

EPIDEMIC OF DIABETES IN URBAN NEPAL - TIME TO ACT

The prevalence of diabetes is increasing rapidly throughout both the developing and industrialized world, probably as a result of changing life style.¹ Diabetes has been noted to be increasingly common in hospitals in Nepal. In Bir Hospital, the central government hospital, diabetes was reported to be the seventh common disease of medical admission even in the years 1994-1995 and 1998-1999.^{2,3} Analysis of diabetic patients admitted in medical wards of Bir Hospital over a period of 4 years revealed that percentage of diabetic patients increased successively from 2.6% of the total medical admissions in 1990-1991 to 5.6% in 1993-1994.⁴ In TU Teaching Hospital, Kathmandu, diabetes comprised 9.5% of the admissions in the medical ward in 1994.⁵ The higher percentage of diabetes seen in Teaching Hospital at the same time could be due to the reason that Bir Hospital serves more rural and deprived sections of population. Up to 95% of diabetic patients were reported to be type 2 diabetes.^{4,6} The problem of diabetes is reflected by its increasing complications. Diabetic Nephropathy is reported to be the leading cause of chronic renal failure in Nepal.⁷ In Bir Hospital, there were 20 gangrene cases (1.2%) out of the total general surgical admission of 1701 from April 1998 to March 1999; out of the total 20 gangrene cases, 5 (25%) had diabetes.⁸

The few population-based studies done so far have clarified that the problem of diabetes in Nepal is basically concentrated in urban areas. In one such report of fasting blood glucose, diabetes and impaired fasting glycemia were present in 14.6% and 9.1% respectively of the people 20 years and above in urban and 2.5% and 1.3% in rural areas.⁹ Thus, almost one fourth of the people 20 years and above in urban areas in Nepal showed diabetic tendency by either having impaired fasting glycemia or frank diabetes. Among the people 40 years and above, diabetes and IFG were present in 18.3% and 10.2% respectively in urban and 3.3% and 1.9% in rural areas. Thus, almost one third of the people 40 years and above in urban areas in Nepal showed diabetic tendency by either having impaired fasting glycemia or frank diabetes. The study, thus,

indicates diabetes to be a common problem in urban Nepal. The extent of the problem may be even more if we further considered that use of fasting glucose criteria alone might detect only the half of diabetes defined by 2-hour glucose criteria in Asian, particularly younger, populations.¹⁰ But, as about 80% of population in Nepal resides in rural areas, the overall prevalence of diabetes would not be high in the country as a whole. Further the rural areas studied in this survey have accessible roads. Much of the parts in Nepal are difficult underdeveloped terrains with high hills and mountains without accessible roads. Diabetes could be expected to be still lower in such regions. But there is also increasing urbanization and increasing population in urban areas in Nepal.

The proportions of 20–39 years old women with diabetes and impaired fasting glycemia were 5.4% each in urban areas.⁹ In this way, more than 10% of the 20-39 years old women in urban areas in Nepal showed diabetic tendency by either having impaired fasting glycemia or frank diabetes. The increased prevalence of diabetic tendency in women of the childbearing years also indicates the need to routinely screen for gestational diabetes in the high-risk population. In this regard, the finding of another study seems quite important. The average increases in weight and Body Mass Index (BMI) six months after delivery were 15.9 kg and 6.6 kg/m².¹¹ This seems to be related to the custom of feeding the women with foods rich in calories and fats, as much as possible, after delivery in Nepal and many other developing countries. After delivery, the women are not allowed to do anything or go anywhere, except to eat almost continuously and take rest, for weeks or even 2 to 3 months. It is not surprising if the women later faced difficulty in losing weight gained. The custom of increased feeding after delivery was perhaps justified in the past, or it may still be in the rural areas, with scarcity of food and the need for women to have repeated pregnancies. Now there is abundance of food and average children per couple is two in urban areas. In view of the problem of overweight, the custom of excess feeding after delivery seems required to be discouraged in urban areas.

