Comparison of the world health organization and the international association of diabetes and pregnancy study groups criteria in diagnosing gestational diabetes mellitus in South Indians

Sir,

We read with great interest the article by Nallaperumal *et al*.,[1] which shows that according to a single World Health Organization (WHO) cutoff of 2 hour plasma glucose >140 mg/dl is suitable for screening of gestational diabetes mellitus (GDM) in our country. Similar conclusion was also reported by Seshiah *et al*.[2] But these findings are in contrast to the results of our study.[3]

In our study, the prevalence of GDM was 83/304 (27.3%) and 27/304 (8.8%) by the International Association of Diabetes and Pregnancy Study Groups (IADPSG) and WHO criteria, respectively.[3] Among them, 20 (22.2%) GDM patients were diagnosed by both the criteria. This implies that use of IADPSG criteria alone missed only 7/90 (7.8%) cases and use of WHO criteria missed the diagnosis in a larger proportion of patients i.e. 63/90 (70%). This is in sharp contrast to the results of the study by Nallaperumal *et al*.[1] from Chennai. They reported a prevalence of 699/1351 (51.7%) and a miss of approximately 17% cases by either criteria. Interestingly, Seshiah *et al*.[2] reported a lower prevalence of 214/1463 (14.6%) using IADPSG criteria and 196/1463 (13.4%) using Diabetes In Pregnancy Study group India (DIPSI) criteria from the same place. DIPSI criteria is nothing but a modified version of WHO criteria in which 2-hour plasma glucose >140 mg/dl following 75 gram of glucose oral tolerance test (irrespective of the fasting status of pregnant mothers) is considered diagnostic of GDM.[4] The discrepancy in the prevalence of GDM between above mentioned studies may be explained by the clinical settings in which these were performed. It is obvious that the prevalence will be higher when high risk cases referred to a diabetes centre with suspected GDM are screened as in the study by Nallaperumal *et al*.[1] compared to screening of general population attending a community health centre as in the study by Seshiah *et al*.[2] or an antenatal clinic of a teaching hospital as in our study.[3]

Another important finding in our study[3] was that majority of the GDM cases (n = 53/83, 63.8%) were diagnosed based on elevated fasting plasma glucose (FPG) alone, without abnormal 1-hr or 2-hr values, using IADPSG criteria, in contrast to 88/699 (12.5%) subjects by Nallaperumal *et al*.[1] Similarly, out of total 214 GDM patients according to IADPSG criteria, 136 (63.5%) subjects were diagnosed by elevated FPG (with or without high 1 hr/2-hr plasma glucose) in the study by Seshiah *et al*.[2] in contrast to 71/83 (87%) in our study. But there was no agreement between the patients diagnosed as GDM using IADPSG criteria by raised FPG (>92 mg%) alone and those diagnosed by WHO criteria. In the study by Nallaperumal *et al*.,[1] out of 88 women being diagnosed as GDM by virtue of their FPG abnormality alone using IADPSG criteria, 34% were classified as GDM as per the WHO criteria. In contrast, out of 53 subjects in our study with fasting hyperglycemia as the sole abnormality, only 7.5% were picked up by WHO criteria.[3] This may be explained by different patient characteristics and sample size in various clinical settings. The vital question is which single abnormal value will be the most appropriate and cost effective in screening of GDM in the Indian population, a fasting cutoff as per the IADPSG criteria or 2-hr cutoff as

per the WHO criteria. This calls for large scale nationwide studies.

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References

1. Nallaperumal S, Bhavadharini B, Mahalakshmi MM, Maheswari K, Jalaja R, Moses A, *et al*. Comparison of the world health organization and the international association of diabetes and pregnancy study groups criteria in diagnosing gestational diabetes mellitus in South Indians. Indian J Endocrinol Metab 2013;17:906-9.
2. Seshiah V, Balaji V, Shah SN, Joshi S, Das AK, Sahay BK, *et al*. Diagnosis of gestational diabetes mellitus in the community. J Assoc Physicians India 2012;60:15-7.
3. Nayak PK, Mitra S, Sahoo JP, Daniel M, Mathew A, Padma A. Feto-maternal outcomes in women with and without gestational diabetes mellitus according to the International Association of Diabetes and Pregnancy Study Groups (IADPSG) diagnostic criteria. Diabetes and Metabolic Syndrome. J Clin Res Rev 2013;7;206-9.
4. Seshiah V, Sahay BK, Das AK, Shah S, Banerjee S, Rao PV, *et al*. Gestational diabetes mellitus – Indian guidelines. J Indian Med Assoc 2009;107:799-802, 804-6.

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