"PREVALENCE OF OBESITY AMONG ELDERLY IN URBAN FIELD PRACTICE AREA"

By

(REG.NO. BD0112001)

Dissertation

Submitted to the
KLE University, Belgaum, Karnataka

In Partial Fulfillment of the requirements for the degree of

DOCTOR OF MEDICINE (M.D.)

in

COMMUNITY MEDICINE

DEPARTMENT OF COMMUNITY MEDICINE,
JAWAHARLAL NEHRU MEDICAL COLLEGE,
BELGAUM, KARNATAKA

APRIL - 2015

KLE UNIVERSITY, BELGAUM, KARNATAKA

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Dr. S. M. KATTI MD
Professor and Head,
Department of Community Medicine,
J. N. Medical College,
KLE University
Nehru Nagar, Belgaum – 10

Date:
Place: Belgaum

Dr. N. S. MAHANTSHETTI MD
Principal,
J. N. Medical College,
KLE University
Nehru Nagar, Belgaum – 10

Date:
Place: Belgaum

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LIST OF ABBREVIATIONS

AI	-	Anthropometric indices
BIA	-	Bio-electrical impedance analysis
BMI	-	Body Mass Index
BP	-	Blood Pressure
CI	-	Confidence interval
CVD	-	Cardiovascular diseases
cms	-	Centimeters
C T	-	Computerized Tomography
DEXA	-	Dual Energy X-ray Absorptiometry
DF	-	Degrees of Freedom
DM	-	Diabetes Mellitus
FFM	-	Fat Free Mass
g	-	Gram
Hg	-	Mercury
H/O	-	History of
HR	-	Hazard Ratio
HTN	-	Hypertension
IEC	-	Information Education and Communication
K cal	-	Kilocalories
Kg	-	Kilogram
KHz	-	Kilo Hertz
KNHNES	-	Korean National Health and Nutrition Examination Survey
M	-	Meter

MCBS	-	Medical Current Beneficiary Survey
MRI	-	Magnetic Resonance Imaging
NHNES	-	National Health and Nutrition Examination Survey
NIN	-	National Institute of Nutrition
NSSO	-	National Sample Survey Organization
PHC	-	Primary Health Centre
PUC	-	Pre University College
OLS	-	Ordinary Least Squares Model
OR	-	Odds Ratio
PBF	-	Percentage of Body Fat
SD	-	Standard Deviation
SPSS	-	Statistical Product and Service Solutions
SO	-	Sarcopenic Obesity
UHC	-	Urban Health Centre
WC	-	Waist circumference
WHO	-	World Health Organization
WHR	-	Waist Hip Ratio
χ^2	-	Chi Square

ABSTRACT

Introduction

Obesity is a serious worldwide public health problem that is becoming very common in developed and developing countries. Overweight and obesity is associated with an increased risk of multiple health problems, including hypertension, type 2 diabetes, dyslipidemia, degenerative joint disease, depression and some malignancies. The number and proportion of older people who are obese have risen notably in recent decades which is associated with increase in chronic morbidities, functional impairment and which as lead to premature mortality. Apart from aging process, other factors which promote obesity are changes in dietary habits, physical activity and other life style practices due to the influence of industrialization, urbanization and globalization. The elderly population is fastest growing segment throughout the world. In the next 30 years increase in elderly population is up to 300% in Asia and Latin America. All this evidence suggests that the situation is likely to get worse.

Throughout the Asia-pacific region, there are differences in obesity prevalence and body fat distribution. The WHO classification for BMI is not suitable for assessment of obesity in Indians and Asians, because it has been found that for a given BMI, Indians has more body fat than other ethnic groups both within and outside Asia. In spite of the clinical and public health significance of obesity in terms of important predictor of morbidity and mortality among elderly population and in light of demographic, nutritional and epidemiological transition, there is still a dearth of information regarding prevalence, influence of dietary factors, physical activity, functional status and assessment of obesity among elderly population in Indian subcontinent. Hence, the present study was undertaken to estimate the prevalence of

obesity among urban elderly and to study the socio-demographic and life style factors associated with obesity.

Methodology

It was cross-sectional study conducted between 1st January to 31st December 2013. A total of 700 individuals aged 60 years and above were interviewed. The study participants, permanent residents of Ashok Nagar Urban field practice area, were selected using a simple random technique by considering inclusion and exclusion criteria. Information regarding socio-demographic characteristics, current morbidity status, physical exercise and dietary habits, was collected using pre-designed, pretested, structured proforma by interview technique. The anthropometric measurements like height, weight, waist circumference and percentage body fat of elderly were performed using standard procedures. Data was analyzed and summarized by using percentages and chi square tests for association.

Results

In our study, 457 (65.3%) participants belonged to 60-69 years age group. Among them 339 (48.5%) were males and 361 (51.5%) were females. Out of the total, 368 (52.6%) were Hindus and 551(78.7%) were living in nuclear families. Among females, 289 (80.0%) were housewives and among males, 80 (23.6%) were unemployed. Nearly 332 (47.4%) study participants belonged to class III and 202 (28.9%) class IV.

According to WHO Asia- Pacific guidelines, the overall prevalence of obesity was 40.5%. The prevalence of obesity among elderly males and females was 38.0%, and 43.0% respectively. The overall prevalence of central obesity was 32.6%.

Prevalence of central obesity among elderly males and females was 17.1%, and 47.1% respectively. According to body fat percentage 23.2% elderly were obese. The prevalence of obesity was significantly higher in females, in Hindus, in illiterates, those who had sedentary life style and occupation, whereas the prevalence decreased with increased level of education and level of physical activity, among current smokers and alcoholics. In present study, mean consumption of energy was significantly high among obese subjects. Compared with non obese subjects, obese subjects showed a twofold risk of morbidity and morbidities and were significantly associated with central obesity. There was significant association between BMI and Percentage body fat in females.

Conclusion

The study highlights the problem of obesity in urban elderly. The prevalence of obesity in elderly was slightly higher, with predominance in women. An ageing population together with social, economic and lifestyle changes have led to dramatic increase in obesity**.** Obesity (general and central) are significantly associated with morbidity. The BMI (proposed WHO Asia-Pacific guidelines), waist circumference (WHO Guidelines) and percentage body fat (Bioelectrical Impedance Analysis) were found to be reliable indicators in the assessment of obesity among elderly subjects.

Key words: Elderly, Prevalence, Obesity, Central Obesity, Percentage of body fat, Morbidity, Urban.

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INTRODUCTION

Ageing is a lifelong biological process which starts from the time of conception. It can be defined as the biological changes that occur in the post-reproductive period. Several external factors are known to modulate ageing simultaneously. Hence, ageing is said to be a multifactorial process. It takes place at cellular, organ and intact organism level. Individual ageing is influenced primarily by a person's genetic makeup, life style and environmental factors. According to the World Health Organization (WHO), people above 60 years of age are considered as 'old' and constitute the 'elderly' segment of the population.[1]

Ageing is a natural process. In the words of Seneco "Old age is an untreatable disease". But more recently, Sir James Sterling Ross commented, "You do not heal old age. You protect it; you promote it; you extend it". The ageing population should be seen as one of the great success stories of the 20th century. Life expectancy at birth has continued to increase globally over the years.[2]

The elderly population is fastest growing segment throughout the world. In the next 30 years increase in elderly population is up to 300% in Asia and Latin America.[3] India's current population is 1.27 billion, out of which 8.2% population is 60 years and above.[1] The number and proportion of older people who are obese have raised notably in recent decades which is associated with increase chronic morbidities, functional impairment and which lead to premature mortality. All these evidence suggests that the situation is likely to get worse in the near future.

Obesity is often defined as "A condition of abnormal or excessive fat accumulation in adipose tissue, to the extent that health may be impaired".[4] As people

age obesity can cause or exacerbate serious medical conditions such as hypertension, type 2 diabetes, dyslipidemia, degenerative joint disease, depression and some malignancies.[5] Obesity is a serious worldwide public health problem prevalent in both developed and developing countries and often associated with a decrease in physical activity and basal metabolism.[6]

The ageing process bring about changes in body composition which include decrease in total body water content, bone mass, muscle mass and accompanied by increase in total body fat.[7] Apart from aging process, other factors which promote obesity are changes in dietary habits, sedentaryness and other life style practices due to the influence of industrialization, urbanization and globalization.

The researchers, dieticians and clinicians all over the world adopted BMI (Body Mass Index) and WC (Waist Circumference) based on WHO classification for the assessment of obesity. The WHO classification for BMI is not suitable for assessment of obesity among Indians and Asians, because it has been found that for a given BMI Indians have more body fat compared to other ethnic groups both within and outside Asia.[8 – 10]

This relative increase in adiposity in Indians has led to the suggestion that the BMI should be reduced for Indians and Asians.[11] Hence, the BMI (WHO Asia-Pacific classification) is an appropriate measure for Asians for the assessment of obesity. The major drawback of BMI is, it does not differentiate between body fat and fat-free mass (FFM) which can be reduced by measuring percentage body fat.[12]

In developed countries, population is becoming older and older. The prevalence of obesity is growing progressively in old age. Great controversy exists

about the harm of obesity in the elderly. Debate persists about the relation between obesity in old age and total or disease-specific mortality, the definition of obesity in the elderly, its clinical relevance and about the need for its treatment. Despite the increasing relevance of obesity in old age, research on the causes and consequences of obesity has been largely ignored the older population.[13] Even this is more evident among older population in developing countries.

In spite of the clinical and public health significance of obesity in terms of important predictor of morbidity and mortality among elderly population and in light of demographic, nutritional and epidemiological transition, there is still a dearth of information regarding prevalence, influence of dietary factors, physical activity and assessment of obesity among elderly population in Indian subcontinent. As very few studies have been done in our settings on obesity in elderly, then proceed in a step wise approach in promoting a healthy and active ageing. Considering this background, present study was undertaken to study obesity in elderly.

OBJECTIVES

1. To estimate the prevalence of obesity among urban elderly.

2. To study the socio-demographic and life style factors associated with obesity.

REVIEW OF LITERATURE

AGEING

Old age is a 'natural disease' which is irremediable; According to Ayurveda, old age was called as jara. In vedic period people tried to become ajara (ageless), nirjara (free from old age) and also amara (deathless), to become ajaramara (both ageless and deathless). Aristotle offered a theory of ageing based on loss of heat and Hippocrates noted conditions common in later life. Old age should be regarded as a normal, inevitable, biological phenomenon.[2]

Ageing is a multi-dimensional series that refers to the process of "acquiring maturity with the course of time". It begins with conception and continues throughout life, until death occurs which is progressive, ubiquitous, and inevitable.[14]

Gerontology- is derived from the Greek word '*geron'* which means old man and '*-logy*' means study of as coined by Ilya Ilyich Mechnikov in 1903 and it is the study of the social, psychological and biological aspects of ageing and investigating the effect of elderly population on society.[15]

In 1909, the word 'geriatrics' was coined by Ignatz. L. Nascher and he is believed to be the father of geriatrics. Similarly in 1940s, Marjory warren who advocated creating a medical speciality of geriatrics, providing special geriatric units in general hospitals and teaching medical students about the care of the elderly people.[16]

The WHO definition:

The elderly have been defined by the WHO as those above the age of 60 yrs and old age has been categorized into the young old; 60-69yrs, the old old; 70-79 yrs and the oldest old; ≥80yrs.[17]

Demography of aging

Ageing- global scenario:

Currently, the number of people aged above 60 years is estimated to be 737 million in the world. Out of which nearly two thirds are living in developing countries. Today, more than half of the older population lives in Asia 54.0% and a fifth lives in Europe 21.0%. About one out of every nine persons in the world is aged 60 years or over. Japan has the highest proportion 30.0% of elderly population in the world followed by Italy and Germany 26.1%, Qatar is having the least proportion of 1.9%.[17]

The United Nations defines a country as 'Ageing' where the proportion of people over 60 years reaches 7.0%. Currently the elderly population is 8.2% and by 2025 the proportion is expected to reach 12.6%. India's older population is likely to increase dramatically over the next four decades. According to the United Nations Population Division, the share of India's elderly population is projected to climb from 8.0% in 2012 to 19.0 % in 2050.[18]

As India's population ages, the nation will face a shrinking pool of working people to support the elderly population. According to Arokiasamy and colleagues, the old-age dependency ratio which is the number of people aged 60 years and older per person aged 15 to 59 years is expected to rise from 12 per 100 to 31 per 100 by

2050.[18] By 2042, the share of elderly Indians is projected to exceed children and youth aged 14 years and younger.

Indian scenario:

In India, these demographic facts and trends make the elderly an increasingly important segment of the population pyramid in the coming years. In view of the increasing need for intervention in area of old age welfare, Ministry of Social Justice and Empowerment, Government of India adopted 'National Policy on Older Persons' in January, 1999. The policy defines 'senior citizen' as a person who is 60 years old or above. The elderly population accounts for 7.2% of total population in 2001. For males it was 7.1%, while for females it was 7.8%.[20] Among states, the proportion varies from around 4.0% in small states like Dadra & Nagar Haveli, Nagaland Arunachal Pradesh, Meghalaya, to more than 8.0% in Maharashtra, Tamil Nadu, Punjab, Himachal Pradesh and 10.5% in Kerala in Census 2001. In Karnataka, elderly proportion is 7.2%.[19]

In India, marital status of women rarely changes after being widowed. According to NSSO (National sample survey organization) 42nd round, there were 687 widows & 200 widowers per thousand old persons in urban areas. More than 65.0% of women live without a spouse as compared to 29.0% of older men.[20]

Similarly, the NSSO employment-unemployment survey done in 2007-2008 revealed only 50.0% of elderly men and 20.0% of women aged 60 years and above were literate. In urban areas 76.0% of male and 42.0% of female elderly were literate.[20]

In developing countries, higher proportion of elderly population is working, this is due to absence or limited coverage of social security or low income guarantee even where they exist. In India, NSSO employment-unemployment survey 2007-2008 revealed that nearly 40.0% of elderly population (60.0% of men and 19.0% of women) was working. In urban areas, 39.0% of elderly men and about 7.0% of elderly women were working.[20]

AGEING PROCESS:

In the year 2005, Osunde and Obiunu divided ageing into the primary ageing, secondary ageing and tertiary ageing.

The primary ageing simply involves changes in the biological, social and psychological domains which is a normal process. These occur due to tear and wear of vital organs of the body.

The ageing associated with different kinds of terminal illness which avert normal functioning of the individual is defined as secondary ageing.

The tertiary ageing occurs when there is loss brought about by death or disasters like which could lead to a gradual decline in the functioning of an individual.[16]

ACTIVE AGEING: is the process of getting benefits from health, participation and security in order to enhance quality of life as people age. The word 'active' refers to continuing involvement in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to join in the labour force.[16]

Body composition markedly changes with aging; lean muscle mass decreases with age and adipose tissue increases. Along with this redistribution of fat, absolute or relative sarcopenia, restricted physical activity, chronic inflammation and endocrine changes are common in elderly. They are contributors to obesity. During the aging process there is an increase variation in the amounts and distributions of muscle and fat among particular race and ethnic groups that are not present at younger ages. The normal ageing is characterized by progressive increase in fat mass and more central distribution of adipose tissue.[21,22]

OBESITY

Obesity is defined as a condition of abnormal or excess fat accumulation, to the extent that may impair health.[23] The term 'obesity' is derived from the Latin word obesus, meaning 'having eaten until fat' which describes an excessive accumulation of body fat (adipose tissue). Societal changes and worldwide nutrition transition are driving the obesity epidemic. Economic growth, modernization, urbanization and globalization of food markets are just some of the forces thought to underlie the epidemic.[23]

Obesity has reached epidemic proportions globally. According to WHO report, there are more than 250 million obese adults and about 1.1 billion overweight people worldwide.[24] Obesity is increasing in elderly subject owing to the consensus of different factors like inactivity, wrong nutritional habits, decreased basal metabolic rate and nutritional need reduction. In the past, obesity was considered a ‘secondary’ pathology of non medical importance in this age; but nowadays, obesity is increasingly being studied in geriatrics too, because it causes disability and its quality of life impairment consequences. The variation in prevalence of obesity epidemic in

various races and community of the world may be attributed to heredity, age, sex, diet, eating patterns, life style and/or behaviour.[25] It is extremely difficult to assess the size problem and compare the prevalence rates in different countries as no exact figures are available and also because the definitions of obesity are not standardized.[23]

Epidemiological determinants of Obesity

The etiology of obesity is multifactorial which involves complex interactions between genetic, social and environmental factors such as sedentary lifestyle and unhealthy dietary habits.[23]The determinants can be classified as non-modifiable and modifiable.

Non-modifiable determinants are age, sex and genetic factors, whereas modifiable determinants are physical activity, diet, socio-economic status, endocrine factors (e.g. Cushing's syndrome, Growth hormone deficiency etc.), alcohol consumption, smoking, education, use of certain drugs, (e.g. Cortico-steroids, Contraceptives, Insulin , β-adrenergic blockers, etc.) can promote weight gain.[23] Psychosocial factors (e.g., emotional disturbances) are deeply involved in the etiology of obesity.

Method of Assessment of Obesity

Body Mass Index: Obesity is often measured by BMI. It is also called as Quetelet Index. It is a simple index of weight-for-height and most widely used method to assess obesity. It is defined as the weight in kilograms divided by the square of the height in meters (kg/m^2).

Waist circumference: WC is a simple anthropometric measurements used to measure abdominal fat. It varies depending upon age, sex, ethnicity, reproductive status of human beings. It helps to identify individuals at increased risk of obesity-related morbidity due to accumulation of abdominal fat.

Bio-electrical impedance analysis (BIA): It is based on the principle that tissues containing water such as muscles, blood vessels and bones (fat free mass) are highly conductive with electricity, but fat tissues are not. Therefore by using this concept, it is possible to determine the ratio of fat tissues compared to other tissues in the body by measuring the electric resistance of the body tissues by applying extremely weak electric current to the body.

Waist-to-hip ratio (WHR): WHR was shown to be a good predictor of health risk and high WHR (>1.0 in men and >0.85 in women) indicates abdominal fat accumulation.[26,27] However, the use of WHR has been recently challenged due to several reasons.[27] First, hip circumference could not be obtained routinely because it is more difficult to perform and less reliable. Second, WHR is not useful in practical risk management as the ratio could remain constant when the weight of individual increases or decreases.

Other methods used for assessing obesity and predicting obesity-related health risks include anthropometry (skin-fold thickness), densitometry (underwater weighing), CT or MRI, and electrical impedance.

Health Hazards of Obesity:

Obesity is a health hazard and a detriment to well-being which is reflected in the increased morbidity and mortality. Numerous epidemiological studies have shown the relationship between excess weight, abdominal fatness and risk of a wide range of illnesses. Following is the summary of approximate relative risk of physical health problems associated with obesity.[24]

Approximate relative risk of physical health problems associated with obesity.

Relative risk >3	**Relative risk 2−3**	**Relative risk 1−2**
Type II diabetes	Coronary heart disease	Cancer
Gallbladder disease	Hypertension	Reproductive hormone abnormalities
Dyslipidemia	Osteoarthritis	Polycystic ovary syndrome
Insulin resistance	Hyperuricemia and gout	Impaired fertility
Breathlessness		Low back pain
Sleep apnea		Increased risk of anesthesia complications
		Fetal defects (associated with maternal obesity)

Prevention: There are three levels of prevention

Universal prevention: Here the measures are directed at the whole population to stabilize the level of obesity. Eventually lower the incidence and hence the prevalence of obesity. The strategies should be made to reduce weight, by lifestyle modification including improved diet and physical activity levels.

Selective prevention: Selective prevention aims to educate sub-groups of the population with a high-risk of obesity so that they can deal efficiently with the risk factors, which may be genetic and which predispose them to obesity. Such strategies can be initiated in appropriate settings which allow access to these high-risk groups, including schools, community centres and primary care venues.

Targeted prevention: Targeted prevention aims to prevent weight gain and reduce the number of people with obesity related disorders. Those individuals who are already overweight and even those with biological markers associated with excess adiposity but not yet obese should be targeted. This group has a particularly high risk of developing obesity and obesity related disorders.[23]

Treatment

The origin of obesity could however be multifactorial. The primary goal of treatment is to improve obesity-related co-morbid conditions and reduce the risk of developing future co-morbidities. Therapy for obesity always begins with lifestyle management and may include pharmacotherapy or surgery, depending on BMI risk category setting an initial weight-loss goal of 10.0% over 6 months is a realistic target. Many modalities for treatment/prevention of obesity are available.

A. Dietary therapy
B. Behavior therapy
C. Drug therapy
D. Surgical intervention

Dietary therapy:

People should be encouraged to increase the intake of complex carbohydrates (unrefined cereals and sugars, fibre rich foods) and to decrease the intake of fats and simple carbohydrates (refined sugars, excessively milled cereals e.g. white bread, etc). Intake of low calorie and low fat foods must be emphasized. Fruits and vegetables must be made an integral part of the diet. The most basic consideration is that the food energy intake should not be greater than what is necessary for energy expenditure.

Increased physical activity: This is an important part of weight reducing programme. Regular physical exercise is the key for increase energy expenditure.

Pharmacotherapy: Appetite suppressing drugs have been tried in the control of obesity. Weight-loss drugs such as sibutramine or fluoxetine are not recommended for the elderly because the possible benefits do not outweigh the adverse effects. However, orlistat may be useful for obese elderly patients, particularly those with diabetes mellitus or hypertension.

Surgical treatment: Surgery is usually best avoided in elderly, although it has proven efficacy and benefits outweigh risks in carefully selected patients. Example gastric bypasses, gastroplasty, jaw wiring, to eliminate the eating of solid food have all been tried with limited success.

Problem statement

Prevalence of obesity among elderly

A study conducted in Spain in 2001 showed that the prevalence of overweight/ obesity in men was 81.5% and in women it was 80.6%.The prevalence of obesity was higher in illiterate persons than in those with third level education (i.e., university studies), especially among women (41.8% vs. 17.5%). The prevalence of central obesity was 48.4% in men and 78.4% in women. As per educational level, differences in the prevalence of central obesity was observed in only women.[28]

In a study done in Taiwan, data was collected from 2119 persons aged 65 years and over who participated in the 2005 National Health Interview Survey. Among them 1347 were between 65-74 years of age and 772 were of 74 years and above. Out of them, 52.0% were males and 48.0% were females. According to literacy status, 29.4% were illiterate and 23.5% had studied up to higher secondary. Of the total elderly 42.6% were hypertensives, 16.0% were having diabetes, 17.6% had heart disease. As regards to habits, 17.7% elderly had a habit of smoking cigarettes and 8.68% chewed betel quid. As regards to BMI 5.3% had BMI<19kg/mt^2, 45.5% had BMI of 19-24 and 49.1% >24kg/mt^2.[29]

In a study done in Taiwan to estimate the prevalence of obesity and found the relationship between anthropometric indices (AI) and risk factors of cardiovascular disease (CVD) among elderly. The study participants were recruited by using a stratified multistage clustered sampling scheme. A total of 2432 non-institutionalized participants were included. The mean age of subjects was 72.8 ± 9.4 years and mean BMI was 23.6 ± 6.4 kg/m^2. It was observed that by using Asia-pacific guidelines for

assessing obesity, the prevalence of obesity was 29.0% in men and 36.8% in women. It was 13.3% in men and 21.0% in women by Taiwanese definition of obesity (BMI > 27 Kg/m^2). There was significant increase in odds ratios of acquiring various CVD risk factors with increment of WC, WHR, and BMI.[30]

In study conducted in Korean population to know the trend in the prevalence, awareness and management status of obesity for 13 recent years. It showed a trend of increasing prevalence of obesity with older age, reaching a peak in the 60 to 69 years age group. The prevalence of obesity was 39.0% in 60 to 69 age group and 31.8% in over 70 years of age by BMI > 25 kg/m^2. Similarly, the prevalence of central obesity was 39.7% in 60 to 69 age group and 37.2% in people above 70 years age.[31]

A cross-sectional survey to estimate the prevalence of obesity and overweight which included 882 elderly people aged 60 and over from Vitoria-ES Brazil. The prevalence of overweight and obesity was high (41.8% and 23.4%, respectively) and 50.7% of the elderly had a substantially increased waist circumference. About 4.3% of the individuals had diabetes and 50.4% had hypertension. It was observed that both the BMI and WC were significantly associated with sex, marital status, the presence of diseases and with cigarette smoking.[32]

Another study was conducted among Iranians elderly. The mean age was 70.2 ± 7.8 years and mean BMI was 25.6 ± 7.6 kg/m2. The prevalence of overweight and obesity were 28.9% and 11.7%, respectively. The prevalence of general obesity and central obesity were significantly associated with gender, place of residence, literacy and source of income. On the other hand, type of living, employment status and use of supplements during the past 3 months were not significantly associated.[33]

The study was conducted to know the coexistence of obesity and underweight and related factors among 1,443(83.1%) residents aged 60+ years in Bambuí, Minas Gerais State. Mean total BMI was 25.0kg/m2 (SD = 4.9), which was lower for males than females and decreased significantly with age. Out of total, 208 (14.4%) individuals were underweight and 185 (12.8%) were obese. The prevalence of obesity was 12.8 % and was associated with female gender, higher family income, higher educational level hypertension, and diabetes. There was inverse relationship observed between physical activity, anaemia, smoking and the prevalence of obesity. Analysis of health perception and health care use, shows that obese individuals tend to self-rate their health worse than those in the reference BMI category.[34]

An epidemiological study was conducted to know the prevalence of obesity in elderly by using methods of generating future point prevalence estimate in the United States. The estimated prevalence of obesity in elderly will increase from 32.0% in 2000 to 37.4% in 2010 (range 33.6-39.6%). The number of obese elderly will increase from 14.6 to 20.9 million (range 18.8-22.2 million) and the prevalence of normal weight among population aged 60 and older will decrease from 30.6% in 2000 to 26.7% in 2010 (range 31.0-24.7%).[35]

A cross-sectional survey was conducted in China during 2004–2005. A total of 6643 elderly persons with age ≥60 years were examined. Overall, using WHO criteria, the prevalence of overweight and obesity were 13.8% and 1.7%, respectively. A positive association was observed between BMI and female sex, Mongolian nationality, education levels and current drinking status. However, there was an inverse association between body mass index and age, physical activity levels and current smoking status.[36]

The longitudinal study was carried out by Tricia Lee Wilkins et al. to study the association between changes in BMI categories and health-care expenditures among elderly medicare beneficiaries by using data of the Medicare Current Beneficiary Survey (MCBS) 2000–2005 by using Ordinary Least Squares (OLS) models. At year 1 based on BMI categories, 37.0% of the study sample was normal weight, 41.0% overweight, and 22.0% obese. Overall, 35.0% Stayed Normal, 34.0% Stayed Overweight, 18.0% Stayed Obese, 4.0% gained weight from Normal-Overweight BMI, 3.0% gained weight from Overweight- Obese BMI, 5.0% lost weight from Overweight-Normal BMI, and 3.0% lost weight from Obese-Overweight BMI. Compared to Stayed Normal, total expenditures were both 26.0% higher for Obese-Overweight and Overweight-Obese. The current findings highlight the importance of maintaining a normal BMI in the elderly.[37]

The cross-sectional study which was carried out to observed the gender differences of obesity in elderly Korean which included 580 males and 830 females. The prevalence of obesity was 34.3% and 31.7% according to WC and BMI respectively. The proportion of obesity appeared to be more among elderly females than among elderly males by WC and BMI (46.2%, 42.2% respectively). Obesity was more prevalent in well-educated elderly males than low-educated elderly males (38.9% vs 31.7% for WC obesity; 37.2% vs. 28.7% for BMI obesity, respectively). Similarly, uneducated elderly females were more obese than educated elderly females (47.0% vs 36.8% for WC obesity; 42.6% vs. 36.8% for BMI obesity, respectively). The prevalence of obesity was higher among married men and women. It was not significantly associated with smoking and physical activity. While obese males and females were having similar profiles for hypertension, dyslipidemia and diabetes,

however obese elderly females had higher prevalence of arthritis and urinary incontinence.[38]

This cross-sectional study was carried out to estimate obesity prevalence among elderly people using different measurement methods among. There was difference between obesity prevalence in men and women according to different criteria: 24.5% and 45.1% (WHO); 31.6% and 54.9% (Lipschitz); 44.5% and 68.4% (NHANES III), respectively. WC measurement showed that 26.8% of men and 70.3% of women suffered from central obesity. According to WHR, the prevalence of central obesity was 50.8% in women and 23.9% in men. The use of medicines to reduce to obesity had positively associated central obesity according to WC in men and physical activity, family history of obesity were significantly associated with obesity according to WHO, LIPSCHITZ, WC criteria in women. The available criteria to diagnose obesity were used, revealing a significant association between central obesity and obesity diagnosed by BMI.[39]

This cross sectional study was conducted to estimate the prevalence and to explore associated factors of sarcopenic obesity (SO) in 2,221 Koreans over 60 yr-of age from the Fourth Korea National Health and Nutrition Examination Survey (2009). The prevalence of SO showed an age-related increasing pattern in men, but in women did not show the increasing pattern with aging. The prevalence rate of over 80 yr-old 11.9%, was higher than those of 60-69 yr-of-age 4.3% and 70-79 yr-of-age 8.1% in men. There was no statistically significant difference in the prevalence of SO between urban and rural area. Multivariate analysis showed ≥ 3 combined medical conditions and unemployed status, lower educational level were associated with a significantly

increased likelihood for SO in men and women. However, physical activity-related factors did not show a statistically significant association in both men and women.[40]

This observational cohort study was conducted in 77,541 Taipei residents aged 65 years and above (39,365 men and 38,176 women). Underweight (hazard ratios [HRs] of all-cause, CVD and expanded CVD mortality: 1.92, 1.74 and 1.77 respectively), grade 2–3 obesity (HRs: 1.59, 2.36 and 2.22 respectively), older age, male sex, smoking and high fasting blood sugar were significant predictors of mortality. Whereas, being married/cohabitating, higher education, alcohol consumption, more regular exercise and high total cholesterol were inversely associated with mortality. Multivariate stratified subgroup analyses verified smokers (HRs of all-cause, CVD and expanded CVD mortality: 10.71 and 7.86 respectively), for grade 2–3 obesity, the high triglyceride group and patients with 3–4 factors related to metabolic syndrome (HRs: 4.86, 12.72 and 11.42 respectively, for underweight) were associated with mortality.[41]

The purpose of the present cross sectional study was to evaluate the predictive power of BI equations for the estimation of FFM in Brazilian elderly subjects, using dual energy X-ray absorptiometry (DEXA) as the reference method. The study sample comprised 60 men and 120 women aged 60 to 80 with socioeconomic demographic characteristic was that 60.0% of the subjects were between 60 and 70 years of age. Regarding marital status, 88.3% of men and 65.0% of women were married. Out of all, 42.8% of the elderly subjects had completed middle school or completed high school and 57.2% completed elementary school. Most of the elderly subjects 84.3% performed some type of physical activity. The BMI of the sample ranged from 18.4 to 39.3 kg/m2. Mean percent BF was 23.1 ±

5.8% in men and 37.3 ± 6.9% in women. The bioelectrical impedance equations validated in this study can be used in the Brazilian elderly population.[42]

Bermudez and Tucker in their study found that the prevalence of either overweight or obesity was 56.0% for Dominican men and 79.0% for Dominican women and for non-Hispanic white men it was 69.0% and 63.0% for non-Hispanic white women. The prevalence of overweight /obese in elderly men was 66.7% and among women was 71.3%. It was declined significantly with age, from 30.0% in the youngest age group to 8.0% in the 80+ years of age group for Hispanic men and from 45.0% to 16.0% among Hispanic women. The prevalence of central obesity among Dominican elderly men was 42.3% and among women it was 74.3%. Similarly among Non- Hispanic white men it was 46.4% and among women 62.7%.[43]

In another cross-sectional study which included 1586 subjects > 60 years of age, who attended the Geriatric Clinic of the All India Institute of Medical Sciences, New Delhi. Among the 1586 persons, 87.0% subjects had experienced one or more acute illnesses and 3.4% did not have any symptom suggestive of a chronic illness or a pre-existing disease. A normal body mass index (BMI) as an indicator of normal nutritional status for Indian subjects 18.5-25 was detected in 52.0% elderly. While 33.0% were obese or overweight, 14.9% had a BMI <18.5, indicating nutritional deficiency.[44]

It was an epidemiological study conducted among elderly in Chandigarh. In study population 42.3% elderly males and 57.7% females were interviewed. According to WHO classification BMI 14.4% of elderly were undernourished whereas 25.4% and 7.7% of elderly were overweight and obese respectively. Hypertension and diabetes were significantly associated with obesity. The prevalence

of hypertension and diabetes was 82.5% and 15.0% among overweight and obese respectively.[45]

An another cross sectional study was carried out in Dehradun District, Uttarakhand. In which 55(45.0%) and 67(55.0%) were females and males respectively, Majority people didn't have any formal education. Out of all study participants, 40.2% were working and 9.0% had retired. Smoking was reported by 31.3% males while tobacco chewing was by only 14.9%. According to WHO BMI classification, 10.3% and 5.6% were in the category of overweight and obese respectively. Undernourishment was more common in males than in females but overweight and obese was more than 3 times prevalent among females. The prevalence of hypertension, anemia and diabetes was 55.1%, 41.9% and 6.8% respectively.[46]

In the study conducted in elderly individuals in an urban and rural area, the prevalence of obesity was 16.9% and 23.6% in urban males and females respectively. It was significantly associated with age, gender, higher education level and current smoking status. BMI more than 25 was risk factor for hypertension and diabetes. On the other hand risk of respiratory disease and cataract increased below a BMI of 18.5. Risk for musculoskeletal problems was found to be higher in both extremes of physical status.[47]

The cross sectional study was carried out in Tamil Nadu to know the nutritional status and prevalence of non- communicable diseases among elderly. Out of 571 elderly people 52.1 % were males and 52.0 % were females. According to BMI classification 41.3%, 52.0% and 0.6% elderly were undernourished, overweight and obese respectively.[48]

The study was conducted to find out the life style pattern and morbidity profile of geriatrics in urban area of Delhi. Women constituted 56.2% and men 43.75% of total study population. About 80.0% of the subjects complained of one or more health problems. The prevalence of obesity in women was 42.5% and 30.7% in men. Among current smokers 15.2% of the women and 30.7% of men were obese. Only 10.1% of the population engaged in regular physical activity and 55.4% were vegetarian. Physical activity and locomotor disorders had statistically significant association with obesity.[49]

In Puducherry, a cross-sectional study was carried out on 214 participants in the age range of 60 – 87 yrs. Majority were in the age group of 60–69 years i.e. 67.3% and 53.3% belonged to nuclear families. A greater part of them were leading a sedentary life 72.0% and 85.0% were non-vegetarian. Only 13.1% of the study subjects belonged to the below poverty line, 48.6% were illiterates; addiction rate for alcohol and tobacco was 4.7% and 7.5%, respectively. It was observed, 14.0% participants were thin, 23.4% were overweight and 7.5% participants were obese; the proportion of abdominal obesity was 40.2%. The prevalence rates of diabetes mellitus, hypertension, anaemia and visual impairment were 43.0% (male = 41.3% and female = 44.3%), 47.7% (male = 37.0% and female = 55.7%), 86.0% (male = 89.1% and female = 83.6%) and 68.2% (male = 60.9% and female = 73.8%), respectively. Hypertension risk was significantly higher among female, in those with a sedentary life, among vegetarians, among tobacco addicts and in those with abdominal obesity.[50]

A cross-sectional study was conducted to know morbidity pattern and nutritional status of elderly population by calculating BMI. It is seen that three fifth of

the elderly were females and 40.1% of the study population belonged to 60-64 years age group. Out of study participants 33.6%, 37.4%, 11.1% and 17.9% participants were underweight, normal weight, overweight and obese respectively. There was significant difference between age group and gender.[51]

An epidemiological study was carried out in Gujarat to know morbidity pattern among elderly population. A total of 218 elderly were surveyed. Out of which 34% females and 2.7% of males were illiterates. Among females who were literates, 52.1% were primary educated while among males who were literate the maximum ie.48.6% were educated up to secondary level of education. In this area 52.3% elderly were not indulged in any occupation and 39.0% were working but in sedentary way. Tobacco addiction was found in 72.4% males and 27.5% females in the form of smoking, chewing, snuffing and pan masala. Among elderly 21.7% of males and 28.5% of females were overweight and obese as per BMI classification. [52]

A cross sectional study was carried out to assess the health status of elderly population in urban area of Guntur. Out of total 283 study participants, 26.9% were males and 73.1% were females. Majority (79.5%) of them were currently married whereas, 18.7% were widows and 1.8% were widowers. About 47% belonged to lower socio-economic class. Regarding personal habits, 24.73% of the elderly were smokers and 1.41% regularly consumed alcohol and 10.25 % were both smokers and alcoholics. The percentage of illiterate elderly was found to be 78.4% and only one percent of the elderly had done study till graduation.[53]

A study was conducted to know the morbidity pattern among the geriatric people of Nellora. Among total 290 elderly participants, 33.8% were male and 66.2% were females. The majority of them (86%) were Hindus followed by Muslims (12%)

and Christians (2%). Nearly 70.8% of the females were widow and 70.4% of the males were currently married. Obesity according to BMI, 43.8% of the elderly were normal weight, 14.1% were overweight and 25.2% were obese.[54]

In a study which was carried out to assess the nutritional status through body mass index among the elderly people residing in Mangalore. A total of 194 subjects were involved in the study. The mean ages for both the sexes were quite closer (men= 68.9 years; women=70 years).The men were significantly heavier and taller than women. However, women had a slightly higher mean BMI than men during the study. Out of men 56.2% and 51.7% women were found to be in the normal BMI classification. About 8.6% of men and 7.9% of women were found to have a 1st degree chronic energy deficiency. Among men 11.4% and women 6.7% had 2nd degree chronic energy deficiency whereas, 14.3% of men and 14.6% of women were found to have 3rd degree chronic energy deficiency. There were no men or women who were found to be severely obese. Women were found to be more overweight and obese compared to men.[55]

METHODOLOGY

Source of data: The present study was conducted at Ashok nagar, Urban field practice areas of Department of Community Medicine, J. N. Medical College, Belgaum.

