Family history • Speaking with other people who have previous experiences • Refer to other HCPs • Talk to trusted people
	<p>2. Maintenance of blood glucose levels</p> <p>Practices</p> <ul style="list-style-type: none"> • Blood glucose measurements • Diet • Systematically walking • HCPs contacts • Monitoring diet • Home cooking • Searching for information • Keeping notes 	<p>Reason(s)</p> <ul style="list-style-type: none"> • Foetus health • Weight management • Glucose levels regulation <p>Facilitators</p> <ul style="list-style-type: none"> • Personalised diet • Life style changes • Supportive HCPs • Multidisciplinary team • GDM awareness • Women perceptions <p>Barriers</p> <ul style="list-style-type: none"> • Lack of time • Lack of knowledge/education • Women perceptions • Absence of midwifery care
	<p>3. Family related factors</p> <p>Identified home environments</p> <ul style="list-style-type: none"> • Support • Partial support • Absence of support 	<p>Reason(s)</p> <ul style="list-style-type: none"> • Provided information • Lack of knowledge/information • Lack of empathy • Lack of time <p>Facilitators</p> <ul style="list-style-type: none"> • Provide information and explanation • Expression of women's feelings • Communicating the management plan • Family contribution • Partner support <p>Barriers</p> <ul style="list-style-type: none"> • Lack of knowledge/information • Other children
	<p>4. Suggestions for respectful care</p> <p>Problem</p> <ul style="list-style-type: none"> • Ignorance about disease existence • Lack of specialised HCPs • Lack of individualised care • Lack of midwives' inclusion 	<p>Need(s)</p> <ul style="list-style-type: none"> • Education at an early stage of pregnancy • Information <p>Suggestions</p> <ul style="list-style-type: none"> • Arrange a specialised HCP for this population • Provide information in antenatal classes • Inclusion of midwives in the care plan • Specialised programs for GDM pregnant women and their families

finding it challenging to accept the diagnosis. Many participants reported feelings of guilt and responsibility, and often attempting to justify the reason behind the condition. In addition to this, they voiced overwhelming concerns regarding the well - being of their foetus and the

potential consequences.

"...I thought it was my fault..." (Participant 1)

"I was scared...not for myself, but for my baby... I was trying to figure out what went wrong...I thought it was all my fault..." (Participant 3)

"I was sad and anxious..." (Participant 5)

Many of the participants expressed feelings of ignorance or misinformation regarding the development of the disease, which significantly impacted their ability to cope with the diagnosis.

"...I was sad and anxious because I didn't know what it was since no one ever told me and it was unexpected...." (Participant 8)

Another participant shared,

"I felt really stressed! Upon hearing the GDM diagnosis announcement I panicked...I booked an appointment with the nutritionist who helped me feel better!" (Participant 6)

A lack of knowledge emerged as a significant facilitator of stress and fear, particularly because healthcare providers (HCPs) did not adequately meet their needs in delivering diagnosis gently or providing comprehensive scientific information. However, when participants proactively sought additional information, they often then experienced a sense of calm and reduced anxiety.

"I didn't know how to deal with it...I asked for further information and advice...through my doctor's help I then felt calmer." (Participant 8)

In contrast, Participant 6 highlighted a negative experience with her HCPs, stating

"I asked my doctor but I didn't feel okay from what he told me. He then referred me to an endocrinologist and until my appointment, I felt really stressed." (Participant 6)

Interestingly, only one participant described feeling calm and prepared upon receiving her diagnosis. She attributed her preparedness to a family history of diabetes, explaining,

"I knew that lifestyle changes could help me manage it, because I already have a family history and I've already heard about this from other women...[.].". (Participant 4)

This highlights the importance of prior knowledge and support in mitigating the emotional impact of a GDM diagnosis.

Some participants expressed scepticism regarding their diagnosis, with several initially denying the possibility of having GDM. They attributed their disbelief to their normal BMI. Notably, one participant recounted,

"At first I could not believe it, and neither did my doctor...My weight was fine. I had the test twice, both at a private laboratory and at a public hospital." (Participant 2)

This highlights the struggle that they may face in reconciling their perception with the diagnosis of the disease.

Most participants believed that if they had been more attentive to their diet during the early stages of pregnancy, they might have prevented the onset of GDM. Specifically, some linked their diagnosis to an increased BMI, indicating a common perception that lifestyle choices were to blame.

