

# Health care professional's perspective regarding gestational diabetes mellitus in Pakistan: are clinicians on the right track?

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## Background

Maternal and fetal complications related to GDM are mostly avoidable by timely diagnosing and appropriate management. Lower to middle income countries such as Pakistan, have increased maternal and neonatal morbidity and mortality associated with GDM, emphasizes the significance of early diagnosis and proper management.

## Objective

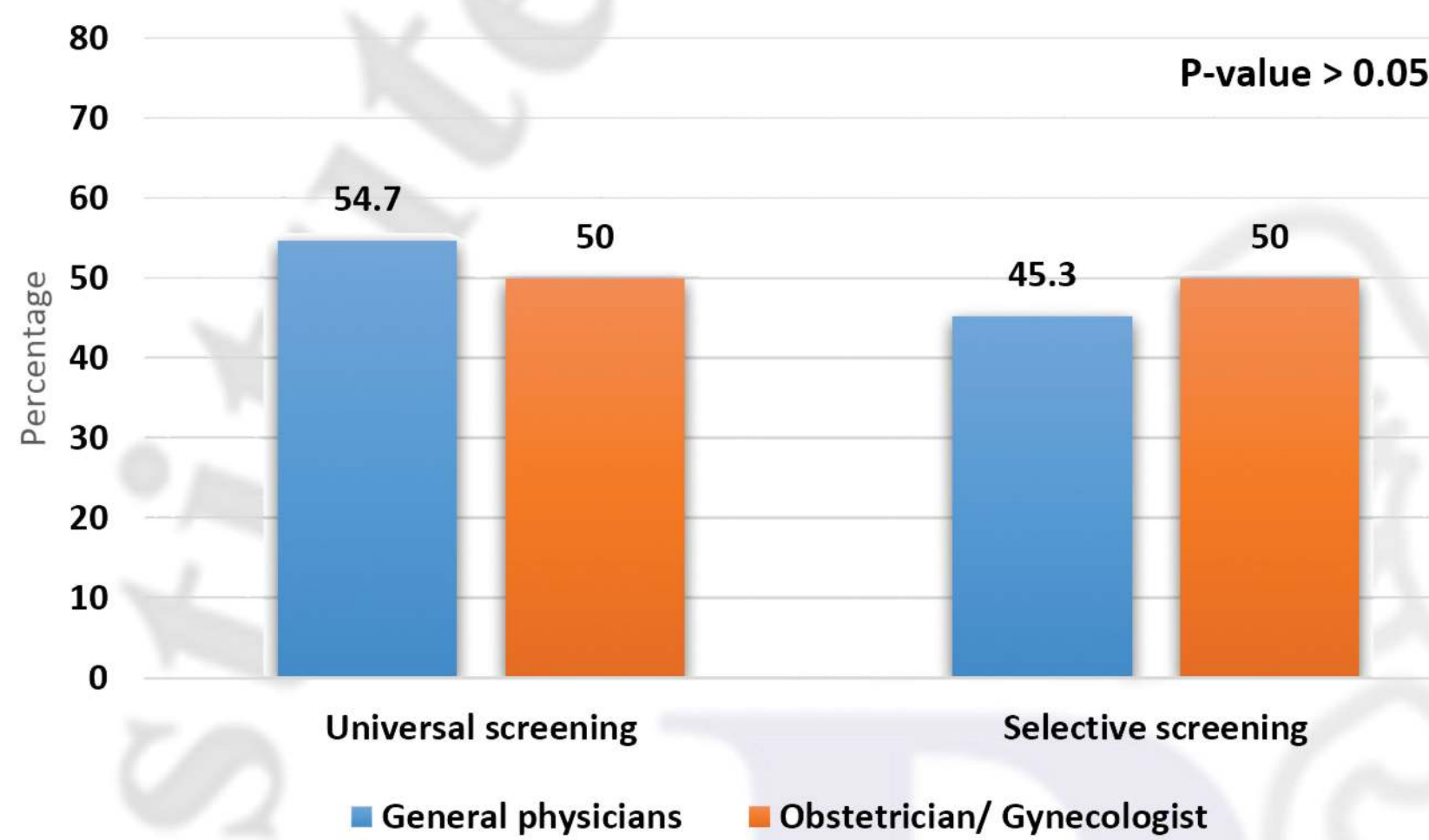
To study health care professionals' perspective working at tertiary care settings regarding gestational diabetes mellitus (GDM) and to recognize differences in the practice and approach amongst them

## Methodology

Nationwide cross-sectional survey on the practice patterns with respect to screening, diagnosis, management and follow-up of Gestational Diabetes Mellitus was carried out at several tertiary care hospitals of Pakistan covering physicians/diabetologists/endocrinologists and Obstetrician/gynecologists. Health care professionals from public and private sectors were invited to participate. The self-structured questionnaire was developed by expert panel, had 5 sections and were filled by participants in person or contacted through email. Total 300 health care professionals (HCPs) participated in this survey.