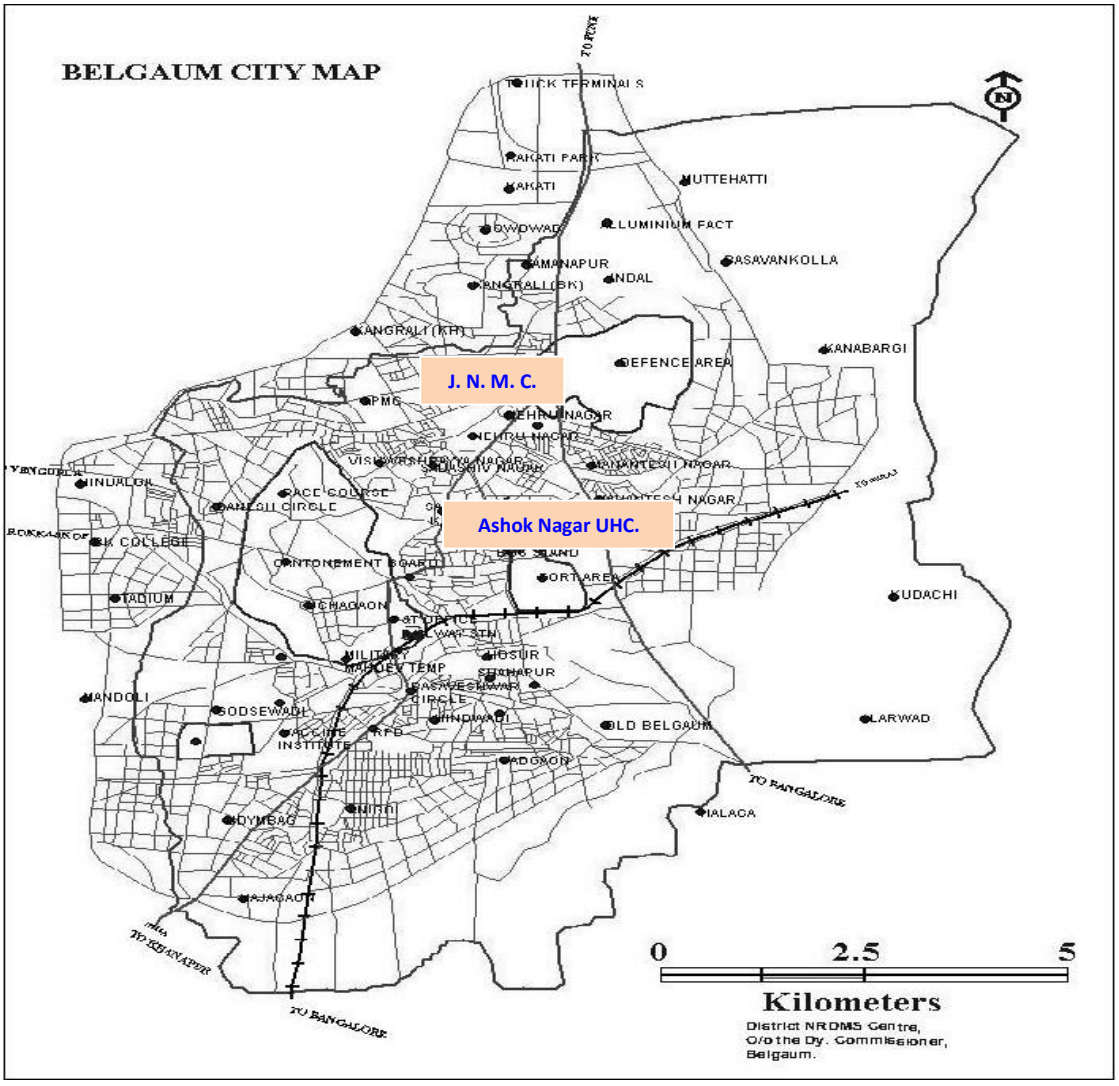


Figure-1 Map of Belgaum city showing urban area of Ashok Nagar.

Study design: A community based cross-sectional study.

Study period: 1st January to 31st December 2013.

Sample size: In India, elderly population constitutes 7.2%.[19] The population residing in Ashok Nagar Urban Health Centre was 27,081. Therefore the persons aged 60 years and above were 1950.

$$\frac{27081 \times 7.2}{100} = 1949.8 \approx 1950$$

The sample size was calculated by using the formula

$$n = 4pq/d^2$$

Where p = prevalence of obesity in elderly = 7.5 %

$$q = 100-p$$

$$= 100- 7.5$$

$$= 92.5\%$$

d = absolute error = 2%

$$n = \frac{4 \times 7.5 \times 92.5}{2^2}$$

$$= 693$$

$$\approx 700$$

A sampling frame was prepared and **700** study participants were selected using a random number table from 1950 elderly.

Inclusion criteria:

1. Person aged 60 years and above

2. People who were permanent resident of the study area (residing at least for the last 1 year).

Exclusion criteria:

1 Person aged 60 years and above who were seriously ill and bed ridden.

Ethical Clearance

The present study was approved by J. N. Medical College Institutional Ethics Committee on Human subjects Research. (Ref: MDC/DOME/895 dated 11/10/2012)

Data Collection:

The households where elderly were residing, after explaining purpose of the study and taking oral consent, the information regarding socio-demographic characteristics, current morbidity status, personal habits, dietary habits, physical exercise was collected in a pre-designed pretested, structured proforma by interviewing the elderly/reliable informant(Annexure-II). The anthropometric measurements like height, weight, waist circumference and percentage of body fat of elderly were taken by using standard instruments and procedure. All instruments used for data collection, such as, measuring tape, weighing machine, stethoscope, sphygmomanometer, body fat analyzer were regularly checked for their validity and reliability, during the period of data collection.

Measurement of Height: The height was measured with stadiometer. Subjects were made to stand on the flat surface without footwear, with weight distributed evenly on both feet, heels together and the head positioned so that the line of vision is perpendicular to the body (Frankfurt line). The arms were hung freely, the individual was asked to inhale deeply and maintain a fully erect position. The height was recorded to the nearest 0.1 cm.[56]

Measurement of weight: The weight was measured in kilograms using standardized weighing machine with elderly person standing erect on centre of the platform, with the body weight evenly distributed between both the feet with light clothing and looking straight. The weight was recorded to the nearest 0.1 kg.[56]

Prevalence of obesity was assessed by using Body Mass Index, Waist circumference and Percentage of body fat.

Body Mass Index (BMI): It is also called as Quetelet's index used to assess obesity and computed by weight (kg) divided by height in meters square. The classification of elderly made according to WHO guidelines and Asia-pacific guidelines for BMI.[57]

Case definition: According to WHO guidelines a subject was considered as **obese if the BMI was $\geq$30 Kg/m^2**.

Categories	**BMI**
Underweight	< 18.5
Normal	18.5-24.9
Overweight	25.0-29.9
Obese	$\geq$30

Case definition: According to Asia- pacific guidelines a subject was considered as **obese if the BMI was ≥25 Kg/m^2**.

Categories	BMI
Underweight	< 18.5
Normal	18.5-22.9
Overweight	23.0-24.9
Obese	≥25

Measurement of waist circumference: The measurement was done at a level of midpoint between the top of the iliac crest and the lower margin of the last palpable rib in the mid axillary line. Measurements were taken with a stretch - resistant tape that is wrapped snugly around the subject, but not to the point that the tape is constricting. The circumference was measured to the nearest 0.1 cm at the end of normal expiration.

Central obesity: According to WHO guidelines central obesity is defined as men >102 cms and women >88 cms of a waist circumference.[58]

Categories	Male	Female
Normal	79-93.9cm	64-79.9cm
Overweight	94-101.9cm	80-87.9cm
Obese	≥102cm	≥88cm

Percentage body fat (PBF):

In the present study, percentage of body fat was measured by **bioelectrical impedance** (BI) using Omron Body Fat Monitor.

The participants were asked to obey the following procedures before the BI measurements as by the manufacturer's Guidelines.[59]

- Not to eat or drink anything during the 2 hours before the evaluation,
- Not to engage in vigorous exercise before the evaluation,
- Not measured immediately after taking bath,
- Inform about having fever, in such cases measurements were postponed
- This Instrument could not be used in elderly above 80 years, those who could not hold the instrument example stroke and persons with medical implant like pace makers.

During the measurement, the participant was asked to hold the grip electrodes by wrapping fingers around the groove of the handle by both hands. Participant was asked to extend the elbow holding arms straight 90 degree angle to the body without movements of the body. Subject's personal data like age, weight, height and gender was entered in the instrument before starting it. During the body fat measurement a painless current of low intensity (500μA) is emitted at a frequency of 50 kHz following the path from the source electrode to the detector electrode. In few seconds instrument will display the person's percentage of body fat.

Central obesity: According to percentage of body fat the obesity is defined as in Men ≥30 % and in women ≥ 41% of body fat.

Categories	Male	Female
Low	5-12.9	5-23.9
Normal	13-25.9	24-36.9
Preobese	26-29.9	37-40.9
Obese	≥30	≥41

Blood pressure (BP) Measurement:- Blood pressure was measured using mercury sphygmomanometer, first by palpatory method followed by auscultatory method in sitting position. The cuff was inflated 30 mmHg above the level at which pulse disappeared and then slowly deflated. The first perception of korotkoff's sound, while monitoring with stethoscope-placed over the brachial artery, was taken as systolic blood pressure and the complete disappearance of korotkoff's sound was taken as 'diastolic blood pressure'. Two such readings were recorded at an interval of at least 3 minutes and the mean value was recorded.[60]

Current morbidity status among elderly subjects was assessed by clinical history, general physical and systemic examination and treatment if taking already.

In case of non-availability of elderly subjects in the households at the time of survey, three attempts were made to contact the subjects at their residence for the purpose of study.

Analysis: Codes were prepared for each options of the questionnaire. Data was entered in Excel sheet to prepare a master chart. SPSS version 18.0 software (Trial version) was used for analysis of the data. Tables and graphs were prepared by using Microsoft Windows 2007 software.

- Numerical socio-demographic variables were analyzed by means and standard deviations. Categorical data regarding socio-demographic factors and prevalence of obesity were summarized by using percentages.

- Chi square test was used to find the association between various socio demographic variables and prevalence of obesity.

Definition of study variables

Age: Age was recorded to the nearest completed years.

Education: Every study subject was asked about the highest educational attainment and then they were grouped as follows:-

a. **Illiterate:** A person who cannot read and write any language.
b. **Primary school:** A person who has studied from first to seventh standard.
c. **High school:** The person who has studied eighth to tenth standard.
d. **Pre-university / Diploma:** The person who has studied up to Pre-University College second year (PUC) or a diploma course.
e. **Graduate:** The person who has obtained any bachelor degree from the university.
f. **Post graduate:** The person who has obtained a master's degree from the university.

Occupation: Each study subject was asked about his/her major occupation. This information was collected and grouped as follows:-

a. **Professionals:** which include doctors, engineers, college lecturers etc.
b. **Clerks / businessmen:** This group includes office goers, doing clerical jobs, business men, shop owner.
c. **Skilled workers:** skilled based jobs, such as technicians, mechanic, electricians etc.
d. **Semiskilled worker:** drivers, conductors, office attenders, security personnel, super visors etc.
e. **Unskilled workers/ manual workers:** In this group the occupations which involve physical exertion like masonry, farming, coolie etc.
f. **Retired:** A person who has ceased to work after attaining the age of 65 years and is eligible to claim pension.
g. **Housewife:** woman who takes care of the household day to day duties.

Socio-economic status:

Information regarding per capita income (in Rupees / month) was collected and socio-economic status was classified using Modified B G Prasad's classification for the study period (2013) and it was calculated by multiplication factor with 1961 Prasad's classification values.[62] As our study period was from 1st January to 31st December 2013, the mean consumer price index for the period was considered.

Average consumer price index for year 2013 = 1046[63]

Modification was done with the aid of multiplication factor (M.F), which was obtained as below:

$$M.F. = \frac{\text{Average consumer price index for the study period (2013)}}{100} \times 4.93$$

$$= 1046 /100 \times 4.93$$

$$= 51.56$$

Socio-economic status	Prasad's classification 1961 (per capita income in Rs/month)[62]	Modified Prasad's classification In study period 2013 (per capita income in Rs/month)[61]
I	≥100	≥ 5,156 and above
II	50—99	2,578 – 5,156
III	30-49	1547 – 2,577
IV	15-29	773 – 1546
V	≤15	≤773

Type of family:[2]

a. **Nuclear family:** The family consisting of married couple along with their dependent children.
b. **Joint family:** It consists of number of married couples and their children who live in the same household.

c. **Three generation family:** It consists of three generations related to each other by direct descent and living together.

d. **Broken family:** A family consists of widow/ widower/ divorcee living with or without their dependent children.

e. **Problem family:** In these families the standards of life are generally far below the accepted minimum and parents are unable to meet the physical and emotional needs of the children and they lag behind the rest of community.

Physical activity:

The study subjects were questioned about their physical activities and grouped into one of the following group.[23,64]

a. **Physically inactive/ sedentary:** this group includes activities like watching TV, reading, sleeping, working at computer, office work, and mild house-hold work etc.

b. **Mild physical activity:** it includes the activities such a house –cleaning, carpentry, gardening, slow walking and activities which includes mild physical exertion.

c. **Moderate physical activity:** it includes brisk walking (20 minute/mile), regular cycling either for house-hold or for recreational purpose, scrubbing the floors etc.

d. **Vigorous physical activity:** Regular jogging, or running, cycling >10 miles/hr, manual digging etc. or any activity which require severe physical excretion.

Tobacco consumption: All study subjects were asked regarding the history of tobacco consumption in any form; smoking tobacco such a beedi, cigarette etc. or smokeless tobacco such as Gutka, pan chewing etc. the information included the frequency, duration of consumption, and whether they left the habit or not, With this information they were grouped into any one of the following group:-

A. Smoking tobacco consumption

a. **Non –smoker:** defined as a person who has never smoked or smoked <100 cigarettes/ beedis in his life time.

b. **Ex-smoker:** Is defined as person who has smoked ≥ 100 cigarettes/beedi in his life time and not smoking since last one year.

c. **Current- smoker:** A person who had smoked ≥ 100 cigarettes/ beedis and is currently smokes every day or some day.[65]

B) Smokeless tobacco consumption: All the subjects questioned whether they had the habit of consuming smokeless tobacco like chewing tobacco, chewing khaini etc. and were grouped as follows:-

a. **Non user:** A person who had consumed any form of smokeless tobacco less than 100 times in his life time or never used at all.

b. **Ex-user:** A person who had consumed any form of smokeless tobacco more than 100 times in his life time and not using since last one year

c. **Current user:** A person who had consumed > 100 times of any form of smokeless tobacco in his lifetime, and is currently using every day or some day

Alcohol Consumption: detailed history of alcohol consumption habit was collected and participants were grouped into following groups[65]:-

a. **Non user:** A person who never consumed alcohol.

b. **Ex-user:** A person who was consuming alcohol, but left the habit since one year

c. **Current user:** A person who consume alcohol at present.

Diet: Detailed dietary consumption history was taken using 24 hours recall method. It includes type of diet i.e. vegetarian or mixed diet, all the food items consumed in the past 24 hrs of conducting the survey, in terms of numbers and servings. The percentage of calorie intake and proteins intake was calculated using the standard values according to the guidelines published by National Institute of Nutrition (NIN), India.[66]

Family history of obesity, hypertension and diabetes: If the study participant gives history of obesity / HTN/ DM in his /her blood relatives like first degree relatives such as father or mother brother, sister that person was considered to have family history of obesity/ HTN/DM.

Morbidity: The WHO has defined morbidity as "any departure, subjective or objective, from a state of physiological wellbeing" these were classified according to ICD-10.

RESULTS

The present study was conducted in the urban field practice area of Urban Health Centre, Ashok nagar of Department of Community Medicine, Jawaharlal Nehru Medical College, Belgaum on 700 elderly people during the period of January 2013 to December 2013.

The data obtained was tabulated and analyzed under following headings:

I. Socio-demographic profile.

II. Prevalence of obesity.

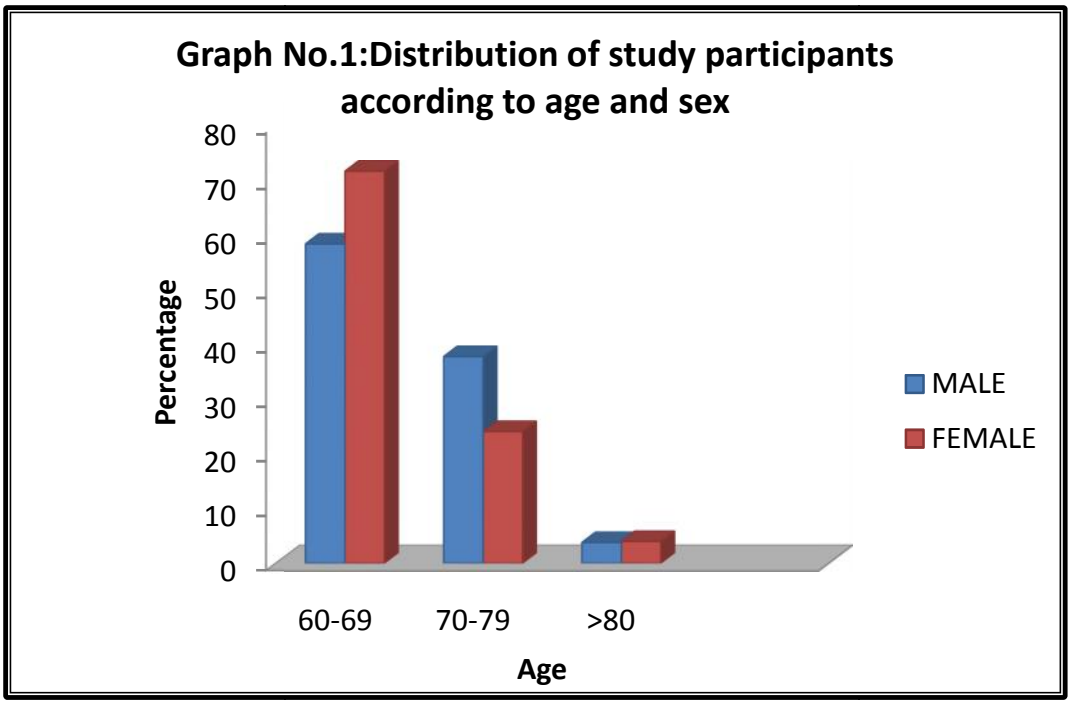
III. Association of obesity with various socio-demographic factors and lifestyle factors among elderly.

I) Socio-demographic variables

Age and sex:

Table No.1 Distribution of the study participants according to their age and sex

Age (Years)	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
60 -69	198	58.4	259	71.7	457	65.3
70-79	128	37.8	87	24.1	215	30.7
≥80	13	3.8	15	4.2	28	4.0
Total	339	100.0	361	100.0	700	100.0



In the present study, out of 700 study participants, 457(65.3%) were in the age group of 60 - 69 years, 215 (30.7%) were in the age group of 70 – 79 years, 28(4.0%) were 80 years old and above. Out of 700 study subjects 361 (51.5%) were females and 339 (48.5%) were males. The mean age ± SD of the male subjects was 68.2 ± 6.49 years with a range from 60 – 92 years. The mean age ± SD of the female subjects was 65.7 ± 5.92 years with a range from 60 – 85 years.

Among males, 198 (58.4%) were in the age group 60-69 years, 128 (37.8%) were belonged to 70-79 age group, 13 (3.8%) were in the age group of 80 years and above.

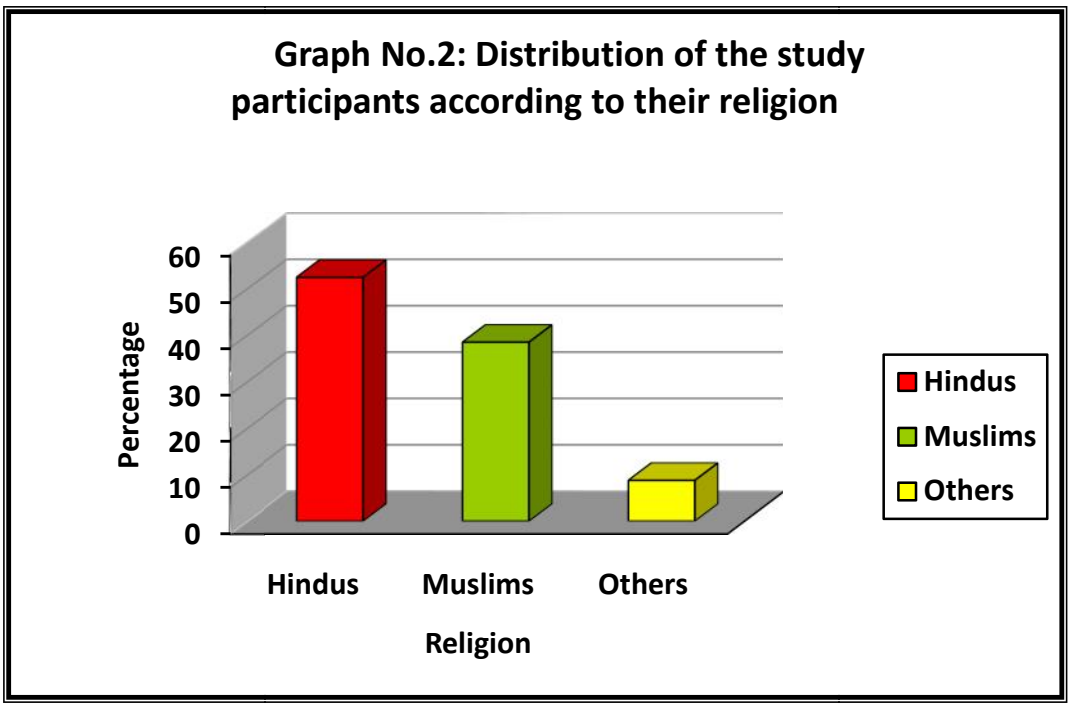
Out of 361 females, 259 (71.7%) belonged to age group 60-69 years, 87 (24.1%) were in the age group of 70-79 years, followed by 15 (4.0%) were aged 80 years and above.

Religion:

Table No.2 Distribution of the study participants according to their religion

Religion	Study participants (n=700)	
	Number	Percentage
Hindu	368	52.6
Muslim	270	38.6
Others	62	8.8
Total	700	100.0

A major number of participants, 368 (52.6%) were Hindus by religion, 270(38.6%) were Muslims and the rest 62(8.8%) were others which included Christians and Jains participants in the study.



Education:

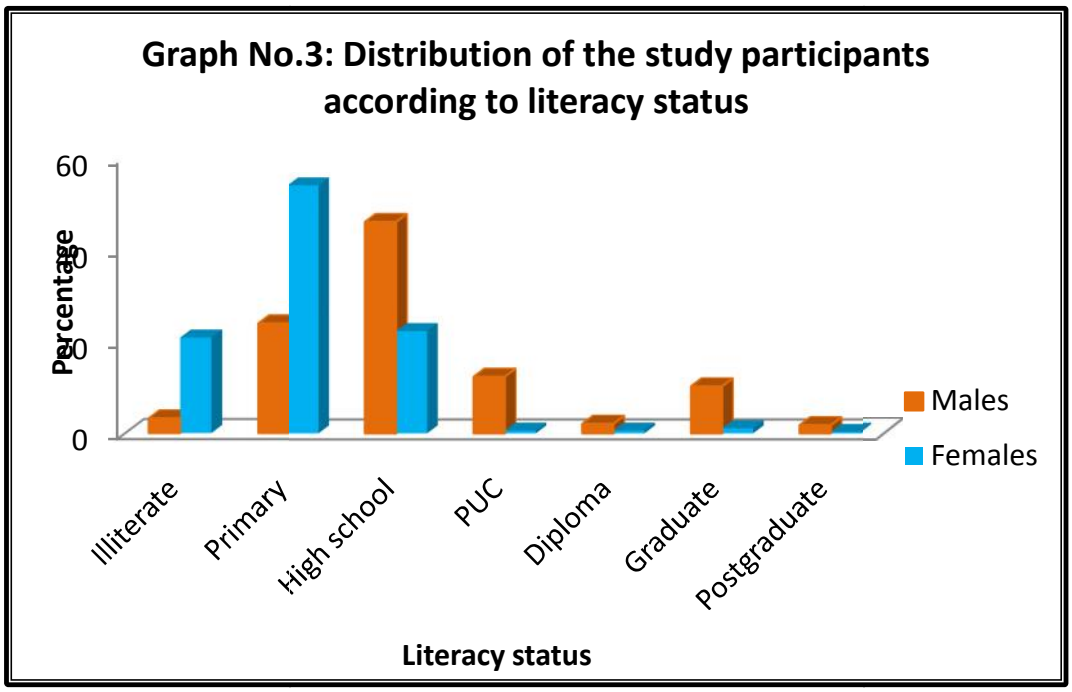
Table No.3 Distribution of the study participants according to their literacy status

Literacy status	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Illiterate	11	3.2	75	20.8	86	12.2
Primary	81	23.9	196	54.3	227	39.6
High School	157	46.3	81	22.4	238	34.0
Pre-University	42	12.4	2	0.6	44	6.3
Diploma	7	2.1	2	0.6	9	1.3
Graduate	35	10.3	4	1.1	39	5.6
Post-Graduate	6	1.8	1	0.3	7	1.0
Total	339	100.0	361	100.0	700	100.0

Our study revealed that 614 (87.8%) were literate, 227(39.6%) participants have studied up to primary school of education, 238 (34.0%), 236 were educated up to high school, 39(5.6%) were graduates and 7 (1.0%) elderly had obtained a post graduate degree.

Among males, 11 (3.2%) were illiterate, 81 (23.9%) studied up to primary level of education, 157 (46.3%) took high school level education, 42 (12.4%) and 7 (2.1%) studied up to PUC and Diploma level respectively. Out of all only 35 (10.3%) and 6 (1.8%) studied till graduate and postgraduate level of education.

In females, 75 (20.8%) were illiterate, 196 (54.3%) studied up to primary level of education, 81 (22.4%) to high school level, 2 (0.6%) to PUC and 2 (0.6%) studied up to diploma. Among literate females only 4 (1.1) and 1 (0.3) were graduates and post graduates.



Occupation:

Table No.4 Distribution of the study participants according to their occupation

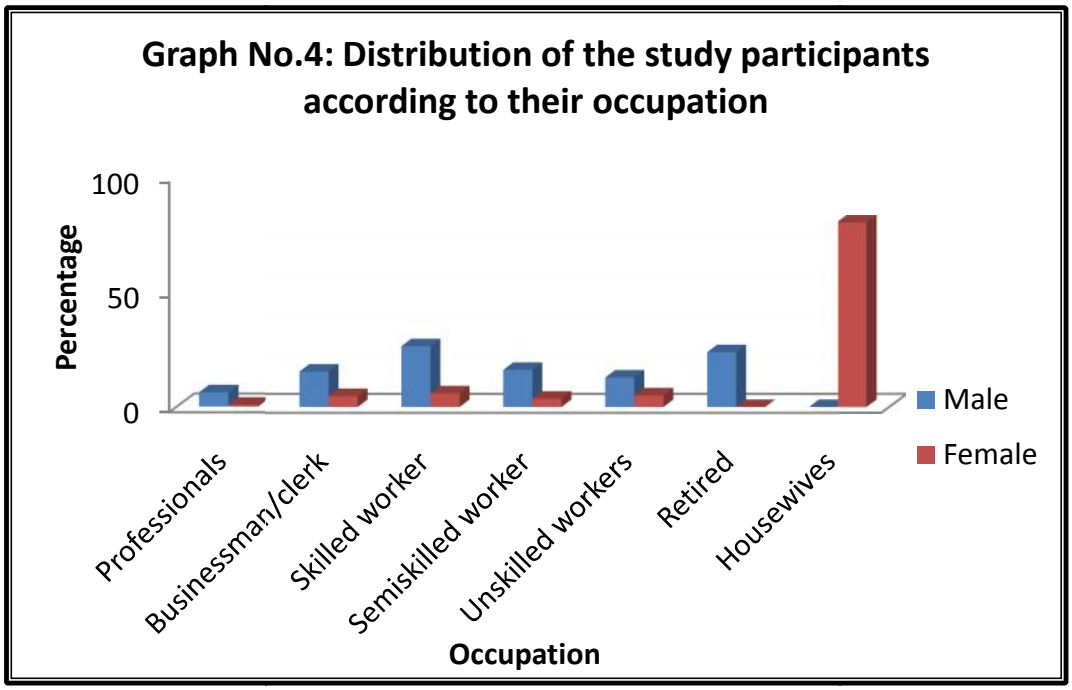
Occupation	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Professionals	21	6.2	3	0.8	24	3.3
Businessman/clerk	52	15.3	17	4.7	69	9.8
Skilled worker	89	26.2	21	5.9	110	15.6
Semiskilled	54	16.0	13	3.6	67	9.5
Unskilled worker	43	12.7	18	5.0	61	8.6
Retired	80	23.6	-	-	80	11.4
Housewife	-	-	289	80.0	289	41.2
Total	339	100	361	100	700	100

In the study participants, an overall 24 (3.3%) were professionals, 69 (9.8%) were businessmen/clerk. Out of all 110 (15.6%) skilled workers, 67(9.5%) semiskilled and 61(8.6%) were unskilled workers. While 80 (11.4%), 289 (41.2%) were retired and housewife respectively.

In 339 (48.5%) males, 21 (6.2%), 52 (15.3%) were professionals and businessman/clerk respectively. While, 89 (26.2%) were skilled workers, 54 (16.0%)

were semiskilled and 43 (12.7%) were unskilled worker. Out of all 80 (23.6%) were retired.

Among females, majority 289(80.0%) of them were housewives, 21(5.9%), 13(3.6%), 18(5.0%) were skilled, semiskilled and unskilled workers respectively. While 3(0.8%) were professionals and 17(4.7%) were businesswomen.



Type of Family:

Table No.5: Distribution of elderly according to type of family

Type of family	Study participants (n=700)	
	Number	**Percentage**
Nuclear	551	78.7
Joint	106	15.1
Three generation	41	5.9
Broken	2	0.3
Total	700	100

A large number of the elderly i.e., 551 (78.7%) were living in nuclear families, 106 (15.1%) were living in joint families, 41 (5.9%) belonged to three generation family and 2(0.3%) belonged to the broken family.

Marital status:

Table No.6 Distribution of the study participants according to their marital status

Marital status	Study participants (n=700)	
	Number	Percentage
Single	31	4.4
Married	630	90.0
Widow/widower	39	5.6
Total	700	100

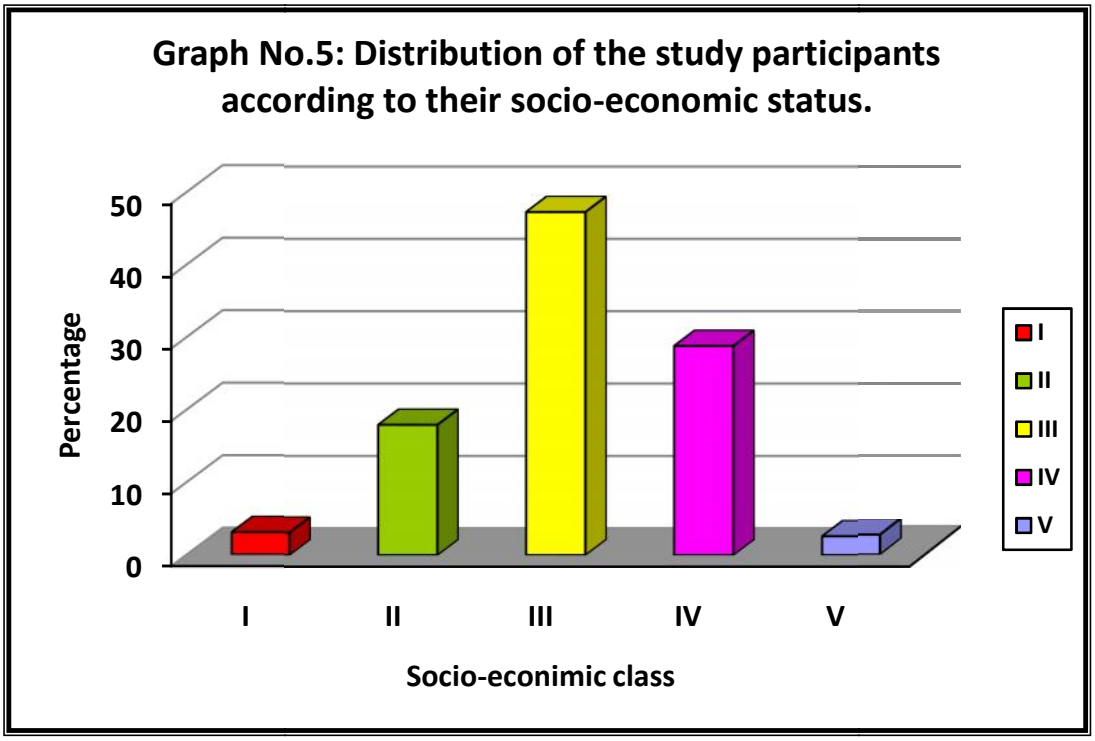
Majority of study subjects i.e., 630 (90.0%) were married, 39 (5.6%) were widowed/widower and relatively small percentage of subjects were unmarried 31(4.4%).