During pregnancy and after delivery, women should no doubt eat adequate amount of nutritious foods like vegetables, fruits, milk, yogurt, egg, fish, meat, pulses and beans etc. But one should not gain excessive weight after delivery by taking excess amount of fatty and other food.

The main reasons for the diabetes epidemic in Urban Nepal are obviously increased body weight due to high intake of fatty and other food and low physical activity. In such situation, people can develop diabetes even if there is no family history. The body weight should be as per the recommended for the height. The usual normal body mass index (BMI) recommended is 18.5 – 24.9 kg/m². Recently the normal upper range of body mass index for Asian has also been recommended recently as less than 23 kg/m².¹² We will have to consider that as well. We will have to timely intervene in our urban areas from different possible angles for the prevention of diabetes. The possible programmes required can be summarized simply by the International Diabetes Federation slogan "Walk More and Eat Less".¹³ Nepal Diabetes Association has published wall calendar highlighting above facts for prevention of diabetes in urban Nepal.¹⁴ It is really time to act by everyone concerned to control the epidemic of diabetes in urban Nepal.

REFERENCES

1. International Diabetes Federation. Diabetes Atlas. Brussels: International Diabetes Federation, 2003.
2. Singh DL, Manandhar K, Bhattarai MD, Pokhrel DC, Khanal H, Gurung SB. Study of the patients attending the Department of Medicine, Bir Hospital in the year 2051. Proc Bir Hosp 1995; 71-74.
3. Joshi NG, Shrestha S, Paudyal LB, Bhattarai MD. Activities of the General Medicine Unit: analysis of the admitted patients. Souvenir : Bir Hospital 110th Anniversary 1999: 8-13.
4. Singh DL, Bhattarai MD, Maskey A. Demographic profile of diabetic patients admitted in medical wards of Bir Hospital, Nepal, 1990 to 1994. International Diabetes Digest. Cambridge: FSG Communications Limited & International Diabetes Federation, 1995; 6, 4: 87-8.
5. Acharya GP. Diabetes mellitus at Tribhuvan University Teaching Hospital. Abstract Reports of International Symposium on Diabetes Mellitus, March 23-24, 1995, Kathmandu, Nepal: 7.
6. Singh DL, Manandhar K, Ansari AE, Bhattarai MD. Analysis of the load of General Medicine Unit. Annual Report of Bir Hospital 1998: 1-3.
7. Satyal PR. Evolution of nephrology in Nepal. Souvenir: 1st International CME Programme of Nepal Society of Nephrology, 13 October 1998, Kathmandu, Nepal: 1-4.
8. Bhattarai MD. Diabetes in Nepal. Abstract Book – Invited lecture in the Diabetes in Middle East, Eastern Mediterranean & South East Asia 2000 Conference, Dhaka, Bangladesh, March 2 – 4, 2000: 22–23.
9. Singh DL, Bhattarai MD. High prevalence of diabetes and impaired fasting glycaemia in urban Nepal. *Diabetic Medicine* 2003; 20: 170-1.
10. Qiao Q, Nakagami T, Tuomilehto, et al, The DECODA Study Group on behalf of the International Diabetes Epidemiology Group. Comparison of the fasting and the 2-h glucose criteria for diabetes in different Asian cohorts. *Diabetologia* 2000; 43: 1470-1475.
11. Bhattarai MD, Singh DL. Study of weight gain after pregnancy: Important area to give attention to prevent obesity in women in urban areas. Paper presented in the 18th International Diabetes Federation Congress, Paris, August 24 –29, 2003.
12. International Diabetes Federation. Diabetes and Cardiovascular Disease: Fact Sheet 4 – World Diabetes Day. Brussels: International Diabetes Federation, 2001.
13. International Diabetes Federation. Diabetes and Kidney Disease – Time to Act. Brussels: International Diabetes Federation, 2003.
14. Nepal Diabetes Association. Wall calendar: Anyone can develop diabetes - Ways to prevent its development. Kathmandu: Nepal Diabetes Association & Lapen, 2003.

