

## Living upto expectations

When a male teacher misbehaves with a girl student, a policeman robs a helpless citizen or a man in the garb of a saint, assaults a woman it raises more indignation. And rightly so, because they have broken the trust placed in them which they enjoy by virtue of their position. They are guilty on two counts, one of committing a horrendous act and the other of breach of trust.

There is a piece of Sufi lore that explains it better. A famous Sufi of his time was on a long journey along with his disciples. When tired and hungry, they decided to halt under a tree. The tree that gave them shade also gave shelter to a flock of birds in that barren landscape. One of

the disciples wanted to supplement their meagre fare by adding a dish of peafowl. He took out his bow and arrow and managed to bring down a bird.

His elation was suddenly disrupted by the frantic behaviour of the birds. Their persistent ruckus drew the attention of the Sufi, who called out to the leader of the birds. He asked the reason for their hue and cry. The head bird said that one of his disciples had killed their kin and they wanted justice.

The Sufi summoned the accused. He admitted to the killing but said that he had committed no crime as hunting was permitted. The Sufi's other

followers saw reason in the argument and waited anxiously for a reply from the head bird. After consulting his flock, the head bird said firmly and sorrowfully, "Sufis are supposed to be harmless and you are dressed like Sufis, therefore we took no safety measures. If you were dressed like ordinary people we would have flown away. You have deceived us."

The Sufis huddled together and deliberated. They agreed that even if hunting was permitted the disciple was guilty because he had breached the unsuspecting bird's trust in the Sufis. He was given a severe punishment for his crime and asked to atone for his sin.



Honourable Chief Minister Smt. Shiela Dixit conferring Delhi Medical Association (DMA) 'Distinguished Service Award' for the year 2008-2009 to Dr. Parveen Bhatia on August 10, 2008 on the occasion of 94th DMA Foundation Day

**"The person who removes a mountain begins by carrying away small stones." - Anonymous**

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# DIABETES AND OBESITY



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## INTRODUCTION

Diabetes and obesity threaten the health, well being and economic welfare of virtually every country in the world. The estimated total numbers of overweight and obese adults in 2005 were 937 million and 396 million respectively. India has the largest number of diabetics in the world and obesity is also on the rise, particularly affecting the younger population. Both the conditions affect the Indians in the prime of life, about a decade earlier than their western counterparts. High risk ethnicity and high propensity to central obesity predispose Indians to a higher risk of type 2 diabetes and metabolic syndrome even at lower levels of Body Mass Index (BMI).

## OBESITY – MOTHER OF TYPE 2 DIABETES

Obesity refers to an excess amount of body fat sufficient enough to harm health. In both men & women, in all ethnic groups and across all ages, the risk of developing type 2 diabetes is directly proportional to the degree of overweight. Overweight and obesity are associated with insulin resistance and metabolic syndrome. The presence of abdominal obesity is more strongly correlated with the metabolic risk than is an elevated BMI. Waist circumference in combination with BMI has been shown to be the best predictor of obesity associated health risks. Obesity substantially increases the risk of developing a number of diseases of adult life like hypertension, ischaemic heart disease, stroke, gall bladder disease, joint problems, sleep apnoea, respiratory problems, malignancies of endometrium, breast, colon and prostate, and even pancreatic malignancy.

The duration of obesity is directly proportional to the risk of diabetes and is inversely associated with fasting serum

insulin levels. The weight increase of 0.5kg has been shown to be accompanied by a rise in the risk for type 2 diabetes by 6%, and for every kilogram of self reported weight gain the risk for diabetes increased by approximately 9%.

## ROLE OF WEIGHT LOSS IN THE PREVENTION AND TREATMENT OF TYPE 2 DIABETES

Obesity is the main modifiable risk factor in diabetes. It is estimated that at least half of all diabetes cases can be eliminated if weight gain in adults could be prevented. The incidence of new diabetes was reduced to zero over a 2 years period in obese patients who lost and maintained a weight loss of 12% or more, as compared to an incidence of 8.5% of new cases of type 2 diabetes in patients who did not lose weight.

Studies have further shown that in that any amount of intentional wt loss is associated with significant improvement in blood pressure, dyslipidemia, and reduction in all cause and diabetes related mortality.

Weight loss not only causes a decrease in insulin resistance but also improves the overall responsiveness of beta cells to glucose.

## WHY RELUCTANCE TO TREAT OBESITY IN TYPE 2 DIABETICS

There are various reasons for physicians reluctance to treat obesity –

1. Obesity is a chronic stigmatized disease and the common perception is that obese people are lazy and weak willed and are responsible for their obesity.
2. Limited number of available compounds for the treatment of obesity and that too with limited efficacy. Currently, only two agents are available for the treatment of obesity which are approved by FDA – sibutramine and orlistat.
3. Another important concern in management of obesity is the plateau effect. The weight loss reaches a plateau when homeostatic mechanisms come into play and the therapeutic effect is

reflected in a stable, but lower, body weight. In the management of obesity, plateau effect is considered as therapeutic failure of the drug. This is particularly so when one gains weight after the drug is stopped.

4. The final issue is the disastrous effects encountered by many patients in the recent past who took a combination of phentermine and dexfenfluramine.

## MANAGEMENT OF OBESITY IN DIABETICS

Lifestyle modifications including adequate physical activity, nutrition therapy, and anti-diabetic drugs form the cornerstones of diabetes management. The goals of lifestyle modifications and nutrition therapy are to achieve and maintain optimal metabolic status with respect to the levels of blood glucose, lipids and blood pressure to prevent and treat complications of diabetes.

