

# The Obesity Epidemic - a Challenge of this Century

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Obesity has acquired the status of a global epidemic. More than 1.1 billion people in the world, are estimated to be overweight (body mass index (BMI) (the weight in kilograms divided by the square of the height in meters), greater than 25) and 320 million are calculated to be obese (body mass index, greater than 30). More than 2.5 million deaths each year are attributed to obesity, a figure expected to double by 2030.<sup>1</sup>

The obesity epidemic is not affecting only the developed and affluent nations. The developing countries as South East Asia, Middle East and Africa, are facing a similar threat.

As in other regions of the world, the incidence of obesity is rising rapidly in Pakistan also. The National Health Survey, 1990 - 1994, revealed that 1% of the country's population was obese (BMI >30) and 5% were overweight (BMI >25) in the 15 to 24 years age group.<sup>2</sup> This shows that obesity is not restricted to adults only and the risk for acquiring obesity in adulthood is higher in overweight children and adolescents.<sup>3</sup>

The obesity epidemic was forewarned in 1949 by Ancel Keys. He wrote that under the right economic and social circumstances, obesity from overeating would be a dominant nutritional problem.<sup>4</sup> He further recognized the role of energy expenditure in weight control: "while our calorie intake goes up our output goes down. The wonderful advances of technology not merely free us from back-breaking toil; they make it almost impossible to get a decent amount of calorie-using exercise".<sup>5</sup>

The consequences of obesity are better understood today. Using the data of the Nurses Health Study, involving more than 100,000 women, an elegant analysis gave the message, "Be fit and lean if you can be." The analysis also concluded that increased levels of physical activity and a low body mass index, are independently associated with reduced mortality rates.<sup>6</sup> The spectrum of medical conditions resulting from obesity are many fold. They have been described in detail in the review on obesity in this issue of the journal (pages 118 to 123). They not only increase morbidity but also cause a tremendous economic burden on the individual and the state.

The close association of self image and obesity causing psychological problems is not the only motivating factor for losing weight. The mortality, morbidity and shortened life expectancy has to be well understood as achieving

weight loss is a trying and constant procedure. The Framingham study has very clearly shown the loss of 3.3 years in overweight women and 3.1 years in men with excess body weight.<sup>7</sup>

The role of genes in the etiology of obesity is gaining importance. The recently recognized genes, Adipogene, Gherlin gene, Lipoprotein leptin gene and others acting at different targets have been affiliated with obesity. As yet there is no treatment at the genetic level.

The therapy for obesity is complex. Pharmacotherapy is used for selective obese people with co-morbidities as hypertension, diabetes mellitus type 2 and cardiac problems. Regular monitoring of side effects is essential.

Bariatric surgery can be considered for morbidly obese persons. The long term complications arising in some patients undergoing these procedures have to be clarified.<sup>8</sup>

Life style modification is the most economical and convenient mode of therapy for obesity treatment. A modest calorie diet should be adopted with selection from a healthy assortment of foods, which include vegetables, fruits, grains, and low fat milk, fish, lean meat, poultry and beans. Daily physical activity for 30 to 60 minutes is mandatory. This should be of low intensity but sustained activity for adults.

Health education should start from school and the importance of exercise against sedentary leisure, as television viewing, should be emphasized.

Unless a bold step is not taken to curb the obesity epidemic, in our obesogenic environment, it will take its toll by increasing the incidence of diabetes mellitus type 2, cardiovascular disease, liver disorders and cancers.

## References

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