

after the sanitation, nutrition and health care and schooling of children in the underprivileged communities (urban slums, migrant clusters on the urban periphery and those at the construction sites). The necessary financial inputs should be obtained and their utilization accounted for. The Right to Education (promising free, compulsory education) is now the law of the land. It is for the community to demand and ensure that schools are made fully functional and every child is in school.

IAP can take up the policy issues of putting the responsibility of child welfare on the elected officials and Govt functionaries. Individual IAP members or groups could interact with the local officials. A nearby slum cluster or a school could be “adopted”

(or at least visited at regular intervals), the community informed about aspects of basic health problems and their management facilitated. A large number of NGOs are working for various purposes. IAP members may join hands with them and try to guide them. The enormity of the problems of children in poor communities is often daunting. Every little contribution helps, but a massive, concerted effort is needed to influence governmental policies and, more importantly, to oversee implementation of various programs.

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## Vitamin B Supplementation to Prevent Neural Tube Defects?

Periconceptual folic acid is recommended for preventing neural tube defects (NTD) (1). Reports suggest that supplementation with vitamin B<sub>12</sub> is also necessary for the purpose (2). We present 2 patients with NTD, where the mothers had evidence of vitamin B<sub>12</sub> deficiency.

**Case 1.** A 5-month-old boy presented with significant pallor and poor feeding. He was born to a 29-year-old mother with history of previous 5 abortions (3 with fetal anomalies) and one early neonatal death. She had received supplements of folic acid 5 mg once daily before conception and continued through pregnancy. The baby, delivered at full term, had a lumbar meningocele that required surgery. The patient's hemoglobin was 3 g/dL, and the mother's hemoglobin was 9 g/dL. Their peripheral smear showed macrocytic normochromic anemia. Vitamin B<sub>12</sub> levels in the mother and baby were 136 pg/mL and 47 pg/mL, respectively (normal 200-950 pg/mL); blood levels of folate were normal. The mother was a strict vegetarian with low intake of vitamin B<sub>12</sub>.

**Case 2.** A gravida 5, para 3 mother with 2 miscarriages and two live children, delivered a boy at 35 weeks by cesarean section, the indication being severe maternal anemia (hemoglobin level 5.1 gm/dL) and identification of a NTD in the fetus. Peripheral smear showed macrocytic normochromic anemia, vitamin B<sub>12</sub> deficiency (86 pg/mL), and normal blood levels of folate and ferritin. The baby had a thoraco-lumbo-sacral meningocele, which needed surgical intervention soon after birth. There was no history of previous NTD in the family.

In both these cases, the newborn had a neural tube defect, despite maternal folate supplementation and normal serum folate level. Both mothers were however deficient in vitamin B<sub>12</sub>.

Vitamin B<sub>12</sub> is found in foods from animals (fish, meat, poultry, eggs, milk and milk products) and its deficiency is proposed as a cause of NTD (2,3). Supplementation with folic acid, as in the present cases, did not prevent the occurrence of the defects.

A large proportion of Indian population can be classified as vegetarian with dietary exclusion of all animal products. The precise role of maternal vitamin B<sub>12</sub> deficiency in occurrence of congenital anomalies and/or recurrent abortions need to be examined. Mechanisms and preventive effect of vitamin B<sub>12</sub> supplementation also needs to be studied.

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## REFERENCES

1. Wilson RD, Davies G, Désilets V, Reid GJ, Summers A, Wyatt P, *et al.* The use of folic acid for the prevention of neural tube defects and other congenital anomalies. *J Obstet Gynaecol Can* 2003; 25: 959-973.
2. Steen MT, Boddie AM, Fisher AJ, Macmahon W, Saxe D, Sullivan KM, *et al.* Neural tube defects are associated with low concentrations of cobalamin (vitamin B12) in amniotic fluid. *Prenat Diagn* 1998; 18: 545-555.
3. Godbole K, Deshmukh U, Yajnik C. Nutritional determinants of neural tube defects in India. *Indian Pediatr* 2009; 46: 467-475.

## Impaired Glucose Tolerance and Diabetes Mellitus in Obese Children

The incidence of Type 2 diabetes mellitus (T2DM) and Impaired Glucose Tolerance (IGT) is increasing among children all over the world. In India, T2DM develops at a younger age, at least a decade earlier, than in Western population(1). There is paucity of data on prevalence of IGT and T2DM amongst children suffering from obesity in NCT of Delhi. This data is a part of larger study data set of study conducted on prevalence of overweight and obesity amongst school children in Delhi, which has been published earlier(2). A total of 451 obese children in the age of 6-<18 were identified in this study by IOTF classification(3), of which 154 children, were included in the present study, to assess the prevalence of T2DM and IGT.

The study was approved by ethics committee of All India Institute of Medical Sciences, New Delhi. A informed written consent was taken from parents of each child. Each child was instructed to report after fasting of 10 hours, on the day of blood collection. On each child, Oral Glucose Tolerance Test was (OGTT) was conducted as per the standardized procedure(3). Fasting blood sample was collected from each child and subsequently child was orally administered with standard glucose at 1.75g/kg bodyweight but not exceeding a total of 75 g. The glucose was dissolved in water and child

was requested to drink it within 5 minutes. The time of drinking of glucose solution was noted and after 2-hours the blood samples were collected.

Obese children with fasting blood glucose levels less than 126 mg/dL or 2-hour glucose load levels between 140-200 mg/dL were considered as suffering from IGT. Similarly, children with fasting blood glucose more than 126 mg/dL or 2-hour glucose level of more than 200 mg/dL were considered as suffering from T2DM(4). It was found that amongst obese children, the prevalence of T2DM and IGT was 1.3 and 18.2 percent, respectively. In an earlier study from Delhi, abnormal glucose tolerance of 24.8% has been reported amongst overweight and obese children in 5-18 years of age(5). The difference in the results was because these authors included both overweight and obese children, while in the present study only obese children were considered. Another study from Italy has documented the prevalence of IGT and T2DM as 9 and 0.6%, respectively, amongst obese children in the age group of 6-14 years(6). The variation in the results observed from present study could be due to difference in the age group included in the study.

The findings of the present study suggest conducting a larger study in this field.

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