

Research Paper :

## An experiment on lemon juice supplementation and weight reduction

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Accepted : February, 2010

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### ABSTRACT

The major objective was to see the impact of lemon juice supplementation on weight reduction of 100 females of MIG from Amroha city. They were assigned randomly into experimental (52) and control group (48). Anthropometric measurements for both groups were taken before and after supplementation period of two month. Mean, SD and t-test were applied as statistical techniques. Finally it was concluded that lemon juice supplementation has measurable effect on weight reduction. So it will be better to prevent and cure the problems of overweight and obesity with natural products such as lemon – the cheaper, easily available and the best source of vitamin C.

**Key words :** Lemon juice, Vitamin C, Obesity

Obesity is increasing at an alarming rate throughout the world and has become a global problem. WHO has declared overweight as one of the top 10 health risks in the world. Studies reveal that in cities, especially in north India, over 50 per cent women and 40 per cent men aged 35+ are overweight. But women are more prone to obesity because fat mass distribution is different in both genders.

Obesity is defined as a condition in which excess body fat is accumulated. The practical and clinical definition of obesity is based on the Body Mass Index (BMI; weight (kg)/height (m<sup>2</sup>). It is generally agreed that a BMI of greater than 30 is indicative of obesity, while a BMI of 25.0-29.9 is suggestive of overweight in an individual. BMI between 18.5- 24.99 indicates normal BMI.

Obesity is also caused by excessive intake of food. Age, sex, physiological state, nutritional state, emotions, stress, peer groups, food trends, social pressures, as well as beliefs related to food safety are known to influence intake. Other external factors that affect intake include food availability, food cost, as well as environmental factors. Obesity is caused not only by excessive intake of food, it is caused by many interrelated factors such as heredity and environment factors. A person's weight is determined by a combination of genes, metabolism, behaviour, culture and environment.

Globalization is also playing an important role in modernization and sedentary lifestyle. Globalization has made cheap vegetable oils and fats widely available, greatly increasing fat consumption in all nations (Drewnowski and Popkin, 1997). It has been found from many studies that there is a significant increase in overweight and obesity among women in cities.

The WHO recently stated that “the growth in the number of severely overweight adults is expected to be double than under-weight during 1995-2025” (WHO, 1998). Also, numerous studies have corroborated the relationship between weight gain (BMI of at least 30) and increased risk of death.

Obesity has serious long-term consequences. Obesity is not an immediately lethal disease itself, but has a significant risk factor associated with a range of serious non-communicable diseases and conditions (Tanaka and Nakanishi, 1996).

Obesity is a first step, a gateway, to the chronic diseases. Hypertension, hyper cholesterolemia, heart disease, type 2 diabetes, gall bladder disease, asthma, mental health concerns (e.g., depression and low self esteem), and orthopedic disorders have all been linked to obesity (Mishra, 2004, Anonymous, Saw and Rajan, 1997).

A study by Garrow (2000) showed that the mortality ratio increases drastically at higher BMI from the minimum 100 among those with a BMI 20-25 kg/m<sup>2</sup> to more than 150 crossing BMI of 35 kg/m<sup>2</sup> and further increases to more than 200 and 300 at the BMI of 40 kg/m<sup>2</sup> and 45 kg/m<sup>2</sup>, respectively. So, attention should be paid on overweight and obesity coexisting with under nutrition at the national level.

Obesity is recognized as having both multifarious causes and health-related consequences that are evident from early life and throughout the lifespan. There is an urgent need to recognize the gravity of the problem of obesity and therefore it has to be incorporated in the general health system. A healthy lifestyle should be promoted to tackle this emerging health threat. There are many new weight loss supplements available in the market