Socio-Economic Status:

According to modified B G Prasad classification of socioeconomic status, in the present study, majority of them 332 (47.4%) belonged to class III, followed by 202 (28.9%) to class IV and 126 (18.0%) to class II, whereas 22(3.1%) and 18(2.6%) participants belonged to class I and class V respectively.

Table No.7 Distribution of the study participants according to their socio-economic status

Socio-Economic Status	Study participants (n=700)	
	Number	Percentage
Cass I	22	3.1
Class II	126	18.0
Class III	332	47.4
Class IV	202	28.9
Class V	18	2.6
Total	700	100.0



Lifestyle factors

Habits:

Table No.8 Distribution of the study participants according to alcohol consumption

Alcohol consumption	Study participants (n=700)	
	Number	**Percentage**
Non user	601	85.9
Ex-user	31	4.4
Current user	68	9.7
Total	700	100.0

Among 700 study subjects, 68 (9.7%) were currently consuming alcohol, 31(4.4%) subjects had history of alcohol consumption and 601(85.9%) did not have habit of alcohol consumption. All 361 female participants were non-alcoholics.

Table No.9 Distribution of the study participants according to smoking and smokeless tobacco chewing habit

Habits	Tobacco Smoking(n=700)		Tobacco Chewing (n=700)	
	Number	**Percentage**	**Number**	**Percentage**
Non user	540	77.1	477	68.1
Ex –user	74	10.6	57	8.1
Current user	86	10.6	166	23.8
Total	700	100.0	700	100.0

Among the total participants studied, 86 (10.6%) were currently smoking, 540 (77.1%) did not smoke, whereas 74 (10.6%) had past history of smoking cigarette/ beedis. Out of 540 non smokers, 361 (66.8%) were females. Among the total elderly studied, 166 (23.8%) were currently chewing tobacco, pan, supari, 57 (8.1%) had chewed tobacco in the past and 477 (68.1%) did not have the habit of chewing tobacco.

Physical activity:

Table No.10 Distribution of the study participants according to physical activity

Physical Activity	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Sedentary	132	38.9	120	33.2	252	36.0
Mild	97	28.6	118	32.7	215	30.7
Moderate	61	18.0	84	23.3	145	20.7
Vigorous	49	14.5	39	10.8	88	12.6
Total	339	100	361	100	700	100
x^2= 6.722 df = 3 p =0.081						

Among total study participants, 252(36.0%) had sedentary life style, 215(30.7%) were mild active whereas 145(20.7%) and 88(12.6%) were moderate active and vigorous active respectively.

Out of total 339 males, 132 (38.9%) had sedentary life style, 97 (28.6%) were mild active, 61(18.0%) and 49 (14.5%) were moderate active and vigorous active respectively. Among 361 females, 120 (33.2%) had sedentary life style, 118 (32.7%), 84 (23.3%), 39 (10.8%) were mild, moderate and vigorous activity respectively.

There was no statistical significant difference between physical activity and sex.

Type of Diet

Table No. 11 Distribution of the study participants according to type of diet

Type of diet	Male		Female		Total	
	Number	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Vegetarian	125	36.9	152	42.1	277	39.6
Mixed	214	63.1	209	57.9	423	60.4
Total	339	100	361	100	700	100
x^2= 2.001 df = 1 p=0.157						

Among 339 males, 125(36.9%) and 214(63.1%) were vegetarians and non vegetarians respectively. Whereas, among 361 females, 152(42.1%) were vegetarians and 209(57.9%) were non vegetarians.

Energy consumption

Table No.12 Distribution of the study participants according to consumption of calories

RDA	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
>90 %	50	14.7	52	14.4	102	14.6
70-89.9 %	143	42.2	167	66.3	310	44.3
50-69.9 %	125	36.9	125	34.6	250	35.7
<49.9 %	21	6.2	17	4.7	38	5.4
Total	339	100	361	100	700	100
x^2= 1.629 df = 3 p=0.653						

In present study, 310 (44.3%) participants consumed 70-89.9% of required calories and followed by 250 (35.7%) participants consumed 50- 69.9% of required calories. Whereas, very small 38 (5.4%) of participants consumed less than 49.9% of required calories.

Among male and females, higher 167 (66.3%) of females consumed 70-89.9% of required calories as compared to males. However association between sex and calories consumption was not found to be statistically significant.

II) PREVALENCE OF OBESITY AMONG ELDERLY

Table No.13 Distribution of the study participants according to WHO classification of body mass index

Body mass Index	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
<18.5 Underweight	75	22.1	46	12.7	121	17.3
18.5- 24.9 Normal	135	39.9	160	44.3	295	42.2
25- 29.9 Overweight	114	33.6	132	36.6	246	35.1
≥30 Obese	15	4.4	23	6.4	38	5.4
Total	339	100.0	361	100.0	700	100.0
x^2= 11.392 df= 3 p = 0.009						

Out of total 700 study subjects, 246 (35.1%) were overweight and 38 (5.4%) were obese. Among males, 114 (33.6%) were overweight and 15 (4.4%) were obese. Similarly among females, prevalence of overweight was 132 (36.6%) and obesity was 23(6.4%).

The mean BMI among females was 24.5± 2.23 and 24.4±2.20 for males. There was statistically significant difference between males and females ($p<0.05$).

Table No.14 Distribution of the study participants according to Asia- pacific guidelines for body mass index

Body mass Index	Male		Female		Total	
	Number	**Percentage**	**Number**	**Percentage**	**Number**	**percentage**
<18.5 Underweight	75	22.1	46	12.7	121	17.3
18.5- 22.9 Normal	89	26.3	98	27.2	187	26.7
23- 24.9 Overweigh	46	13.6	62	17.1	108	15.4
≥25 Obese	129	38.0	155	43.0	284	40.5
Total	339	100.0	361	100.0	700	100.0
x^2= 11.452 df= 3 p= 0.009						

In present study among 700 participants, 284 (40.5%) were obese and 108 (15.4%) were overweight. Among males 129(38.0%) were obese and 155 (43.0%) females were obese. As compared to males, more females were obese. This difference was statistically significant ($p< 0.05$).

Graph No.6: Distribution of the study participants according to Asia- pacific guidelines for body mass index

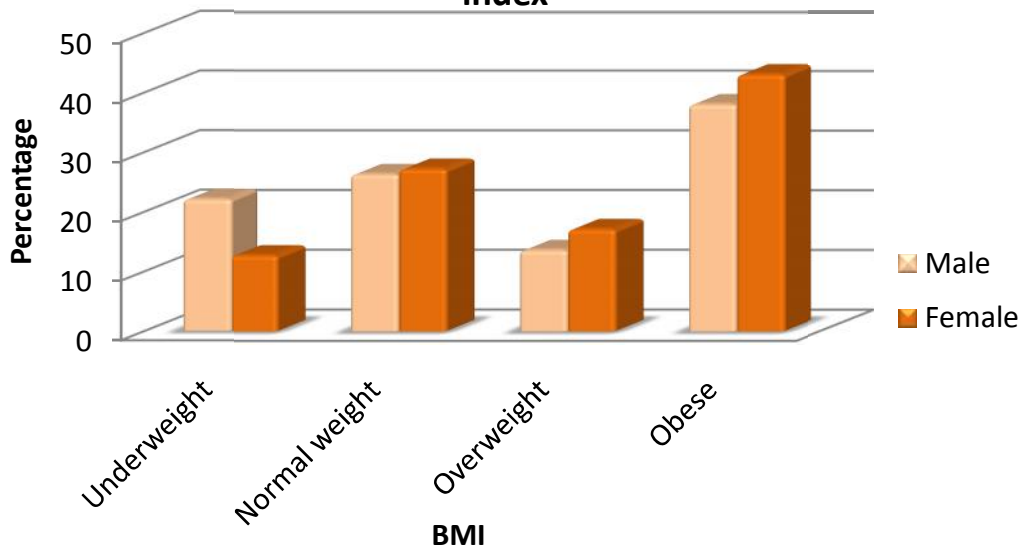


Table No.15 Distribution of the study participants according to WHO guidelines for waist circumference

Waist circumference	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Normal	178	62.5	93	25.8	271	38.7
Over weight	103	30.4	98	27.1	201	28.7
Obese	58	17.1	170	47.1	228	32.6
Total	339	100.0	361	100.0	700	100.0
x^2 = 119.896 df = 2 p < 0.001						

Among all participants, according to WHO waist circumference guidelines, 228 (32.6%) were centrally obese and 201(28.7%) belonged to overweight category.

Out of the total 339 males, 58(17.1%) were centrally obese whereas 103(30.4%) were centrally overweight. Among females, 170(47.1%) were centrally obese, 98(27.1%) were overweight according to waist circumference.

There was statistical significant association between central obesity and sex ($p< 0.001$). The mean waist circumference 90.90 $\pm$1.17cm for males and 88.29 $\pm$1.11cm for females.

Graph No. 7: Distribution of study participants according to WHO guidelines of waist circumference

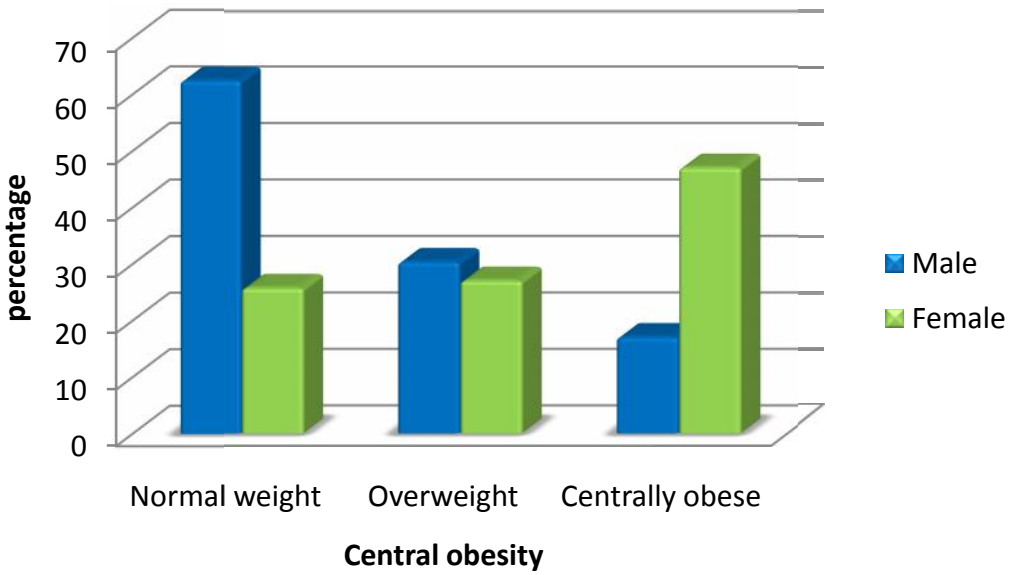


Table No.16 Distribution of the study participants according to percentage of body fat

Body fat %	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Not applicable*	13	3.8	15	4.1	28	4.0
Low	19	5.6	59	16.2	78	11.2
Normal	139	41.0	158	44.0	297	42.4
Preobese	71	21.0	64	17.7	135	19.2
Obese	97	28.6	65	18.0	162	23.2
Total	339	100.0	361	100.0	700	100.0
x^2= 27.89 df= 4 p< 0.001						

***percentage of body fat could not be measured above 80 years subjects**

Among total 339 males, according to their body fat percentage 97(28.6%) were obese, 71(21.0%) were preobese, Whereas 139(41.0%) had normal body fat and 19(5.6%) were having low body fat percentage.

Out of total 361 females, according to their body fat percentage 65(18.0%) were obese, 64(17.7%) were preobese, at the same time 158(44.0%) had normal body fat and 59(16.2%) were having low body fat percentage.

There was statistical significant association between body fat percentage among males and females ($p < 0.001$).

Table No.17 Prevalence of obesity according to different criteria's to assess obesity

Criteria	Male	Female	Total
	Percentage	**Percentage**	**Percentage**
BMI≥ 30(WHO Classification)	4.4	6.4	5.4
BMI≥ 25(Asia-pacific guidelines)	38.0	43.0	40.5
Central obesity (WHO guidelines for WC)	17.1	47.1	32.6
Percentage of body fat	28.6	18.0	23.2

In our study, according to WHO guidelines of BMI, the prevalence was 5.4%. (4.4% in males and 6.4% in females) whereas according Asia-pacific guidelines, 40.5% was overall prevalence, among males it was 38.0% and females it was 43.0%.

Out of all 32.6% were centrally obese. Among males prevalence of central obesity was 17.1% and 47.1% among females. Depending upon percentage of body 23.2% were obese (28.6% males vs. 18.0% females).

According our study objectives, further analysis was carried out only in obese person according to Asia-pacific guidelines for BMI, Central obesity and percentage of body fat.

III) Morbidities among elderly

Table No.18 Distribution of the study participants according to number of morbidities

Number of morbidities	Study participants (n=700)	
	Number	Percentage
None	73	10.4
One	253	36.1
> One	374	53.5
Total	700	100.0

Out of the total participants, 253 (36.1%) suffered from one morbidity and 374 (53.5%) had more than one morbidity. Among all participants 73(10.4%) did not have any morbidities.

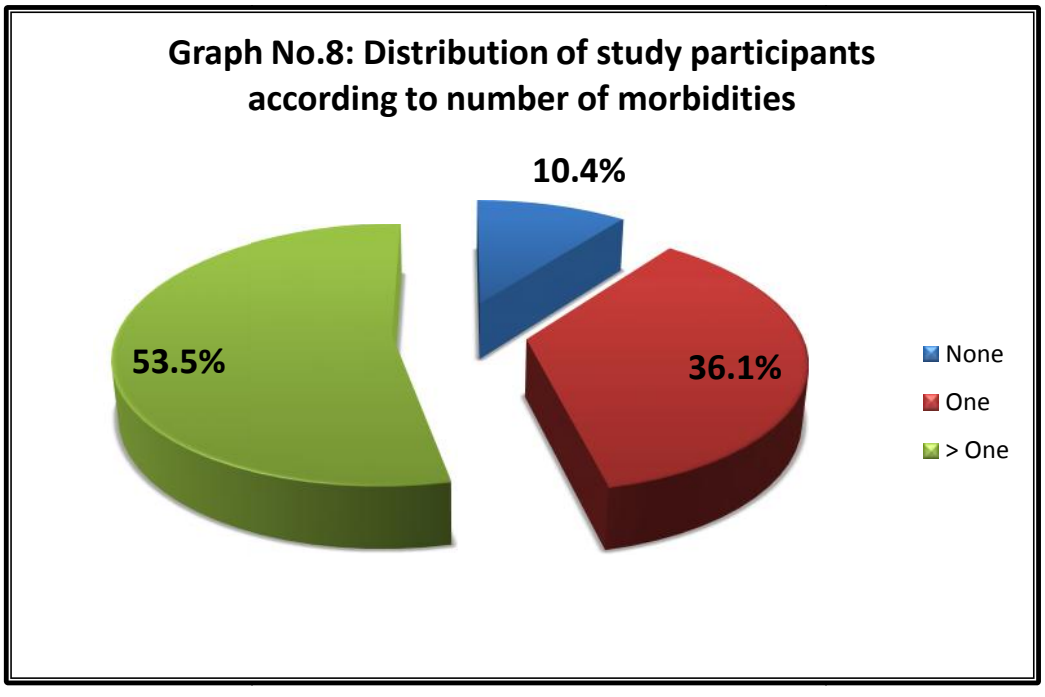


Table No. 19 Distribution of study participants according to systemwise morbidities

Morbidity Status	ICD- Code	Sample size (n = 700)	
		Number	Percentage
Diseases of blood forming organ	D	226	32.3
Diseases of endocrine	E	198	28.3
Diseases of eye	H	145	20.7
Diseases of cardiovascular system	I	373	53.3
Diseases of respiratory system	J	108	15.4
Disorders of gastro intestinal tract	K	131	18.7
Disorders of skin	L	19	2.7
Disorders of musculoskeletal system	M	136	22.6
Disorders of urogenital system	N	36	6.0

Among all participants, majority of them 373(53.3%) had cardiovascular disorders, 226(32.3%) had blood forming organ disorders, 198 (28.3%) had endocrine disorders, 136(22.6%) had musculoskeletal disorders and 145(20.7%) had eye diseases.

Similarly, 136 (22.6%) elderly had complaints of joint pain, mainly knee joint pain and back ache. Out of total study participants, 36 (6.0%) had history of stress and urge urinary incontinence, and these complaints were more among females. Diabetes mellitus was the only endocrine disease which was noted in 198 (28.3%) of study participants. Similarly out of total male participants, 101(14.5%) had gastritis and 30 (4.2%) complained about constipation**.**

Table No. 20 Distribution of the study participants according to morbidity

Disease	ICD- code	Sample size (n= 700)	
		Number	Percentage
Iron deficiency anemia	D 50	91	13.0
Vitamin B-12 Deficiency	D 51	135	19.3
Diabetes	E10	198	28.3
Essential Hypertension	I 10	260	37.1
Secondary hypertension	I 15	66	9.4
Acute myocardial infarction	I 21	21	3.0
Acute lower respiratory tract infection	J 15	55	7.9
Bronchial asthma	J 45	53	7.6

Among all study participants, 91 (13.0%) of them suffered from iron deficiency anemia and 135 (19.3%) from vitamin B-12 deficiency.

In the present study, 373(53.3%) participants had one or other circulatory system disorder, 260 (37.1%) had essential hypertension, 66 (9.4%) had secondary hypertension and 21 (3.0%) had an attack of myocardial infarction.

Among all, 55 (7.9%) participants had acute lower respiratory tract infection and 53 (7.6%) were asthmatics.

IV. Association of obesity and central obesity with socio- demographic variables

1) Association of obesity by Asia-pacific guidelines (BMI ≥ 25 kg/m$^{2)}$ with socio-demographic variables and lifestyle factors

a) Socio- demographic variables

Table No.21 Association between age of study participants and obesity

AGE (in years)	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
60-69	190	41.6	267	58.2	457
70-79	83	38.6	132	61.4	215
>80+	11	39.3	17	60.7	28
Total	284		416		700
x^2= 0.535 df= 2 p = 0.785					

Among elderly of both sexes the overall prevalence of obesity was 284(40.5%). The prevalence of obesity 190 (41.6%) was high in the age group of 60-69 years, followed by 11(39.3%) in the age group of 80 years and above. Less prevalence of obesity 83 (38.6%) was observed in the age group of 70-79 years.

Table No. 22 Association between religion and obesity

Religion	Obese (BMI ≥ 25)		Non obese (BMI< 25)		Total
	Number	Percentage	Number	Percentage	Number
Hindu	156	42.4	212	57.6	368
Muslim	96	35.6	174	64.4	270
Others	32	51.6	30	48.4	62
TOTAL	284		416		700
x^2= 6.458 df = 2 p = 0.040					

The present study showed that 62 participants belonged to other religions, among them 32(51.6%) and out of 368 participants who belonged to Hindu religion, 156(42.4%) were obese. Out of total 270 elderly who belonged to Muslim religion, 96(35.6%) were obese. This difference in prevalence of obesity in relation to religion was found to be statistically significant ($p < 0.05$).

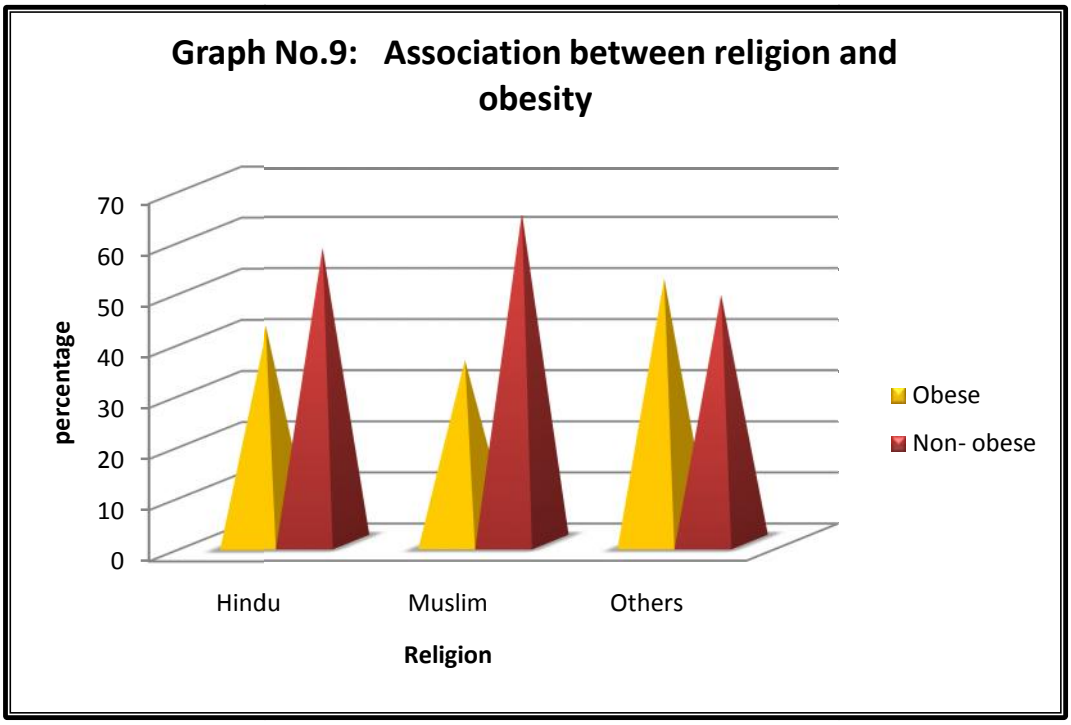


Table No.23 Association between literacy status and obesity

Literacy status	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Illiterate	33	38.4	53	61.1	86
Primary	120	43.3	157	56.7	277
Secondary	92	38.7	146	61.3	238
PUC	19	43.2	25	56.8	44
Beyond PUC	20	36.4	35	63.6	55
Total	284		416		700
x^2= 1.93 df = 4 p = 0.748					

The present study showed that among 86 illiterate elderly, 33 (38.4%) were obese. Whereas, out of the 277 elderly who studied up-to primary, 120 (43.3%) had BMI more than 25kg/m^2. Similarly, out of 238 elderly who studied up to high school 92 (38.7%) were obese. In the PUC group the percentage of obese person was 19(43.2%). The association of obesity with literacy status was not found to be statistically significant.

Table No.24 Association of obesity with gender and literacy status

Literacy Status	Male					Female				
	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		TOTAL	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		TOTAL
	NO.	%	NO.	%	NO.	NO.	%	NO.	%	NO.
Illiterate	4	3.1	7	3.3	11	29	18.7	46	22.3	75
Primary	30	23.3	51	24.3	81	90	58.0	106	51.5	196
Secondary	59	45.7	98	46.7	157	33	21.2	48	23.3	81
PUC /Diploma	19	14.7	23	11.0	42	0	0	2	1.0	2
Beyond PUC	17	13.2	31	14.7	48	3	2.0	4	1.9	7
Total	129		210		339	155		206		361
x^2= 1.125 df= 4 p= 0.890						**x^2= 1.771 df= 3 p= 0.622**				

Among males, who studied up to secondary level the prevalence of obesity was 59(45.7%), followed by 30 (23.3%) participants who were educated up to primary level. Out of 361 females 196 were educated up to primary level, 90(58.0%) were in obese. As observed in above table among both the sexes, as education level increased prevalence of obesity decreased but, statistically significant difference was not found.

Table No. 25 Association between occupations and obesity

Occupation	Male					Female				
	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		TOTAL	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		TOTAL
	NO.	%	NO.	%	NO.	NO.	%	NO.	%	NO.
Professionals	10	7.7	11	5.2	21	1	0.6	2	0.9	3
Businessmen	21	16.7	31	14.7	52	6	3.8	11	5.3	17
Skilled workers	36	27.8	53	25.2	89	12	7.7	9	4.4	21
Semiskilled workers	25	19.2	29	14.0	54	8	5.2	5	2.4	13
Unskilled workers	10	7.7	33	15.7	43	9	6.0	9	4.4	18
Retired	27	20.9	53	25.2	80	-	-	-	-	-
Housewives	-	-	-	-	-	119	76.7	170	82.6	289
Total	129		210		339	155		206		361
	x^2= 7.332 df = 5 p=0.197					x^2= 4.816 df = 5 p=0.439				

In our study, out of 339 males, 129 (38.0%) were overweight/obese. Among these obese males 10(7.7%) were professionals, 21(16.7%) were businessmen, 36(27.8%) were skilled workers, 25(19.2%) were semiskilled and 10 (7.7%) were unskilled workers, 27(20.9%) were retired.

Among these 155 (43.0%) obese females, 1(0.9%) were professionals, 6(3.8%) were businessmen, 12(7.7%) were skilled, 8(5.2%) were semiskilled workers, 9(6.0%) were unskilled workers. Majority 119(76.7%) of obese women were housevies. We noted that, there was increase prevalence of obesity as the occupation becomes more sedentary in nature but there was no statistically significant association.

Table No.26 Association between type of family and obesity

Type of Family	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Nuclear	227	41.2	324	58.8	551
Joint	43	40.6	63	59.4	106
Three generation	14	34.1	27	65.9	41
Broken	-	-	2	100.0	2
Total	284		416		700
x^2= 2.157 df = 3 p = 0.540					

In our study 227(41.2%) participants were obese who belonged to nuclear family, 43(40.6%) and 14(43.1%) participants were obese who stayed in joint family and three generation family respectively.

Table No.27 Association between marital status and obesity

Marital Status	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Single	20	64.5	11	35.5	31
Married	249	39.5	381	60.5	630
Widow/ widower	15	38.5	24	61.5	39
Total	284		416		700
x^2= 7.730 df = 2 p = 0.021					

In the present study, out of the 630 married elderly, 249(39.5%) were obese. Among 31 unmarried/single elder participants 20(64.5%) and among 39 widow/widower 15(38.5%) were obese. The association between marital status of study participants and obesity was statistically significant (p<0.05).

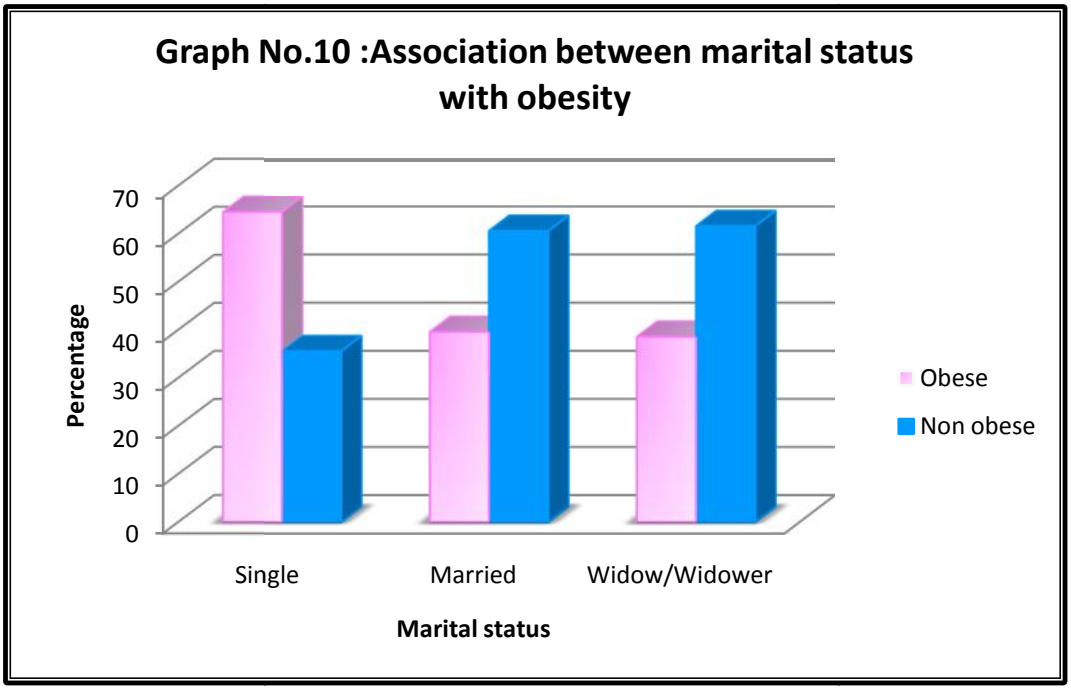
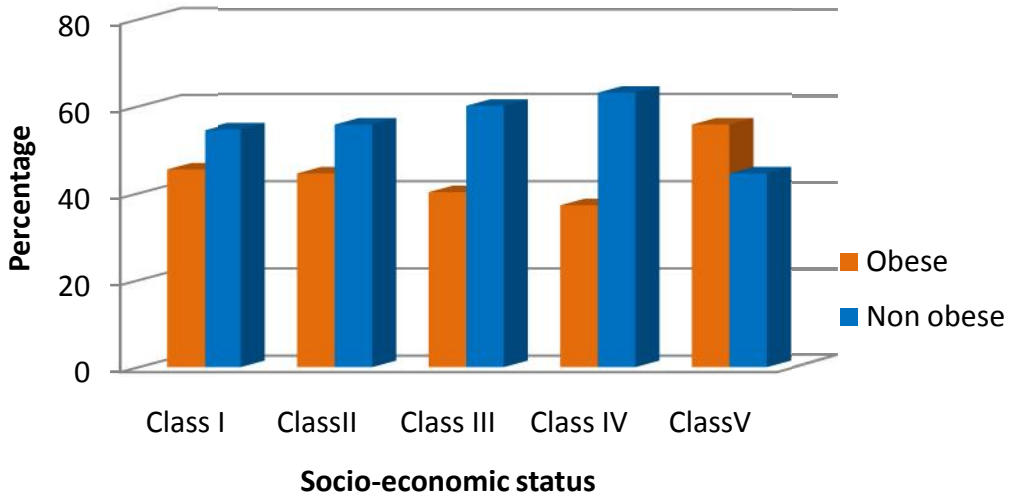


Table No. 28 Association between socio-economic status and obesity

Socio-economic Status	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Class I	10	45.5	12	54.5	22
Class II	56	44.4	70	55.6	126
Class III	133	40.1	199	59.9	332
Class IV	75	37.1	127	62.9	202
Class V	10	55.6	8	44.4	18
TOTAL	284		416		700
x^2= 3.707 df = 4 p= 0.447					

Out of the 22 elderly belonging to class I, 10(45.5%) were obese. In class II group, out of 126 elderly, 56 (44.4%) were obese. Similarly among 332 elderly who belonged to class III, 133 (40.1%) and among 202 elderly belonging to class IV 75 (37.1%) were obese. Lastly in class V group, out of 18 elderly, 10 (55.6%) were obese. In the present study it was observed that prevalence of obesity was slightly higher among participants who belonged to class I and class V at extremes of socioeconomic classes, however it was not found to be statistically significant.

Graph No.11: Association between socio-economic status and obesity



B) Lifestyle factors

Table No.29 Association between alcohol consumption and obesity

Alcohol consumption	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Non user	248	41.3	353	58.7	601
Ex-user	15	48.4	16	51.6	31
Current user	21	30.9	47	69.1	68
TOTAL	284		416		700
x^2= 3.553 df = 2 p= 0.169					

Among the total obese elderly studied non users 248 (41.3%) were obese. The prevalence of obesity was more among 15(48.4%) ex-user and 21 (30.9%) participants who were current users.

Table No.30 Association between smoking habits and obesity

Smoking habit	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Non user	213	39.4	327	60.6	540
Ex-user	34	45.9	40	54.1	74
Current user	37	43.0	49	57.0	86
TOTAL	284		416		700
x^2= 1.385 df = 2 p= 0.500					

Among the total elderly studied, 86 were currently smoking among them 37(43.0%) were obese, 34 (45.9%) were obese among ex-smokers and 213 (39.4%) were obese who did not have the habit of smoking.

Table No.31 Association between consumption of smokeless tobacco and obesity

Consumption of smokeless tobacco	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Non user	192	40.3	285	59.7	477
Ex-user	24	42.1	33	57.9	57
Current user	68	41.0	98	59.0	166
TOTAL	284		416		700
x^2= 0.086 df = 2 p= 0.958					

Among 166 current users, 68 (41.0%) were obese. Out of total ex-users 24 (42.1%) and 192 (40.3%) non users were obese. There was slight increase of prevalence of obesity in ex-smokers, however it was statistically non significant.

Table no.32: Association between physical activity and obesity.

Physical activity	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Total
	Number	Percentage	Number	Percentage	Number
Sedentary	110	43.7	142	56.3	252
Mild	84	39.1	131	60.9	215
Moderate	60	41.4	85	58.6	145
Vigorous	30	34.1	58	65.9	88
TOTAL	284		416		700
x^2= 2.764 df= 3 p= 0.429					

Our study revealed that, 110(43.7%) physically inactive or sedentary in their lifestyle participants were obese, 84(39.1%) obese participants were mildly active. Whereas 60(41.4%) were moderate active and from 88 vigorously active participants, 30(34.1%) were obese. It was observed that there was slight higher prevalence of obesity among people who had sedentary lifestyle but they were no statistically significant difference.

Table No.33 Association of obesity with gender and physical activity

Physical activity	Male					Female				
	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		TOTAL	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		TOTAL
	NO.	%	NO.	%	NO.	NO.	%	NO.	%	NO.
Sedentary	60	45.4	72	54.6	132	50	41.6	70	58.4	120
Mild	36	37.1	61	62.9	97	48	40.6	70	59.4	118
Moderate	21	34.4	40	65.6	61	39	46.4	45	53.6	84
Vigorous	12	24.4	37	75.6	49	18	46.1	21	53.9	39
Total	129		210		339	155		206		361
x^2= 7.268 df=3 p=0.064						**x^2= 0.907 df=3 p=0.828**				

Among males, 60 (45.4%) physically inactive participants, 36 (37.1%) mildly active, 21(34.4%) moderate active participants were obese whereas, 12(24.4%) vigorous active participants were obese.

Similarly among females, 50(41.6%) participants who had sedentary lifestyle, 48(40.6%) mildly active, 39(46.4%) moderate active were obese whereas, 18(46.1%) practicing vigorous activity were obese.

There was no significant difference between physical activity and obesity among males as well as females.

Table No. 34 Association between type of diet and obesity

Type of diet	Obese (n=284)		Non obese (n=416)		OR	95% CI		χ^2	*P*
						Lower	Upper		
	No.	%	No.	%					
Vegetarians	118	42.4	160	57.6	**1.14**	**0.84**	**1.55**	**0.672**	**0.412**
Mixed	166	39.3	256	60.7					

It was observed from the above table that there was no association between obesity, among 284 obese participants 118(42.4%) were vegetarians.