When weight reduction by lifestyle modifications is not adequate, weight loss drugs can be considered.

When considering pharmacotherapy, weight loss drugs should always be used in concert with diet regulation, exercise and behavior modifications. Pharmacotherapy in combination with diet and lifestyle modifications is much more efficacious in inducing weight loss as compared to drugs alone.

## REDUCING THE RISKS

### Reducing the risk of becoming obese

No country has been able to reverse or stop the epidemic of obesity in children or adults. However, the likelihood of an individual becoming obese may be reduced by paying attention to modifiable risk factors (1):

1. Adequate maternal nutrition during pregnancy
2. restricting the extent of 'catch up growth' in those born small( because of inadequate maternal nutrition in pregnancy) – assisted greatly by breast feeding and delayed weaning

3. introduction to a variety of tastes during weaning and immediately afterwards
  4. development of a taste for fruits and vegetables early in life and lack of taste for high carbohydrate and high fat foods
  5. Encouragement of a liking for physical activity during childhood which may last into adult life.
  6. Maintenance of low-energy dense diet, drinking water, and doing appropriate physical activity into adult life and old age.
2. Low birth weight followed by the later development of overweight or obesity is strongly linked to development of type 2 diabetes.
  3. High intake of saturated fat and trans fat in particular (over and above its energy density effect)

**CONCLUSIONS**

India is faced with a co-epidemic of Diabetes and Obesity and both the diseases affect Indians in the prime of their life. Both the diseases are closely interlinked, obesity being central to the development of Insulin resistance. Obesity not only predisposes to type 2 diabetes but also a host of other comorbidities which increase the risks associated with diabetes. Intentional weight loss is helpful in prevention of type 2 diabetes in those at risk, in normalizing

glycemia in patients with impaired glucose tolerance, improving the overall glycemic control in diabetics, improving dyslipidemia, and in reducing the risk of a number of co-morbid conditions like hypertension and cardiovascular disease which increase the risk of complications of diabetes and the diabetes associated mortality. Therefore, it is of great importance to manage obesity in a diabetic patient as a priority and treat it at least as aggressively as one treats the co-existing hypertension and dyslipidemia. Also, because of the higher level of insulin resistance in Indians due to central obesity, it may be advisable to intervene with pharmacotherapy for the management of obesity at even lower levels of BMI of 23, as compared to the recommended BMI of 27 in case of western and European obese.

**Reducing the risk of developing diabetes**

All the factors listed above also relate to reduction of risk of developing diabetes. In addition, the following factors are also implicated in diabetes

1. Cigarette smoking during pregnancy increases the subsequent risk of type 2 diabetes in the offspring.

**CLASSIFICATION OF OVERWEIGHT IN ADULTS( WHO)**

CLASSIFICATION	BMI	RISK OF CO-MORBIDITIES	ASIA-PACIFIC Guidelines
UNDERWEIGHT	< 18.5	LOW	<18.5
NORMAL RANGE	18.5 – 24.9	AVERAGE	18.5 - 23
OVERWEIGHT	>25		
# PRE OBESE	25 – 29.9	INCREASED	23 – 24.9
#OBESE Class I	30.0 – 34.9	MODERATE	25 - 30
#OBESE Class II	35.0 – 39.9	SEVERE	> 30
#OBESE Class III	>40.0	VERY SEVERE	



Laparoscopic Gastric Bypass being done at Global Hospital & Endosurgery Institute

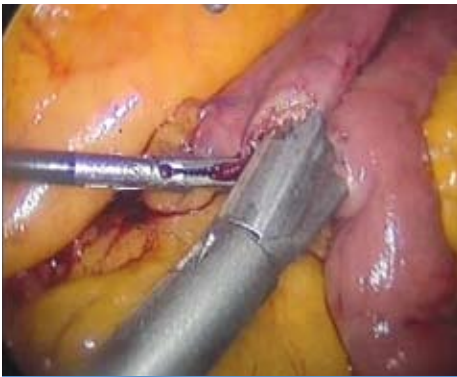


Patient on operation theatre table



Height: 180cm, Weight: 159kg  
BMI: 49.01

**“The vision must be followed by the venture. It is not enough to stare up the steps - we must step up the stairs.” - Vance Havner**



Jejuno-jejunostomy done at 75-150 cm of alimentary limb (60mm; 2.5mm staples)



After one day of Gastric By Pass Surgery, patient is allowed to move around

RNI NO.: DELENG/2001/6114  
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**PEARLS OF WISDOM**

Take half of the meals at the time of meals, and no meals in between the meals.

The less you sleep or eat, the less you need to sleep or eat.

I did dieting for two weeks. All I lost was...fourteen days!



Height:150cm, Weight : 104kg (228.8 lbs) BMI : 46.4



Patient is being given general anaesthesia

**" If I had believed in a God of rewards and punishments, I might have lost courage in battle."**

Napoleon Bonaparte

**Individually, we are one drop. Together, we are an ocean.**  
 Ryunosuke Satoro



Height: 174cm, Weight: 102kg BMI: 33



Port placement for Laparoscopic Gastric Band Placement



Pre-curved gastric band placed into the peritoneal cavity through 15mm port

**BHATIA GLOBAL HOSPITAL AND ENDOSURGERY INSTITUTE**

(MULTI-DISCIPLINARY MINIMALLY INVASIVE SURGI-CENTRE)  
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