

DIABETES – PRICE OF PROGRESS

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Diabetes: price of progress

Changed lifestyle and food habits of a rural population have increased the incidence of diabetes three fold in 14 years. First proof that lifestyle does not insulate the rural population.

By R. Prasad
The Hindu
Thursday, July 15, 2004

GIVE A villager a motorised transport, electricity, piped water supply, television, and food containing more of carbohydrate, protein and fat. "The chances are that the villager will invariably be afflicted with diabetes," said, Dr. A. Ramachandran, Managing Director of the Chennai based M.V. Hospital for Diabetes. While progress is welcome, what comes with it unasked are the diseases of urbanised lifestyle. "The transition from a typical rural to urban lifestyle carries its own baggage of problems. Diabetes is one of them. It is a disease of progress," he explained.

He should know better. A study of a rural area 40 kms from Chennai in 1989 showed the prevalence of diabetes hovering around 2.20 per cent. Typical of a rural area where manual labour, physical exercise and low fat/carbohydrate food ruled. The incidence has now shot up to 6.36 per cent when the disease prevalence was studied after a span of 14 years. The village is still typically rural but has all the fringes of an urbanised setting," he explained.

The study proves conclusively what was widely believed. Changes in lifestyle and food habits have gone a long way in increasing the incidence level. For instance, women were found to confine themselves to household work and shun manual work that was very common 14 years ago.

Similarly, food habits changed from ragi and vegetables to carbohydrate and fat filled food. Add to this, better facilities — like motorised transport and piped water — which mimic urban life. And the concoction has proved an ideal setting for diabetes prevalence to shoot up.

"But even here the prevalence is a meagre 2.80 per cent in those who are still engaged in strenuous physical activity compared to 48.3 per cent living a near sedentary life," Dr. Ramachandran pointed out. Lack of physical exercise and consumption of fat filled food have had a telling effect on the Body Mass Index (BMI) of both the sexes. In the case of men, the BMI had increased from 17.60 to 20.70, waist girth from 71.4 to 79.9 in a span of 14 years.

Though a BMI of 20.7 is much lower than the international cut off level of 25 to be labelled as obese, studies have conclusively proved that Indians with BMI of over 23 are obese. It has been conclusively proved that even small changes in the BMI could tilt the balance. "This is basically because we have higher upper-body adiposity even when we have lean body mass," Dr. Ramachandran explained.

To the uninitiated, Indians have a high propensity to develop higher upper-body adiposity, particularly central obesity. And central obesity (in the form of huge paunch) is strongly associated with glucose intolerance than generalised obesity. For a given BMI, Indians have a higher degree of central adiposity. Blame it on central obesity, Indians are prone to become diabetic even when not obese in the literal sense.

This predisposition to accumulate fat in the central region of the body (in the stomach region) is in the form of visceral fat. And visceral fat, in contrast to subcutaneous fat, does more damage as it leads to insulin resistance. In other words, it prevents the intake of glucose by the cells. "But we have found that subcutaneous fat is also responsible for developing insulin resistance," he clarified. The study involved studying the role of visceral and subcutaneous fat non-diabetics using CAT scans.

According to Dr. Ramachandran, insulin resistance is a characteristic feature of Indians. And for any given BMI, Indians tend to have higher insulin levels, indicating the pronounced insulin resistance (peripheral). "Insulin resistance tends to worsen with small increase in weight and lack of physical activity," he elaborated.

Studies done have conclusively shown that even individuals with ideal BMI tend to have body fat comparable to overweight westerners. The low muscle–mass and excess body fat contribute greatly to the propensity to develop diabetes. Hence any weight gain even within the ideal levels of body mass index can put the person at risk. The instance of villagers studied by Dr. Ramachandran who are well below 23 (BMI) is a classic example.

There is a silver lining though. If an incremental increase in body weight tends to put the individual at risk (of developing diabetes), small loss in weight does wonders. It reduces the risk appreciably. It works both ways.

More at:

<http://www.hindu.com/seta/2004/07/15/stories/2004071500151400.htm>

Jai Maharaj

<http://www.mantra.com/jai>

Om Shanti

Hindu Holocaust Museum

<http://www.mantra.com/holocaust>

Hindu life, principles, spirituality and philosophy

<http://www.hindu.org>

<http://www.hindunet.org>

The truth about Islam and Muslims

<http://www.flex.com/~jai/satyamevajayate>

The terrorist mission of Jesus stated in the Christian bible:

"Think not that I am come to send peace on earth:
I came not so send peace, but a sword.

"For I am come to set a man at variance against his
father, and the daughter against her mother, and the
daughter in law against her mother in law.

"And a man's foes shall be they of his own
household.

– Matthew 10:34–36.

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