Table No.35 Mean intake of calories according to obesity

Mean Intake	Obese n= 284	Non obese n=416	Z test	P value
	Mean ± SD	Mean ± SD		
Energy (cal.)	**1578+ 339**	**1505± 345**	**2.768**	**0.006**

Obese participants consumed 1578 ± 339 calories whereas; non obese participants consumed 1505 ± 345 calories. There was statistically significant between mean calories consumption and obesity.

Table No. 36 Association of obesity with gender and consumption of calories

RDA	Male					Female				
	Obese (BMI ≥ 25)		Non obese (BMI< 25)		TOTAL	Obese (BMI ≥ 25)		Non obese (BMI< 25)		TOTAL
	NO.	%	NO.	%	NO.	NO.	%	NO.	%	NO.
>90 %	22	3.1	12	5.7	34	19	12.2	33	16.0	52
70-89.9 %	51	23.3	78	37.2	129	80	51.6	87	42.2	167
50-69.9 %	47	45.7	92	43.8	139	51	32.9	75	36.4	126
<49 %	9	14.7	28	13.3	37	5	3.3	11	5.3	16
Total	129	38.0	210	62.0	339	155	43.0	206	57.0	361
x^2= 14.381 df= 3 p= 0.002						**x^2= 3.752 df = 3 p= 0.289**				

Among males, 129(38.0%) were obese, out of them 22(3.1%) consumed more than 90% of calories according to RDA, maximum 47(45.7%) consumed 50-69.9% of required calories. Out of 129 males who consumed 70-89.9% of calories, 51(23.3%) were obese and 9(14.7%) consumed less than 49% of required calories. There was statistically significant difference between calories consumption according to RDA and obesity ($p < 0.05$).

Out of females, 155(43.0%) were obese. Among them 19 (12.2%) consumed more than 90% of calories according to RDA, maximum 51 (32.9%) consumed 50-69.9% of required calories. Out of 167 females who consumed 70-89.9% of calories, 80(51.6%) were obese and 5(3.3%) consumed less than 49% of required calories. There was no statistically significant difference between calories consumption according to RDA obesity.

C) Family History of Diabetes, Hypertension and Obesity

Table No.37 Association of the family history of diabetes and obesity

Family h/o DM	Obese (n=284)		Non obese (n=416)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Present	124	43.6	203	48.7	**0.81**	**0.6**	**1.1**	**1.789**	**0.181**
Absent	160	56.4	213	51.3					

Among 284 obese, 124(43.6%) had family history of diabetes, 160 (56.4%) did not have family history of diabetes. There was no statistically significant difference between family history of diabetes and obesity.

Table No.38 Association between family history of hypertension and obesity

Family h/o HTN	Obese (n=284)		Non obese (n=416)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Present	143	50.4	214	51.5	**0.95**	**0.7**	**1.29**	**0.777**	**0.080**
Absent	141	49.6	202	48.5					

Among 284 obese, 143 (50.4%) had family history of hypertension, 141(49.6%) did not have family history of hypertension. But, there was no statistically significant difference between family history of hypertension and obesity.

Table No.39 Association between family history of obesity and obesity

Family h/o Obesity	Obese (n=284)		Non obese (n=416)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Present	57	40.9	79	58.1	**1.07**	**0.73**	**1.56**	**0.126**	**0.723**
Absent	227	40.2	337	59.8					

Among 284 overweight and obese, 57 (40.9%) had family history of obesity and 227 (40.2%) did not have family history of obesity. No statistically significant difference between family history of obesity and obesity was observed.

Table No.40 Association between morbidity status of elderly and obesity

Morbidity Status	Obese (n=284)		Non obese (n=416)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Present	256	90.1	366	88.0	**1.25**	**0.77**	**2.04**	**0.795**	**0.372**
Absent	28	9.9	50	12.0					

Among 284 participants who were obese, 256 (90.1%) had morbidity and 28 (9.9%) obese did not have morbidity. The chance of having morbidity was 1.25 time higher among those who were obese than people who had normal weight.

Table No. 41 Association between morbidities and obesity

Morbidity Status	Obese (BMI ≥ 25)		Non obese (BMI≤ 25)		Z Value	P Value
	Number	Percentage	Number	Percentage	Number	Percentage
Diseases of blood forming organ	91	40.2	135	59.8	0.10	0.909
Diseases of endocrine	86	44.7	112	55.3	0.96	0.332
Diseases of eye	64	44.4	80	55.6	1.06	0.288
Diseases of cardiovascular system	154	41.2	219	58.8	0.41	0.680
Diseases of respiratory system	50	46.2	58	53.8	1.31	0.187
Disorders of gastro intestinal tract	53	44.2	78	55.8	0.01	0.976
Disorders of skin	6	31.5	13	68.5	0.81	0.418
Disorders of musculoskeletal system	50	36.7	86	63.3	1.0	0.314
Disorders of urogenital system	15	41.6	21	58.4	0.01	0.891

Among study participants who had disease of blood forming organ 91(40.2%) were obese, 86(44.7%) who had endocrine diseases were obese. Whereas 154(41.2%) and 50(46.2%) obese had cardiovascular and respiratory system disorders respectively. Out of total 50(36.7%) and 53(44.2%) participants had musculoskeletal and urogenital disorders respectively. The association between morbidity and obesity was not found to be statistically significant.

2) Association of central obesity with different variables

Table No.42 Association between age and central obesity

AGE (in years)	Central obesity Present		Central obesity Absent		Total
	Number	Percentage	Number	Percentage	Number
60-69	147	32.2	310	67.8	457
70-79	66	30.7	149	69.3	215
≥80	15	53.6	13	46.4	28
Total	228	32.6	472	67.4	700
x^2= 6.000 df= 2 p= 0.05					

The overall prevalence of central obesity seen in participants was 228 (32.6%). The prevalence of central obesity was high 147 (32.2%) in the age group of 60-69 years, followed by 66(30.7%) in the age group of 70-79 years and least 15 (53.6%) in the age group of 80 years and above.

Table No.43 Association between type of diet and central obesity

Type of diet	Central obesity Present (n=228)		Central obesity absent (n=472)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Vegetarians	101	44.3	176	37.3	**1.34**	**0.96**	**1.87**	**3.16**	**0.075**
Mixed	127	55.7	296	62.7					

It was observed from the above table that there was no association between central obesity and type of diet. There was higher 127 (55.7%) prevalence of central obesity among who had mixed type of diet.

Table No.44 Association between family history of Diabetes and central obesity

Family h/o DM	Central obesity present (n=229)		Central obesity absent (n=472)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Present	99	33.3	228	69.7	**0.82**	**0.59**	**1.14**	**3.427**	**0.180**
Absent	129	34.4	244	65.6					

The central obesity was slightly high 129(34.4%) among those who did not have family history of diabetes compared to those who had family history of diabetes 99 (33.3%). The association between family history of diabetes and central obesity was found not be statistically significant.

Table No.45 Association between family history of HTN and central obesity

Family h/o HTN	Central obesity Present (n=228)		Central obesity absent (n=472)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Present	118	33.2	240	66.8	**1.04**	**0.75**	**1.45**	**1.078**	**0.583**
Absent	110	32.1	233	67.9					

The central obesity was seen equal among those who had family history of hypertension 118 (33.2%) and those who did not had family history of hypertension i.e., 110 (32.1%). The odds of becoming centrally obese was 1.04 times higher among those who had family history of obesity, which was statistically not significant

Table No. 46 Association between family history of obesity and central obesity

Family h/o Obesity	Central obesity Present (n=228)		Central obesity absent (n=472)		OR	95% CI		χ^2	*P*
	No.	%	No.	%		Lower	Upper		
Present	39	28.7	46	71.3	**1.68**	**1.03**	**2.73**	**4.96**	**0.025**
Absent	189	33.5	375	66.5					

Among participants who had family history of obesity, 39 (28.7%) were centrally obese and 189 (33.5%) centrally obese persons did not have family history of obesity.

The odds of becoming centrally obese were 1.68 times higher among those who had family history of obesity, which was statistically significant.

Table No. 47 Association between morbidity status and central obesity

Morbidity status	Central obesity Present (n=228)		Central obesity absent		OR	95% CI		χ^2	*P*
	No.	%	No.	%		**Lower**	**Upper**		
Present	209	91.7	413	87.5	**1.57**	**0.89**	**2.81**	**2.703**	**0.101**
Absent	19	8.3	59	12.5					

Among 228 participants who were central obese, 209 (91.7%) had morbidity and 19 (8.3%) who were centrally obese ho did not have morbidity. The chance of having morbidity was 1.57 times higher among those who were centrally obese than centrally non-obese which was statistically not significant.

Table No. 48 Association between morbidities status and central obesity

Morbidity Status	Central obesity present n=228		Central obesity absent n= 472		Z Value	P Value
	Number	Percentage	Number	Percentage	Number	Percentage
Diseases of blood forming organ	85	37.2	141	29.8	1.97	0.049
Diseases of endocrine	59	25.8	139	29.4	0.98	0.325
Diseases of eye	45	19.7	95	20.1	0.10	0.904
Diseases of cardiovascular system	134	58.7	239	50.6	2.02	0.043
Diseases of respiratory system	36	15.7	72	15.2	0.17	0.854
Disorders of gastro intestinal tract	51	22.3	80	17.0	1.72	0.085
Disorders of skin	10	4.3	15	3.1	0.80	0.419
Disorders of musculoskeletal system	203	89.0	399	84.5	1.60	0.107
Disorders of urogenital system	203	89.0	398	84.3	1.67	0.093

Among study participants who had disease of blood forming organ, 85 (37.2%) were obese, 59 (25.8%) who had endocrine diseases were obese. Whereas 134(58.7%) and 36 (15.7%) obese had cardiovascular and respiratory system disorders respectively. Out of total 203 (89.0%) and 203(89.0%) participants had musculoskeletal and urogenital disorders. There was significant association between central obesity and diseases of blood organ ($p< 0.05$) and diseases of cardiovascular system ($p< 0.05$).

Mean Percentage of Body Fat

Table No. 49 Age and Sex wise distribution of mean percentage of body fat (PBF)

AGE (In years)	MALE n= 326		FEMALE n= 346	
	No.	Mean ± SD	No.	Mean ± SD
60-69	198	27.1± 7.62	253	33.2± 8.01
70-79	128	25 ± 7.62	93	30.4± 10.84
Z value	2.436		2.277	
P value	0.015		0.023	

The mean percentage of body fat of males in the age group of 60-69 was 27.1±7.62 % and 25 ±7.62 % in the age group of 70- 79 years. The mean PBF among female elderly in the age group 60-69 was 33.2±8.01 % and in the age group 70-79 was 30.4±10.84 %. There was significant difference in the mean PBF between the age groups in both male ($p<0.05$) and female ($p<0.05$).

Table No. 50 Family history of obesity distribution of mean percentage of body fat

Family history of obesity	MALE n= 326		FEMALE n= 346	
	No.	**Mean ± SD**	**No.**	**Mean ± SD**
Present	70	26.9 ± 9.56	66	30.6 ±11.35
Absent	269	24.9 ± 8.78	295	31.9 ± 9.88
Z value	1.585		0.86	
P value	0.112		0.389	

The mean PBF of males who had family h/o of obesity was (26.9 ±9.56) slightly high compared to those who did not have family h/o of obesity (24.9 ±8.78) which was not found to be statistically significant. Similarly, the mean PBF of females who had family history of obesity was (30.6 ±11.35) and those who did not have family history of obesity (31.9±9.88) which was also not found to be statistically significant.

Table No.51 Distribution of mean percentage of body fat according to morbidity status

Morbidity status	MALE n= 326		FEMALE n= 346	
	No.	Mean ± SD	No.	Mean ± SD
Present	301	25.5± 9.09	321	31.4 ±10.32
Absent	38	24.3 ± 7.99	40	33.3 ± 8.62
Z value	0.858		1.284	
P value	0.359		0.201	

The mean PBF of males who had morbidity was (25.5± 9.09%) slight high compared to those who did not have morbidity (24.3±7.99) which was found not to be statistically significant. Similarly, the mean PBF of females who had morbidity was (31.4±10.32) and those who were not having any morbidity (33.3±8.62) which was also not statistically significant.

Table No.52 Distribution of mean percentage of body fat according to BMI and Central obesity

variables	Category	MALE n=326		Z	P	FEMALE n= 346		Z	P
		No.	Mean ± SD			No.	Mean ± SD		
BMI	>25	126	25.2± 9.01	0.20	0.841	150	33.0 ±9.68	2.26	0.024
	<25	200	25.4± 8.97			196	30.6± 10.42		
Central obesity	Present	157	25.8± 8.87	0.923	0.359	258	31.9±10.4	1.05	0.294
	Absent	168	24.9±9.06			88	30.7±9.16		

Among males who belong to obese group, mean PBF was 25.2±9.01% and among non obese group (25.4±8.9%) which was not found to be statistically significant. whereas there was significant difference ($p<0.05$) between mean PBF of females who belong to obese group (33.0±9.68%) and non obese group (30.6±10.42%).

It was observed that, among males difference between mean percentage body fat between those who had central obesity (25.8±8.87%) and those who were not having (24.9±9.06%) central obesity was not found to be statistically significant. Similarly, among females mean percentage body fat between those who had central obesity (31.9±10.48%) and those who were not having (30±9.16%) central obesity was also not found to be statistically significant.

DISCUSSION

I. Socio-demographic profile of study participants.

Table No 1: Age and sex wise distribution of study participants.

In the present study, 700 elderly participants were interviewed, out of which 65.3% were between 60 – 69 years of age group, 30.7% were between 70 – 79 years of age, 4.0% were 80 and above years of age. In studies conducted by Bharati et.al[50], study done in Korea[38] and by Dutra et.al[39] in elderly showed same age distribution of participants. Whereas, in a study done in Gujarat[52]and by Saxena et al[46] 8- 10 higher percentage among 60-69 of age group and 4-5 higher among people above 80 years of age were observed.

Out of the total 700 participants, males were 48.5 % and 51.5 % were females. In our study the mean age ± SD of the male subjects was 68.2 ± 6.49 years with median age 66 years and the range was 60 – 92 years and among female subjects, mean was 65.7±5.92 years with median being 66 years and range was 60 – 85 years. There were statistical significant differences with mean age and gender. Similar findings were seen in study done by Rajshree et al in Gujarat.[52]

Table No 2: Distribution of elderly according to religion:

Majority of the elderly i.e.52.6% were Hindus, 38.6% were Muslims and 8.8% belonged to others religions. In a study conducted in Andhra Pradesh by Pooja et al[54], distribution of elderly according to religion was Hindus (86.0%), Muslims (12.0%) and Christians (2.0%).

Table No 3: Distribution of study participants according to their literacy status:

Our study revealed that 87.8% of study subjects were literates. Whereas, it was 22.8% in the study done in Guntur by Madhavi et al[54]. Among literate, majority 39.6% of the participants had studied up to primary school and 34.0% were educated up to high school, 5.6% were graduates and 1.0% elderly had obtained a post-graduate degree. Literacy status of the study participants seen in Gujarat[52], 45.9% elderly had studied up to primary school, 23.4% up to secondary, 5.5% up to higher secondary, graduates and post graduates were 1.8% and 4.3% respectively. There was significant difference between education levels with sex; this may be due to unimportance of female education in the earlier days.

Table No 4: Distribution of elderly according to their occupation.

In the study participants, an overall 3.3% were professionals and 9.8% were businessmen. Out of all 15.6% were skilled workers, 9.5% semiskilled and 8.6% were unskilled workers. About 11.4% of elderly were retired. In our study out of the total females, 80.0% were housewives and about 20.0% were working for earning their daily livelihood. The study conducted in Guntur by Madhavi et al[53] also showed similar distribution of elderly according to their occupation.

Table No 5: Distribution of elderly according to type of family:

In our study, the majority of the elderly 78.7% were living in nuclear families; about 15.1% elderly were living in joint families and 5.9% stayed in three generation. These findings were similar in study conducted by Saxena et al[46] in which 71.3% and 28.7% elderly belonged to nuclear and joint family respectively. Whereas, study done

in Ahmadabad by Rajshree et al[52], showed that 92.7% elderly stayed in joint family and hardly 7.3% in nuclear family.

Table No 6: Distribution of elderly according to their marital status.

Out of 700 participants in our study, majority of 90.0% of the elderly were married and about 5.6 % widows or widowers and 4.4% participants were unmarried. Results seen in study conducted in Guntur[53], were 79.5% were married and 18.7% were widow and 1.8% were widower.

Table No 7: Distribution of elderly participants according to socio-economic status:

As regards to socio-economic status, in our study, a small portion (3.1%) belonged to class I, 18.0% to class II, 47.4% to class III, 28.9% to class IV and 2.6% participants belonged to class V. Similar results were seen among study participants in Guntur by Madhavi et al[53], where 2.8% belonged to class I, 13.1% to class II, 3.3% to class III, 33.5% to class IV and 47% to class V.

Table No 8 and 9: Distribution of study participants according to habits of alcohol consumption, tobacco chewing and smoking habits.

In present study, out of total, 9.7% elderly males were currently consuming alcohol, 4.4% were ex-users and 85.9% were non-users; similar findings were seen in the study done in Dibrugharh by Il-ho Kim et al[38], where 21.0% were currently consuming alcohol and 79.0% were non-users.

Similarly among the total elderly studied in our study, around 23.8% were currently chewing tobacco and 10.6% were currently smoking. None of our female

elderly participants had habit of consuming alcohol and smoking. In the study done in Taiwan, 17.74% elderly had a habit of smoking cigarettes and 8.68% chewed betel quid.[29]

Table no.10: Distribution of study participants according physical activity.

Among our study participants, 36.0% had sedentary life style, 30.7% were mild active whereas 20.7% and 12.6% were moderate active and vigorous active respectively. In our study similar proportion of sedentary life style was observed in males and females (38.9% and 33.2%).

Table no. 11 and 12: Distribution of study participants according to type of diet and consumption of calories.

In present study among 63.1% males and 57.9% females had mixed type of diet. Among all, maximum 44.3% participants consumed 70-89.9% of required calories and higher number of females 66.3% consumed 70-89.9% of required calories. This difference between calories consumption and gender was not found to be statistically significant.

II) Prevalence of obesity

Table no. 13. Prevalence of obesity according to WHO classification of BMI

In present study according WHO classification of obesity i.e. BMI $\geq$30 kg/m^2, prevalence of obesity was 4.0% with predominance in women. Among males, it was 4.4% and among elderly females the prevalence was 6.4%. The study done in Gujarat by Rajshree et al[52] showed that overall prevalence of obesity among elderly was 4.1% (4.1% in males and 4.9% in females) and even study conducted in Brazil[41] showed

similar prevalence (4.6%) among study participants[42]. In another study which was conducted in Dehradun by Saxena et al[46] the prevalence of obesity was 5.6% with female predominance which was similar to our study.

Whereas study conducted in Guntur by Madhavi et al[52] , the prevalence was 8.1% among elderly. The prevalence of obesity was higher in study conducted in Iran[33] i.e.11.7% (7.3% in males vs 15.5%in females) and study conducted in Brazillian[32] elderly 23.4% (10.4% in males and 29.7% in females) than that of our study.

Table no. 14 Prevalence of obesity among elderly by Asia-Pacific guidelines for BMI

In the present study the prevalence of obesity among elderly was 40.5%. Among males it was 38.0% and 43.0% in females. These findings were same as in study conducted in Koreans by KimI-H, et al[38] i.e.39% (31.7% in males and 42.2% in females). It was observed that prevalence of obesity was higher in our study than the study done in Tamilnadu by katta et al[67] and Andhra Pradesh[54], which showed the prevalence of obesity was 17.86% (15.1% in males and 19.7% in females) and 25.2% respectively.

Table no.15 Prevalence of central obesity

In our study prevalence of central obesity was 32.6%, (17.1% in males and 47.1% in females). Whereas, the study conducted in Italy by Dutra et al[39] the prevalence of central obesity was 26.8% in males and 70.3% in females, and study done in Spain[28] , prevalence of central obesity was 65.2%(48.4% in males and 78.4% in females) which was very high compared to findings in our study. Yet another study

done in Brazil showed overall prevalence of central obesity 50.7% (25.6% in males and 62.7% in females).[32]

Including our study, these all studies showed high prevalence of central obesity among females that can be due to biological gender differences, menopausal changes, reduced metabolic activities which accelerate the development of female obesity.

Table no. 16 Prevalence of obesity according percentage of body fat

Out of total, 32.2% elderly were obese (≥ 30% for males and ≥ 41% in females) in elderly 28.6% males and 18.0% females were obese. There was significant difference between body fat percentage and sex.

III) Morbidity Profile.

Table no.18, 19 and 20: Distribution of study participants according to morbidities.

Of the total participants, majority (53.4%) were suffering from one or the other morbidity; 36.1% suffered from one morbidity. Similarly the study done in the Delhi, 87.01% subjects had experienced one or more acute illnesses and 3.40% did not have any symptom suggestive of a chronic illness or a pre-existing disease.[49]

The causes of morbidity among our study participants were: iron deficiency anemia in 13.0%, hypertension in 46.5%, diabetes mellitus in 28.3% and 19.4% elderly had complaints of joint pain and muscle aches. About 19.3% had vitamin B-12 deficiency, acute lower respiratory tract infection was seen in 7.9%, 7.6% were asthmatics and 9.3% were having cataract, 11.3% had visual impairments. In a study

done in Delhi Sharma et al[49], the morbidities seen were: cataract among 48.50%, hearing defects in 31.62%, depression in 20.03% and urinary incontinence among 19.55%. Another study conducted in Guntur by Madhavi et al[52] the morbidities seen were: hypertension (34.4%), locomotors complaints (48.6%), respiratory complaints (20.2%), diabetes (10.6%) and vision problems (42.7%).

IV) Association of socio-demographic factors with obesity and central obesity.

Table no.21 and 41: Association of obesity and central obesity with age

In our study, the prevalence of obesity was high (41.6%) among participants who belonged to age group of 60 -69 years similar findings were seen in two studies done in Brazilian elderly (26.6% and 29.5%)[32,34], study done in Koreans (25.0%)[37], 35.0% in study done by Gutierrez- Fisac et al[28] and in 21.3% study done in Tamilnadu[54]. In present study, the overall prevalence of central obesity according WC cut off points was 32.6% which, was high (53.6%) among participants aged 80 years and above. The study done in Spain by Gutierrez- Fisac et al[28] showed that the prevalence of central obesity was 48.4% in men and 78.4% in females. Another study done in Italy[39] showed that there was increase in prevalence of central obesity with increasing age among elderly which was similar our study findings.

Table no.22: Association of obesity with religion

In our study, 42.4% obese participants belonged to Hindu religion but it was less compared to those who belonged to other religions (51.6%). There was statistically significant association ($P<0.05$) between religion and obesity. Similarly, in study done by Reddy et al[48] prevalence of obesity (29.6%) in other religions was higher than that in Hindus (15.7%).

Table no.23 and 24: Association between literacy status and obesity

In the present study, 43.3% participants who were studied up to the primary level of education and 43.2% who studied up- to PUC were obese. The prevalence of obesity was higher among elderly who were literates compared to illiterates (38.4%), and 36.4% in those who studied beyond PUC. In present study, as education level increased, the prevalence of obesity decreased and similar findings were seen in study done in Taiwan.[29] But two Brazillian studies[32,34] showed that the prevalence of obesity increased with higher levels of educations.

Table no.24 and 26: Association of obesity with marital and type of family

In the present study, the prevalence of obesity was 64.5% in singles and 39.5% among married and 38.5% widow/widower were obese. Same findings were seen in study done in Taiwan[29], but study conducted in Brazillians elderly showed that 19.6% single/unmarried, 21.3% married and 28.4% widowed were obese.[32]

In our study, 41.2% obese participants stayed in nuclear family and 34.1% obese belonged to three generation family.

Table no. 25: Association between occupation and obesity

In our study, the prevalence of obesity was more (27.8%) in males and 7.7% among females who were semiskilled workers. The prevalence of obesity was 20.9% among retired males and 41.2% among housewives which was due to sedentary lifestyle. Similarly, in the study done in Korea the prevalence of obesity was higher (72.4%) among non-working elderly than those who were currently working (27.6%).[38]

Table no. 28: Association between socio-economic status and obesity

Our study showed that there was higher prevalence of obesity among two extremes of socio-economic classes, 45.5% in class I and 55.6% in class V. Similar findings were seen in study done on Koreans[38] where the prevalence of obesity was 36.0% in higher income group and 36.7% among lower income group.

Table no. 29-31: Association between habits and obesity

In present study, females were non alcoholics and non smokers where as they had habit of chewing tobacco. The prevalence of obesity was slightly high (48.4%) among alcohol ex-users, 45.9% among ex-smokers compared to non- alcoholics and non-smokers. Those who were currently chewing tobacco the prevalence was 41.0%. This is due to decrease basal metabolic rate by stopping the use of tobacco. Whereas, study done in Brazil[34] showed that the prevalence of obesity was 20.0% in non smokers and 18.22% in non alcoholics which was more than ex-user.

Table no. 32 and 33: Association between physical activity and obesity

In the present study, prevalence of obesity was higher (43.7%) among those who had sedentary life style and (34.1%) in those who practised vigorous activity. The prevalence of obesity decreased with increased level of physical activity. In the study conducted in Brazil[32], prevalence was 20.5% among those who exercised daily and 17.6% in Italian study.[39]

Table no.34-36 and 43: Association of obesity with type of diet, mean intake of dietary nutrients according to obesity and central obesity:

In present study, 42.4% obese participants and 44.3% centrally obese participants were having vegetarian type of diet. The mean consumption of calories was significantly high 1578± 339 Kcal among obese subjects. Among males, statistically significant association was found between consumption of calories and obesity ($p< 0.05$).In another study conducted by Iftikhar Alam et al[68] in Pakistan revealed that energy intake was significantly higher (1985± 364) among obese elderly.

Table no. 37–39 and 44-46: Association of family history of Diabetes, Hypertension, Obesity with obesity and central obesity

Among our study participants, obesity was slightly more among those who had family history of diabetes (43.6%), hypertension (50.4%) and obesity (40.9%). The prevalence of central obesity was significantly associated with family history of obesity ($p< 0.05$). This finding is strengthened by the evidence that genetic factors regulate energy expenditure, BMR, diet induced thermogensis and it has a greater effect on the distribution of body fat.[12] The genetic heritability of the central obesity phenotype accounts for 30-50% of the age and gender adjusted phenotypic variances.[13]

Table no. 40, 41 and 47, 48: Association of morbidities with obesity and central obesity

In our study there was increase in morbidity associated with obesity (OR= 1.25, 95% CI= 0.73 to 1.56). Similarly a study done by Wannamethee et al[69] in British

towns among elderly men has found significant increase in the burden of diseases increases with overweight and obesity. Obesity in elderly appears to be associated with greater morbidities and reduction in the quality of life.

In our study the morbidity was significantly associated with central obesity ($p< 0.05$). A study by Kim I- H, et al[45] done on elderly Koreans has revealed that both increase in waist circumference and BMI increase the burden of chronic diseases.

In our study the prevalence of hypertension, Diabetes mellitus and Osteo-arthritis was associated with obesity. A study conducted by Musta et al[70] has observed that hypertension, diabetes mellitus, Osteo-arthritis and gall balder disease increases sharply with overweight and obesity among elderly.

Similarly in our study, the prevalence of hypertension, diseases of blood forming organ and disorders of urogenital system was significantly associated with central obesity. Many studies have [Good BH et al[71], Seo JS et al[72]] found that increased abdominal fat mass independently associated with metabolic syndrome.

v) Mean percentage of body fat

Table no. 49: Age and sex wise distribution of mean percentage of body fat (PBF):

In the present study, decreasing trend was noticed in mean percentage of body fat with increase in age among both males (Z value= 2.436, $p< 0.05$) and females ($Z= 2.277$, $p < 0.05$). Out of all females participants of our study were having higher mean percentage of body fat compared to males ($P<0.05$). The increase in body fat in ageing is multifactorial in origin, due to decrease in muscle mass, decrease in physical activities reduced growth and sex hormone secretion and action.

Whereas Fatmah et al[73] in their study found that percentage of body fat was significantly high in the age group of 66-85 years compared to 55-65 years and significantly high among females compared to males.

Table no.50: Distribution of mean percentage of body fat (PBF) according to family history of obesity:

The mean percentage of body fat was 26.9±9.56% in males and 30.6±11.35% among females those who had a family history of obesity. The extensive review literature has shown that the relationship between obesity and central obesity with family history of obesity and there is scarcity of information on the relationship between percentage body fat and family history.

Table no.51: Distribution of mean percentage of body fat (PBF) according to morbidity status:

There was no significant difference was found in between the mean percentage of body fat and morbidity in participants of our study (in males Z value= 0.858,$p>0.05$ and among females Z= 1.284, $p>0.05$) . The information needed to directly associate percentage body fat with morbidity is lacking even though there is increase in interest in ranges of body fat associated with optimum health.

Table no. 52: Distribution of mean percentage of body fat (PBF) according to obesity and central obesity:

In our study, among males who belonged to obese group, mean PBF was 25.2±9.01% and (25.4±8.9%) among non obese group which was not found to be statistically significant. There was significant difference ($p<0.05$) between mean PBF

of females who belonged to obese group (33.0±9.68%) and (30.6±10.42%) non obese group.

Similarly in our study, it was observed that, among males difference between mean percentage body fat between those who had central obesity (25.8±8.87%) and those who were not having (24.9±9.06%) central obesity, Among females mean percentage body fat between those who had central obesity (31.9±10.48%) and those who were not having (30±9.16%) central obesity was also not found to be statistically significant.

A study done by Jackson et al[74] has observed that there was a proportional relationship between increased percentage body fat with body weight and visceral fat both sex.

CONCLUSION

The study highlights the problem of obesity in urban elderly. The prevalence of obesity in elderly was slightly higher, with predominance in women. An ageing population together with social, economic and lifestyle changes have led to dramatic increase in obesity**.** Obesity (general and central) are significantly associated with morbidity. In addition to this elderly with normal BMI may accumulate abdominal fat therefore; caution should be exercised while choosing method to assess obesity in elderly. Frequent monitoring, with longitudinal assessments and obesity prevention is of outmost importance to avoid comorbidities and improve quality of life of elderly people. The BMI (proposed WHO Asia-Pacific guidelines), waist circumference (WHO Guidelines) and percentage body fat (Bioelectrical Impedance Analysis) were found to be reliable indicators in the assessment of obesity among elderly subjects. Many studies which have aimed to determine the cut-off points for obesity in elderly are based on mortality risk, which may not be best criteria for this population. The important thing is to assess obesity at an early stage to reduce morbidity.

LIMITATIONS

The limitations of the study are:

1. The present study is undertaken in the urban field practice area of medical college, hence results cannot be generalised.
2. The current study is cross-sectional in nature; hence it is difficult to make causal inference of the observations.
3. This study used self-reported, medical reports, physician diagnosed diseases, and clinical examination for the estimation of morbidity status.

RECOMMENDATIONS

On the basis of this study, the following recommendations have been made for the improvement of health of elderly in the community.

1. Establishment of Preventive Geriatric Clinics at the Urban and Primary Health Centres.

2. Periodic health check-ups of the elderly at the geriatric clinic.

3. Body Mass Index (BMI) and Waist circumference (WC) are found to be appropriate measure of obesity among elderly. In this context, these findings should be confirmed by conducting large sample multi centric studies in future.

4. Health education programs should be organized in the community for the elderly regarding obesity and its related co-morbidities.

5. Geriatric Clubs should be established to promote healthy lifestyle.

SUMMARY

The present study – "Prevalence of obesity among elderly in urban field practice area", was undertaken to know the prevalence and also to distinguish the various socio-demographic factors and lifestyle factors influencing obesity in elderly.

It was a community based cross-sectional study conducted in elderly residing in the urban field practice area of J. N. M.C, Belgaum, from January to December 2013. In India, 7.2% of total population comprises of elderly, out of 1950 population, 700 study participants were selected using simple random technique method. After obtaining informed consent, information was collected by using pretested, pre structured proforma regarding socio-demographic and lifestyle factors by interview method by making house to house visits. Weight, height and WC were measured using standardized instruments. Obesity was assessed by WHO and Asia-Pacific Guidelines for BMI, WHO waist circumference guidelines and percentage of body fat.

In the current study majority, 65.3% participants were between 60-69 years of age and 52.6% were Hindus by religion. As many as 80.0% females were housewives and among males 26.2% were skilled workers. A large number of females and males had studied up to primary school (54.3% and 23.9% respectively). Most, (47.4%) of the participants belonged to class III socio-economic status as per modified B G Prasad classification and 78.7% were living in a nuclear family. A great number of study participants, 90.0% were married.

A total of 85.9% were non-alcoholics. About 23.8% had habit of chewing tobacco and 10.6% were current smokers. About 12.6% of the participants had vigorous activity every day whereas, 36.0% participants had sedentary lifestyle. More

than half of the study participants, 60.4% had mixed diet and 44.3% of participants consumed required amount of calories.

In our study, according to WHO guidelines of BMI, the prevalence was 5.4% (4.4% in males and 6.4% in females) whereas according Asia-pacific guidelines, 40.5% was overall prevalence, (among males it was 38.0% and females it was 43.0%). Out of all, 32.6% were centrally obese. Among males prevalence of central obesity was 17.1% and in females it was 47.1%. Depending upon percentage of body fat 23.2% were obese (28.6% among males vs 18.0% among females).

Most of the study participants (53.5%) had one or more morbidity. Essential hypertension was seen in 37.1% of the study subjects and diabetes in 28.3% of them. About 13.0% had iron deficiency anemia and 19.3% had vit.B12 deficiency. Among all 7.6% were asthmatics, 22.6% had complaints of joint pain.

All the study participants, most of the obese i.e.41.6% were from 60-69 years of age group and 43.3% obese participants studied up to primary level of education. The prevalence of obesity was more (55.6%) among lower socio-economic class participants and in other religion. Similarly, the prevalence of obesity was more (64.5%) among single participants and (41.2%) those who stayed in nuclear families. Among males, 27.8% skilled workers and 76.7% housewives were obese. About 30.9% obese were current alcoholics and 43.0% were current smokers. In our study all females were non alcoholics and nonsmokers. About half (45.4%), males who had sedentary life style were obese and also 41.6% females. The prevalence of obesity was more among vegetarians (42.4%) and among males, obesity was significantly associated with increased consumption of calories.

Of the obese, majority, 50.4 % had family history of hypertension and 43.6% had family history of diabetes and 40.9% had family history of obesity. A total of 90.1% of the obese had morbidity.

The prevalence of central obesity was more among 32.2% participants aged between 60-69 years of age. As many as 55.7% participants who consumed mixed diet were centrally obese and 91.7% centrally obese participants had one or more morbidity.

Various socio-demographic variables had influence over prevalence of obesity. Significant associations were found between prevalence of obesity according all criteria used to assess obesity and gender. There was statistically significant association between obesity assessed by using ASIA-PACIFIC CRITERIA and marital status, religion and mean intake of energy.

Nevertheless, there were no statistical significant associations observed between age, educational level, occupation and socio-economic status with obesity.

Hence, the present study recommends that in order to improve the health of the elderly people, periodic IEC activities have to be held at UHC's and PHC's. They need to be told about complications and ill effects of obesity and awareness about healthy lifestyle should be raised.