A massive desire for additional information emerged from all the participants, particularly concerning fetal health. They stated that HCPs offered valuable insights into the development and management of GDM, which played a crucial role in helping them cope with the diagnosis and navigate their feelings of uncertainty. Nevertheless, this underscores the importance of comprehensive education and support from HCPs to alleviate anxiety and empower women in managing their condition.



Fig. 2. Themes' illustration with data excerpts.

Maintenance of blood glucose levels

All participants were advised to implement healthy lifestyle changes, including strategies for reducing blood glucose levels such as adhering to a nutritious diet, regularly monitoring their blood glucose, and engaging in exercise. They were referred to other HCPs, including endocrinologists and nutritionists. However, this multidisciplinary approach often added complexity to their daily routines, as managing multiple appointments and recommendations became tiresome and exhausting. Despite these challenges, participants recognised that failing to adhere to HCPs advice could then jeopardise their health and that of their foetus, which motivated them to persevere with their diabetes management plan.

A participant expressed "...I am under the care of a gynaecologist, an endocrinologist, and a nutritionist. I have to measure my blood glucose levels constantly and keep notes... I feel that I am under ongoing observation..." (Participant 9)

This statement underscores the emotional burden and fatigue associated with constant monitoring.

Participants reported varying levels of compliance with exercise recommendations. Some of them made an effort to incorporate daily walking, some struggled due to time constraints or complications arising from their pregnancies. A woman noted,

"I started walking systematically because whenever I walk, there is a difference in my glucose measurement afterwards," (Participant 6),

while another participant stated,

"No, I don't exercise because I am not able to keep up with three babies at home; I don't have enough time throughout the day." (Participant 8)

Motivation to adhere to these changes was primarily driven by concerns for their foetus's well-being. A participant said,

"What kept me trying was the fear of any consequences affecting my baby's health... I don't want to harm me and especially not to harm my baby." (Participant 5)

All participants, except one, attempted to follow a personalised diet plan. They diligently recorded their blood glucose levels and communicated this information to their HCPs, either via phone or during appointment. However, the daily testing process -especially the use of needles- added to the stress for some participants. As Participant 6 explained,

"I have to wake up in the morning and check my glucose levels... approximately 6-7 times a day... I record them all the time." (Participant 6)

In two cases, medication was integrated into their management plans. One participant faced conflicting advice regarding insulin admission between her endocrinologist and gynaecologist. She recounted,

“...The endocrinologist told me about insulin administration but my gynaecologist immediately told me, “Don’t even think about it, it’s not that high, you don’t need insulin injections.” (Participant 9)

The participant ended up adding oral metformin (Glucophage) to her GDM management plan but this lack of consensus among HCPs added to her confusion and anxiety. A participant who was treated with insulin injections mentioned that she was stressed as she had never had a prior contact with injections, thinking that she could harm herself mentioning,

“At first, I was really stressed since my endocrinologist added insulin injections in my care plan...I didn’t know how to manage, I was thinking that I might do something wrong like administering a wrong dose which will harm me or my baby.” (Participant 6)

Interestingly, none of the participants were referred to a midwife for further education and support, a gap that was notably concerning. Participant 7 remarked,

“I hadn’t been referred to a midwife!” (Participant 7)

While one participant (Participant 4) took the initiative to seek out a midwife on her own, she noted that the guidance she received was primarily focused on nutrition and breastfeeding. She found this reassuring and felt more dedicated to breastfeeding. The participant mentioned,

“I decided to call a midwife and arrange an appointment with her. She explained some things about GDM and the benefits of breastfeeding in GDM. We also discussed some aspects of my nutrition. She made me want to breastfeed more.” (Participant 4)

This highlights a missed opportunity for comprehensive support during their GDM management.

Family-related factors

Family dynamics significantly influenced the experiences and perceptions of women managing GDM, acting as both barriers and facilitators in their journey. Participants often described their partners as a critical source of support, highlighting the emotional strength and encouragement that they provided. This perception underscores the importance of a supportive home environment, where empathy and collaboration can enhance a woman’s ability to cope with the challenges of GDM management. As Participant 7 mentioned,

“You need to have a supportive environment at home...people next to you, who will show empathy and work together with you so you can cope with the whole management plan.” (Participant 7)

This suggests that emotional support from family members can alleviate feelings of isolation and anxiety associated with the diagnosis. This sense of solidarity can empower women to adhere to lifestyle changes and manage their health more effectively.

