ABSTRACT OF THESIS

The present study has been conducted on family data for observing the possible role of selected genetical and environmental factors in the determination of obesity. For achieving the aims and objectives, 816 family members belonging to 200 obese and 209 family members belonging to 50 non-obese families of Khanna (District Ludhiana) and Mandi Gobindgarh (District Fatehgarh Sahib) have been screened for selected morphological parameters (weight, height, waist circumference and hip circumference), genetical markers (ABO / Rh blood group, Secretor status and PTC tasting ability) and environmental factors (Socioeconomic status, dietary habits and lifestyle factors). The pedigrees have also been drawn extracting information from the proband / proposita upto maximum generations for which the same could be obtained on the occurrence of obesity in the kindreds. All the families included in the present study had the youngest child aged 15 years or above. The Obese families selected and included in the present study had either one or both the parents obese, while the control sample comprised of families with both the parents non-obese as per their BMI (as per recommendations of WHO, 1998). The type of obesity has also been taken up from WC as per NHLBI (Grundy et al., 2005) and also by calculating WHR (as per recommendation by WHO, 1999) from waist and hip circumferences indicating central obesity. It is concluded from the findings of present study that obese parents tend to have obese children and the risk of obesity among children increases with the prevalence of obesity among their parents. The risk of becoming obese is 2 times among children when one of the parents is obese and it increases to 3.37 times when both the parents are obese. Mothers have a greater genetical influence on children than fathers that too is higher on sons as compared to daughters. It has also been observed that WC is a better indicator for determination of central obesity as compared to WHR. The role of genetics in the determination of obesity amongst children has been found to be greater than the environmental factors. Selected environmental factors are also contributing in the occurrence of obesity among family members.