## Results

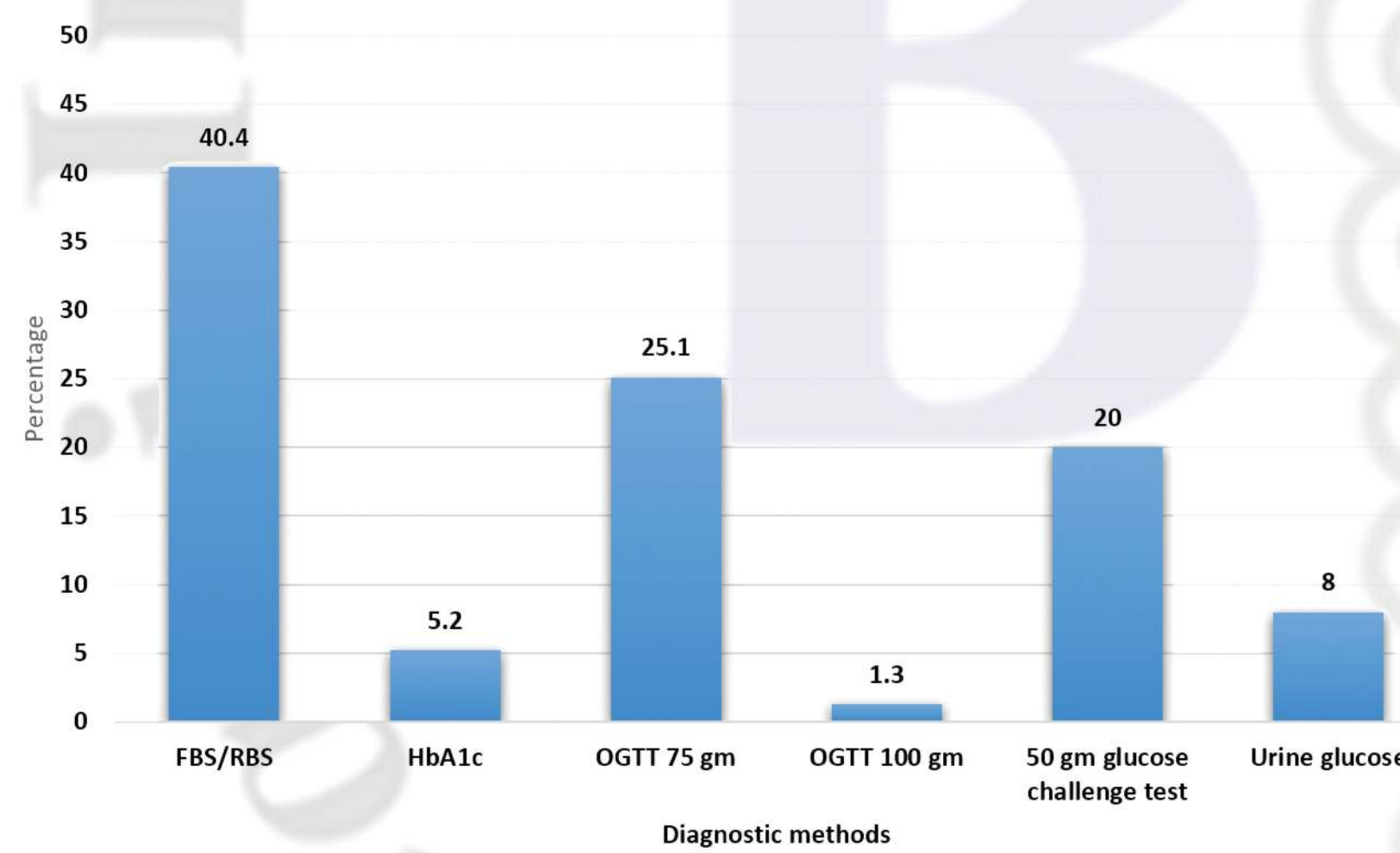
### Screening for GDM



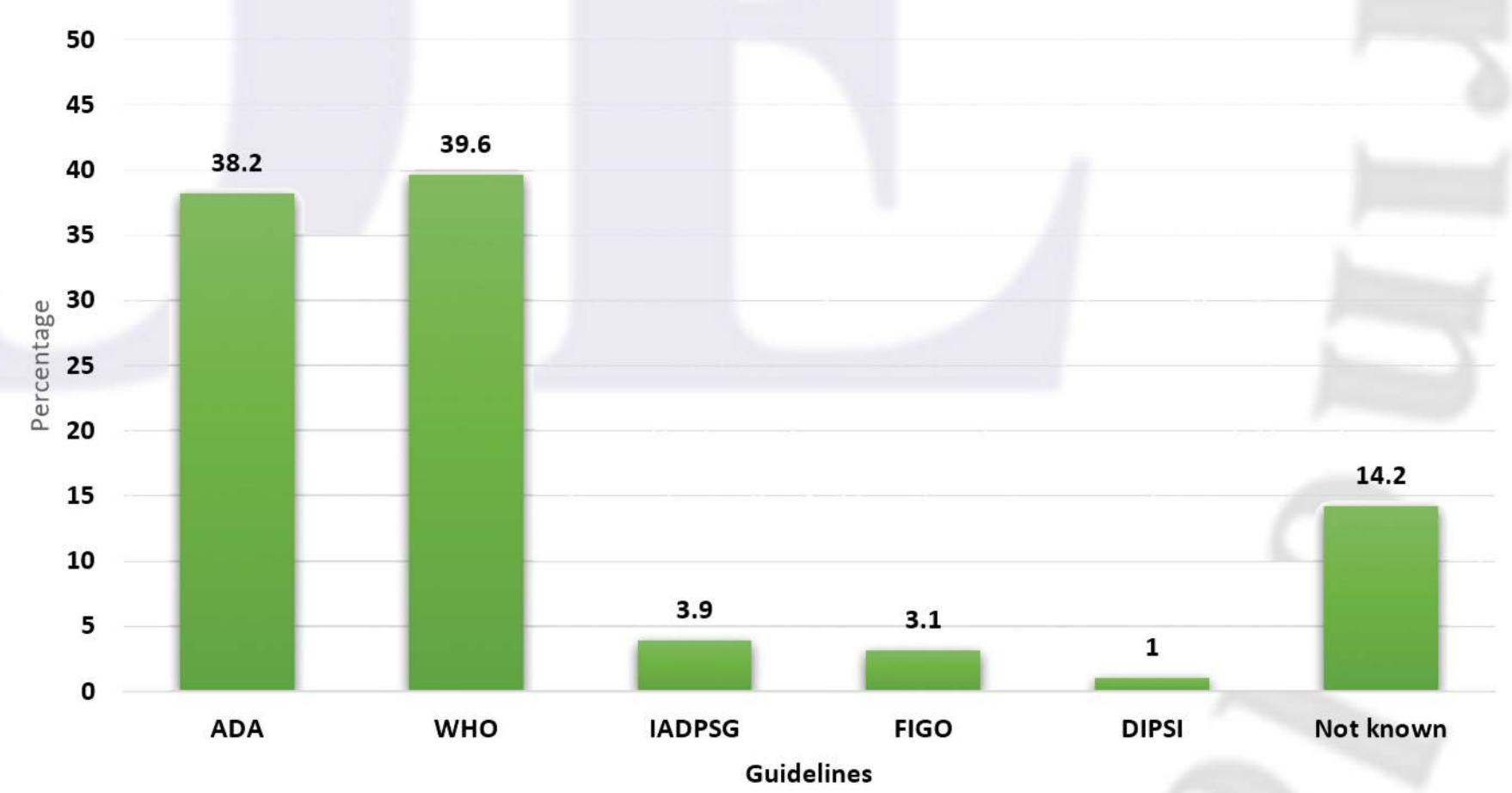
### Trimesters wise screening



### Diagnostic methods of GDM



### GDM Guidelines practiced by study participants



### Management of GDM

|   | General physicians | Obstetrician/ Gynecologist | P-value | Overall    |
|---|--------------------|----------------------------|---------|------------|
| <b>N</b>                                    | 190                | 110                        | -       | 300        |
| <b>How do you manage women with GDM</b>     |                    |                            |         |            |
| LSM   | 7(4.5%)            | 5(4.7%)                    | 0.939   | 12(4.6%)   |
| Metformin                                   | 3(1.9%)            | 2(1.9%)                    | 0.999   | 5(1.9%)    |
| Insulin                                     | 25(16.2%)          | 8(7.5%)                    | 0.039   | 33(12.7%)  |
| Metformin plus insulin                      | 25(16.2%)          | 5(4.7%)                    | 0.004   | 30(11.5%)  |
| LSM and metformin                           | 1(0.6%)            | 5(4.7%)                    | 0.004   | 6(2.3%)    |
| LSM and glibenclamide                       | 1(0.6%)            | 0(0%)                      | 0.425   | 1(0.4%)    |
| LSM and Insulin                             | 41(26.6%)          | 21(19.8%)                  | 0.207   | 62(23.8%)  |
| LSM, Metformin and insulin                  | 45(29.2%)          | 56(52.8%)                  | 0.0001  | 101(38.8%) |
| Sulfonylurea only                           | 2(1.3%)            | 1(0.9%)                    | 0.765   | 3(1.2%)    |
| LSM, Metformin and glibenclamide            | 0(0%)              | 2(1.9%)                    | 0.087   | 2(0.8%)    |
| LSM, glibenclamide and insulin              | 3(1.9%)            | 1(0.9%)                    | 0.514   | 4(1.5%)    |
| LSM, Metformin, glibenclamide, and insulin  | 1(0.6%)            | 0(0%)                      | 0.425   | 1(0.4%)    |
