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CASE REPORT GESTATIONAL DIABETES: THE INTERPLAY OF PSYCHOSOCIAL FACTORS AND NEONATAL OUTCOMES

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ABSTRACT

Gestational diabetes mellitus (GDM) is a significant health concern, particularly in Lower Middle-Income Countries (LMIC) like Pakistan, where its prevalence is rising due to rapid urbanization, shifting dietary patterns, and socioeconomic disparities. This case report examines a 30-year-old woman diagnosed with GDM at 24 weeks of gestation, highlighting the complex interplay of psychosocial, cultural, and economic factors affecting her management and the subsequent neonatal outcomes. Despite facing cultural and financial barriers, the patient successfully managed her condition with multidisciplinary support, resulting in a healthy infant. However, postpartum anxiety and the lack of follow-up mental health services underscored the need for comprehensive care that addresses both medical and psychosocial needs throughout pregnancy and into the postpartum period.

INTRODUCTION

Gestational diabetes mellitus (GDM) is characterized by glucose intolerance that develops during pregnancy and typically resolves after delivery (1). GDM poses considerable risks to both maternal and neonatal health, including increased risk of pre-eclampsia, higher rates of cesarean section, and complications such as macrosomia, where the infant has an excessive birth weight (2). In LMICs like Pakistan, the rising incidence of GDM can be attributed to multiple factors, including sedentary lifestyles, an increased reliance on processed foods, and a lack of widespread health education (3). The country's rural-urban divide further complicates access to care, particularly for women living in rural areas who often lack access to regular medical check-ups and nutritional counseling.

Beyond the physical health implications, GDM is intricately tied to psychosocial factors such as stress, family dynamics, cultural beliefs about

food, and a lack of emotional support. These factors not only affect the medical management of GDM but also contribute to non-adherence to prescribed dietary and medical recommendations (4). Research has shown that women with GDM often experience increased psychological stress due to the stigma associated with diabetes during pregnancy, which can exacerbate feelings of isolation and negatively impact their self-care behaviors (5). In Pakistan, traditional gender roles and expectations may lead to women prioritizing their family's needs over their health, further hindering effective management of the condition.

Case Presentation

A 30-year-old woman, gravida 2, para 1, was referred to the outpatient clinic at 24 weeks of gestation after routine glucose screening revealed abnormal blood sugar levels. Her fasting blood glucose measured 130 mg/dL, and her 2-hour

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postprandial glucose was 180 mg/dL. She had a strong family history of diabetes, particularly her mother and two older siblings, but had no personal history of glucose intolerance before this pregnancy. She worked part-time in agriculture, and her household income was below the poverty line, limiting her access to comprehensive healthcare.

During her first pregnancy, she was not diagnosed with GDM, and she had a healthy baby. However, this pregnancy brought new challenges, particularly because of her socioeconomic status; her family's financial constraints limited access to both prenatal care and adequate nutritional resources. Despite receiving education about GDM, she struggled to make dietary changes due to deep-rooted cultural beliefs about food and social pressures to adhere to traditional dietary practices (6). In Pakistan, a typical diet includes high-carbohydrate staples such as rice and bread, making it difficult for patients with GDM to follow recommendations for carbohydrate restriction (7). The patient also reported psychological stress, primarily stemming from societal stigma related to her diagnosis. In her community, diabetes was often viewed as a personal failing rather than a medical condition, and this contributed to her feelings of guilt and isolation. Additionally, she felt unsupported by her family, who did not fully understand the seriousness of GDM and its potential complications for both the mother and baby. As the primary caregiver for her family, the patient found it difficult to prioritize her health. The absence of accessible healthcare services in her rural community further compounded her difficulties in attending regular follow-up visits (8).

Following her diagnosis, the patient was referred to a multidisciplinary team consisting of a diabetes educator, an obstetrician, and a registered dietitian. Her education focused on carbohydrate counting, the importance of regular blood glucose monitoring, and incorporating low-intensity physical activities like walking into her daily routine. However, she encountered several barriers, including the unavailability of glucose monitoring equipment and a lack of financial resources to purchase insulin supplies.

At 28 weeks of gestation, her blood glucose levels remained elevated despite following dietary

modifications, necessitating the initiation of insulin therapy. She was prescribed basal-bolus insulin and received instructions on self-administration. Although she initially struggled with insulin injection techniques and self-monitoring, she was able to maintain her blood glucose levels within the target range through diligent effort and regular consultations with her healthcare team (9). Community health workers played a vital role in her management by conducting home visits, offering additional guidance on insulin administration, and helping her overcome practical barriers like transportation to clinics for follow-up appointments.

At 39 weeks of gestation, the patient delivered a healthy baby girl via vaginal delivery. The infant weighed 3.5 kg and showed no signs of neonatal complications, such as hypoglycemia, jaundice, or respiratory distress syndrome. However, in the immediate postpartum period, the patient developed moderate postpartum anxiety, which was exacerbated by her concerns about managing her own health while caring for a newborn. She expressed fear of developing Type 2 diabetes in the future and concern about her ability to maintain a healthy lifestyle amidst her caregiving responsibilities. This anxiety highlighted the need for psychosocial support that was not readily available in her healthcare setting (10).

Discussion

This case underscores the intricate relationship between psychosocial factors and the management of GDM, particularly in low-resource settings. The patient's financial constraints significantly impacted her ability to access both healthcare and nutritional resources, illustrating a broader issue that affects many women in LMICs like Pakistan. Several studies have shown that poverty and limited access to care are associated with poorer outcomes in diabetes management, leading to a higher risk of adverse maternal and neonatal outcomes (11).

Cultural factors, particularly traditional dietary practices, also pose substantial challenges in managing GDM. In many rural communities, food is deeply embedded in social and cultural identities, and modifying traditional meals to meet nutritional guidelines for diabetes can be seen as a violation of cultural norms (12). Additionally, the

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stigma surrounding diabetes in pregnancy can lead to feelings of shame and isolation, further complicating the emotional well-being of affected women. In some cases, women may hide their diagnosis due to fear of social rejection or being seen as “unfit” for motherhood (13).

The multifactorial nature of GDM management necessitates a holistic approach that incorporates medical treatment alongside psychosocial support. This case highlights the importance of mental health resources in managing chronic conditions like GDM. Providing psychological counseling or group support could mitigate feelings of isolation and anxiety, especially in the postpartum period, where women may feel overwhelmed by both the demands of new motherhood and the ongoing management of their health (14).

Further, postpartum anxiety is not uncommon among women who have experienced GDM. It is often fueled by concerns about the long-term risk of Type 2 diabetes and fears for the child’s future health. Postnatal care services should incorporate psychological assessments and offer appropriate interventions to help women navigate these challenges and maintain both physical and mental health postpartum (15).

Conclusion

This case of a 30-year-old woman with GDM demonstrates the importance of understanding the interplay of psychosocial and economic factors in managing gestational diabetes, particularly in LMICs like Pakistan. While her neonatal outcome was favorable, her experience with postpartum anxiety underscores the need for a more holistic approach to care. Addressing both the medical and psychosocial aspects of GDM can lead to improved outcomes for both mothers and infants.

Healthcare providers must prioritize comprehensive care strategies that encompass education, community support, and mental health resources to optimize the management of GDM. Additionally, future interventions should focus on improving access to healthcare services in underserved areas, enhancing education regarding dietary modifications, and providing psychosocial support to empower women to manage their health during and after pregnancy. Policymakers must also play a role in expanding healthcare access to ensure that all women, regardless of

socioeconomic status, can receive the care they need.

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