

THE PREVALENCE OF GESTATIONAL DIABETES IN FIJI

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Fiji with its almost equal numbers of ethnic Fijian and immigrant Indian Populations provides an opportunity to study the influence of several factors on the prevalence of diabetes.

Between 1965 (1) and 1980 (2) the prevalence of Type II diabetes has increased 25 fold (0.6% to 15.8%) in urban Fijians and 4 fold (5.7% to 22.7%) in urban Indians. This is an alarming trend.

The evidence for changing prevalence of diabetes in India and Indians who have migrated needs careful interpretation. The prevalence quoted in the large study of 6 urban populations performed by the Indian Council of Medical Research in 1975 is 2.1% (3), whilst amongst Indians in Singapore it is 6.07% (4), in Capetown 10.3% (5) and in Natal 11.3% (6). In Fiji prevalence rates of up to 22.7% (2) in urban Indians have been quoted. However, care is necessary in comparing this data because of differing methodology. Mather et al (7) found a striking similarity in the age specific prevalence of known diabetics (8.8%— 9.56%), in socio-economically comparable populations of Indians in New Delhi and London. However, the prevalence of diabetes amongst the Indians was higher than the London white population (1.18%).

The prevalence of gestational diabetes varies from 6.15% to 12.3% in several developed countries. However, comparison is difficult because of differing criteria.

As gestational diabetes is a good predictor of subsequent overt diabetes in later life and also early intervention in pregnancy can influence the immediate fetal outcome and can have an important long term primary health care implications. 680 antenatal patients were randomly selected in approximately equal numbers to establish any racial differences in the prevalence of gestational diabetes between the two major races (Indians and ethnic Fijians) in Fiji. All patients had a non fasting 50g glucose load screen test using 7.5 mmol/L, 1 hour venous blood level as the threshold. Subsequently, they were subjected to a 100g, 3 hour oral glucose tolerance test. O' Sullivan and Mahan criteria (8) were used for the diagnosis of gestational diabetes;

Results:

Prevalence of Gestational Diabetes

Age	2020-30	30
Fijian	0.9% (i)	19% (1)
Indian	1.3% (1) 1.5% (2)	10.7% (14)
Overall prevalence	2.8%	
Indians	5%	
Fijians	0.6%	
Body mass index (BMI)		
	Gestation Diabetes!	Non G.D.
Indians	27.38 ± 4.5	23.35 ± 4
Fijians	34.4 ± 0.6	27.32 ± 5

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The gestational diabetes had a significantly Greater BMI in both the races Indians $P=0.0001$, Fijians $P=0.045$.

A positive family history ($P=.001$) and a previous still birth ($P+.001$) were significant risk factors, but neither increasing parity nor previous large babies appeared to be So.

The 50g glucose load serum test was nearly 100% sensitive using 7.5 mmol/L as a threshold but the overall specificity was 58% whilst for Indian women over 30 years of age it was 71%.

The serum fructosamine levels for 14 gestational diabetics was $2.57\pm.32$ and for the 447 non diabetics 2.4 ± 2.6 This difference was significant ($p = 0.019$). However, it did not appear to be a better screen test.

Conclusion

1. There is a significant racial difference in the prevalence of gestational diabetes between Indian and Fijians.
2. Indian women over the age of 30 have a very high prevalence rate.
3. The 50g glucose screen test whilst useful as a serum test should not be used for Indian women over 30 who all should have a GTT.
4. Obese Indian women are more likely to develop glucose intolerance than obese Fijian women.
5. The diabetic diabetes in Fijian women appears later in adult life than in the Indian woman.

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