Conversely, family responsibilities, particularly related to children, often served as barriers. Many participants expressed frustration over the time constraints that come with parenting, which made it difficult to prepare healthy meals or find time for exercise.

“You need time to prepare healthy meals, and if you have other children at home, it’s not that easy... you don’t have the time, not even for a walk.” (Participant 8)

This highlights the additional stress that family responsibilities can impose on managing GDM while the dual role of family dynamics—providing both support and added stress—reflects a complex interplay in managing GDM.

Participants’ perceptions of their family’s involvement were also

shaped by the need to communicate dietary restrictions and educate family members about their condition.

“...I had to explain to my family members that they should not give me sweets, so they tried to restrain themselves as much as they could.” (Participant 10)

This added responsibility could evoke feelings of frustration, as they navigated the challenge of maintaining healthy habits while ensuring their family members understood and supported their needs.

Suggestions for respectful care

Participants expressed a strong desire for respectful care and asked for clarity on key topics such as nutrition, the effects of GDM, and potential consequences for fetal health. This need for information often led them to seek answers from the internet, which sometimes exposed them to unreliable sources. As one participant highlighted,

“...if they don’t provide information then you have to search through the internet!” (Participant 1)

Several participants emphasised the value of having specialised HCPs who could discuss GDM with them prior to undergoing the OGTT. A participant suggested,

“...it would be really helpful if hospitals could arrange a specialised HCP who will provide further information about GDM.” (Participant 9)

Additionally, the reliance on anecdotal advice from other women who have experienced GDM reflects a broader issue of personalised care being overshadowed by general information. Participants noted that many of their insights came from relatives, which led to a lack of tailored guidance that considers their unique situations. One participant expressed regret over not being informed about GDM earlier, stating,

“...if I had known from the first moment about GDM effects, I could have been more careful and disciplined.” (Participant 3)

This statement highlights the importance of implementing mandatory antenatal classes that address GDM prevention and management comprehensively. The idea of specialised antenatal classes, especially those involving family members, was also a recurring theme. One participant noted,

“Family is really important since we live together and we have to eat the same food.” (Participant 6)

This perspective emphasises the need for educational programs that include families to participate in the education of GDM, giving a supportive environment for lifestyle changes.

Moreover, the involvement of midwives in the GDM care plan emerged as a crucial element in enhancing care quality. Participants expressed that midwives tend to focus on the psychological aspects of care, spending more time with them and addressing their emotional needs. As Participant 3 pointed out,

“Doctors care only about our blood glucose levels controlment... midwives’ involvement could be really useful.” (Participant 3)

This suggests that a more holistic approach, incorporating both medical and emotional support, could significantly improve the experiences of women managing GDM.

This theme reveals critical insights into the experiences and perceptions of women with GDM regarding the need for respectful and comprehensive care. Participants expressed a profound desire for clear and accessible information about their condition, especially regarding nutrition, its effects, and potential fetal health consequences. This highlights a significant gap in the existing healthcare framework, where insufficient communication leaves women feeling uninformed and anxious.

Discussion

This study highlights that a GDM diagnosis frequently induces feelings of anxiety, fear, and distress—emotions that align with those identified in prior research (Morrison et al., 2014; Carolan-Olah et al., 2017). These emotional responses, combined with a lack of adequate information, can hinder timely adoption of necessary lifestyle changes, thereby reinforcing the need for early antenatal education and ongoing emotional support (Bandyopadhyay et al., 2011; Carolan, 2013). Our findings echo those of Carolan et al. (2012) and Abraham & Wilk (2014), where many women reported receiving their diagnosis in a rushed or impersonal manner, often without explanation or reassurance. Participants in our study expressed that receiving tailored, timely information earlier in their pregnancies could have helped them better process their diagnosis and take proactive steps toward management.

By examining the lived experiences of women in Cyprus, this study adds an important cultural dimension to the growing body of international literature on GDM. While prior studies have documented similar emotional burdens globally (Craig et al., 2020; Benton et al., 2023), the absence of midwife-led support reported by participants in our context reveals a specific gap in service delivery. In countries where midwives play a more active role, they have been shown to offer vital psychological and practical support, especially in helping women adjust to lifestyle modifications and navigate family dynamics (Köpsén et al., 2023). Notably, our participants did not report structured guidance from midwives, which represents a missed opportunity for holistic care—particularly in a high-risk condition such as GDM.

