Current practices in gestational diabetes mellitus diagnosis and management in the United States: survey of maternal-fetal medicine specialists

**OBJECTIVE:** Gestational diabetes mellitus (GDM) complicates 10% of pregnancies and leads to substantial perinatal complications that can be reduced with glycemic control. The extent of the treatment needed is based on a person’s glycemic response to medical nutritional therapy (MNT) and exercise. However, the definition of what constitutes an unsuccessful attempt at MNT and exercise has not been established. Consequently, the need to start pharmacotherapy is at the provider’s discretion with wide variability in practice. Based on this evidence gap, we developed and administered a survey for maternal-fetal medicine (MFM) providers to assess current practices in GDM, especially about pharmacotherapy initiation.

**STUDY DESIGN:** We designed a 22-item questionnaire and refined it through cognitive interviews with 7 GDM providers (3 MFM specialists, 2 endocrinologists, and 2 general obstetrician-gynecologists). We evaluated the content validity of the questionnaire by asking participants if there were essential aspects of their practice related to managing GDM that were missing from the set of questions. We tested candidate items using concurrent verbal probes to assess how respondents understood the items and revised them accordingly. The questionnaire was disseminated in partnership with the Society for Maternal-Fetal Medicine (SMFM) through posting it on the SMFM website and through 2 Special Delivery newsletters to SMFM members. Responses were summarized using descriptive statistics.

**RESULTS:** From November 2019 to October 2020, of 2118 SMFM members, 487 US members completed most

**FIGURE**
Initiation rates of pharmacotherapy at each percent elevated glucose values

![Graph showing initiation rates of pharmacotherapy at each percent elevated glucose values](https://example.com/graph.png)

MFM, maternal-fetal medicine; SMFM, Society for Maternal-Fetal Medicine.

questions (>75%) and were included in the analysis. Respondents’ distribution was even among 4 US geographic regions, and responses were received from every state and territory except for Wyoming. Both academic and private practice members were represented. Of 487 respondents, 448 (92.0%) diagnosed GDM using the 2-step Carpenter-Coustan approach, and 471 (96.7%) started treatment with a 1- to 2-week trial of MNT. When <20% of glucose values were above target, 433 of 452 respondents (95.8%) indicated that they would not add pharmacotherapy to MNT; however, 19 of 452 respondents (4.2%) indicated that they would still add pharmacotherapy. Similarly, when ≥50% of glucose values were above target, 443 of 452 respondents (98.0%) indicated that they would add pharmacotherapy to MNT. In addition, in the range between 20% and 50% of abnormal glucose values, the practice varied from 28.1% (127 of 452) to 75.0% (339 of 452) of respondents adding pharmacotherapy (Figure). When selecting pharmacotherapy, 321 of 485 respondents (66.2%) would initiate therapy with insulin, and 126 of 485 respondents (26.0%) would initiate therapy with oral antidiabetic medications with a preference for metformin (82.5%). The rest of the respondents would consider shared decision making regarding the first-line pharmacotherapy choice (38 of 485 [7.8%]). Moreover, 395 of 485 respondents (81.4%) stated that an official statement providing evidence-based recommendations for pharmacotherapy initiation would be useful to their practice.

CONCLUSION: Although this study demonstrated an agreement among a convenience sample of SMFM US members regarding GDM diagnosis, surveillance, and insulin preference as a first-line pharmacotherapy, this study also uncovered a heterogeneity among providers’ determination regarding what percentage of elevated blood glucose values necessitate the addition of pharmacotherapy to MNT and exercise. The identified gap in clinical practice provides an opportunity for prospective research investigating the optimum threshold for pharmacotherapy initiation and promoting standardization of care in GDM management.

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REFERENCES

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