# Prevalence of Obesity Amongst Female Medical Students

Pages with reference to book, From 266 To 268

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## Abstract

The prevalence of overweight and obesity in relation to age, accommodation, family income ahd family size was assessed in 387 unmarried female medical students, selected by random sampling. The subjects were 18 to 23 years old. Nineteen percent of them had excess weight, 15% being overweight and 4% obese. A direct relationship was observed between the overweight/obesity with the age and family income and an inverse relationship with family size (JPMA 33: 266, 1983).


## Introduction

Obesity is a serious health hazard and detrimental to well being. It is the major nutritional disorder in the developed countries (Hems, 1975). The incidence of excess weight amongst female students in Britain has been reported to be 53% (Quinn, 1972). Studies in the United States of America have suggested that amongst adolescent girls, 10-1 5% can be expected to be overweight (Loyd, 1971). In Pakistan 7.5-10% of the lower income populations studied were found to be overnourished (Underwood et al., 1967) and weights of the students of Aitchison College far exceeded the established standards due to liberal rations (Rana et al., 1971) But knowledge of prevalence of obesity among women is extremely scanty. Since obesity is the most important dietary factor predisposing to diabetes (Davidson et al., 1975) and to several other diseases there is a manifest need for measurement of its prevalence.

## Material and Methods

This study was carried out amongst 387 unmarried female medical students 18 to 23 years of age, selected by random sampling. The students of Allama Iqbal Medical College, Lahore, seemed ideal subjects for a short survey, as they were of a narrow age range, of a certain intelligence and were a homogenous group as far as classification was concerned. Also, precise age information was easy to obtain since subjects mostly knew their birth date.

Each student completed a simple socioeconomic questionnaire so that name, course, type of accommodation, age, family size, monthly income of the family and marital status were known. Stature was measured by a calibrated steel pole with a steel horizontal sliding crossbar. Heights to the nearest centimeter were measured from the soles of the unclad feet to the top of the subjects standing erect and the eyes st ranght forward. Weights to the nearest quarter kilogram were measured with the subjects wearing minimal clothing for summer months and without shoes. No adjustment for weight of clothing was made. Skin-folds over the triceps muscle were measured with a Lange caliper in accordance with the technique recommended by the Committee on Nutritional Anthropometry (1956). All the measurements were made by the same observer.

## Results and Discussion

The aim of the study had been to find the percentage of students who were either obese or overweight, obesity being taken as 10% or more above the established standards (Jellifee, 1966). Davidson and Passmore (1969) have deemed this standard of 10% to be a suitable dividing line between overweight

and obesity.
Nearly 19% of the studied group had excess weight, 15% being overweight and 4% obese (Table). Quinn (1972) reported overweight and obesity in 26% and 27% of British women students respectively, and suggested that overeating could be the major cause of obesity.
Effect of age on the prevalence of excess weight among the female students is presented in the Table. The group aged 18-20 years had lower prevalence (17.4%) than older students aged 21-23 years (22.1%). With increasing age the prevalence of obesity also increased from 3.6% in the younger group of women to 43% in the older group. A positive correlation between incidence of obesity and age has also been reported by Metropolitan Life Insurance Company (1962).
Obesity was more frequently observed in dayscholars (16.7%) than in hostelers (12.5%) presumably due to differences in dietary intake and physical activity (Table).
Obesity is a health problem in weilfed communities (WHO, 1966). A positive relationship can therefore be expected between the family income and the weight. Students belonging to richer families (22%) were more obese than their less fortunate (8.1%) classmates (Table).

**Table**

Percentage of Students Underweight, Normal and Above Normal Weight.

| | | | | Above normal | |
|---|---|---|---|---|---|
| | | Underweight % | Normal % | Overweight % | Obese % |
| a) | Total | 56.1 | 24.8 | 15.2 | 3.9 |
| b) | By age | | | | |
| | Young | 60.3 | 22.3 | 13.8 | 3.6 |
| | Old | 48.6 | 29.3 | 17.8 | 4.3 |
| c) | By accommodation | | | | |
| | Hosteler | 54.9 | 28.2 | 12.7 | 4.2 |
| | Dayscholar | 56.7 | 22.9 | 16.7 | 3.7 |
| d) | By economic status | | | | |
| | Low | 63.4 | 25.3 | 8.1 | 3.2 |
| | High | 49.5 | 24.0 | 22.0 | 4.5 |
| e) | By family size | | | | |
| | Small | 52.9 | 27.7 | 16.8 | 2.6 |
| | Large | 59.2 | 21.9 | 13.8 | 5.1 |

When analysed by the size of family (Table) the prevalence of overweight showed a decline with increasing family size whereas that of obesity did not show inverse relationship with it.Obesity tends to persist into adult life in about 90% of overweight children (Loyd, 1971).
Subcutaneous fat as measured over the triceps muscle by skin-fold calipers is a useful adjunct in

evaluating caloric adequacy and body composition. Using obesity standards produced by Seizer and Mayer (1965), nearly 5% of the total students studied were found to be obese as against 4% from the measurement of weight. From these figures it would appear that scales are reasonably accurate in noting obesity.

The present investigation has shown that the prevalence of overweight and obesity found amongst these students was high, bearing in mind their age range and education.

**References**


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