

OPINION

Enhancing Medical nutrition therapy adherence among GDM mothers: Need for digital solutions and Support systems

Vanessa Ravel, Vishali Baskaran
Independent Research Consultant, Chennai

CORRESPONDING AUTHOR

Dr Vanessa Ravel, Independent Research Consultant, Chennai

Email: vanessaravel15@gmail.com

CITATION

Ravel V, Baskaran V. Enhancing Medical nutrition therapy adherence among GDM mothers: Need for digital solutions and Support systems. Journal of the Epidemiology Foundation of India. 2025;3(2):212-214.

DOI: <https://doi.org/10.56450/JEFI.2025.v3i02.018>

ARTICLE CYCLE

Received: 14/05/2025; Accepted: 17/06/2025; Published: 30/06/2025

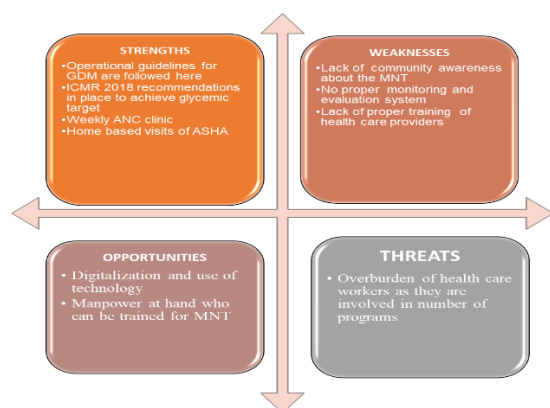
This work is licensed under a Creative Commons Attribution 4.0 International License.

©The Author(s). 2025 Open Access

Gestational diabetes mellitus (GDM) is characterized by impaired glucose tolerance that is first detected during pregnancy.(1) Every year, 4 million pregnancies in India are complicated by GDM.(2)The prevalence of GDM in India has rose from 0.53% in 2015-16 to 0.80% in 2019-20. Although the prevalence of GDM is relatively low, its impact on the health of both the mother and her child remains significant and should not be overlooked. (3) Hence, it is critical to combat GDM from the start and protect future generations from the risk of diabetes and other diseases. To address the rising prevalence of gestational diabetes mellitus, the government of India published national guidelines for the diagnosis and management of GDM in 2014.(1)

Medical Nutrition Therapy (MNT), is a key milestone in GDM treatment for reducing maternal and fetal complications. (4) The main component of MNT for GDM is a well-balanced, carbohydrate-controlled diet that promotes the best possible nutrition for both the mother and the fetus. It also helps to achieve normoglycemia and proper gestational weight gain.(1)

The critical question is whether MNT is effectively practiced in India. Instead of receiving individualized meal plans, many women are merely advised to reduce their sugar and rice consumption, which is an oversimplified approach. Not all antenatal women seek care at private facilities or tertiary care hospitals where nutritional counselling by dieticians is available. Hence, Primary health centres (PHC) should be equipped with the necessary knowledge and resources such as dedicated room to offer MNT counselling, with trained nutritionists conducting regular visits to help GDM mothers manage this condition. Such an arrangement would enable mothers with GDM to present their daily food diaries during antenatal visits, detailing their meal choices and portion sizes, and help them to receive dietary guidance from nutritionists which ultimately improves their adherence to MNT. To better understand the feasibility of strengthening Medical Nutrition Therapy at the primary healthcare level, it is essential to analyse the existing strengths, weaknesses, opportunities, and threats. The current scenario of MNT implementation in India is depicted through a SWOT analysis in Figure 1.