The findings further suggest that midwives are uniquely positioned not only to support women emotionally and educationally but also to engage their family members in the care process. Several participants highlighted the crucial role of their partners and families, noting how

shared understanding and cooperation facilitated adherence to dietary and activity plans. These insights align with recent research emphasising the benefits of family-inclusive interventions and midwifery’s role in coordinating them (Shenton et al., 2024). Educational initiatives that involve partners and other family members can create more supportive home environments and reduce the burden placed solely on pregnant women.

This study’s implications for practice are particularly relevant in settings like Cyprus, where midwives are not yet fully integrated into multidisciplinary care teams. There is a pressing need to redefine their role within the GDM care pathway, both in terms of direct education and emotional support, and as facilitators of family engagement. Policy development should support the integration of midwives into the GDM care pathway, particularly in roles related to patient education, emotional support, and family engagement. It should also mandate referrals following diagnosis and promote the creation of targeted antenatal classes focusing on GDM education for women and their families (Fig. 3).

In contributing new evidence from a Southern European context, this study reinforces the global significance of respectful, woman-centered maternity care. It supports calls from international bodies such as World Health Organization and International Confederation of Midwives for greater midwifery involvement and patient empowerment through education. Moreover, it presents several avenues for future research, including the evaluation of midwife-led education models, the effectiveness of early intervention strategies, and the long-term impact of family-centered support on maternal and neonatal outcomes. As GDM rates continue to rise globally, understanding culturally specific experiences and system-level barriers becomes ever more essential in shaping responsive and equitable care models.