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ANNEXURE I

ETHICAL CLEARANCE LETTER

K.L.E.SOCIETY'S
JAWAHARLAL NEHRU MEDICAL COLLEGE,
NEHRU NAGAR, BELGAUM-590010 (KARNATAKA-INDIA)
(Affiliated to KLE University, Belgaum)

Website: http/www.jnmc.edu
E-Mail : domejnmc@sancharnet.in
: jnmc@sancharnet.in

Phone: (+ 91-(0)831 Office : 2471350
Principal: 2471701
Fax No. +91 (0)831 – 2470759

Ref: MDC/DOME/ 895 **Date: 11/10/2012**

To,

Dr. Ashwini L. Chingale,
PG student in Community Medicine,
J.N.Medical College,
BELGAUM.

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled "**PREVALENCE OF OBESITY AMONG ELDERLY IN URBAN FIELD PRACTICE AREA**" is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

(Dr.Hema Dhumale)
Member Secretary
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belgaum.

(Dr.Ganga Pilli)
Chairman,
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belgaum.

ANNEXURE III

PROFORMA

"PREVALENCE OF OBESITY AMONG ELDERLY IN URBAN FIELD

PRACTICE AREA

[Note: All the personal information provided during this study will be kept confidential. Only aggregated data will be published.]

SI.NO.

Date:

A. Name:

B. Age:

C. Sex: Male: Female:

D. Marital status:

1. Single 2.Married 3.Widow 4.Divorced 5.Separated 6.Widower

E. Income:

1. Total family income:

2. Total number of family member:

3. Monthly per capita income:

4. Socio Economic status (Modified B G Prasad classification):

a) Class I b) Class II c) Class III d) Class IV e) Class V

F. Religion:

1. Hindu 2.Muslim 3.Others

G. Type of family:

1. Nuclear: 2. Joint: 3. Three generation

4. Broken family 5. Problem family

H. Occupation:

1. Professional 2.Businessman/clerk

4. Skilled worker 5. Semiskilled worker 6. Semiskilled worker

7. Retired 8.Housewife

I. Education:

1. Illiterate:
2. Primary education:
3. High school education:
4. PUC
5. Diploma:
6. Graduate
7. Post-graduate:

J. 1) Exercise:

Do you exercise regularly? Yes/No

If yes,

Type of exercise	Hours/day	Hours/week	Total duration
Brisk walking			
Running/ Jogging			
Gardening			
Others, specify			

2) If not regularly exercise, how do you spend your free time?

Type	Hours/day	Hours/week	Total duration
Watching TV			
Reading			
Sleeping			
Others, specify			

K.ALCOHOL USE:

Do you have or ever had the habit of consuming alcohol? Yes/No

if yes,

Quantity/day	Quantity/week	Duration	If left, since when?

L.TOBACCO USE:

a. Do you have or ever had the habit of consuming of tobacco in any form?

Yes/No

b. if yes,

Type of tobacco	No./day	No./week	Total duration	If left, since when?
Smoking, beedi, cigarettes				
Non-smoking tobacco use e.g. chewing gutka, snuffing etc.				

M.DIET:

a) Vegetarian b) Mixed

Time	Food Items	Quantity	Calories
Morning			
Breakfast			
Lunch			
Evening			
Dinner			

Total calories per day

Recommended calories per day

N. any family member has or had history of obesity, hypertension and diabetes?

Yes/ No

P. Have you ever been diagnosed by your physician of any one or more of the following diseases?

Yes/No

1. Diabetes mellitus:
2. Hypertension:
3. Coronary heart diseases:
4. Osteoarthritis
5. Others, specify:

Q. Present complaints if any, such as chest pain, breathlessness, back ache, joint pain, etc. specify

R. General physical examination:

1. Built: a) Good b) Moderate c) Poor
2. Eye:
3. ENT:
4. Oral cavity:
5. Skin:
6. Upper limb:
7. Lower limb:
8. Chest:

9. Abdomen:

10. Any other findings:

S. Vital signs:

1. Pulse rate: beats /min

2. Respiratory rate: cycle / min

3. Temperature: a) febrile b) Afebrile

4. Blood pressure measurement (in mm Hg):

T. Systemic examination:

1. Per abdomen

2. Cardiovascular system:

3. Respiratory system:

4. Central nervous system:

U. Anthropometric measurements:

1. Height: cms

2. Weight: kgs

3. Waist circumference: cms

4. Hip circumference: cms

5. WH ratio:

6. BMI: kg/m^2

7. Broca Index:

8. Percentage of body fat:

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
1	61	2	2	3	1	1	1	5	4	1	0	0	1	0	0	1	0	0	1	2277	2221	97.54	1	1	1	5.4	60	22.7	96	43.9	4	2	0	0	0	0	0	0	0	0	0
2	77	2	3	3	1	3	4	2	3	1	0	0	1	0	0	1	0	0	1	2277	1980	86.96	1	2	1	5.3	65	25.4	120	47	4	1	2	0	10	0	10	0	0	0	1	2
3	80	2	2	5	2	3	4	3	1	1	0	0	1	0	0	1	30	0	2	1627	1879	115.5	2	1	2	5.4	65	24.6	89	0	0	1	2	51	0	25	10	45	29	0	1	2
4	82	2	3	2	2	2	4	1	1	1	0	0	1	0	0	1	42	0	2	1627	1761	108.2	2	1	1	5.3	56	22.3	98	0	0	1	2	50	0	25	0	45	29	0	1	2
5	79	1	2	2	2	3	3	2	2	1	0	0	1	0	0	1	0	0	2	2331	2013	86.36	2	2	1	5.5	68	24.9	98	30	4	1	2	51	10	54	10	0	59	30	2	2
6	64	1	2	4	2	1	1	5	4	1	0	0	3	25	0	1	0	0	2	2565	2678	104.4	1	1	2	5.5	55	20.2	102	28.5	3	1	2	51	10	0	10	0	29	0	2	2
7	70	2	2	4	1	3	4	1	4	1	0	0	1	0	0	1	0	0	1	1627	1557	95.7	1	1	2	5	49	21.1	81	36.8	2	1	2	50	10	0	10	0	0	0	1	1
8	71	1	2	5	1	1	1	3	4	1	0	0	1	0	0	3	30	0	1	1985	2112	106.4	1	2	2	5	50	21.5	94	23.3	2	1	1	0	0	0	15	0	0	0	2	2
9	65	1	2	4	2	1	1	4	1	1	0	0	1	0	0	1	0	0	2	2216	1987	89.67	2	2	2	5.4	65	24.6	85	31.8	4	1	2	51	0	0	21	15	0	0	2	2
10	60	1	2	4	2	1	2	5	4	1	0	0	1	0	0	1	0	0	2	2079	1765	84.9	2	2	1	5.4	70	26.5	98	26	3	1	2	50	0	25	10	0	29	0	2	2
11	70	2	2	4	1	3	8	1	3	1	0	0	1	0	0	1	0	0	1	1553	1289	83	1	2	1	5.4	58	22.5	81	36.8	2	1	2	0	10	25	10	0	0	0	2	2
12	64	1	2	3	2	1	7	5	3	1	0	0	3	25	0	1	0	0	2	2177	2565	117.8	2	1	2	5.2	65	26.2	100	30	4	1	1	0	0	0	21	0	0	0	2	2
13	82	2	3	4	2	2	8	1	1	1	0	0	1	0	0	3	25	0	2	1553	1236	79.59	2	1	2	5.2	65	26.2	100	0	0	1	2	50	10	54	10	0	0	0	1	2
14	60	2	2	2	1	8	2	4	1	0	0	1	0	0	1	0	0	2	2	2277	1873	82.26	1	2	2	5.3	70	26.5	102	45.9	4	1	1	0	0	0	10	0	0	0	2	2
15	62	1	3	4	2	2	4	3	3	1	0	0	3	20	6	1	0	0	2	2216	1908	86.1	2	2	1	5.2	50	20.2	100	29.3	3	1	2	51	10	0	10	0	29	0	2	2
16	70	2	3	4	1	1	7	3	3	1	0	0	1	0	0	1	0	0	2	1936	2576	133.1	2	2	2	5.4	61	23.7	101	43	4	1	2	0	10	0	10	0	0	0	1	2
17	70	2	3	4	2	3	8	3	2	1	0	0	1	0	0	3	30	0	2	1630	1157	70.98	1	1	2	5.2	57	23	98	35.2	2	1	2	50	0	25	10	15	29	0	1	2
18	65	1	2	4	1	3	7	4	4	1	0	0	2	0	36	3	15	0	2	2079	1643	79.03	2	2	1	5.2	54	21.8	106	37.8	4	1	2	51	0	0	10	0	59	30	2	2
19	63	2	3	4	2	3	7	3	4	1	0	0	1	0	0	3	33	0	2	1630	1246	76.44	2	2	2	5.3	65	25.9	89	37.1	3	1	2	51	0	0	10	45	0	0	1	2
20	60	2	2	3	1	1	7	4	1	1	0	0	1	0	0	1	0	0	1	1936	2476	127.9	2	1	1	5.4	64	24.2	111	43.4	4	1	2	0	10	54	15	0	0	0	1	2
21	74	1	2	4	2	3	7	4	3	1	0	0	1	0	0	3	30	0	2	1590	1248	78.49	1	1	1	5.2	60	24.2	89	27.3	3	1	1	0	0	0	15	0	0	0	2	2
22	64	2	2	3	3	3	8	3	2	1	0	0	1	0	0	1	0	0	2	1630	1150	70.55	1	2	2	5.2	65	26.2	86	39.9	3	1	2	0	10	0	21	0	29	0	2	2
23	60	2	2	3	1	1	8	3	2	1	0	0	1	0	0	1	0	0	2	1553	1238	79.72	1	1	2	5.2	60	24.2	87	29.5	2	1	1	0	0	0	0	0	0	0	1	2
24	61	2	3	4	1	2	8	3	1	1	0	0	1	0	0	1	0	0	2	1706	1934	113.4	2	2	1	5.1	60	24.3	82	35.2	2	1	1	0	10	0	0	0	0	0	2	2
25	61	2	3	3	1	1	8	3	1	1	0	0	1	0	0	1	0	0	1	1782	1432	80.36	1	1	2	5.4	70	26.5	96	41.5	4	1	1	0	0	0	25	0	0	0	2	2
26	74	2	3	4	1	2	8	1	3	1	0	0	1	0	0	3	32	0	1	1860	1788	96.13	1	2	1	5.5	60	22	109	41.4	4	1	2	51	0	0	10	15	0	0	1	1
27	65	2	2	4	2	3	8	1	1	1	0	0	1	0	0	1	0	0	2	1782	1352	75.87	1	2	2	5.5	64	23.5	86	28.7	2	1	1	0	0	0	0	0	0	0	1	2
28	81	1	2	3	2	2	7	7	1	1	0	0	2	0	72	1	0	0	2	1981	1498	75.62	2	2	2	5.2	69	27.8	93	0	0	1	2	50	10	25	0	0	0	0	1	1
29	72	1	2	4	1	2	6	3	2	2	0	36	3	20	0	1	0	0	0	1981	1268	64.01	1	1	1	5.2	65	26.2	104	42	4	1	1	0	0	0	0	0	29	0	2	2
30	70	2	2	2	2	2	8	1	1	1	0	0	1	0	0	3	10	0	2	1936	2476	127.9	1	1	1	5.25	70	27.9	100	38.9	3	1	2	0	10	0	15	0	0	0	2	2
31	67	1	2	3	1	2	4	3	1	3	25	0	1	0	0	3	25	0	2	2101	1348	64.16	1	2	2	5.4	55	20.8	86	27.6	3	1	1	0	10	0	0	0	0	0	2	2
32	68	1	2	3	1	2	7	6	4	1	0	0	1	0	0	1	0	0	1	1981	1298	65.52	2	1	2	5.6	66	23.5	89	29.8	3	1	1	0	0	0	0	0	59	0	2	2
33	78	1	2	4	2	2	5	3	3	1	0	0	3	38	0	1	0	0	2	2216	1376	62.09	2	2	2	5.5	60	22	90	17.3	2	1	2	51	0	0	10	0	29	0	1	1
34	84	2	2	3	2	2	8	1	1	1	0	0	1	0	0	2	0	12	2	1782	1503	84.34	2	2	2	5.35	60	23.3	100	0	0	1	2	50	0	0	21	0	0	0	1	2
35	70	2	2	4	3	2	7	1	4	1	0	0	1	0	0	1	0	0	2	2277	1465	64.34	2	2	2	5.2	70	28.2	112	47.3	4	1	1	0	10	0	0	0	0	0	2	2
36	65	1	2	3	1	2	7	3	4	1	0	0	1	0	0	1	0	0	1	2079	1674	80.52	2	2	2	5.6	73	26	98	24.3	2	1	2	50	0	0	0	0	0	0	2	2
37	61	2	2	3	1	2	8	2	4	1	0	0	1	0	0	1	0	0	1	1936	2602	134.4	1	1	2	5.2	70	28.2	87	48.9	4	2	0	0	0	0	0	0	0	0	0	0
38	67	2	2	5	1	2	6	1	2	1	0	0	1	0	0	2	0	6	1	1782	1841	103.3	2	2	2	5.2	64	25.8	89	25.6	2	1	2	0	0	0	10	0	29	0	2	2
39	66	2	2	4	3	2	8	3	1	1	0	0	1	0	0	1	0	0	2	2187	1490	68.13	2	1	2	5.2	68	27.4	102	42.1	4	1	2	51	10	0	10	0	0	0	1	0
40	60	2	2	4	3	4	7	3	3	1	0	0	1	0	0	1	0	0	2	2007	1306	65.07	2	1	2	5.2	55	22.2	86	18.6	1	1	2	50	0	0	10	15	0	0	2	2
41	75	1	2	4	1	2	3	6	2	3	27	0	1	0	0	1	0	0	2	2101	1591	75.73	2	1	2	5.2	56	22.6	97	23.3	2	1	2	0	10	54	0	0	0	0	0	1
42	85	2	2	4	1	2	8	1	1	1	0	0	1	0	0	1	0	0	1	1782	1160	65.1	2	1	2	5.5	63	23.1	97	0	0	1	2	50	0	25	10	0	29	0	1	2
43	82	1	2	4	1	2	7	4	1	1	0	0	1	0	0	1	0	0	1	1786	1274	71.33	2	2	2	5.2	58	23.4	86	0	0	1	2	51	10	54	0	45	0	0	1	2
44	65	2	2	4	1	2	8	1	3	1	0	0	1	0	0	1	0	0	1	1936	1802	93.08	2	2	1	5.2	70	28.2	86	30	2	1	2	0	10	0	15	0	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
45	72	1	2	4	2	2	4	1	4	1	0	0	1	0	0	1	0	0	2	1786	1168	65.4	2	2	2	5	55	23.7	96	26	3	1	1	0	0	0	21	0	0	0	2	2
46	65	2	2	2	2	2	8	1	3	1	0	0	1	0	0	1	0	0	2	1706	1056	61.9	2	2	1	5	58	25	83	47	4	2	2	50	0	0	10	0	0	0	2	2
47	68	1	1	4	2	1	2	3	2	1	0	0	3	23	0	1	0	0	2	1981	1507	76.07	2	1	1	5.2	66	26.6	96	37.9	4	1	1	0	10	0	0	0	0	0	0	0	0
48	60	2	2	1	2	2	8	3	2	1	0	0	1	0	0	1	0	0	2	1706	1107	64.89	2	2	1	5.2	58	23.4	86	32.4	2	1	1	0	0	0	0	0	0	0	1	2
49	80	2	2	4	3	2	8	3	1	1	0	0	1	0	0	1	0	0	1	1936	1843	95.2	2	2	2	5.2	70	28.2	89	0	0	1	2	51	0	25	0	45	59	30	1	2
50	68	2	2	3	1	1	8	2	2	1	0	0	1	0	0	1	0	0	1	1860	1549	83.28	2	2	2	5.2	66	26.6	86	28	2	1	2	0	0	0	0	15	29	0	1	2
51	86	1	2	4	1	2	7	2	1	1	0	0	1	0	0	1	0	0	2	2079	1835	88.26	2	2	2	5.2	72	29	102	0	0	1	2	50	0	25	10	0	29	0	1	1
52	62	2	2	2	1	2	8	1	3	1	0	0	1	0	0	1	0	0	1	2007	1306	65.07	2	2	2	5	57	24.5	96	19.4	1	1	1	0	0	0	0	45	0	0	2	2
53	63	1	2	4	1	2	3	3	3	1	0	0	3	28	0	1	0	0	2	2331	1967	84.38	2	2	2	5.35	69	26.8	106	39.3	4	1	2	51	10	0	10	0	0	0	2	2
54	63	2	2	4	1	2	8	3	3	1	0	0	1	0	0	1	0	0	2	1782	1087	61	2	1	2	5.2	60	24.2	98	27.3	2	1	1	0	0	0	0	0	0	0	1	2
55	70	2	2	1	2	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2007	1119	55.75	2	2	2	5.2	56	22.6	89	16.7	1	1	2	0	10	0	10	0	0	0	2	2
56	63	2	2	4	2	2	5	3	2	1	0	0	1	0	0	1	0	0	2	2277	2093	91.92	2	2	2	5.6	76	27	90	37	3	1	1	0	0	0	0	0	29	0	2	2
57	67	1	2	4	1	2	7	3	4	3	30	0	1	0	0	1	0	0	2	1883	1169	62.08	2	2	2	5	60	25.8	112	49	4	1	2	51	10	25	0	45	0	0	2	2
58	85	2	3	2	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	1630	1326	81.35	2	1	2	5	54	23.3	78	0	0	1	2	50	10	25	10	0	0	0	1	2
59	61	2	2	1	2	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2007	1183	58.94	2	2	1	5	55	24.5	78	35.5	3	2	0	0	0	0	0	0	0	0	0	0
60	76	1	2	2	2	2	3	3	2	1	0	0	3	32	0	1	0	0	2	1981	1204	60.78	2	1	2	5	69	29.7	112	39.3	4	1	1	0	0	0	21	0	0	0	2	2
61	60	1	2	2	1	2	1	7	4	1	0	0	1	0	0	1	0	0	2	1985	1074	54.11	1	2	2	5	52	23.2	96	44.8	4	1	1	0	0	0	0	0	59	0	2	2
62	72	2	2	4	2	2	8	1	1	1	0	0	1	0	0	1	0	0	2	1917	2107	109.9	1	2	2	5.2	50	20.2	89	33	2	1	2	0	0	25	15	0	0	0	1	2
63	78	2	2	2	1	1	8	2	2	1	0	0	1	0	0	1	0	0	2	1627	1044	64.17	1	2	2	5.2	49	19.8	65	37	3	1	2	0	10	54	10	0	29	0	1	0
64	67	2	2	4	2	1	8	1	3	1	0	0	1	0	0	3	18	0	2	2277	1540	67.63	2	2	2	5.6	70	24.9	82	39.9	3	1	1	0	0	0	0	0	29	0	2	2
65	68	1	2	4	1	1	5	1	3	3	25	0	1	0	0	3	28	0	2	2216	1792	80.87	2	1	1	5.2	60	24.2	106	33.5	4	1	1	0	0	0	25	0	0	0	2	2
66	75	2	2	4	1	2	5	1	2	1	0	0	1	0	0	1	0	0	1	2277	2012	88.36	2	1	1	5.4	72	27.2	83	30.6	2	1	2	50	10	25	10	0	29	0	2	2
67	81	2	2	2	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	1706	1489	87.28	2	2	2	5.2	55	22.2	96	0	0	1	2	51	0	25	10	0	0	0	1	2
68	62	2	2	4	1	2	8	1	4	1	0	0	1	0	0	1	0	0	2	1917	1753	91.44	2	1	2	5	54	23.3	86	21.2	1	1	2	50	10	54	10	0	29	0	1	2
69	80	2	2	4	1	2	8	1	1	1	0	0	1	0	0	1	0	0	1	1627	1302	80.02	1	2	1	5	49	22.6	89	0	0	1	2	51	10	0	15	0	0	0	1	2
70	63	1	2	4	3	2	3	2	4	1	0	0	1	0	0	3	26	0	2	1870	2030	108.6	2	1	2	5	47	21.7	86	32.4	4	1	1	0	0	0	15	0	0	0	2	2
71	65	2	2	4	1	2	8	1	3	1	0	0	1	0	0	1	0	0	2	1917	1295	67.55	1	1	2	5	50	21.5	102	38.7	3	1	2	0	10	0	10	0	0	40	1	2
72	64	2	2	4	2	1	8	2	3	1	0	0	1	0	0	1	0	0	2	1917	1630	85.03	2	2	2	5	52	22.4	92	36.8	2	1	2	51	0	0	10	15	0	0	2	2
73	64	1	2	3	3	2	1	6	4	3	20	0	1	0	0	1	0	0	2	1883	1908	101.3	1	2	2	5	63	27.1	96	26.3	3	1	2	0	10	25	10	45	0	0	2	1
74	66	2	2	4	1	2	8	2	3	1	0	0	1	0	0	3	10	0	1	1782	1657	92.99	2	1	1	5	60	25.8	78	34.4	2	1	2	51	10	0	10	0	0	0	2	2
75	68	1	1	2	1	2	1	7	3	1	0	0	3	30	0	1	0	0	2	2216	1204	54.33	2	2	1	5	64	27.6	92	19.6	2	1	2	50	0	0	15	0	0	0	2	2
76	67	2	2	5	2	1	8	2	1	1	0	0	1	0	0	3	25	0	2	2187	1739	79.52	2	2	1	5	65	28	83	24.8	2	1	1	0	0	0	0	0	0	0	1	2
77	78	1	2	3	2	1	3	3	2	1	0	0	1	0	0	3	35	0	2	2331	2196	94.21	1	2	1	5	65	28	100	31.2	3	1	2	50	10	54	0	0	0	0	2	2
78	64	2	2	4	2	2	8	3	3	1	0	0	1	0	0	1	0	0	2	2097	1539	73.39	1	1	2	5.4	60	22	74	21.1	1	1	1	0	0	0	0	0	29	0	2	2
79	70	1	2	2	1	2	3	3	2	1	0	0	3	30	0	1	0	0	1	2216	2049	92.46	1	1	2	5.8	63	21.1	80	24.7	2	1	1	0	10	0	10	0	0	0	2	2
80	68	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	1782	1472	82.6	2	1	1	5.7	63	21.8	72	18.5	1	1	1	0	0	0	15	0	0	0	2	2
81	75	2	2	4	2	2	4	2	1	1	0	0	1	0	0	3	20	0	2	1706	1369	80.25	1	1	2	5.6	55	19.6	68	36.3	2	1	2	51	10	0	15	0	0	0	1	2
82	62	2	2	3	1	2	7	6	3	1	0	0	1	0	0	1	0	0	2	2277	1835	80.59	1	1	2	5.6	76	27	100	43.9	4	1	1	0	0	0	10	0	0	0	2	2
83	68	1	2	3	2	1	7	2	2	1	0	0	1	0	0	1	0	0	2	1981	1730	87.33	1	1	2	5.7	68	23.5	102	26.9	3	1	2	50	0	0	10	15	59	0	2	2
84	84	1	2	5	2	2	7	4	1	1	0	0	1	0	0	1	0	0	2	1981	1298	65.52	2	2	2	5.5	66	24.2	96	0	0	1	2	51	0	25	0	0	0	0	1	1
85	65	1	2	3	1	2	6	6	3	1	0	0	3	25	0	1	0	0	1	1981	2062	104.1	2	2	1	5.8	65	21.8	80	41.2	4	1	2	50	10	0	10	45	0	0	2	2
86	79	1	2	1	1	2	3	3	3	2	19	0	2	27	7	1	0	0	2	2446	2164	88.47	2	2	2	5.9	72	23.4	84	29.2	3	1	1	51	0	0	0	0	0	0	2	2
87	85	1	2	3	2	2	7	3	1	1	0	0	2	30	10	1	0	0	2	2079	1948	93.7	1	1	2	5.7	73	25.2	92	0	0	1	2	51	0	25	0	15	0	0	2	1
88	85	1	2	2	2	1	7	3	1	1	0	0	1	0	0	1	0	0	2	1981	1273	64.26	1	2	1	5.6	66	23.5	86	0	0	1	2	50	0	25	0	0	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
89	68	1	2	4	2	2	6	6	1	1	14	0	3	7	0	3	12	0	2	2331	2649	113.6	1	2	2	5.7	69	23.8	87	21.5	2	1	2	0	0	54	10	0	29	0	2	2
90	71	1	2	4	1	2	6	7	2	1	0	0	3	32	0	1	0	0	1	2216	1592	71.84	1	1	1	5.5	63	23.1	94	40.4	4	1	1	0	10	0	0	0	0	0	0	0
91	60	2	2	4	1	2	8	1	1	1	0	0	1	0	0	3	10	0	1	2187	1365	62.41	1	1	1	5.6	65	23.1	86	41.4	4	2	0	0	0	0	0	0	0	0	0	0
92	60	2	2	4	1	2	4	2	1	1	0	0	1	0	0	1	0	0	2	1782	1474	82.72	2	2	1	5.4	60	22.7	82	41.5	4	2	0	0	0	0	0	0	0	0	0	0
93	67	2	2	4	2	2	8	3	2	1	0	0	1	0	0	1	0	0	2	1782	1482	83.16	1	1	1	5.5	64	23.5	84	35.2	2	1	2	0	10	0	11	0	0	0	0	0
94	70	1	2	3	2	2	6	6	3	1	0	0	1	0	0	3	18	0	2	1786	973	54.48	2	1	1	5.6	58	20.6	86	29.5	3	1	2	50	0	54	21	45	0	0	2	2
95	69	2	2	4	2	1	2	3	2	1	0	0	1	0	0	3	25	0	2	1917	2296	119.8	1	1	2	5.3	53	20.7	74	27.3	2	1	2	51	0	0	10	0	29	0	2	2
96	66	1	2	4	1	2	6	3	2	1	0	0	1	0	0	3	23	0	2	1786	1391	77.88	2	2	2	5.5	57	20.9	84	39.3	4	1	1	0	0	0	10	0	0	0	2	2
97	62	2	2	4	1	3	8	6	2	1	0	0	1	0	0	1	0	0	2	1782	1159	65.04	2	2	2	5.6	62	22.1	72	43.4	4	1	2	51	0	54	0	0	0	0	2	2
98	61	2	2	4	1	3	5	2	2	1	0	0	1	0	0	1	0	0	2	2097	1549	73.87	2	2	2	5.3	62	24.2	70	37.2	3	1	2	50	0	54	10	0	59	0	2	2
99	60	2	3	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	2	1936	1437	74.23	1	1	1	5.3	70	27.3	86	37.8	3	1	2	51	10	0	0	0	0	0	2	2
100	63	2	2	2	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2007	1839	91.63	2	2	2	5.5	55	20.2	76	35.2	2	1	1	0	0	0	10	0	0	0	2	2
101	66	2	3	4	3	2	8	3	1	1	0	0	1	0	0	3	26	0	1	1936	2047	105.7	2	2	2	5.5	70	25.7	74	43	4	1	2	0	10	25	10	15	29	0	2	2
102	67	2	2	4	3	2	8	2	3	1	0	0	1	0	0	1	0	0	2	1860	1439	77.37	1	2	1	5.2	65	26.2	80	29.3	2	1	1	0	0	0	0	45	0	0	2	2
103	72	1	2	1	1	2	5	1	1	1	0	0	2	32	0	1	0	0	2	2331	1638	70.27	1	2	2	5.5	65	23.8	72	45.9	4	1	2	50	10	0	0	0	0	0	2	1
104	63	1	2	3	1	3	2	4	1	3	19	0	1	0	0	1	0	0	2	2446	2572	105.2	1	1	1	5.3	74	28.9	68	31.7	4	1	1	0	0	0	15	0	0	0	2	2
105	68	1	3	4	2	1	2	1	2	2	14	10	3	7	0	3	12	0	2	2565	2049	79.88	1	1	1	5.6	77	27.4	100	28.5	3	1	2	50	0	54	10	15	0	0	2	2
106	62	1	2	4	2	2	2	2	1	1	0	0	1	0	0	3	30	0	2	2331	1830	78.51	2	2	1	5.6	66	23.5	102	36.8	4	1	2	0	10	0	15	0	0	0	1	2
107	68	2	3	4	3	3	8	3	3	1	0	0	1	0	0	1	0	0	1	1860	1089	58.55	1	1	1	5.1	65	27.1	96	21.6	1	1	2	51	0	0	10	0	0	0	2	2
108	67	2	2	4	1	3	8	3	3	1	0	0	1	0	0	3	26	0	1	1860	1471	79.09	2	1	1	5.3	68	26.6	80	25.6	2	1	2	50	10	25	0	45	0	40	2	2
109	64	2	2	4	1	3	8	3	3	1	0	0	1	0	0	1	0	0	1	1782	943	52.92	1	1	2	5.4	63	23.8	84	19.3	1	1	2	0	0	0	0	0	59	0	1	2
110	71	1	2	1	1	2	7	6	1	1	0	0	3	32	0	1	0	0	2	1883	2184	116	1	2	2	5.4	60	22.7	84	42.8	4	1	2	0	10	25	15	0	0	0	0	0
111	60	2	2	1	1	1	8	1	4	1	0	0	1	0	0	1	0	0	2	2097	1954	93.18	1	1	1	5.7	60	20.7	86	36.7	2	1	2	0	10	0	0	0	0	0	2	2
112	60	2	2	4	1	2	8	1	1	1	0	0	1	0	0	3	21	0	2	2187	1843	84.27	2	1	2	5.6	65	23.1	74	46.8	4	1	1	0	0	0	0	0	29	0	2	2
113	73	2	2	5	2	2	8	2	1	1	0	0	1	0	0	1	0	0	2	1860	1185	63.71	2	2	1	5.4	66	25	84	22.4	1	1	2	0	10	0	15	0	29	0	2	2
114	63	2	2	1	2	2	4	3	1	1	0	0	1	0	0	1	0	0	2	2277	2498	109.7	1	1	1	5.5	70	25.7	72	18.7	1	2	0	0	0	0	0	0	0	0	0	0
115	63	2	2	4	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2007	2174	108.3	2	2	2	5.7	56	19.3	70	25.4	2	1	1	0	10	0	0	0	0	0	2	2
116	84	1	2	4	1	2	7	3	1	1	0	0	1	0	0	1	0	0	1	1981	1172	59.16	2	2	2	5.5	69	25.3	102	0	0	1	2	0	0	25	11	15	0	0	1	1
117	76	1	2	4	1	2	5	2	2	1	0	0	2	25	5	3	25	0	2	2216	2081	93.91	2	1	1	5.6	63	22.4	70	28.2	4	1	2	51	10	54	10	0	0	0	2	2
118	60	2	2	3	1	1	8	3	4	1	0	0	1	0	0	1	0	0	1	2187	1163	53.18	1	2	2	5.8	66	22.1	76	17.6	1	2	0	0	0	0	0	0	0	0	0	0
119	62	1	2	3	2	1	1	6	4	1	0	0	1	0	0	1	0	0	2	1883	2395	127.2	1	2	1	5.6	60	21.3	76	26.5	4	1	2	50	0	25	10	0	29	0	2	2
120	70	1	2	1	2	1	4	2	1	1	0	0	3	27	0	1	0	0	2	2446	1742	71.22	1	1	1	5.6	73	26	98	18.3	2	2	1	0	0	0	10	15	0	0	2	2
121	78	1	2	4	3	1	4	3	1	1	0	0	1	0	0	1	0	0	2	2331	2198	94.29	2	2	2	5.4	68	25.7	94	23.7	2	1	2	0	10	25	10	0	0	0	2	2
122	65	1	2	4	1	1	2	3	1	1	0	0	1	0	0	3	30	0	2	2331	1952	83.74	1	2	1	5.7	66	22.8	73	14.8	2	1	2	51	0	0	15	0	0	0	2	2
123	76	1	2	5	1	1	6	6	2	1	0	0	1	0	0	1	0	0	1	1883	982	52.15	2	2	2	5.5	60	22	78	29.8	3	1	2	0	10	0	10	45	29	0	1	2
124	64	2	2	4	1	2	8	1	1	1	0	0	1	0	0	1	0	0	1	2187	1923	87.93	1	1	2	5.5	68	24.9	72	46.5	4	1	2	50	0	54	10	15	29	0	2	2
125	62	2	2	4	1	2	7	3	3	1	0	0	1	0	0	1	0	0	1	2187	1692	77.37	1	2	2	5.5	68	24.9	84	39.8	3	1	1	0	0	0	10	0	0	0	2	2
126	66	1	2	4	1	1	7	6	2	1	0	0	1	0	0	1	0	0	1	1883	1284	68.19	1	2	2	5.5	64	23.5	73	35.9	4	1	1	0	0	54	0	0	0	0	2	2
127	62	1	2	4	1	2	4	6	1	1	0	0	1	0	0	1	0	0	2	2079	1937	93.17	2	1	2	5.4	70	26.5	96	32	4	1	1	0	10	0	0	0	0	0	0	0
128	61	1	2	4	2	2	5	3	2	3	15	0	3	20	0	3	30	0	2	2446	1952	79.8	1	2	1	5.5	72	26.4	102	41.1	4	2	0	0	0	0	0	0	0	0	0	0
129	75	1	2	4	2	2	4	3	3	1	0	0	1	0	0	3	37	0	2	1883	2346	124.6	1	1	1	5.4	63	23.8	78	31.7	4	1	1	0	0	0	0	15	0	0	2	2
130	70	2	2	4	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1834	87.46	2	1	1	5.8	62	20.8	76	32.7	2	1	1	0	0	0	0	0	29	0	2	2
131	68	1	2	3	1	2	6	3	2	1	0	0	2	19	13	2	20	13	1	2216	1739	78.47	2	2	1	5.6	64	22.8	96	39.6	4	1	2	50	0	54	10	0	0	0	2	2
132	70	1	2	4	1	1	5	3	1	1	0	0	1	0	0	3	25	0	1	2216	2103	94.9	1	1	1	5.4	64	24.6	120	27.7	3	1	1	0	0	0	0	45	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
133	77	1	2	4	2	1	5	4	2	1	0	0	1	0	0	1	0	0	2	2216	1632	73.65	2	1	1	5.5	64	23.5	89	34.3	4	1	1	0	0	0	15	0	0	0	2	2
134	71	1	2	2	1	2	1	6	1	1	0	0	1	0	0	1	0	0	2	2331	1539	66.02	1	1	1	5.7	66	22.8	98	27.4	3	1	2	50	10	25	10	0	0	0	2	1
135	67	1	2	2	1	1	1	6	3	1	0	0	1	0	0	1	0	0	1	2101	1973	93.91	1	1	1	5.4	59	22.3	98	28.7	3	1	2	51	0	0	0	0	0	30	2	2
136	72	1	2	3	2	1	7	6	1	1	0	0	1	0	0	1	0	0	1	1981	1741	87.88	2	2	2	5.6	67	23.8	102	15.8	2	1	2	0	0	0	0	15	59	0	2	2
137	70	2	2	3	2	1	8	1	2	1	0	0	1	0	0	1	0	0	2	2097	1739	82.93	1	2	1	5.7	60	20.7	81	21.9	1	1	2	50	10	0	10	0	0	0	1	2
138	70	1	2	2	1	1	5	2	2	1	0	0	1	0	0	2	30	0	1	2216	1765	79.65	2	2	2	5.4	62	23.5	94	24.8	2	1	2	0	0	25	0	0	29	0	2	2
139	64	2	2	3	1	1	8	2	3	1	0	0	1	0	0	1	0	0	1	2187	1962	89.71	1	1	1	5.5	68	24.9	85	43.3	4	1	1	0	0	0	0	0	29	0	2	2
140	60	2	2	3	1	1	8	3	4	1	0	0	1	0	0	1	0	0	2	2277	2137	93.85	2	1	2	5.8	70	23.5	98	31.7	2	1	1	0	0	0	0	15	0	0	2	2
141	73	1	2	2	2	2	2	6	1	1	0	0	2	30	7	1	0	0	2	2101	1294	61.59	2	2	2	5.5	58	21.3	81	35.1	4	1	1	0	10	0	0	0	0	0	0	0
142	65	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2097	1749	83.4	1	2	1	5.4	60	22.7	100	34.2	2	1	1	0	0	0	0	0	0	0	1	2
143	67	2	2	5	2	1	8	1	2	1	0	0	1	0	0	1	0	0	2	2277	2053	90.16	2	2	2	5.7	76	26.2	100	31.3	2	1	1	0	0	0	10	0	0	0	2	2
144	61	1	2	1	1	1	5	4	2	1	0	0	1	0	0	1	0	0	1	2331	1374	58.94	1	2	1	5.8	68	22.8	102	40.7	4	1	1	0	0	0	10	0	0	0	2	2
145	76	1	2	4	1	2	2	3	1	1	0	0	1	0	0	1	0	0	1	2079	1427	68.64	1	2	2	5.6	70	24.9	100	27.4	3	1	1	0	0	0	0	0	0	0	1	2
146	66	1	2	3	1	2	2	2	3	1	0	0	2	15	10	2	15	10	2	2331	2013	86.36	2	1	2	5.5	68	24.9	101	37.4	4	1	2	0	10	0	10	45	0	0	2	2
147	60	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2007	1683	83.86	1	1	2	5.4	59	22.3	98	38.1	3	1	1	0	0	0	0	0	29	0	2	2
148	67	2	2	3	2	1	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1743	79.7	2	1	2	5.6	69	24.6	106	36.4	2	1	1	0	0	0	10	0	0	0	2	2
149	63	1	2	4	2	1	3	2	4	1	0	0	1	0	0	2	20	2	2	2446	2371	96.93	1	2	2	5.6	70	24.9	89	42.3	4	1	1	0	0	0	0	0	59	0	2	2
150	75	1	2	3	1	1	4	2	2	1	0	0	3	36	0	3	30	0	1	1883	1231	65.37	2	1	2	5.8	60	20.1	76	35.8	4	1	1	0	10	0	0	0	0	0	0	0
151	63	1	2	4	1	2	3	2	1	1	0	0	3	20	0	1	0	0	1	2216	2146	96.84	2	2	2	5.7	64	22.1	84	22.5	2	1	1	0	0	0	0	0	0	0	1	2
152	70	2	1	3	3	2	8	1	1	1	0	0	1	0	0	1	0	0	2	2187	1376	62.92	1	2	1	5.6	65	23.1	84	36	2	1	2	0	0	0	0	0	29	0	1	2
153	65	2	2	3	3	2	1	7	4	1	0	0	1	0	0	1	0	0	2	2097	1962	93.56	2	1	1	5.6	64	22.8	72	33.3	2	1	1	0	10	0	0	0	0	0	0	0
154	76	2	2	3	2	2	8	1	2	1	0	0	1	0	0	1	0	0	1	2187	1659	75.86	2	1	2	5.7	69	23.8	76	39.2	3	1	1	0	0	54	0	0	0	0	0	0
155	60	2	2	3	1	2	8	1	2	1	0	0	1	0	0	1	0	0	2	2187	1538	70.32	2	2	1	5.5	67	23.1	94	29.4	2	1	2	0	10	0	10	0	0	0	2	2
156	76	1	2	4	1	2	7	2	1	1	0	0	2	40	0	1	0	0	1	2079	1640	78.88	1	2	2	5.6	70	24.9	90	31.6	3	1	2	51	0	25	15	0	0	0	2	1
157	70	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2187	1830	83.68	2	1	2	5.5	67	24.6	96	41	4	1	1	0	0	0	0	0	0	0	1	2
158	64	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2187	1593	72.84	2	2	1	5.4	68	25.7	76	45	4	1	2	51	0	0	10	0	0	0	1	2
159	60	1	2	3	1	2	3	2	4	3	15	0	2	10	6	2	17	2	2	2331	1492	64.01	1	1	1	5.5	68	24.7	92	32.9	3	1	1	0	10	0	0	0	0	0	0	0
160	60	2	2	4	2	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2277	1872	82.21	2	1	2	5.8	70	23.5	102	30	2	1	2	50	0	54	10	0	0	0	2	2
161	63	1	2	3	2	2	2	3	4	3	20	0	2	20	5	1	0	0	2	2446	2195	89.74	1	1	2	5.6	68	24.2	81	33.9	3	1	2	50	0	0	10	15	29	0	2	2
162	63	1	2	2	1	2	1	6	3	1	0	0	1	0	0	1	0	0	1	1981	2317	117	2	1	2	5.2	66	26.6	98	24.6	2	1	2	0	10	54	21	0	0	0	2	2
163	66	1	2	2	1	2	5	3	3	3	25	0	1	0	0	2	10	8	2	2565	2382	92.87	2	1	1	5.4	71	26.9	100	19.8	2	1	1	0	0	54	0	0	0	0	0	0
164	66	1	2	2	1	2	4	4	1	1	0	0	2	17	3	3	20	0	2	2079	2194	105.5	2	1	1	5.4	70	26.5	108	22.4	2	1	2	51	10	0	10	0	0	0	2	2
165	75	1	2	3	2	2	7	4	1	1	0	0	2	20	19	2	25	12	2	2079	2185	105.1	2	1	1	5.4	72	27.2	91	19.9	2	1	1	0	0	0	15	0	0	0	2	2
166	73	1	2	2	1	2	5	3	2	1	0	0	1	0	0	1	0	0	2	2079	1983	95.38	2	1	2	5	72	27.2	100	30.1	4	1	2	0	0	54	11	15	0	0	2	2
167	60	2	2	3	1	2	8	1	4	1	0	0	1	0	0	1	0	0	1	2277	2147	94.29	1	2	1	5.4	70	26.5	100	34.8	2	1	1	0	0	0	0	0	29	0	2	2
168	70	2	2	3	1	2	8	1	2	1	0	0	1	0	0	1	0	0	1	2079	1652	79.46	1	1	2	5.4	60	22.7	92	36.9	2	1	2	51	0	0	0	0	0	0	2	2
169	62	1	2	4	1	2	3	3	1	3	16	0	1	0	0	1	0	0	2	2101	1837	87.43	2	2	2	5.1	59	23	107	21	2	1	1	0	0	0	0	0	0	0	1	2
170	72	1	3	4	1	2	5	2	2	3	26	0	1	0	0	1	0	0	2	2101	1472	70.06	1	1	2	5.4	58	21.9	118	16.8	2	1	1	0	10	0	0	0	0	0	0	0
171	84	1	2	2	2	2	7	3	1	1	0	0	3	40	0	2	20	15	2	1786	1372	76.82	1	2	1	5.2	58	23.4	98	0	0	1	2	51	10	0	15	0	0	0	2	1
172	70	2	2	3	1	1	8	1	1	1	0	0	1	0	0	1	0	0	1	2187	1769	80.89	2	1	1	5.2	69	27.8	106	28.5	2	1	1	0	0	0	10	0	0	0	2	2
173	65	2	2	4	1	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2277	1972	86.61	1	2	2	5.5	74	27.1	98	22.8	1	1	2	50	0	54	0	0	0	0	1	2
174	60	1	2	4	2	1	2	3	4	1	0	0	2	25	5	3	25	0	2	1985	1649	83.07	2	2	2	5.2	52	21	98	14.9	2	1	1	0	0	0	0	45	0	0	2	2
175	60	1	2	3	2	2	4	2	1	3	12	0	2	15	9	1	0	0	2	2331	2103	90.22	1	2	1	5.2	67	27	120	24.9	2	2	0	0	0	0	0	0	0	0	0	0
176	60	2	2	4	2	1	8	2	1	1	0	0	1	0	0	3	14	0	2	2007	1539	76.68	1	2	2	5.4	58	21.9	86	21.6	1	1	2	0	10	0	10	45	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
177	72	1	2	3	1	2	4	2	1	1	0	0	1	0	0	3	26	0	1	2331	1862	79.88	1	2	2	5.2	67	27	98	19.8	2	1	2	51	10	0	10	15	29	0	2	2
178	70	1	2	2	1	2	3	2	2	1	0	0	2	14	8	1	0	0	2	2446	1382	56.5	2	2	2	5.4	71	26.9	90	20.5	2	1	2	51	0	0	0	15	0	0	2	2
179	63	2	2	3	1	2	8	2	2	1	0	0	1	0	0	3	15	0	2	2007	2138	106.5	1	2	2	5.2	56	22.6	98	23.8	1	1	1	0	0	0	10	0	0	0	2	2
180	70	2	2	3	2	2	8	3	1	1	0	0	1	0	0	3	30	0	2	2007	1682	83.81	1	1	1	5.2	57	23	86	36.9	2	1	2	0	0	25	0	0	59	0	2	2
181	60	2	1	4	2	2	8	3	3	1	0	0	1	0	0	1	0	0	2	2187	1205	55.1	1	1	2	5	66	28.4	94	44.8	4	1	1	0	0	0	0	0	29	0	2	2
182	65	2	2	4	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2007	1920	95.67	2	1	2	5	56	24.1	83	28.5	2	1	2	50	0	0	10	0	0	0	2	2
183	70	1	2	3	1	2	4	2	1	1	0	0	2	25	4	1	0	0	1	2446	1392	56.91	1	1	2	5.6	73	26	98	36.8	4	1	2	51	0	0	15	0	0	0	2	2
184	60	2	2	3	1	2	8	2	4	1	0	0	1	0	0	1	0	0	2	1917	1384	72.2	2	2	2	5	52	22.4	86	23.3	1	1	2	51	0	54	10	0	0	0	1	2
185	67	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2187	1739	79.52	2	1	2	5	69	29.7	100	31.8	2	1	2	0	10	0	0	0	0	0	1	2
186	60	2	2	3	1	2	2	2	2	1	0	0	1	0	0	1	0	0	1	2097	1484	70.77	1	1	2	5.4	66	25	97	30.3	2	2	0	0	0	0	0	0	0	0	0	0
187	65	1	2	4	1	2	3	3	2	1	0	0	3	30	0	2	12	9	2	2331	2179	93.48	2	1	2	5.2	68	27.4	92	38	4	1	2	0	0	54	21	45	0	0	2	2
188	67	1	2	3	2	2	4	3	1	1	0	0	3	28	0	1	0	0	2	2101	1839	87.53	1	1	2	5	56	24.1	100	48.3	4	1	1	0	0	0	0	0	29	0	2	2
189	62	1	2	4	2	2	5	2	2	1	0	0	3	20	0	2	12	10	2	2216	1438	64.89	2	1	2	5	64	27.6	101	30.3	4	1	2	51	0	0	10	0	0	0	2	2
190	63	1	1	4	2	2	5	3	2	1	0	0	2	27	3	2	15	8	2	2331	1730	74.22	2	2	2	5.2	67	27	98	30.7	4	1	2	0	0	54	15	0	0	0	1	2
191	62	1	2	3	1	2	1	6	4	1	0	0	2	10	4	1	0	0	2	1981	1645	83.04	2	1	2	5.2	68	27.4	106	44	4	1	1	50	0	0	0	0	0	0	2	2
192	62	1	2	3	1	2	1	6	3	1	0	0	1	0	0	3	17	0	1	1688	1358	80.45	1	1	1	5	51	22	89	37.9	4	1	2	51	0	54	10	0	29	0	1	2
193	62	1	2	3	1	2	6	4	1	1	0	0	2	20	5	1	0	0	1	2331	1327	56.93	1	1	1	5.4	68	26.4	111	31.5	4	1	2	51	10	0	0	0	0	0	2	2
194	66	1	2	3	1	2	2	6	2	1	0	0	2	20	3	2	12	11	2	2101	1472	70.06	2	1	1	5	56	24.1	89	24.9	2	1	2	51	10	0	10	15	0	0	2	2
195	75	2	2	3	2	2	8	1	2	1	0	0	1	0	0	1	0	0	2	2187	1542	70.51	1	1	1	5	68	29.3	87	24.5	2	1	2	0	0	25	10	0	29	0	2	1
196	70	1	2	3	2	2	2	2	1	1	0	0	1	0	0	1	0	0	2	2101	1349	64.21	2	1	2	5	54	23.3	87	18.7	2	1	1	0	0	0	0	0	29	0	2	2
197	64	2	2	3	1	2	3	2	2	1	0	0	3	28	0	1	0	0	2	1917	1492	77.83	2	2	2	5	51	22	82	20.4	1	1	2	51	0	0	10	0	0	0	1	2
198	77	1	2	4	1	2	7	3	1	1	0	0	1	0	0	3	42	0	1	1688	1192	70.62	2	2	2	5	53	22.8	96	21.8	2	1	1	0	0	0	0	0	29	0	2	2
199	72	1	2	1	2	1	2	3	1	2	20	12	2	15	10	3	20	0	2	2079	1720	82.73	1	2	2	5.4	74	28	109	24.6	2	1	2	50	10	54	0	0	29	0	2	2
200	66	1	2	3	2	2	2	3	3	1	0	0	3	20	0	3	20	0	2	2177	1358	62.38	2	2	2	5.3	71	28.3	86	29.8	3	1	1	0	0	0	15	0	0	0	2	2
201	66	2	2	4	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2277	2174	95.48	1	1	1	5.5	76	27.9	93	35.8	2	1	2	0	0	0	10	0	0	0	1	2
202	63	1	2	4	1	2	6	4	1	1	0	0	1	0	0	3	20	0	2	2079	2167	104.2	1	1	1	5.4	70	26.5	104	19.9	2	1	2	51	10	0	10	0	0	0	2	2
203	80	2	1	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	2	1860	1027	55.22	1	2	2	5	67	28.8	100	0	0	1	2	51	0	25	0	0	0	30	1	2
204	69	1	2	4	1	2	4	3	1	1	0	0	2	25	11	2	30	6	2	1981	1593	80.41	2	1	2	5	66	28.4	86	30	4	1	2	50	10	0	10	0	0	0	1	2
205	63	2	2	3	1	2	8	2	4	1	0	0	1	0	0	1	0	0	1	2277	1692	74.31	2	2	2	5.6	77	27.4	89	37.6	3	1	1	0	0	0	21	0	0	0	2	2
206	81	2	2	4	2	2	8	1	1	1	0	0	1	0	0	1	0	0	1	1630	1220	74.85	2	2	2	5	54	23.3	90	0	0	1	2	51	0	54	15	0	0	0	2	1
207	72	1	2	5	1	2	5	3	1	1	0	0	3	37	0	2	20	10	1	2331	1258	53.97	2	2	2	5	68	27.1	100	19.4	2	1	2	0	10	0	0	45	29	0	2	2
208	61	2	2	4	1	1	5	2	1	1	0	0	1	0	0	1	0	0	1	2079	1392	66.96	2	2	2	5	64	27.6	112	25.4	2	1	2	50	10	0	0	0	29	0	2	2
209	79	2	2	3	1	1	8	1	1	1	0	0	1	0	0	1	0	0	2	1706	1137	66.65	1	1	2	5	59	25.4	98	20.4	1	1	2	51	0	25	21	15	0	0	2	2
210	63	1	2	2	3	2	4	3	2	1	0	0	2	23	1	3	25	0	2	2331	1749	75.03	2	2	2	5.2	67	27	87	18.9	2	2	0	0	0	0	0	0	0	0	0	0
211	68	2	1	2	3	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2079	1629	78.35	2	1	2	5	64	27.6	89	42.1	4	1	1	0	0	0	15	0	0	0	2	2
212	60	2	2	4	3	2	8	2	2	1	0	0	1	0	0	1	0	0	2	1706	1121	65.71	2	1	2	5	55	23.7	102	39.7	3	1	2	51	0	25	10	0	0	0	2	2
213	72	2	2	4	1	1	8	1	2	1	0	0	1	0	0	1	0	0	2	1706	1427	83.65	2	1	2	5	57	24.5	86	41.2	4	1	2	50	0	0	0	0	29	0	2	2
214	75	2	2	5	1	2	8	2	2	1	0	0	1	0	0	3	24	0	1	2277	1649	72.42	2	1	2	5.5	71	26	97	26.4	2	2	0	0	0	0	0	0	0	0	0	0
215	73	1	2	3	1	1	6	6	2	1	0	0	3	20	0	2	18	13	2	2331	1942	83.31	2	2	2	5	65	28	97	26.7	3	1	2	0	10	25	10	0	0	0	2	2
216	65	2	2	4	1	2	8	1	3	1	0	0	1	0	0	1	0	0	2	2079	1482	71.28	2	2	1	5	63	27.1	86	39.4	3	1	1	0	0	0	10	0	0	0	2	2
217	60	2	2	1	1	2	8	1	2	1	0	0	1	0	0	3	16	0	2	2187	1639	74.94	2	2	2	5.5	66	24.2	86	32.9	2	1	2	51	0	0	0	0	29	0	1	2
218	75	1	2	4	1	2	2	3	2	3	30	0	1	0	0	3	30	0	2	2101	1552	73.87	2	2	1	5	59	25.4	96	44.3	4	1	1	0	0	0	0	0	0	0	1	2
219	63	2	1	4	1	1	2	3	1	1	0	0	1	0	0	1	0	0	2	2097	1337	63.76	2	1	1	5	61	26.3	83	25.7	2	1	2	0	0	54	10	0	0	0	1	2
220	71	2	2	2	1	2	8	1	1	1	0	0	1	0	0	3	30	0	1	1706	1328	77.84	2	2	1	5	58	25	96	37.3	3	1	2	50	10	0	10	0	59	0	2	1