Figure 1: SWOT Analysis of Medical Nutrition Therapy (MNT) Implementation in GDM Care

We do not deny the fact that IEC materials are available to raise awareness about GDM and MNT. However, many myths and misconceptions about GDM do persist, and since these materials do not actively counter them, they remain just on paper without providing real-time support. In such scenarios, interactive digital tools could play a crucial role by offering accessible, personalized guidance to GDM mothers. An android app could be developed to guide GDM mothers manage their diet by sending reminders and providing dietary guidance. While multiple apps such as HealthifyMe,(5) Nutriaide (6) provide nutritional information about food items there is a need for apps with additional functionalities. For example, visual indicators, like red icons, to warn the users about foods that may spike blood sugar and green icons to highlight healthier choices could pop up after logging a food item. The app could also offer feedback on total carbohydrate intake and calorie count, notifying GDM mothers when they approach their daily limits.

Though we are in the digital era, not all GDM mothers have access to smart phones. Hence solutions must also be available for those relaying on basic mobile phones by providing SMS- based and Interactive voice response systems (IVR). For instance, Kilkari, a cost-free mobile health service delivers audio messages every week about child care, pregnancy, and delivery, significantly improving maternal and neonatal health outcomes. (7) Why not develop a similar service tailored specifically to GDM management, one that provides real-

time guidance and offers customized meal planning to enhance adherence to Medical Nutrition Therapy? The GDM mothers can receive daily SMS reminders for breakfast, lunch, dinner, and snack times. Each message could contain brief guidelines on what to eat and what to avoid for that meal. along with suitable snack ideas and daily reminders to steer clear of sugary and refined foods. Mothers can press a button/number in the phone to indicate they need support, prompting a follow-up call from a nutritionist. Digital tools can enhance accessibility but cannot replace human support. Many women, especially in rural areas, may feel more comfortable discussing their concerns with a trusted community health worker like ASHAs (Accredited Social Health Activists). For this approach to be successful, ASHA workers must be given proper training and fair remuneration. Moreover, the scalability of this framework should not be limited to GDM alone but extended to strengthen diabetes care more broadly, including type I and type II diabetes mellitus as well.

AUTHORS CONTRIBUTION

VR and VB conceptualized the manuscript, contributed to writing the manuscript, and were involved in revising it critically for important intellectual content.

FINANCIAL SUPPORT AND SPONSORSHIP

Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

ACKNOWLEDGEMENT

Nil

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work, the authors used *Grammarly* for paraphrasing and improving the language of the manuscript. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

REFERENCES

1. Ministry of Health and Family Welfare. Diagnosis & management of gestational diabetes mellitus. New Delhi: Government of India; [cited 2025 Mar 8]. Available from: https://nhm.gov.in/New_Updates_2018/NHM_Components/RMNCH_MH_Guidelines/Gestational-Diabetes-Mellitus.pdf
2. Guariguata L, Linnenkamp U, Beagley J, Whiting DR, Cho NH. Global estimates of the prevalence of hyperglycaemia in pregnancy. *Diabetes Res Clin Pract.* 2014;103(2):176–85.
3. Chakraborty A, Yadav S. Prevalence and determinants of gestational diabetes mellitus among pregnant women in India: an analysis of National Family Health Survey data. *BMC Womens Health.* 2024;24(1):147.
4. Vasile FC, Preda A, Ștefan AG, Vladu MI, Forțofoiu MC, Clenciu D, Gheorghe IO, Forțofoiu M, Moța M. An update of medical nutrition therapy in gestational diabetes mellitus. *J Diabetes Res.* 2021;2021:5266919. doi:10.1155/2021/5266919.
5. HealthifyMe [Internet]. [cited 2025 Sep 5]. Available from: <https://www.healthifyme.com/in/>
6. The Hindu Bureau. NutriAIDE mobile app launched. The Hindu [Internet]. 2024 Feb 16 [cited 2025 Sep 5]. Available from: <https://www.thehindu.com/news/national/telangana/nutriaide-mobile-app-launched/article67850553.ece>
7. Press Information Bureau. Union Ministers of State for Health and Family Welfare, Prof. S P Singh Baghel and Dr. Bharati Pravin Pawar launch Mobile Health Service "Kilkari" and Mobile Academy in Maharashtra and Gujarat to strengthen public health infrastructure [Internet]. New Delhi. 2024 Feb 7 [cited 2025 Sep 5]. Available from: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2003571>