| <b>Which insulin do you prefer for GDM</b>  |                    |                            |         |            |
| Human insulin                               | 115(74.7%)         | 82(79.6%)                  |         | 197(76.7%) |
| Analogues                                   | 35(22.7%)          | 20(19.4%)                  | 0.509   | 55(21.4%)  |
| Both  | 4(2.6%)            | 1(1%)                      |         | 5(1.9%)    |
| <b>Which insulin combination do you use</b> |                    |                            |         |            |
| Free mixing                                 | 62(40.3%)          | 61(58.1%)                  | 0.005   | 123(47.5%) |
| Pre-mixed insulin                           | 36(23.4%)          | 21(20%)                    | 0.516   | 57(22%)    |
| Basal only                                  | 20(13%)            | 16(15.2%)                  | 0.104   | 36(13.9%)  |
| Short acting insulin only                   | 30(19.5%)          | 7(6.7%)                    | 0.004   | 37(14.3%)  |
| Multiple                                    | 6(3.9%)            | 0(0%)                      | 0.041   | 6(2.3%)    |

### Postpartum follow-up of GDM

|   | General physicians | Obstetrician/ Gynecologist | P-value | Overall    |
|---|--------------------|----------------------------|---------|------------|
| <b>N</b>  | 190                | 110                        | -       | 300        |
| <b>Do you advise any follow-up for GDM women after delivery</b>   |                    |                            |         |            |
| Always  | 142(77.2%)         | 91(83.5%)                  | 0.196   | 233(79.5%) |
| Sometimes   | 42(22.8%)          | 18(16.5%)                  |         | 60(20.5%)  |
| <b>If yes, then how many weeks after delivery</b>   |                    |                            |         |            |
| 4 weeks   | 43(40.6%)          | 20(41.7%)                  |         | 63(40.9%)  |
| 6 Weeks   | 48(45.3%)          | 25(52.1%)                  | 0.351   | 73(47.4%)  |