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
221	80	1	1	2	1	2	4	2	1	1	0	0	3	40	0	2	29	12	2	2079	1723	82.88	2	2	2	5.6	72	25.6	86	0	0	1	2	51	0	0	0	15	0	0	1	1
222	60	2	2	3	2	2	8	1	4	1	0	0	1	0	0	1	0	0	2	2277	1923	84.45	2	2	2	5.5	71	26	89	19.7	1	1	2	51	0	0	10	0	59	0	2	2
223	60	2	2	4	1	2	6	3	4	1	0	0	1	0	0	1	0	0	2	2187	2016	92.18	2	2	2	5.2	68	27.4	86	27	2	1	1	0	10	0	0	0	0	0	0	2	2
224	79	2	2	4	2	2	8	2	1	1	0	0	1	0	0	3	40	0	2	1860	1123	60.38	2	2	2	5.4	69	26.1	102	44.1	4	1	2	50	0	0	15	0	0	0	0	1	2
225	77	1	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2079	1367	65.75	2	2	2	5.2	70	28.2	96	30	4	1	2	51	10	25	0	0	0	0	1	2
226	60	1	2	4	2	2	4	3	4	3	15	0	2	10	5	2	23	3	2	2331	1327	56.93	2	1	2	5	56	24.1	106	23.3	2	1	1	0	0	0	0	45	0	0	2	2
227	78	1	2	1	3	1	4	3	2	2	23	8	2	20	10	2	28	14	2	2446	1839	75.18	2	2	2	5.5	71	26	98	19	2	1	2	0	10	0	10	45	0	0	1	2
228	60	2	2	4	3	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1648	75.35	2	2	2	5.6	68	29.3	89	37.8	3	1	1	51	0	0	0	0	0	0	2	2
229	80	2	2	4	2	2	8	2	1	1	0	0	1	0	0	3	35	0	2	1936	1437	74.23	2	2	2	5.2	73	29.4	90	0	0	1	2	51	10	25	0	0	0	0	1	2
230	60	2	2	3	1	2	2	2	3	1	0	0	1	0	0	1	0	0	1	2331	1439	61.73	2	1	2	5.2	68	27.4	112	27.1	2	1	1	0	0	0	0	0	29	0	2	2
231	72	1	2	4	1	2	3	4	2	3	30	0	1	0	0	1	0	0	2	2101	1784	84.91	2	2	1	5	59	25.4	78	22.6	2	1	1	0	0	0	10	0	0	0	2	2
232	70	2	2	4	1	2	3	2	1	1	0	0	1	0	0	3	12	0	2	1860	1329	71.45	2	1	2	5.4	69	26.1	78	32.3	2	1	1	0	10	0	0	0	0	0	2	2
233	61	1	2	3	1	2	4	4	1	2	36	4	1	0	0	1	0	0	2	1786	1154	64.61	1	2	2	5	59	25.4	112	31.7	4	1	1	0	0	0	10	0	0	0	2	2
234	60	2	1	2	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	1860	1430	76.88	1	2	2	5	66	28.4	96	48	4	1	2	0	10	0	10	0	0	0	2	2
235	70	2	2	4	1	2	8	3	2	1	0	0	1	0	0	3	34	0	1	1706	1386	81.24	1	2	2	5	59	25.4	89	34.6	2	1	2	0	0	0	10	0	29	0	2	2
236	70	2	2	4	2	2	8	3	2	1	0	0	1	0	0	1	0	0	2	1782	1137	63.8	2	2	2	5.4	64	23.5	86	30.8	2	1	2	50	10	25	10	45	0	0	2	2
237	60	1	1	4	1	2	3	2	2	1	0	0	2	26	7	1	0	0	2	2331	1792	76.88	2	1	1	5	66	28.4	96	22	2	2	0	0	0	0	0	0	0	0	0	0
238	74	1	2	4	1	2	7	5	1	1	0	0	1	0	0	1	0	0	1	2079	1298	62.43	2	1	1	5.4	72	27.9	106	26.8	3	1	2	0	10	0	10	15	0	0	2	2
239	62	2	2	4	1	2	8	3	2	1	0	0	1	0	0	1	0	0	1	2277	1846	81.07	2	2	2	5.5	70	25.7	83	41.6	4	1	2	0	0	0	10	0	0	0	1	2
240	70	2	2	4	2	2	8	3	1	1	0	0	1	0	0	1	0	0	2	1782	1634	91.69	2	1	2	5	60	25.8	96	24.2	2	1	2	50	10	0	0	45	0	0	2	2
241	60	2	2	4	2	2	6	2	1	1	0	0	1	0	0	1	0	0	2	1706	1286	75.38	1	2	1	5	58	25	86	29.9	2	1	2	51	0	0	10	0	0	0	2	2
242	60	1	2	3	1	2	3	3	2	3	26	0	2	20	13	1	0	0	2	1688	1135	67.24	2	1	2	5	50	21.5	89	27.1	3	2	0	0	0	0	0	0	0	0	0	0
243	70	1	2	3	1	2	6	2	4	1	0	0	2	30	12	1	0	0	1	1981	1572	79.35	1	1	2	5.4	68	26.4	86	19.6	2	1	1	0	0	0	0	0	59	0	2	2
244	66	1	2	3	1	2	1	6	3	1	0	0	1	0	0	2	34	4	1	1883	1437	76.31	2	2	2	5	60	25.8	102	20.6	2	1	1	0	0	0	0	0	0	0	1	2
245	61	1	2	3	2	2	2	2	2	2	15	7	1	0	0	1	0	0	1	1883	1728	91.77	1	2	2	5.4	60	22.7	92	14.5	2	1	2	51	0	0	10	0	0	0	2	2
246	68	1	2	3	3	2	2	4	2	1	0	0	1	0	0	1	0	0	1	2446	1136	46.44	2	1	1	5.5	71	26	96	27.9	3	1	2	0	0	54	10	0	0	0	1	2
247	62	1	2	1	3	2	1	6	1	1	0	0	1	0	0	1	0	0	1	2331	1348	57.83	2	2	1	5	68	29.3	78	38.7	4	1	1	0	0	0	10	0	0	0	2	2
248	61	1	1	2	2	2	1	6	1	1	0	0	1	0	0	3	26	0	2	2079	1682	80.9	2	2	1	5.4	70	26.5	92	36.9	4	1	1	0	0	0	10	0	0	0	2	2
249	70	2	1	4	2	2	8	2	2	1	0	0	1	0	0	3	34	0	2	2277	1549	68.03	1	2	1	5.5	71	26	83	39.4	3	1	2	51	10	0	0	0	29	0	2	2
250	70	1	2	3	1	2	3	3	1	1	0	0	1	0	0	3	25	0	1	2331	1482	63.58	1	1	2	5.4	68	26.4	100	28.1	3	1	1	0	0	0	10	0	0	0	2	2
251	60	1	2	3	1	2	3	2	4	1	0	0	1	0	0	1	0	0	1	2331	1823	78.21	1	1	2	5	67	28.8	74	25.5	2	1	2	0	10	0	10	0	29	0	1	2
252	62	1	2	3	3	2	4	3	2	1	0	0	3	25	0	1	0	0	2	1883	1349	71.64	2	1	1	5.4	63	23.8	80	35.7	4	2	0	0	0	0	0	0	0	0	0	0
253	73	1	1	3	1	2	4	4	1	3	34	0	2	30	5	1	0	0	2	1786	1365	76.43	1	1	2	5.2	55	22.2	72	27.2	3	1	2	50	0	0	10	15	0	0	1	2
254	73	1	2	2	1	2	7	3	1	1	0	0	1	0	0	1	0	0	1	1882	1082	57.49	1	1	2	5.2	60	24.2	68	30	4	1	2	50	10	25	0	0	0	0	2	2
255	60	2	2	3	2	2	4	3	3	1	0	0	1	0	0	1	0	0	1	1860	1374	73.87	1	1	2	5.4	69	26.1	100	40.4	4	1	2	50	10	0	10	15	29	0	2	2
256	70	2	2	2	2	4	2	3	2	1	0	0	1	0	0	1	0	0	2	1782	1362	76.43	2	2	2	5.4	60	23.3	102	26.7	2	1	2	51	0	0	10	0	0	0	2	2
257	60	2	2	2	2	2	8	1	1	1	0	0	1	0	0	3	10	0	2	2187	1638	74.9	2	2	1	5.4	69	26.1	96	37.5	3	1	1	0	0	0	0	0	29	0	2	2
258	78	1	2	2	2	2	3	2	2	1	0	0	3	31	0	1	0	0	2	2446	1352	55.27	2	2	2	5.4	70	27.2	80	28.3	3	1	2	0	10	25	10	0	0	0	2	2
259	60	2	2	3	2	2	2	3	2	1	0	0	1	0	0	1	0	0	2	1860	1638	88.06	1	1	2	5.4	69	26.8	84	34.2	2	2	0	0	0	0	0	0	0	0	0	0
260	70	1	1	3	3	2	3	2	1	1	0	0	3	28	0	1	0	0	1	2331	1264	54.23	2	2	2	5.2	69	27.8	92	21.8	2	1	1	0	0	0	10	0	0	0	2	2
261	60	2	1	3	3	2	8	3	1	1	0	0	1	0	0	1	0	0	1	2187	1047	47.87	2	2	2	5.4	68	25.7	86	36.8	2	1	1	0	0	0	10	0	0	0	2	2
262	65	2	1	3	3	2	8	2	2	1	0	0	1	0	0	3	24	0	2	2187	1172	53.59	2	2	2	5	66	28.4	87	45.2	4	1	1	0	0	0	10	0	0	0	2	2
263	68	2	2	3	1	1	8	2	1	1	0	0	1	0	0	1	0	0	2	2187	1052	48.1	2	2	2	5.3	69	26.8	94	30	2	1	1	0	10	0	0	0	0	0	2	2
264	70	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2187	1320	60.36	2	2	2	5.2	68	27.4	86	21.4	1	1	2	0	0	0	10	0	29	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
265	70	1	1	3	2	1	2	3	1	3	25	0	3	23	0	1	0	0	2	2331	1946	83.48	1	1	2	5.3	69	26.9	82	19.3	2	1	1	0	0	0	0	0	0	1	2
266	60	2	2	2	1	2	2	2	2	1	0	0	1	0	0	1	0	0	1	2277	1749	76.81	2	1	2	5.5	73	26.8	84	24.8	2	1	1	0	0	0	0	0	0	0	1	2
267	65	2	2	4	1	2	8	2	1	1	0	0	1	0	0	3	20	0	1	2079	1395	67.1	2	1	2	5.2	63	25.4	86	21.5	1	1	1	0	0	0	10	0	0	0	2	2
268	75	1	2	3	1	2	2	2	2	2	20	10	3	28	0	1	0	0	2	2101	1359	64.68	1	1	2	5.2	59	23.8	74	14.8	2	1	1	0	0	0	10	0	0	0	2	2
269	63	1	2	3	3	2	3	3	1	1	0	0	3	26	0	1	0	0	1	2101	1472	70.06	2	2	2	5	57	24.5	84	19.8	2	1	2	51	0	0	10	0	59	0	2	2
270	62	1	2	4	3	2	4	3	1	1	0	0	2	27	6	1	0	0	2	2101	1139	54.21	2	2	2	5	55	23.7	87	22.7	2	1	2	0	10	0	10	0	0	0	2	2
271	72	1	2	3	1	2	6	3	3	1	0	0	1	0	0	1	0	0	2	1985	1048	52.8	2	2	2	5	53	22.8	70	34	4	1	1	0	0	0	10	0	0	0	2	2
272	66	1	2	3	1	2	4	3	3	1	0	0	1	0	0	3	37	0	1	2101	1284	61.11	2	2	2	5.2	55	23.7	86	29.4	3	1	2	51	10	0	15	45	0	40	2	2
273	76	1	2	3	1	2	3	3	2	1	0	0	3	24	0	3	25	0	2	1985	1437	72.39	1	1	2	5	54	23.3	78	18.9	2	1	1	0	0	0	0	45	0	0	2	2
274	63	1	2	3	1	2	6	3	1	1	0	0	1	0	0	1	0	0	1	1981	1538	77.64	2	2	2	5.2	67	27	74	19	2	1	1	0	0	0	0	0	29	0	2	2
275	63	1	2	3	2	1	2	3	4	1	0	0	1	0	0	1	0	0	1	1883	1194	63.41	2	2	2	5.5	60	22	83	12	1	1	1	0	0	0	0	15	0	0	2	2
276	66	1	2	3	2	2	2	6	4	1	0	0	1	0	0	1	0	0	2	2216	1073	48.42	2	2	2	5.5	63	23.1	72	24.6	2	2	0	0	0	0	0	0	0	0	0	0
277	63	1	2	3	1	2	4	4	2	3	29	0	1	0	0	3	30	0	2	2216	1649	74.41	2	1	2	5.5	63	23.1	68	29.8	3	1	2	0	0	0	10	0	0	30	2	2
278	64	1	2	4	1	2	6	2	3	1	0	0	1	0	0	1	0	0	1	1883	1442	76.58	2	2	2	5.8	63	21.1	100	24.7	2	1	1	0	0	0	10	0	0	0	2	2
279	65	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	1860	1284	69.03	1	1	2	5.6	66	23.5	102	38.9	3	1	2	51	0	0	0	15	0	0	2	2
280	71	1	2	3	1	2	7	2	1	1	0	0	1	0	0	1	0	0	1	1883	1357	72.07	1	2	2	5.4	63	23.8	96	11.9	1	2	2	0	10	54	0	0	0	0	2	2
281	62	1	2	2	2	2	7	4	2	1	0	0	3	23	0	2	27	6	2	1981	1482	74.81	1	1	1	5.5	65	23.8	80	10.6	1	1	1	0	0	0	0	0	29	0	2	2
282	65	2	2	3	2	2	7	2	1	1	0	0	1	0	0	1	0	0	2	2187	1527	69.82	1	1	2	5.6	67	23.8	84	20.9	1	1	2	0	0	0	15	0	0	0	1	2
283	72	1	2	3	1	2	7	4	3	3	34	0	1	0	0	1	0	0	1	2079	1372	65.99	1	1	2	5.6	70	24.9	84	25.7	2	1	1	0	0	0	10	0	0	0	2	2
284	66	1	2	3	1	2	4	3	3	1	0	0	2	23	7	2	20	7	1	2079	1638	78.79	1	1	2	5.6	73	26	86	27.8	3	1	2	51	10	54	10	0	59	0	2	2
285	65	1	2	3	1	2	3	3	2	2	27	5	1	0	0	1	0	0	2	2177	1384	63.57	1	1	2	5.3	76	29.7	74	32.3	4	1	1	0	10	0	0	0	0	0	2	2
286	60	2	2	3	2	2	8	2	4	1	0	0	1	0	0	1	0	0	1	2097	1392	66.38	2	2	1	5.3	60	23.8	84	24.6	2	1	2	50	10	0	10	0	0	0	2	2
287	70	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2187	1547	70.74	2	2	2	5	65	23.1	72	39	3	1	2	0	0	0	15	0	0	0	1	2
288	60	1	2	3	1	2	2	2	2	1	0	0	3	26	0	2	12	13	2	2565	2381	92.83	2	1	2	5.3	76	29.7	114	22.4	2	1	1	0	0	0	21	0	0	0	2	2
289	65	2	2	3	1	2	8	1	1	1	0	0	1	0	0	1	0	0	1	2097	1653	78.83	1	2	2	5.5	63	23.1	102	45.6	4	1	2	0	0	0	10	0	0	0	2	2
290	85	1	2	3	2	2	7	2	1	1	0	0	2	30	15	3	34	0	2	1981	1427	72.03	2	1	2	5.4	65	24.6	70	0	0	0	1	2	0	10	25	0	45	0	0	1	1
291	60	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2007	1326	66.07	2	2	2	5	55	21	76	32.5	2	1	2	0	0	0	10	0	0	0	1	2
292	60	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2079	1492	71.77	1	2	2	5	60	25.8	76	41.9	4	1	2	50	0	0	10	0	0	0	2	2
293	75	1	2	3	1	2	2	2	1	1	0	0	2	25	14	3	20	0	1	2216	1538	69.4	1	1	2	5.5	60	22	98	10.7	1	1	2	0	0	25	10	0	0	0	2	2
294	76	1	2	3	1	2	3	2	1	3	20	0	1	0	0	3	25	0	2	2216	1384	62.45	1	1	2	5.3	63	25.1	94	30.3	4	1	2	51	10	0	0	0	0	0	2	2
295	60	2	2	2	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2097	1254	59.8	1	2	2	5	62	26.7	73	34.7	2	1	2	51	0	25	10	0	59	0	2	2
296	65	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2079	1172	56.37	2	2	2	5.5	64	23.5	78	36.3	2	1	2	0	0	0	15	0	29	0	2	2
297	68	2	2	4	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2007	1648	82.11	2	1	2	5.2	56	22.6	72	39.8	3	1	1	0	0	0	10	0	0	0	2	2
298	62	1	2	2	1	2	5	2	1	3	17	0	1	0	0	1	0	0	2	2446	1472	60.18	2	1	2	5.2	70	28.2	84	30.8	4	1	2	0	10	54	10	0	0	0	1	2
299	65	2	2	4	2	2	2	2	3	1	0	0	1	0	0	1	0	0	1	2277	1839	80.76	2	2	2	5.5	70	25.3	73	40.8	3	1	2	0	0	0	10	15	0	0	2	2
300	63	1	2	3	1	2	6	2	1	3	25	0	3	16	0	3	29	0	2	1883	1482	78.7	1	1	2	5	60	24.2	96	29.8	3	2	0	0	0	0	0	0	0	0	0	0
301	75	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	1860	1201	64.57	1	2	2	5.4	65	24.6	102	32.7	2	1	2	51	10	25	0	0	0	0	2	2
302	64	2	2	3	1	2	8	3	2	1	0	0	1	0	0	3	6	0	2	2079	1830	88.02	1	1	2	5	63	27.1	78	22	1	1	2	51	10	54	0	15	29	0	2	2
303	65	1	2	3	1	2	3	3	1	1	0	0	3	17	0	1	0	0	1	2331	1429	61.3	2	2	2	5	65	24.6	76	34	4	1	2	0	0	0	0	0	29	0	1	2
304	60	1	2	3	3	2	5	3	2	3	18	0	3	18	0	1	0	0	2	2216	1793	80.91	2	1	2	5	60	22.7	96	21.6	2	2	0	0	0	0	0	0	0	0	0	0
305	62	2	2	4	3	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2079	1843	88.65	2	2	2	5.3	60	23.3	120	43.1	4	1	2	50	0	0	10	0	0	40	2	2
306	62	2	2	3	3	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2007	1099	54.76	2	2	2	5.3	59	23.5	89	38.4	3	2	0	0	0	0	0	0	0	0	0	0
307	70	1	2	3	2	2	5	2	1	3	14	0	1	0	0	3	12	0	2	1985	1328	66.9	2	2	2	5	53	22.8	98	30.1	4	1	2	51	10	54	0	45	0	0	2	2
308	70	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2007	1469	73.19	1	2	2	5.2	56	22.6	98	19.9	1	1	1	51	0	0	0	0	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
309	70	1	2	3	1	2	5	2	1	1	0	0	3	17	0	3	22	0	1	2216	1527	68.91	2	1	2	5.5	60	25.8	102	18.4	2	1	2	0	0	0	10	15	0	0	2	1
310	68	1	2	3	3	2	6	3	4	1	0	0	1	0	0	1	0	0	1	1981	1173	59.21	1	2	2	5	65	24.6	81	30.1	4	1	2	50	10	54	0	0	0	0	2	2
311	68	1	2	3	2	2	6	3	4	1	0	0	1	0	0	3	22	0	2	2216	1103	49.77	1	2	2	5.4	63	23.8	94	37.5	4	1	2	51	0	54	10	0	0	0	2	2
312	72	1	2	4	2	2	4	3	1	3	22	0	1	0	0	1	0	0	1	2101	1184	56.35	1	1	2	5.2	58	23.4	85	25.1	2	1	1	0	0	0	10	0	0	0	2	2
313	75	1	2	3	2	2	7	3	2	1	0	0	1	0	0	1	0	0	2	1883	1237	65.69	2	1	1	5.2	60	24.2	98	27.9	3	1	2	51	0	0	15	0	0	0	1	2
314	65	1	2	3	1	2	7	3	1	1	0	0	3	25	0	3	26	0	1	1981	1842	92.98	2	1	2	5	65	25.9	81	34.1	4	1	1	0	0	0	21	0	0	0	2	2
315	72	1	2	1	1	2	5	1	1	1	0	0	2	32	0	1	0	0	2	2101	1539	73.25	1	1	2	5.5	55	22.2	100	12	1	1	2	0	10	25	10	0	0	0	2	2
316	63	1	2	3	1	3	2	4	1	3	19	0	1	0	0	1	0	0	2	2446	1396	57.07	1	1	2	5	70	26.5	100	20.3	2	1	1	0	0	0	10	0	0	0	2	2
317	68	1	3	4	2	1	2	1	2	2	24	10	3	7	0	3	12	0	2	2331	1720	73.79	2	1	2	5.2	65	25.2	102	27.6	3	1	2	50	0	0	15	15	0	0	2	2
318	62	1	2	4	2	2	2	2	1	1	0	0	1	0	0	3	30	0	2	2331	1285	55.13	1	1	2	5.4	65	24.6	100	23.8	3	1	1	0	0	0	10	0	0	0	2	2
319	68	2	3	4	3	3	8	3	3	1	0	0	1	0	0	1	0	0	1	2007	1829	91.13	1	2	2	5.2	56	22.6	101	42.7	4	1	2	51	10	0	10	0	29	0	2	2
320	67	2	2	4	1	3	8	3	3	1	0	0	1	0	0	3	26	0	1	2187	1392	63.65	2	1	2	5.2	65	25.9	98	48.7	4	1	2	0	0	54	10	0	0	0	1	2
321	64	2	2	4	1	3	8	3	3	1	0	0	1	0	0	1	0	0	1	2007	1834	91.38	1	2	1	5.2	56	22.6	106	39.5	3	1	2	50	10	0	15	0	0	0	2	2
322	71	1	2	1	1	2	7	6	1	1	0	0	3	32	0	1	0	0	2	2331	1692	72.59	2	1	1	5.5	65	23.1	89	24.8	3	1	2	0	0	0	10	0	0	0	2	1
323	60	2	2	1	1	1	8	1	4	1	0	0	1	0	0	1	0	0	2	2277	1942	85.29	1	1	2	5	70	26.5	76	36.1	2	1	1	51	0	0	0	0	0	0	2	2
324	60	2	2	4	1	2	8	1	1	1	0	0	1	0	0	3	21	0	2	2097	1730	82.5	2	1	2	5.2	60	23.9	84	41.5	4	1	1	0	10	0	0	0	0	0	0	0
325	73	2	2	5	2	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2187	1965	89.85	1	1	2	5	65	24.6	84	21.9	1	1	2	51	0	54	0	0	29	0	2	2
326	63	2	2	1	2	2	4	3	1	1	0	0	1	0	0	1	0	0	2	2007	1373	68.41	1	1	2	5.2	57	23	72	31.6	2	1	1	0	0	0	21	0	0	0	2	2
327	63	2	2	4	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2187	1739	79.52	1	1	2	5	65	24.6	76	39.4	3	1	2	51	0	0	10	0	0	0	2	2
328	84	1	2	4	1	2	7	3	1	1	0	0	1	0	0	1	0	0	1	1786	1103	61.76	1	1	2	5.3	58	23.1	94	0	0	1	2	51	0	25	15	15	0	0	2	1
329	76	1	2	4	1	2	5	2	2	1	0	0	2	25	5	3	25	0	2	2446	2317	94.73	1	1	2	5.4	70	26.5	90	30.4	4	1	1	0	0	0	0	0	0	30	2	2
330	60	2	2	3	1	1	8	3	4	1	0	0	1	0	0	1	0	0	1	2187	1637	74.85	1	2	2	5.6	65	23.1	96	39.1	3	2	0	0	0	0	0	0	0	0	0	0
331	62	1	2	3	2	1	1	6	4	1	0	0	1	0	0	1	0	0	2	2101	1739	82.77	1	1	2	5	58	21.9	76	28.9	3	1	2	0	10	0	95	0	0	0	2	2
332	70	1	2	1	2	1	4	2	1	1	0	0	3	27	0	1	0	0	2	1981	1492	75.32	2	2	2	5.3	65	25.9	92	31.2	4	1	1	0	0	0	0	45	0	0	2	2
333	78	1	2	4	3	1	4	3	1	1	0	0	1	0	0	1	0	0	2	2177	2381	109.4	1	1	2	5.6	75	26.7	102	22.7	2	1	2	0	0	25	0	0	0	0	1	2
334	65	1	2	4	1	1	2	3	1	1	0	0	1	0	0	3	30	0	2	2216	1139	51.4	1	1	2	5.4	60	22.7	81	14.8	2	1	2	0	0	0	21	0	0	0	2	2
335	76	1	2	5	1	1	7	6	2	1	0	0	1	0	0	1	0	0	1	1981	1147	57.9	2	1	2	5.5	65	23.8	98	11.9	1	1	2	50	0	0	0	45	0	0	1	2
336	64	2	2	4	1	2	8	1	1	1	0	0	1	0	0	1	0	0	1	2097	1539	73.39	1	1	2	5.4	64	23.1	100	38.3	3	1	1	0	0	0	10	0	0	0	2	2
337	62	2	2	4	1	2	6	3	3	1	0	0	1	0	0	1	0	0	1	2097	1241	59.18	1	1	2	5.2	60	24.2	108	40.5	3	1	2	0	10	0	95	0	0	0	2	2
338	66	1	2	4	1	1	7	6	2	1	0	0	1	0	0	1	0	0	1	1786	1352	75.7	2	1	2	5.2	55	21.3	91	25.1	2	1	1	0	0	0	0	15	0	0	2	2
339	62	1	2	4	1	2	4	6	1	1	0	0	1	0	0	1	0	0	2	2331	1143	49.03	1	2	2	5.6	65	23.1	100	28.3	3	1	1	0	0	0	10	0	0	0	2	2
340	78	2	2	2	1	1	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1659	79.11	1	1	1	5.4	60	22.7	100	37.8	3	1	1	0	0	54	0	0	0	0	2	2
341	67	2	2	4	2	1	8	1	3	1	0	0	1	0	0	3	18	0	2	2187	1329	60.77	2	2	2	5.4	68	24.9	92	37.2	3	1	2	51	0	0	10	0	29	0	2	2
342	68	1	2	4	1	1	5	1	3	3	25	0	1	0	0	3	28	0	2	2446	2364	96.65	1	1	2	5.6	70	24.9	107	21.8	2	1	2	0	10	0	15	0	0	0	2	2
343	75	2	2	4	1	2	5	1	2	1	0	0	1	0	0	1	0	0	1	2097	1639	78.16	1	1	1	5.5	61	21.7	98	30.4	2	1	1	0	0	0	10	0	0	0	2	2
344	71	2	2	2	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	1860	1136	61.08	2	1	2	5.5	66	26.6	98	44.5	4	1	2	50	0	25	0	0	0	0	1	1
345	62	2	2	4	1	2	8	1	4	1	0	0	1	0	0	1	0	0	2	2277	1647	72.33	1	2	2	5.5	76	27.9	106	22.1	1	2	0	0	0	0	0	0	0	0	0	0
346	80	2	2	4	1	2	8	1	1	1	0	0	1	0	0	1	0	0	1	2187	1727	78.97	2	1	1	5.4	64	23.5	98	0	0	1	2	51	0	0	0	0	29	0	1	2
347	63	1	2	4	3	2	3	2	4	1	0	0	1	0	0	3	26	0	2	2331	1936	83.05	1	2	2	5.1	68	27.1	94	28.1	3	1	1	51	0	0	0	0	0	0	2	2
348	65	2	2	4	1	2	8	1	3	1	0	0	1	0	0	1	0	0	2	2007	1527	76.08	1	1	1	5.5	56	20.5	73	33.3	2	1	1	0	0	0	0	45	0	0	2	2
349	64	2	2	4	2	1	8	2	3	1	0	0	1	0	0	1	0	0	2	2277	1739	76.37	1	2	2	5.3	78	31	78	43.3	4	1	2	0	10	0	10	0	0	0	0	0
350	64	1	2	3	3	2	1	6	4	3	20	0	1	0	0	1	0	0	2	2331	1738	74.56	2	1	2	5.2	69	27.8	72	23.8	2	1	2	50	10	0	0	0	59	0	0	0
351	66	2	2	4	1	2	8	2	3	1	0	0	1	0	0	3	10	0	1	2277	1348	59.2	2	1	2	5.4	70	26.5	84	37.9	3	1	1	0	0	0	0	0	0	0	1	2
352	68	1	1	2	1	2	1	7	3	1	0	0	3	30	0	1	0	0	2	2216	1830	82.58	2	2	2	5.2	60	25	73	27.9	3	1	1	0	10	0	0	0	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
353	67	2	2	5	2	1	8	2	1	1	0	0	1	0	0	3	25	0	2	2187	1628	74.44	2	2	2	5	66	28.4	96	44	4	1	2	50	0	0	10	45	29	0	2	2
354	78	1	2	3	2	1	3	3	2	1	0	0	1	0	0	3	35	0	2	2216	1539	69.45	2	1	2	5.1	60	24.2	102	21	2	1	2	0	10		15	0	29	0	1	2
355	64	2	2	4	2	2	8	3	3	1	0	0	1	0	0	1	0	0	2	2007	1427	71.1	2	2	2	5	56	24.1	78	30.7	2	1	2	51	10	0	10	0	0	0	2	2
356	70	1	2	2	1	2	6	3	2	1	0	0	3	30	0	1	0	0	1	2216	1729	78.02	1	1	2	5.4	60	22.7	76	11.9	1	1	1	0	0	0	95	0	0	0	2	2
357	68	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2007	1649	82.16	2	2	1	5.2	55	22.4	96	24.9	2	1	2	51	10	54	0	15	0	0	2	2
358	75	2	2	4	2	2	4	2	1	1	0	0	1	0	0	3	20	0	2	1917	1382	72.09	2	1	2	5	50	21.5	76	15.9	1	1	2	0	0	0	10	0	0	40	2	2
359	62	2	2	3	1	2	7	6	3	1	0	0	1	0	0	1	0	0	2	1860	1193	64.14	1	1	2	5.2	69	27.8	89	30.8	2	1	2	51	0	0	10	0	29	0	2	2
360	68	1	2	3	2	1	6	2	2	1	0	0	1	0	0	1	0	0	2	2079	1201	57.77	1	1	2	5.2	70	28.2	98	21.1	2	2	0	0	0	0	0	0	0	0	0	0
361	68	1	2	5	2	2	7	4	1	1	0	0	1	0	0	1	0	0	2	1981	1492	75.32	1	1	2	5	65	28	98	24.9	2	1	2	0	10	25	10	0	0	0	2	2
362	65	1	2	3	1	2	7	6	3	1	0	0	3	25	0	1	0	0	1	1981	1109	55.98	1	2	2	5.1	69	28.7	102	30	4	1	1	0	0	0	15	0	0	0	2	2
363	79	1	2	1	1	2	3	3	3	2	19	0	2	27	7	1	0	0	2	1981	1003	50.63	1	1	2	5	65	28	81	20.7	2	1	1	0	10	0	0	0	0	0	2	2
364	75	1	2	3	2	2	7	3	1	1	0	0	2	30	10	1	0	0	2	2216	1182	53.34	1	1	2	5.1	60	22	106	11.6	1	1	2	0	0	54	21	0	0	0	2	2
365	79	1	2	2	2	1	7	3	1	1	0	0	1	0	0	1	0	0	2	1786	1830	102.5	1	1	2	5	57	23.7	98	28.3	3	1	1	0	0	0	10	0	0	0	2	2
366	61	2	2	3	1	1	1	5	4	1	0	0	1	0	0	1	0	0	1	2097	1429	68.14	2	2	2	5.2	62	25	89	20.9	1	1	1	0	0	0	10	0	0	0	2	2
367	77	2	3	3	1	3	4	2	3	1	0	0	1	0	0	1	0	0	1	2097	1837	87.6	1	2	2	5	60	25.8	90	24.9	2	1	2	0	10	54	0	0	29	0	2	2
368	60	2	2	5	2	3	2	3	1	1	0	0	1	0	0	3	30	0	2	2097	1318	62.85	2	1	2	5.2	63	25.4	112	22.4	1	1	2	50	0	25	10	45	29	0	2	2
369	72	2	3	2	2	2	4	1	1	1	0	0	1	0	0	3	42	0	2	2097	1103	52.6	1	1	2	5.4	60	22.7	78	39.9	3	1	1	0	0	0	0	0	29	0	2	2
370	79	1	2	2	2	3	3	2	2	1	0	0	1	0	0	1	0	0	2	2216	1364	61.55	1	2	2	5.6	64	22.8	78	24.9	2	1	2	0	10	0	0	0	0	0	1	2
371	64	1	2	4	2	1	1	5	4	1	0	0	3	25	0	1	0	0	2	1981	1007	50.83	1	2	1	5.5	65	23.8	112	30.3	4	1	2	50	0	0	0	45	0	0	2	2
372	70	2	2	4	1	3	4	1	4	1	0	0	1	0	0	1	0	0	1	2331	1382	59.29	1	1	1	5.7	68	23.5	86	41.1	4	1	2	0	10	54	10	0	29	0	1	2
373	71	1	2	5	1	1	1	3	4	1	0	0	1	0	0	3	30	0	1	2216	1472	66.43	1	2	2	5.5	63	23.1	89	32	4	2	0	0	0	0	0	0	0	0	0	0	0
374	65	1	2	4	2	1	1	4	1	1	0	0	1	0	0	1	0	0	2	2446	1638	66.97	1	1	2	5.4	70	26.5	65	17.8	2	1	2	51	0	0	0	0	0	0	1	0
375	60	1	2	4	2	1	2	5	4	1	0	0	1	0	0	1	0	0	2	2216	1428	64.44	1	2	2	5.4	60	22.7	82	11.9	1	1	2	0	10	54	0	45	0	0	2	2
376	70	2	2	4	1	3	8	1	3	1	0	0	1	0	0	1	0	0	1	2097	1369	65.28	1	1	2	5.4	63	23.8	106	37.5	3	1	1	0	0	0	95	0	0	0	0	0
377	64	1	2	3	2	1	7	5	3	1	0	0	3	25	0	1	0	0	2	1883	1358	72.12	1	1	2	5.5	60	22	83	11.2	1	2	1	0	10	0	0	0	0	0	0	0
378	78	2	3	4	2	2	8	1	1	1	0	0	1	0	0	3	42	0	2	2097	1142	54.46	1	2	2	5.6	63	22.4	80	41	4	1	2	0	10	54	10	0	29	0	1	2
379	60	2	2	2	2	1	8	2	4	1	0	0	1	0	0	1	0	0	2	2187	1537	70.28	2	1	2	5.4	68	25.7	84	44.3	4	1	2	51	10	0	15	0	59	0	2	2
380	62	1	3	4	2	2	4	3	3	1	0	0	3	20	6	1	0	0	2	2331	1364	58.52	1	1	2	5.7	65	22.4	92	28.4	3	2	0	0	0	0	0	0	0	0	0	0
381	70	2	3	4	1	1	6	3	3	1	0	0	1	0	0	1	0	0	2	1936	1738	89.77	1	2	2	5.6	76	27	86	37.4	3	1	1	0	0	0	0	0	29	0	2	2
382	70	2	3	4	2	3	8	3	2	1	0	0	1	0	0	3	30	0	2	2097	1368	65.24	1	1	2	5.6	64	22.8	87	38.3	3	1	1	0	10	0	0	0	0	0	2	2
383	65	1	2	4	1	3	7	4	4	1	0	0	2	15	6	3	15	0	2	2177	1426	65.5	2	2	2	5.5	76	27.9	94	19.7	2	1	1	0	0	0	0	45	0	0	2	2
384	63	2	3	4	2	3	6	3	4	1	0	0	1	0	0	3	33	0	2	1860	1637	88.01	1	1	2	5.5	65	23.8	86	34.6	2	2	0	0	0	0	0	0	0	0	0	0
385	60	2	2	2	1	2	5	1	1	1	0	0	1	0	0	1	0	0	1	2187	1132	51.76	1	1	2	5.6	66	26.6	82	38	3	1	1	0	0	0	0	0	0	0	1	2
386	60	2	2	3	1	2	8	1	1	1	0	0	1	0	0	3	8	0	1	2277	1658	72.82	1	2	2	5.6	70	28.2	84	45.3	4	1	1	0	0	0	10	0	0	0	2	2
387	65	2	2	2	2	2	8	2	3	1	0	0	1	0	0	3	9	0	2	2277	1130	49.63	1	1	2	5.2	74	28.9	86	26.8	2	1	1	0	10	0	0	0	0	0	0	0
388	65	2	2	2	2	2	8	3	3	1	0	0	1	0	0	1	0	0	1	2097	982	46.83	1	1	2	5.3	64	24.2	74	20.2	1	1	2	0	0	0	95	0	0	0	1	2
389	60	1	2	3	1	2	5	3	1	3	22	0	3	21	0	1	0	0	2	2446	1100	44.97	1	1	2	5.3	70	27.3	84	30	4	2	0	0	0	0	0	0	0	0	0	0
390	65	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2277	1352	59.38	1	1	1	5.3	72	28.1	72	24.3	2	1	2	50	10	0	0	0	0	0	2	2
391	65	2	2	3	1	1	5	2	1	1	0	0	1	0	0	2	16	5	2	2187	1638	74.9	1	2	2	5.7	56	20.3	70	28.3	2	1	1	0	0	0	10	0	0	0	2	2
392	92	1	2	3	1	2	8	2	1	2	28	13	2	26	7	1	0	0	2	1860	1537	82.63	2	1	1	5.5	69	25.3	86	0	0	1	2	51	0	0	10	0	0	0	2	2
393	64	1	2	2	3	2	4	3	2	1	0	0	1	0	0	1	0	0	1	1883	1738	92.3	2	2	2	5.2	60	23.4	76	28.4	3	1	1	0	0	0	15	0	0	0	2	2
394	70	2	2	3	3	2	8	2	2	1	0	0	1	0	0	3	17	0	2	2187	1824	83.4	1	1	1	5.6	65	23.8	74	32.3	2	2	0	0	0	0	0	0	0	0	0	0
395	60	2	2	2	3	2	8	1	3	1	0	0	1	0	0	1	0	0	2	2187	1346	61.55	2	2	2	5.7	69	20	80	31.8	2	1	2	51	0	0	10	0	0	0	2	2
396	74	1	2	3	3	1	5	1	1	3	25	0	2	22	6	3	28	0	2	2101	986	46.93	1	1	1	5.6	59	26.6	72	31.8	4	1	2	0	10	54	0	0	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
397	75	2	2	2	2	1	5	1	1	1	0	0	1	0	0	1	0	0	1	2187	1547	70.74	2	1	2	5.5	69	25.3	68	28.4	2	1	2	50	0	0	15	0	0	0	1	2
398	68	1	2	3	2	2	4	3	3	3	27	0	1	0	0	2	24	8	2	2331	1734	74.39	1	1	1	5.6	68	24.9	100	19.5	2	1	2	51	0	0	15	0	0	0	2	2
399	75	1	2	2	1	2	3	3	2	1	0	0	3	31	0	3	27	0	2	2446	1136	46.44	1	1	2	5.3	70	30.1	102	23.3	2	1	1	0	0	25	0	0	0	0	0	0
400	65	1	2	3	1	2	2	2	1	3	20	0	1	0	0	1	0	0	2	2331	1436	61.6	1	1	2	5.2	68	26.6	96	18.6	2	1	2	0	10	25	0	15	0	0	2	2
401	63	1	2	3	3	2	2	2	2	1	0	0	3	27	0	3	12	0	2	2216	1742	78.61	1	1	2	5.2	60	24.2	80	29.8	3	1	1	0	0	0	95	0	0	0	2	2
402	60	1	2	2	2	2	5	1	1	3	15	0	1	0	0	3	26	0	2	2216	1475	66.56	1	1	2	5.5	60	22	84	11.2	1	1	2	51	0	0	10	0	29	0	2	2
403	62	2	2	3	2	2	8	3	2	1	0	0	1	0	0	1	0	0	1	2277	1368	60.08	1	1	2	5.4	74	28	84	23.7	1	1	2	0	0	0	10	0	29	0	2	2
404	78	2	2	3	2	2	5	3	2	1	0	0	1	0	0	1	0	0	1	1936	1264	65.29	2	1	2	5.5	70	25.7	86	36.8	2	1	2	0	10	0	0	0	0	0	1	2
405	66	1	2	3	1	2	2	3	3	1	0	0	3	31	0	1	0	0	1	2331	1107	47.49	1	1	2	5.3	65	25.4	74	23.6	2	1	2	51	0	54	10	0	0	0	2	2
406	70	1	2	2	1	2	6	3	4	1	0	0	1	0	0	1	0	0	1	1981	1006	50.78	1	2	2	5.5	65	23.8	84	29.9	3	1	1	0	0	0	10	0	0	0	2	2
407	66	1	2	4	2	2	6	3	4	1	0	0	2	23	7	2	15	12	1	1786	1132	63.38	2	2	2	5.3	56	21.9	72	11.4	1	1	2	0	10	0	15	0	29	0	2	2
408	65	2	2	2	2	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2187	1176	53.77	1	2	2	5.2	66	25.8	70	36.8	2	1	2	0	0	0	10	0	0	0	1	2
409	62	1	2	4	1	2	6	3	2	1	0	0	2	24	13	1	0	0	1	1590	945	59.43	2	1	2	5.5	49	18	102	25.5	2	1	1	50	0	0	0	0	0	0	2	2
410	68	2	2	3	1	2	8	1	2	1	0	0	1	0	0	3	18	0	1	1706	962	56.39	2	2	2	5.2	55	22.9	70	28.5	2	1	1	0	0	0	0	0	0	0	1	2
411	66	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2097	1113	53.08	2	2	2	5.4	63	23.8	76	27.2	2	2	0	0	0	0	0	0	0	0	0	0
412	60	1	2	3	1	2	3	3	4	3	22	0	1	0	0	3	21	0	1	1985	1029	51.84	2	2	2	5.2	54	21.8	76	31	4	2	0	0	0	0	0	0	0	0	0	0	0
413	64	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2007	1264	62.98	2	1	2	5.2	55	22.2	98	37.4	3	1	2	50	0	0	10	0	0	30	2	2
414	60	2	2	3	2	2	8	2	2	1	0	0	1	0	0	3	18	0	1	2097	1194	56.94	1	1	2	5.4	60	22.7	94	38.9	3	1	2	0	0	54	95	0	59	0	2	2
415	60	1	2	3	1	2	7	3	3	1	0	0	3	21	0	3	15	0	2	2216	1459	65.84	2	2	2	5.4	60	22.7	73	27.4	3	1	1	0	10	0	0	0	0	0	2	2
416	70	2	2	3	1	2	8	1	1	1	0	0	1	0	0	3	30	0	1	2097	1839	87.7	1	1	2	5.4	63	23.8	78	33.9	2	1	2	51	0	0	95	45	0	0	2	2
417	60	2	2	3	1	2	6	2	1	1	0	0	1	0	0	1	0	0	2	1782	1123	63.02	2	1	2	5.2	63	25.4	72	39.4	3	1	2	0	0	0	10	0	29	0	2	2
418	63	2	2	2	1	2	6	3	3	1	0	0	1	0	0	2	15	12	1	1782	1236	69.36	1	1	2	5.3	60	25.5	96	32.9	2	2	0	0	0	0	0	0	0	0	0	0
419	70	2	2	3	2	2	8	2	1	1	0	0	1	0	0	2	12	5	1	2097	1002	47.78	2	2	2	5.6	64	22.8	112	35.8	2	1	2	0	10	0	10	0	59	0	2	2
420	64	2	2	3	1	2	8	3	2	1	0	0	1	0	0	1	0	0	1	2277	1740	76.42	2	1	2	5.4	70	26.5	96	43.2	4	2	0	0	0	0	0	0	0	0	0	0
421	60	2	1	3	1	2	6	2	3	1	0	0	1	0	0	1	0	0	2	2277	1348	59.2	1	2	2	5.2	74	29.8	102	23.7	1	1	2	0	10	0	95	0	0	0	2	2
422	76	2	2	3	2	2	8	3	3	1	0	0	1	0	0	1	0	0	2	2007	1832	91.28	2	2	2	5.4	59	21.6	78	34	2	1	2	51	10	25	95	0	0	0	2	2
423	60	2	2	3	2	2	8	3	2	1	0	0	1	0	0	1	0	0	2	2277	1763	77.43	1	2	2	5.5	70	24.9	76	20.6	1	1	2	0	0	0	10	15	29	0	2	2
424	63	2	2	2	1	2	6	3	3	1	0	0	1	0	0	2	15	12	1	1782	1236	69.36	1	1	2	5.3	60	25.5	96	32.9	2	2	0	0	0	0	0	0	0	0	0	0
425	64	1	2	2	1	2	5	3	1	3	27	0	3	17	0	1	0	0	2	2216	1006	45.4	1	2	1	5.4	60	22.7	120	31.6	4	1	2	50	0	0	10	0	0	0	2	2
426	72	2	2	3	1	2	3	2	1	1	0	0	1	0	0	1	0	0	1	2097	1038	49.5	2	1	2	5.2	60	22.7	89	42	4	1	2	50	0	0	0	0	0	0	1	2
427	60	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1104	50.48	2	2	2	5.3	67	26.7	98	36.6	2	1	1	0	0	0	10	0	0	0	2	2
428	82	2	3	4	2	2	8	1	1	1	0	0	1	0	0	3	42	0	2	2097	987	47.07	1	2	1	5.2	60	24.2	98	0	0	1	2	51	0	25	15	15	29	0	2	2
429	60	2	2	2	2	1	8	2	4	1	0	0	1	0	0	1	0	0	2	2277	1245	54.68	2	1	2	5.5	76	27.9	102	41	4	1	1	0	0	0	10	0	0	0	0	0
430	62	1	3	4	2	2	4	3	3	1	0	0	3	20	6	1	0	0	2	2101	1674	79.68	1	1	2	5.2	55	22.2	81	29.2	3	1	1	0	0	0	10	0	0	0	2	2
431	70	2	3	4	1	1	7	3	3	1	0	0	1	0	0	1	0	0	2	1706	1276	74.79	2	1	2	5.2	59	23.8	94	27.6	2	1	2	0	10	0	10	0	0	0	2	2
432	70	2	3	4	2	3	8	3	2	1	0	0	1	0	0	3	30	0	2	2097	1134	54.08	1	1	2	5	64	27.6	85	31.6	2	1	2	50	0	54	15	0	0	0	2	2
433	65	1	2	4	1	3	6	4	4	1	0	0	2	0	36	3	15	0	2	1883	1367	72.6	2	1	2	5.2	60	24.2	98	21.6	2	1	1	0	0	0	10	0	0	0	2	2
434	63	2	3	4	2	3	6	3	4	1	0	0	1	0	0	3	33	0	2	1782	1876	105.3	1	1	2	5.3	60	23.9	86	29.4	2	1	1	0	0	0	10	0	0	0	2	2
435	60	2	2	2	1	2	5	1	1	1	0	0	1	0	0	1	0	0	1	2097	1246	59.42	1	2	2	5.5	60	22	78	23.5	2	2	0	0	0	0	0	0	0	0	0	0
436	60	2	2	3	1	2	8	1	1	1	0	0	1	0	0	3	8	0	1	2277	1754	77.03	2	2	2	5.2	70	28.2	100	39.2	3	1	2	50	10	0	15	0	0	0	2	2
437	65	2	2	2	2	2	8	2	3	1	0	0	1	0	0	3	9	0	2	2097	1748	83.36	1	2	2	5.4	60	22.7	102	33.3	2	1	2	51	0	54	0	0	29	0	2	2
438	65	2	2	2	2	2	8	3	3	1	0	0	1	0	0	1	0	0	1	2007	1109	55.26	2	1	2	5.2	55	22.2	100	20.4	1	1	2	51	10	0	10	0	29	0	2	2
439	60	1	2	3	1	2	5	3	1	3	22	0	3	21	0	1	0	0	2	2187	1346	61.55	2	2	2	5.2	66	26.6	101	22.2	2	1	2	50	0	0	15	45	0	0	2	2
440	65	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2277	1987	87.26	2	2	2	5.4	73	29	98	36	2	1	2	0	10	0	10	0	0	0	1	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
441	65	2	2	3	1	1	5	2	1	1	0	0	1	0	0	2	16	5	2	1936	1874	96.8	2	1	2	5.5	75	27.9	106	16.9	1	1	2	51	10	54	10	0	0	0	2	2
442	74	1	2	3	1	2	7	2	1	2	28	13	2	26	7	1	0	0	2	1981	1025	51.74	1	2	2	5.4	65	25.2	89	23.6	2	1	2	51	0	54	0	0	0	0	2	1
443	60	2	2	3	2	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2277	1386	60.87	2	2	2	5.5	70	25.7	76	20.9	1	1	1	0	0	0	10	0	0	0	2	2
444	65	1	2	3	2	2	5	2	2	3	23	0	1	0	0	1	0	0	2	2216	1048	47.29	2	2	2	5.6	60	21.3	84	22.5	2	2	0	0	0	0	0	0	0	0	0	0
445	70	1	2	2	1	2	5	3	1	1	0	0	3	18	0	3	29	0	2	2446	1137	46.48	2	2	2	5.5	70	25.7	84	25.3	2	1	2	0	10	0	10	45	0	0	2	2
446	65	1	2	3	1	2	6	3	1	1	0	0	1	0	0	1	0	0	1	1981	1356	68.45	1	2	2	5.3	65	25.9	72	35.8	4	2	0	0	0	0	0	0	0	0	0	0
447	65	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2097	1435	68.43	2	2	2	5.5	63	23.1	76	37.1	3	1	1	0	10	0	0	0	0	0	2	2
448	70	1	2	2	2	2	4	3	1	1	0	0	3	20	0	1	0	0	1	2079	1647	79.22	2	2	2	5.5	70	25.7	94	26.8	3	1	2	50	0	0	10	0	0	0	2	2
449	66	1	2	3	1	2	2	3	3	1	0	0	3	31	0	1	0	0	1	2446	1326	54.21	2	2	2	5.5	74	27.1	90	38.1	4	2	0	0	0	0	0	0	0	0	0	0
450	70	1	2	2	1	2	7	3	4	1	0	0	1	0	0	1	0	0	1	1883	749	39.78	2	1	2	5.5	60	22	96	24.6	2	1	2	51	0	0	10	0	0	0	2	2
451	66	1	2	4	2	2	6	3	4	1	0	0	2	23	7	2	15	12	1	2079	1538	73.98	1	1	2	5.5	70	25.7	76	25.3	2	1	2	51	10	25	0	0	0	0	1	2
452	65	2	2	2	2	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2097	1493	71.2	2	2	2	5.5	62	22.7	92	37.4	3	1	1	0	0	0	0	0	29	0	2	2
453	62	1	2	4	1	2	6	3	2	1	0	0	2	24	13	1	0	0	1	1883	1379	73.23	2	2	2	5.3	64	24.8	102	22.4	2	1	2	50	0	0	95	0	0	0	2	2
454	66	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2187	1473	67.35	2	2	2	5.5	67	26.2	98	27.4	2	1	2	0	10	54	0	0	0	0	2	2
455	60	1	2	3	1	2	3	3	4	3	22	0	1	0	0	3	21	0	1	2101	1746	83.1	2	2	2	5.2	58	23.4	100	26.7	3	1	1	0	0	0	10	0	0	0	2	2
456	60	2	2	3	2	2	2	2	2	1	0	0	1	0	0	1	0	0	2	1860	1832	98.49	2	2	2	5.5	66	24.2	108	25.1	2	1	2	0	0	0	10	0	0	0	1	2
457	65	2	2	3	2	2	8	2	2	1	0	0	1	0	0	3	21	0	1	2097	1639	78.16	2	2	2	5.2	63	25.4	91	22.6	1	1	1	0	0	0	15	0	0	0	2	2
458	60	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2097	1134	54.08	1	1	2	5.2	60	23.3	100	32.8	2	1	1	0	0	0	0	15	0	0	2	2
459	60	1	2	2	1	2	6	4	3	1	0	0	3	20	0	2	13	7	1	1883	1354	71.91	2	2	2	5.4	63	24.4	100	21.3	2	1	2	0	10	0	0	0	0	0	2	2
460	63	2	3	4	2	3	6	3	4	2	13	4	1	0	0	3	33	0	2	1860	1375	73.92	2	1	2	5.4	65	24.6	92	34.7	2	1	2	51	0	0	0	0	59	0	2	2
461	60	2	2	3	1	1	8	4	1	1	0	0	1	0	0	1	0	0	1	2007	1375	68.51	2	2	2	5.2	56	22.6	107	35.1	2	2	0	0	0	0	0	0	0	0	0	0
462	74	1	2	4	2	3	7	4	3	1	0	0	1	0	0	3	30	0	2	1883	1437	76.31	1	1	2	5.6	60	21.3	118	11.2	1	1	2	51	0	0	10	0	0	0	2	2
463	64	2	2	3	3	3	8	3	2	3	139	24	1	0	0	1	0	0	2	2187	1356	62	2	2	2	5.4	65	24.6	98	22	1	1	2	50	0	0	10	0	0	0	2	2
464	60	2	2	3	1	1	8	3	2	1	0	0	1	0	0	1	0	0	2	2187	1862	85.14	1	1	2	5.4	65	25.2	96	31.9	2	1	2	0	10	54	10	0	0	0	2	2
465	61	2	3	4	1	2	8	3	1	1	0	0	1	0	0	1	0	0	2	2097	1654	78.87	2	1	2	5.2	60	24.2	88	41.2	4	1	1	0	0	0	15	0	0	0	2	2
466	61	2	3	3	1	1	8	3	1	1	0	0	1	0	0	1	0	0	1	2187	1476	67.49	1	1	2	5.4	67	25.4	78	43.3	4	2	0	0	0	0	0	0	0	0	0	0
467	74	2	3	4	1	2	8	1	3	1	0	0	1	0	0	3	32	0	1	2277	1465	64.34	2	1	2	5.3	70	27.9	112	19.5	1	1	2	0	0	0	10	45	0	0	2	2
468	65	2	2	4	2	3	8	1	1	1	0	0	1	0	0	1	0	0	2	2187	1378	63.01	2	2	2	5.3	65	25.9	72	39.6	3	1	1	0	0	0	10	0	0	0	2	2
469	71	1	2	3	2	2	7	7	1	1	0	0	2	0	72	1	0	0	2	1883	1876	99.63	2	1	1	5.3	60	23.3	98	28.1	3	1	2	51	0	54	15	0	0	0	2	1
470	72	1	2	4	1	2	4	3	2	2	0	36	3	20	0	1	0	0	0	1981	1325	66.89	1	2	2	5.4	65	25.4	90	16.2	2	1	2	50	10	0	0	0	0	0	2	2
471	70	2	2	2	2	2	8	1	1	1	0	0	1	0	0	3	10	0	2	2097	1543	73.58	1	2	2	5.5	64	23.1	78	39.3	3	1	1	0	0	0	0	0	29	0	2	2
472	67	1	2	3	1	2	4	3	1	3	25	0	1	0	0	3	25	0	2	1786	1765	98.82	2	2	2	5.3	58	22.5	86	26.3	3	2	0	0	0	0	0	0	0	0	0	0
473	68	1	2	3	1	2	6	6	4	1	0	0	1	0	0	1	0	0	1	1883	1387	73.66	1	1	2	5.6	64	22.8	94	32.7	4	1	1	0	0	0	10	0	0	0	2	2
474	78	1	2	4	2	2	5	3	3	1	0	0	3	38	0	1	0	0	2	2331	1549	66.45	1	1	2	5.5	68	24.9	83	30.9	4	1	2	0	0	0	10	0	0	0	1	2
475	84	2	2	3	2	2	8	1	1	1	0	0	1	0	0	2	16	12	2	1782	1437	80.64	2	1	1	5.4	62	24.7	76	0	0	1	2	51	0	0	15	0	0	0	1	1
476	60	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2097	1136	54.17	2	1	2	5.4	60	22.7	86	41.6	4	1	1	0	10	0	0	0	0	0	2	2
477	61	1	2	3	2	2	4	3	1	3	16	0	1	0	0	1	0	0	2	1883	1543	81.94	2	2	2	5.2	60	24.2	100	29	3	2	0	0	0	0	0	0	0	0	0	0
478	78	1	2	2	2	2	3	2	2	1	0	0	3	37	0	1	0	0	2	2331	1376	59.03	2	1	2	5.2	65	26.2	97	25.9	2	1	1	0	0	0	10	0	0	0	2	2
479	70	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1265	57.84	1	1	2	5.4	65	25.2	92	32	2	1	2	0	10	0	10	0	0	0	2	2
480	75	1	2	3	1	2	2	3	3	1	0	0	2	24	12	1	0	0	1	2216	1372	61.91	1	2	2	5.3	64	26.2	100	21.7	2	1	1	0	0	0	15	0	0	0	2	2
481	63	2	2	2	1	2	8	3	3	1	0	0	1	0	0	1	0	0	1	2097	1386	66.09	2	1	2	5.2	60	24.2	76	35.9	2	1	1	0	0	0	10	0	0	0	2	2
482	66	1	2	2	3	2	2	3	1	1	0	0	1	0	0	3	34	0	1	2216	1426	64.35	1	1	2	5.2	60	24.6	78	17.9	2	1	1	0	0	0	10	0	0	0	2	2
483	74	1	2	3	3	2	2	3	2	1	0	0	1	0	0	1	0	0	1	2216	1823	82.27	1	2	2	5.3	60	23.9	86	24.5	2	1	2	0	0	54	10	0	0	0	2	2
484	64	1	2	2	3	2	3	3	2	2	16	10	1	0	0	3	20	0	2	2331	1758	75.42	2	1	2	5.5	69	25.3	82	23.9	2	1	2	50	10	0	15	0	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
485	62	1	2	2	3	2	6	3	2	1	0	0	1	0	0	3	18	0	1	1883	1639	87.04	1	2	2	5.3	60	23.9	84	35.1	4	1	1	0	0	0	0	15	0	0	2	2
486	60	1	2	3	1	2	3	4	3	1	0	0	1	0	0	1	0	0	2	2101	1398	66.54	1	2	2	5.2	55	22.2	76	16.7	2	2	0	0	0	0	0	0	0	0	0	0
487	64	1	2	3	2	2	4	4	2	2	18	13	1	0	0	1	0	0	2	2101	1438	68.44	1	1	2	5.2	56	22.6	74	18.3	2	1	2	51	0	0	0	0	0	0	1	2
488	60	1	2	3	2	2	3	3	2	1	0	0	1	0	0	1	0	0	2	1883	1538	81.68	1	2	2	5.3	56	22.3	72	19.3	2	1	1	50	0	0	0	0	0	0	2	2
489	75	2	2	3	2	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2187	1439	65.8	1	1	2	5.4	66	25	76	35.2	2	1	2	51	0	54	0	0	0	0	2	2
490	60	2	2	2	1	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2097	1839	87.7	2	2	2	5.2	63	25.4	86	46.5	4	1	2	0	10	0	0	0	29	0	2	2
491	60	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2007	1935	96.41	2	2	2	5.2	56	22.6	72	31.3	2	2	0	0	0	0	0	0	0	0	0	0
492	75	1	2	3	1	2	2	3	2	3	28	0	1	0	0	3	12	0	1	2216	1385	62.5	2	2	2	5.4	60	23.3	70	23.7	2	1	2	0	0	25	0	0	0	0	1	2
493	60	1	2	3	1	2	2	2	1	1	0	0	2	18	10	3	28	0	2	2331	1839	78.89	1	1	2	5.4	66	26	68	24.7	2	1	1	0	0	0	95	0	0	0	2	2
494	64	2	2	3	2	2	8	3	1	1	0	0	1	0	0	1	0	0	2	2097	1547	73.77	1	1	2	5.4	60	24.2	72	31.3	2	1	1	0	10	0	0	0	0	0	2	2
495	65	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1893	90.27	2	1	2	5.4	60	23.3	70	30	2	1	1	0	0	0	0	0	29	0	2	2
496	60	2	2	2	1	2	4	2	1	1	0	0	1	0	0	1	0	0	1	2187	1836	83.95	1	2	2	5.4	65	26	74	42.8	4	2	0	0	0	0	0	0	0	0	0	0
497	61	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2187	1964	89.8	2	2	2	5.4	68	25.7	80	31.6	2	1	1	0	10	0	0	0	0	0	2	2
498	60	2	2	3	1	2	6	2	1	1	0	0	1	0	0	1	0	0	1	1860	1874	100.8	1	1	2	5.2	68	27.4	89	46.1	4	1	1	0	0	0	0	0	0	30	2	2
499	66	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1655	75.67	2	1	2	5.4	68	25.7	88	36.8	2	1	2	50	0	54	95	0	0	0	2	2
500	62	1	2	4	2	2	3	2	1	3	24	0	1	0	0	1	0	0	2	2331	1744	74.82	2	2	1	5.4	65	26.2	97	25.5	2	1	1	0	0	0	0	0	59	0	2	2
501	60	1	2	3	2	2	4	3	3	1	0	0	2	18	6	2	20	8	2	2331	1583	67.91	1	1	2	5.1	69	28.3	94	23.1	2	1	1	0	0	0	10	0	0	0	2	2
502	70	2	2	2	1	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2187	1673	76.5	2	2	2	5.4	65	25.2	72	28.5	2	1	1	0	0	0	15	0	0	0	2	2
503	70	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2277	1593	69.96	1	2	2	5.6	70	24.5	76	38.1	3	1	2	0	10	25	10	0	0	0	2	2
504	63	1	2	3	1	2	6	3	1	1	0	0	1	0	0	1	0	0	1	1786	1638	91.71	2	2	1	5	58	25	84	17.4	2	1	1	0	0	0	10	0	0	0	2	2
505	60	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2097	1832	87.36	2	2	2	5.4	62	24.7	76	31.7	2	1	2	0	10	0	10	0	0	0	2	2
506	61	2	2	2	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1842	84.22	2	2	2	5.5	67	25.5	78	21.9	1	1	2	0	0	54	10	0	0	0	1	2
507	70	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2007	982	48.93	2	2	2	5.2	56	22.6	82	32.5	2	2	0	0	0	0	0	0	0	0	0	0
508	62	1	2	3	1	2	2	3	3	1	0	0	1	0	0	1	0	0	1	1981	1004	50.68	1	1	1	5.4	66	26.1	86	17.3	2	1	1	0	0	0	10	0	0	0	2	2
509	65	1	2	2	1	2	3	4	2	1	0	0	1	0	0	3	17	0	1	1981	1014	51.19	2	2	2	5.4	66	25	88	28.5	3	1	1	0	0	0	0	45	0	0	2	2
510	66	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2007	1052	52.42	2	2	2	5.2	58	23.4	78	36.8	2	1	1	0	10	0	0	0	0	0	2	2
511	64	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	2	1860	1062	57.1	1	1	2	5.5	67	24.6	80	42	4	2	0	0	0	0	0	0	0	0	0	0
512	67	1	2	3	2	2	2	4	2	3	34	0	1	0	0	2	24	9	2	2331	1874	80.39	2	2	1	5.4	67	26	90	22.7	2	1	2	51	0	0	0	15	0	0	2	2
513	60	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1843	87.89	2	2	2	5.3	63	24.4	78	32.1	2	1	2	0	10	0	10	0	0	0	1	2
514	65	1	2	5	1	2	3	2	3	1	0	0	1	0	0	1	0	0	1	2331	1943	83.35	1	2	2	5.3	64	24.8	94	24	2	1	1	51	0	0	0	0	0	0	2	2
515	74	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2187	1945	88.93	2	2	2	5.4	66	25	73	29.6	2	1	2	0	0	54	10	0	29	0	2	1
516	64	1	2	3	1	2	2	4	1	1	0	0	1	0	0	1	0	0	1	2331	1843	79.06	2	2	2	5.4	66	26.3	96	31.2	4	1	1	0	0	0	0	0	29	0	2	2
517	60	2	2	3	2	2	8	3	2	1	0	0	1	0	0	1	0	0	2	2007	1756	87.49	1	1	2	5.1	55	24.5	102	43	4	1	2	51	10	0	0	0	0	0	2	2
518	60	2	2	3	1	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2097	1235	58.89	2	2	1	5.5	60	22	78	19.5	1	1	1	0	0	0	95	0	0	0	2	2
519	61	1	2	3	2	2	4	3	1	3	16	0	2	18	4	1	0	0	2	2101	1145	54.5	1	2	2	5.4	55	20.8	76	11.3	1	1	1	0	0	0	0	15	0	0	2	2
520	78	1	2	2	2	2	3	2	2	1	0	0	3	37	0	1	0	0	2	2216	1034	46.66	2	1	2	5.5	64	23.5	96	21	2	1	2	50	0	0	10	0	0	0	2	2
521	70	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1356	64.66	1	1	2	5.6	64	22.8	120	31.8	2	1	2	50	10	0	10	0	0	0	2	2
522	75	1	2	3	1	2	2	3	3	1	0	0	2	24	12	1	0	0	1	2216	1097	49.5	1	1	1	5.3	64	25	89	15.8	2	1	2	51	0	54	0	0	0	0	2	2
523	63	2	2	2	1	2	8	3	3	1	0	0	1	0	0	1	0	0	1	2097	1198	57.13	1	2	2	5.1	60	25	98	35.2	2	1	1	0	0	0	15	0	0	0	2	2
524	66	1	2	2	3	2	2	3	1	1	0	0	1	0	0	3	34	0	1	2331	1094	46.93	1	1	2	5.3	67	26.2	98	37.8	4	1	2	51	10	0	10	0	0	0	2	2
525	74	1	2	3	3	2	2	3	2	1	0	0	1	0	0	1	0	0	1	2216	2196	99.1	1	1	2	5.5	60	22	102	10.9	1	2	0	0	0	0	0	0	0	0	0	0
526	64	1	2	2	3	2	3	3	2	2	16	10	1	0	0	3	20	0	2	2216	2065	93.19	2	1	2	5.5	60	22	81	24.3	2	1	2	51	0	0	0	0	59	0	2	2
527	62	1	2	2	3	2	7	3	2	1	0	0	1	0	0	3	18	0	1	1981	1756	88.64	1	2	2	5.4	66	25	94	22.1	2	1	1	0	0	0	10	0	0	0	2	2
528	64	1	2	2	3	2	4	3	2	1	0	0	1	0	0	1	0	0	1	2331	1345	57.7	1	1	2	5.4	66	25	85	29.3	3	2	0	0	0	0	0	0	0	0	0	0

