INTRODUCTION

Obesity denotes abnormally high proportion of body fat relative to lean body mass. The term obesity is derived from the Latin word **(obesus)** which means flattened by eating, **(Adams and Murphy 2000)**. **Obesity** in women should be defined as body fat greater than 30% of body weight, while for men about more than 25% total body weight **(Sloan, 1967 and Lesser, 1971).**

Overweight is defined as bodyweight as much as 20% greater than the predicted ideal according to ideal weight for height tables, (desirable weight for height (Table 1).**The American Life Assurance Statistics (1959)** indicated that a person to be obese should exceed the ideal weight corrected for age and sex by more than 10%.

The ideal weight has been related to height in **Broca's index** as follows:

- For men Ideal weight (kg) = Height (cm.) - 100.
- For women Ideal weight (kg) = Height (cm) - 105 **(Buckley, 1990)**

Obesity has been defined as excessive accumulation of triglyceride fat in adipose tissue depots of the body **(Anderson, 1972)**, so we can say that obese people are usually over weight, but not all overweight people are obese.

Morbid obesity is defined as body weight more than twice ideal weight. Ideally an index of obesity should be independent of height, muscularity and skeletal mass; in fact it should reflect fatness only **(Mann, 1974).**

Table (1) :

Metropolitan height and weight tables for men and women according to frame, ages 25-29 years.

Height (in shoes) *		Weight in pounds (in indoor clothing) †		
Feet	Inches	Small frame	Medium frame	Large frame
		Men		
5	2	128 - 134	131 - 141	138 - 150
5	3	130 - 136	133 - 143	140 - 153
5	4	132 - 138	135 - 145	142 - 156
5	5	134 - 140	137 - 148	144 - 160
5	6	136 - 142	139 - 151	146 - 164
5	7	138 - 145	142 - 154	149 - 168
5	8	140 - 148	145 - 157	152 - 172
5	9	142 - 151	148 - 160	155 - 176
5	10	144 - 154	151 - 163	158 - 180
5	11	146 - 157	154 - 166	161 - 184
6	0	149 - 160	157 - 170	164 - 188
6	1	152 - 164	160 - 174	168 - 192
6	2	155 - 168	164 - 178	172 - 197
6	3	158 - 172	167 - 182	176 - 202
6	4	162 - 176	171 - 187	181 - 207
		Women		
4	19	102 - 111	109 - 121	118 - 131
4	11	103 - 113	111 - 123	120 - 134
5	0	104 - 115	113 - 126	122 - 137
5	1	106 - 118	115 - 129	125 - 140
5	2	108 - 121	118 - 132	128 - 143
5	3	111 - 124	121 - 135	131 - 147
5	4	114 - 127	124 - 138	135 - 151
5	5	117 - 130	127 - 141	137 - 155
5	6	120 - 133	130 - 144	140 - 159
5	7	123- 136	133 - 147	143 - 163
5	8	126 - 139	136 - 150	146 - 167
5	9	129 - 142	139 - 153	149 - 170
5	10	132 - 145	142 - 156	152 - 173
5	11	135 - 148	145 - 159	155 - 176
6	0	138 - 151	148 - 162	158 - 179

* Shoes with 1-inch heels.

† Indoor clothing weighing 5 pounds for men and 3 pounds for women.

Data from *Build Study, 1979,* Society of Actuaries and Association of Life Insurance Medical Directors of America, 1980.

The simplest method is to measure fat directly using calibers to determine skin fold thickness at specific sites. This technique is limited by its relative imprecision, variability among investigate and sampling of only subcutaneous fat. On the basis of Populati0n studies, a triceps skin fold thickness of greater than **(23 mm)** in men and greater than **(30 mm)** in women should be defined as obesity.

Indices based on height and weight have been developed to eliminate the contribution of height to weight. This include the weight to height ratio **(W/H)** and a widely used method correlated to the relative amount of adipose; the body mass index **(BMI).**

Body mass index (BMI) or **Quetelet's index** is defined as body weight in kilograms divided by height in square meters **(Vaughan et al, 1980),** it appears to be an introduction useful method. Normal values range between 20-25 kg/m^2 in Scandinavia and 22-28 kg/m^2 in the United States **(Buckley, 1990),** whereas **morbid obesity** is a BMI> 35-40 kg/m^2. The values are, however, not useful in obese children **(Mann, 1974).**

(BMI) is used to indicate obesity.

Overweight is indicated when BMI between (25-30) Kg / m2

Obesity is indicated when BMI ≥ 30Kg / m2 for men and

BMI ≥ 28.6 Kg / m2 for women.

Morbid obesity is when BMI ≥ 35 Kg / m2.

Super Morbid obesity is when BMI ≥ 55 Kg / m2.

(Adams and Murphy 2000).

Recently it has been suggested to divide the **(BMI)** into five subgroups according to the risk of illness:

a. 20-25 kg/rn^2: non obese.
b. 25-30 kWm2: low risk.
c. 30-35 kg/m2 moderate risk.
d. 35-40 kglrn2 high risk.
e. > 40 kg/m2: very high risk of illness.

Still, heavily muscled individual would be considered obese with this classification **(Bray, 1987).** In this situation in practice, **Broca's index** is used.

Morbidity and mortality is increased with rising **(BMI)**, because obesity by it self can lead to many diseases and aggravates other diseases, Direct assessment of health hazards of obesity can only be made by population studies **(Xavier, 1993).**

An increase in body weight of 20% or more than the desirable body weight constitutes an established health hazard mainly due to an increased incidence of cardiovascular diseases.

The aim of this essay:

Morbidly obese patients present many techniqual difficulties during anaesthesia and in the peri-operative period. The anaesthesiologist being the main person that faces these problems, should be aware of all pathophysiological changes in such patients to manage all predicted problems. This essay has been suggested to review literatures about anaesthesia in the morbidly obese patients, to choose the most suitable technique for their anaesthetic management and the ideal pre and post operative care that avoid expected complications.