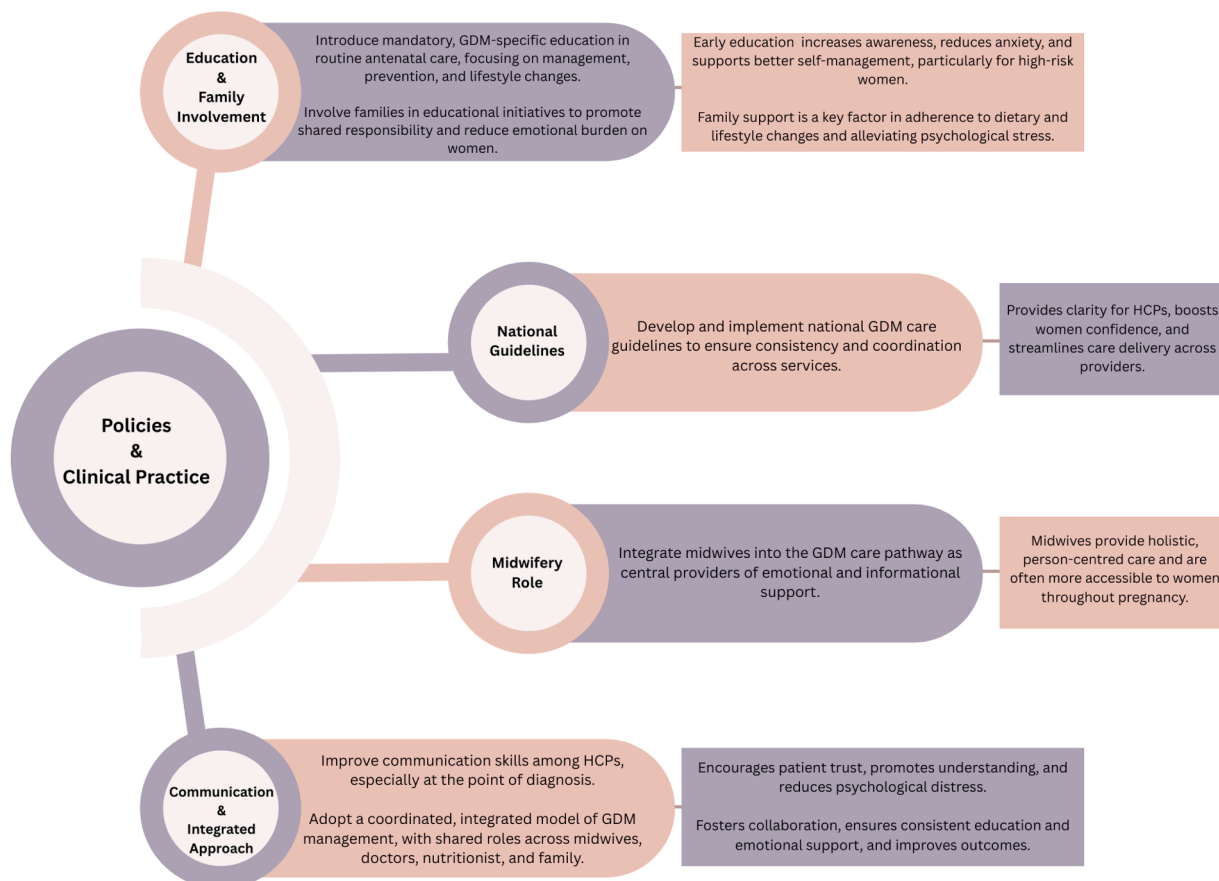


Fig. 3. Policies and clinical practice recommendations.

Limitations-strengths

This study addresses a key gap in the literature by focusing on the GDM lived experiences, emotional responses, and support needs of women—areas that remain limited in existing research. It offers valuable insights into the experiences and perceptions of pregnant women diagnosed with GDM in Cyprus, where research on this topic does not yet exist. As the first study of its kind in the country, it contributes meaningfully to international literature and provides evidence to inform local healthcare policy. Additionally, it is one of the few studies to highlight the limited involvement of midwives in managing pregnancy-related conditions in Cyprus.

Using a qualitative descriptive approach, the study captures detailed, nuanced responses that reveal the emotional and psychological impact of a GDM diagnosis. This design allows participants to share in-depth personal experiences, fostering a comprehensive understanding of their challenges and needs.

The study's purposive sampling, guided by Standards for Reporting Qualitative Research (SRQR), ensures rigor, and the involvement of experienced researchers enhances the reliability of data collection and analysis. Additionally, reflexivity practices contributed to minimising researcher biases, bolstering the study's credibility and transparency.

As far as limitations are concerned, the study's findings are context-specific, reflecting the experiences of Greek-Cypriot women with GDM, which limits generalisability to broader populations as cultural, healthcare system, and societal factors in Cyprus may differ significantly from those in other regions. The reliance on social media as the primary method of participant recruitment, while effective in reaching a broad audience, may have introduced a degree of selection bias by predominantly attracting individuals more proficient or comfortable with digital platforms. This may have excluded women with limited digital access or literacy, thereby potentially reducing the diversity of perspectives and affecting the transferability of our findings. In addition, the absence of a formal quality assessment and potential overlap among themes may limit the clarity and specificity of results, as this could lead to less precise interpretations of participants' experiences, affecting the depth and specificity of the findings. Lastly, while reflexivity was practiced, the inherent subjectivity of qualitative analysis raises the risk of interpretation biases, which could influence the thematic structure and the depth of analysis.

Conclusions

The exploration of the experiences and perceptions of Greek-Cypriot women diagnosed with GDM in Cyprus revealed a substantial need for improved care, as participants reported feelings of stress and anxiety due to inadequate and delayed information. The study highlights the necessity for specialised HCPs who can provide tailored women centred care with respect to GDM at an early stage of pregnancy, empowering women to make informed lifestyle changes and reinforcing the importance of proactive healthcare. Antenatal care for GDM in Cyprus requires substantial improvement, especially in empowering and educating women and their families. The health system in Cyprus must implement advanced and continuing education programs for perinatal HCPs so as to enhance their knowledge and involvement in GDM care. As GDM continues to rise as a global health concern, it is essential to prepare midwives for a more active role in the GDM care plan, while future research should further explore how cultural and systemic factors shape the GDM experience and assess the effectiveness of midwife-led care models, specifically designed for this condition.

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There is no funding for this research.

Ethical statement

All the ethical standards set forth by relevant national and institutional committees on human experimentation, in accordance with the Helsinki Declaration, were adhered to in the present study. The study received an official approval from the Cyprus National Bioethics Committee (EEBK/EP/2019.01.210) on December 18, 2019, following submission of the research protocol.

CRedit authorship contribution statement

Eleftheria Lazarou: Writing – original draft, Methodology, Formal analysis, Data curation. **Theodosia Panteli:** Writing – original draft, Formal analysis, Data curation. **Dimitra Metallinou:** Writing – review & editing, Validation. **Ekaterini Lambrinou:** Writing – review & editing, Methodology. **Oourania Kolokotroni:** Writing – review & editing, Methodology. **Panagiota Miltiadous:** Writing – review & editing, Validation. **Eleni Hadjigeorgiou:** Writing – review & editing, Supervision, Project administration, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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