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
529	70	2	2	3	3	2	8	2	2	1	0	0	1	0	0	3	17	0	2	2187	1864	85.23	2	1	1	5.4	67	25.4	98	37.4	3	1	2	0	10	54	0	0	0	0	2	2
530	60	2	2	2	3	2	8	1	3	1	0	0	1	0	0	1	0	0	2	2007	1987	99	1	2	2	5.5	55	20.2	81	37.3	3	1	1	0	10	0	0	0	0	0	2	2
531	74	1	2	3	3	1	5	1	1	3	25	0	2	29	6	3	28	0	2	2216	2018	91.06	1	2	2	5.4	64	25	96	20.9	2	1	1	0	0	0	0	45	0	0	2	2
532	75	2	2	2	2	1	5	1	1	1	0	0	1	0	0	1	0	0	1	2097	2156	102.8	2	1	2	5.3	64	25	88	30.8	2	1	1	0	10	0	0	0	0	0	2	2
533	68	1	2	3	2	2	4	3	3	3	27	0	1	0	0	2	24	8	2	2216	1985	89.58	2	2	2	5.4	60	22	78	25.1	2	1	2	0	0	0	0	0	29	0	1	2
534	75	1	2	2	1	2	3	3	2	2	18	4	3	35	0	3	27	0	2	2331	2034	87.26	1	1	2	5.5	65	23.8	112	33.4	4	1	2	0	0	54	10	0	0	0	2	2
535	65	1	2	3	1	2	2	2	1	3	20	0	1	0	0	1	0	0	2	2216	2011	90.75	2	2	2	5.5	63	23.1	72	19.4	2	2	0	0	0	0	0	0	0	0	0	0
536	63	1	2	3	3	2	2	2	2	1	0	0	3	30	0	3	12	0	2	2216	2135	96.34	2	2	1	5.4	60	22	98	17.9	2	1	1	0	0	0	0	15	0	0	2	2
537	60	1	2	2	2	2	5	1	1	3	15	0	1	0	0	3	26	0	2	2101	1564	74.44	1	1	2	5.5	58	21.3	90	11.9	1	2	0	0	0	0	0	0	0	0	0	0
538	62	2	2	3	2	2	8	3	2	1	0	0	1	0	0	1	0	0	1	2097	1956	93.28	1	2	2	5.6	62	22.1	78	27.3	2	1	1	0	0	0	95	0	0	0	2	2
539	78	2	2	3	2	2	5	3	2	1	0	0	1	0	0	1	0	0	1	2097	1845	87.98	2	1	2	5.5	60	22	86	19.6	1	1	2	0	0	54	0	45	0	0	2	2
540	66	1	2	3	1	2	2	3	3	3	10	0	3	31	0	1	0	0	1	2101	1365	64.97	1	2	2	5.3	56	21.9	94	29.5	3	1	2	0	10	0	10	0	0	0	2	2
541	70	1	2	2	1	2	7	3	4	1	0	0	1	0	0	1	0	0	1	1786	1109	62.09	1	1	1	5.2	55	22.2	83	26.3	3	1	1	0	10	0	0	0	0	0	2	2
542	66	1	2	4	2	2	6	3	4	1	0	0	2	23	9	2	15	12	1	1981	956	48.26	2	2	2	5.5	60	22	76	25.4	2	1	2	51	10	0	10	45	0	0	2	2
543	65	2	2	2	2	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2007	1647	82.06	1	2	2	5.4	55	20.8	86	35.3	2	1	2	0	0	0	0	0	29	0	1	2
544	62	1	2	4	1	2	7	3	2	2	17	10	2	24	13	1	0	0	1	1786	1845	103.3	1	1	2	5.5	55	20.2	100	21.5	2	2	0	0	0	0	0	0	0	0	0	0
545	68	2	2	3	1	2	8	1	2	1	0	0	1	0	0	3	18	0	1	2277	1843	80.94	2	2	2	5.5	70	25.7	97	41.5	4	1	2	50	10	0	0	0	0	0	2	2
546	61	1	2	3	2	2	4	3	1	3	16	0	1	0	0	1	0	0	2	2331	1643	70.48	2	1	2	5.5	65	23.8	92	21.4	2	2	0	0	0	0	0	0	0	0	0	0
547	78	1	2	2	2	2	3	2	2	1	0	0	3	37	0	1	0	0	2	2101	1834	87.29	1	2	1	5.4	55	20.8	100	23.7	2	1	2	0	0	25	10	0	0	0	1	1
548	70	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1173	55.94	2	2	2	5.4	60	22	76	28.5	2	1	2	51	10	0	0	0	0	0	2	2
549	75	1	2	3	1	2	2	3	3	3	30	0	2	24	12	1	0	0	1	2101	1734	82.53	2	2	2	5.5	55	20.4	76	22.7	2	1	2	0	0	54	10	0	0	0	2	2
550	63	2	2	2	1	2	8	3	3	1	0	0	1	0	0	1	0	0	1	2097	1738	82.88	2	2	2	5.2	60	24.2	92	28.6	2	1	2	51	0	0	95	0	0	0	2	2
551	66	1	2	2	3	2	2	3	1	1	0	0	1	0	0	3	34	0	1	2101	1034	49.21	2	1	2	5.5	55	20.2	107	24.6	2	1	1	0	0	0	0	15	0	0	2	2
552	74	1	2	3	3	2	2	3	2	1	0	0	1	0	0	1	0	0	1	2216	1764	79.6	2	2	2	5	64	27.6	118	34	4	1	2	0	0	0	0	45	0	0	2	1
553	64	1	2	2	3	2	3	3	2	2	16	10	1	0	0	3	20	0	2	2446	1538	62.88	2	1	2	5.6	70	24.9	98	31	4	1	1	0	0	0	10	0	0	0	2	2
554	62	1	2	2	3	2	7	3	2	1	0	0	1	0	0	3	18	0	1	1981	1143	57.7	2	1	2	5.4	65	24.6	96	29.4	3	1	2	50	10	0	10	0	0	0	2	2
555	60	1	2	3	1	2	3	4	3	1	0	0	1	0	0	1	0	0	2	2331	1398	59.97	1	1	2	5.4	65	24.6	88	19.3	2	2	0	0	0	0	0	0	0	0	0	0
556	64	1	2	3	2	2	4	4	2	2	18	13	1	0	0	1	0	0	2	1883	1187	63.04	2	2	2	5.5	60	22	78	18.7	2	2	0	0	0	0	0	0	0	0	0	0
557	75	1	2	3	1	2	2	4	1	1	0	0	1	0	0	1	0	0	2	2079	1648	79.27	2	1	2	5.4	70	26.5	112	20.2	2	1	2	51	0	0	0	0	0	0	0	1
558	78	1	2	2	1	2	7	3	1	1	0	0	2	30	6	1	0	0	1	1981	1854	93.59	1	1	2	5.4	68	25.7	72	18.9	2	1	2	0	0	0	10	15	59	0	2	2
559	65	2	2	3	1	2	8	2	3	1	0	0	1	0	0	2	10	8	1	2007	1328	66.17	1	1	2	5.5	59	21.6	98	31.7	2	1	1	51	0	0	0	0	0	0	2	2
560	65	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2187	1864	85.23	2	1	2	5.5	65	23.8	90	17.8	1	1	1	0	10	0	0	0	0	0	2	2
561	64	2	2	3	2	2	8	2	3	1	0	0	1	0	0	3	17	0	2	1706	1564	91.68	2	1	2	5.5	55	20.2	78	15.9	1	2	0	0	0	0	0	0	0	0	0	0
562	79	1	2	3	2	2	7	2	1	1	0	0	2	30	12	1	0	0	1	1981	1643	82.94	2	2	2	5.5	65	23.8	86	37.1	4	1	2	51	10	0	0	0	0	0	2	1
563	60	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2007	1108	55.21	1	1	1	5.5	58	21.3	94	28.3	2	2	0	0	0	0	0	0	0	0	0	0
564	74	1	2	3	1	2	7	3	1	1	0	0	3	30	0	1	0	0	2	2079	1006	48.39	2	1	2	5.5	70	25.7	83	22.7	2	1	1	0	0	0	0	45	0	0	2	2
565	60	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1187	56.6	1	1	2	5.5	60	22	76	26.9	2	1	2	0	10	0	10	0	0	0	2	2
566	70	1	2	2	2	2	4	2	1	1	0	0	2	20	6	2	10	8	1	2216	1934	87.27	2	1	2	5.5	60	22	86	30.4	4	1	2	51	0	0	0	15	0	0	2	2
567	65	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1873	89.32	1	1	2	5.2	60	26.2	100	43.9	4	1	1	0	0	0	10	0	0	0	2	2
568	62	2	2	3	2	2	8	2	3	1	0	0	1	0	0	3	20	0	2	2187	1136	51.94	2	1	2	5.4	68	25.7	97	38.1	3	1	2	51	0	0	15	0	0	0	2	2
569	70	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2007	1092	54.41	1	2	2	5.5	59	21.7	92	19.3	1	1	2	0	10	0	10	0	0	0	2	2
570	60	1	2	3	1	2	6	3	1	3	27	0	1	0	0	3	27	0	1	1985	983	49.52	2	1	2	5	54	23.3	100	29.8	3	1	2	0	0	0	10	0	0	0	1	2
571	62	2	2	4	1	2	8	2	3	1	0	0	1	0	0	2	24	8	2	2187	1143	52.26	1	2	2	5.6	68	24.2	76	30.7	2	2	0	0	0	0	0	0	0	0	0	0
572	60	1	1	3	1	2	6	4	1	1	0	0	1	0	0	1	0	0	1	2331	1642	70.44	2	1	2	5.5	65	23.8	78	23	2	2	0	0	0	0	0	0	0	0	0	0	0