| any other   | 15(14.2%)          | 3(6.2%)                    |         | 18(11.7%)  |
| <b>What test do you do on follow-up</b>   |                    |                            |         |            |
| FBS/RBS   | 55(51.9%)          | 22(45.8%)                  |         | 77(50%)    |
| HbA1c   | 24(22.6%)          | 15(31.2%)                  | 0.154   | 39(25.3%)  |
| OGTT  | 19(17.9%)          | 11(22.9%)                  |         | 30(19.5%)  |
| Multiple  | 8(7.5%)            | 0(0%)                      |         | 8(5.2%)    |
| <b>If woman postpartum has impaired sugars or GTT but not reaching diabetic level what follow up do you recommend</b> |                    |                            |         |            |
| Yearly  | 157(87.2%)         | 73(68.9%)                  | 0.0004  | 230(80.4%) |
| None  | 10(5.6%)           | 6(5.7%)                    | 0.972   | 16(5.6%)   |
| Other   | 13(7.2%)           | 27(25.5%)                  | <0.0001 | 40(14%)    |
| <b>Do you counsel women with GDM about their increased risk of developing overt diabetes in future</b>                |                    |                            |         |            |
| Yes   | 85(80.2%)          | 35(72.9%)                  | 0.314   | 120(77.9%) |
| No  | 21(19.8%)          | 13(27.1%)                  |         | 34(22.1%)  |
| <b>Beside tests, do you counsel GDM women about their health (diet, exercise)</b>                                     |                    |                            |         |            |
| Yes   | 150(82.9%)         | 91(84.3%)                  | 0.759   | 241(83.4%) |
| No  | 31(17.1%)          | 17(15.7%)                  |         | 48(16.6%)  |

## Conclusion

The present study reveals that there are major differences amongst health care professionals regarding various aspects of GDM management. To fill these gaps education strategy is urgently needed to update their knowledge. Great attention should be given to postpartum follow up and encouragement to adopt healthy lifestyle.