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
573	62	1	2	2	1	2	2	3	1	1	0	0	1	0	0	3	25	0	1	2331	1763	75.63	2	2	2	5.2	66	26.6	72	19.2	2	1	2	0	10	54	0	0	0	0	2	2
574	60	2	2	3	2	2	4	2	2	1	0	0	1	0	0	1	0	0	1	1860	1443	77.58	1	2	2	5.4	68	25.7	98	34.1	2	1	2	50	0	0	10	0	0	0	2	2
575	60	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2187	1845	84.36	1	1	1	5.4	68	26.4	90	40.1	3	1	1	0	0	0	10	0	0	0	2	2
576	65	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1734	79.29	2	1	1	5.2	66	26.6	78	21.9	1	2	0	0	0	0	0	0	0	0	0	0
577	64	1	2	2	1	2	7	3	3	1	0	0	1	0	0	1	0	0	1	1883	1674	88.9	1	2	2	5.4	66	25	86	30.8	4	1	2	50	10	0	0	0	0	0	2	2
578	60	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2277	1467	64.43	1	1	2	5.4	70	27.2	94	39.2	3	2	0	0	0	0	0	0	0	0	0	0
579	68	1	2	3	2	2	3	3	1	3	28	0	1	0	0	1	0	0	2	2446	1842	75.31	1	1	2	5.5	70	25.7	83	22.7	2	2	0	0	0	0	0	0	0	0	0	0
580	60	2	2	4	2	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2187	1469	67.17	2	1	2	5.3	65	25.2	76	36.1	2	1	2	51	0	0	10	45	0	0	2	2
581	60	2	2	4	2	2	8	2	2	1	0	0	1	0	0	2	12	5	1	2277	1537	67.5	1	2	2	5.4	70	27.5	86	41	4	1	2	0	0	0	0	0	29	0	1	2
582	60	2	2	3	2	2	5	2	2	1	0	0	1	0	0	3	15	0	2	1936	1743	90.03	1	1	2	5.4	70	26.5	100	38.2	3	1	2	51	0	0	10	0	0	0	1	2
583	60	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2187	1745	79.79	2	2	2	5.5	66	24.2	97	32.7	2	2	0	0	0	0	0	0	0	0	0	0
584	60	1	1	3	1	2	6	3	1	3	18	0	2	30	5	1	0	0	2	2101	1174	55.88	1	2	2	5.2	58	23.4	92	24.1	2	1	1	0	0	0	10	0	0	0	2	2
585	60	2	2	2	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2277	1438	63.15	1	1	2	5.4	70	26.5	100	32	2	1	1	0	0	0	15	0	0	0	2	2
586	72	2	1	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	1936	1537	79.39	1	2	2	5.2	70	28.2	76	19.1	1	1	1	0	0	0	10	0	0	0	2	2
587	60	2	2	2	2	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2097	1743	83.12	2	1	2	5.1	60	25.4	78	30.2	2	1	2	0	0	54	10	0	0	0	2	2
588	70	1	2	3	2	2	7	2	4	1	0	0	2	12	10	1	0	0	2	1883	1734	92.09	1	1	2	5.4	63	23.8	86	26.3	3	1	2	51	10	0	0	0	0	0	2	2
589	60	2	2	3	2	2	3	2	2	1	0	0	1	0	0	1	0	0	2	1782	1843	103.4	1	1	2	5.3	64	25.5	82	33.5	2	2	0	0	0	0	0	0	0	0	0	0
590	60	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2187	1843	84.27	2	1	2	5.2	66	26.6	84	31.7	2	1	1	0	0	0	10	0	0	0	2	2
591	65	1	2	2	1	2	3	2	2	1	0	0	1	0	0	1	0	0	1	2216	1645	74.23	2	1	2	5.4	60	23.8	76	21.7	2	1	1	0	0	0	0	0	29	0	2	2
592	70	1	2	4	1	2	5	2	3	1	0	0	1	0	0	1	0	0	2	1883	1657	88	2	1	2	5.3	60	23.3	74	22.5	2	1	2	51	0	0	10	0	0	0	2	2
593	65	1	1	3	1	2	5	2	3	3	24	0	1	0	0	1	0	0	2	2331	1653	70.91	2	1	2	5.2	58	23.4	72	33	4	1	2	51	0	0	95	0	0	0	2	2
594	72	1	2	3	1	2	6	2	3	2	18	12	3	30	0	1	0	0	1	2216	1657	74.77	1	2	2	5.5	60	22	76	28.7	3	1	2	50	0	25	10	0	0	0	2	2
595	60	2	2	2	2	2	8	2	2	1	0	0	1	0	0	2	12	6	2	2097	1743	83.12	1	2	2	5.4	60	22.7	86	42.8	4	1	1	0	0	0	95	0	0	0	2	2
596	70	1	2	2	2	2	3	2	2	1	0	0	1	0	0	3	22	0	2	1883	983	52.2	1	1	2	5.5	60	22	72	26.1	3	1	2	0	10	0	10	0	0	0	2	2
597	60	2	2	2	2	2	8	2	2	1	0	0	1	0	0	3	17	0	1	2007	1328	66.17	2	1	2	5.4	58	21.9	70	39.4	3	2	0	0	0	0	0	0	0	0	0	0
598	60	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2097	1476	70.39	1	2	2	5.8	62	20.8	76	17.6	1	2	0	0	0	0	0	0	0	0	0	0
599	63	1	2	2	1	2	6	3	3	3	25	0	1	0	0	1	0	0	2	2216	1184	53.43	2	2	2	5.4	60	22.7	94	19.5	2	1	2	0	0	54	10	0	0	0	2	2
600	60	2	2	3	1	2	8	2	2	2	30	5	3	27	0	3	25	0	1	2187	1108	50.66	2	1	2	5.4	65	24.6	85	28.4	2	1	2	0	10	0	10	0	0	0	1	2
601	60	2	2	3	1	2	6	2	2	1	0	0	1	0	0	1	0	0	2	1782	994	55.78	2	2	2	5.7	60	20.7	89	30.3	2	1	2	51	0	25	10	0	0	0	1	2
602	60	1	2	3	1	2	5	2	4	1	0	0	2	13	8	1	0	0	1	2216	1349	60.88	2	1	2	5.3	60	23.4	101	26.8	3	1	2	50	0	25	0	45	29	0	1	2
603	60	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	2	1917	1004	52.37	1	2	2	5.4	54	20.4	112	37.4	3	1	2	51	0	54	10	0	59	30	2	2
604	63	2	2	2	1	2	8	3	2	1	0	0	1	0	0	1	0	0	1	2007	1783	88.84	2	1	1	5.4	56	21.2	95	24.9	2	2	0	0	0	0	0	0	0	0	0	0
605	61	1	2	3	2	2	7	2	1	3	28	0	1	0	0	1	0	0	2	1883	1730	91.87	1	2	1	5.4	64	24.2	99	30.7	4	1	2	0	10	0	10	0	0	0	1	1
606	63	1	2	2	2	2	5	2	1	1	0	0	1	0	0	3	28	0	2	2216	1439	64.94	2	2	2	5.3	62	23.5	80	27.9	3	1	1	0	0	0	15	0	0	0	2	2
607	60	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2007	1098	54.71	1	2	2	5.4	56	21.2	89	23.8	1	1	1	0	0	0	21	0	0	0	2	2
608	79	2	2	3	2	2	8	1	1	1	0	0	1	0	0	2	17	13	1	1782	1682	94.39	2	1	2	5.4	60	22.7	96	28.1	2	2	0	0	0	0	0	0	0	0	0	0
609	70	2	2	3	2	2	4	2	1	1	0	0	1	0	0	1	0	0	2	2097	1574	75.06	2	1	2	5.5	60	22	87	22.9	1	1	2	0	0	25	10	0	0	0	2	2
610	60	1	2	2	1	2	7	3	1	3	18	0	1	0	0	3	27	0	1	1981	1593	80.41	2	1	2	5.4	65	24.6	102	30.4	4	1	1	0	0	0	21	0	0	0	2	2
611	60	1	1	3	1	2	7	3	4	2	12	9	1	0	0	1	0	0	2	1883	1398	74.24	2	1	2	5.6	63	24.6	84	37.3	4	1	2	50	10	54	0	0	0	0	1	2
612	60	2	2	3	1	2	8	3	2	1	0	0	1	0	0	1	0	0	1	2007	1862	92.78	2	2	1	5.3	55	21.5	103	37.8	3	1	1	0	0	0	10	0	0	0	2	2
613	72	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2097	1673	79.78	1	1	2	5.6	60	21.3	87	39	3	1	2	0	0	0	10	0	29	0	2	2
614	65	2	2	3	2	2	6	2	3	1	0	0	1	0	0	2	16	9	2	1782	1154	64.76	1	2	2	5.4	60	22.7	107	41	4	1	2	0	10	0	10	0	0	0	1	2
615	60	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2187	1673	76.5	2	2	2	5.3	67	26.2	97	24.8	2	1	2	50	0	25	0	15	29	0	1	2
616	63	2	2	3	2	2	8	2	1	1	0	0	1	0	0	2	18	4	2	2007	1069	53.26	2	1	2	5.4	58	21.9	99	27.3	2	1	2	0	0	0	0	0	59	30	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
617	60	1	2	3	1	2	6	3	1	3	32	0	2	22	9	3	26	0	2	2216	1134	51.17	1	2	2	5.4	62	23.5	93	37.4	4	1	2	51	10	0	0	45	0	0	1	2
618	61	1	2	3	1	2	7	3	4	1	0	0	1	0	0	1	0	0	1	1883	1387	73.66	1	2	1	5.5	60	22	87	19.3	2	1	2	0	0	54	0	0	0	0	1	2
619	64	2	2	3	2	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2097	1683	80.26	1	2	2	5.4	60	22.7	114	44.1	4	1	1	0	0	0	15	0	0	0	2	2
620	63	2	2	3	2	2	2	2	1	1	0	0	1	0	0	2	18	11	1	2097	1397	66.62	1	2	2	5.5	60	22	80	32.7	2	1	1	0	0	0	21	0	0	0	2	2
621	70	1	2	2	1	2	6	3	1	2	30	13	1	0	0	1	0	0	1	2216	1139	51.4	2	1	2	5.6	62	22.1	100	29.8	3	1	1	0	0	0	0	0	0	0	1	2
622	76	1	2	3	2	2	7	3	2	1	0	0	3	20	0	1	0	0	2	1883	1458	77.43	2	1	2	5.6	60	21.3	111	30.8	4	1	1	0	10	0	0	0	0	0	2	2
623	60	1	2	3	1	2	7	3	4	1	0	0	1	0	0	2	16	12	1	1883	1648	87.52	1	2	2	5.4	64	24.2	111	36.4	4	1	1	0	0	0	25	0	0	0	2	2
624	60	2	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	2	1936	1678	86.67	2	1	2	5.5	74	27.1	115	32.4	2	1	1	0	0	0	0	45	0	0	2	2
625	76	2	3	4	2	2	8	1	1	1	0	0	1	0	0	3	25	0	2	1553	1236	79.59	2	1	2	5.2	65	26.2	100	31.7	2	1	1	0	0	0	0	0	29	0	2	2
626	60	2	2	2	2	1	8	2	4	1	0	0	1	0	0	1	0	0	2	2277	1873	82.26	1	2	2	5.3	70	26.5	102	45.9	4	1	1	0	0	0	0	15	0	0	2	2
627	62	1	3	4	2	2	4	3	3	1	0	0	3	20	6	1	0	0	2	2216	1908	86.1	2	2	1	5.2	50	20.2	100	29.3	3	1	1	0	0	0	0	0	0	0	1	2
628	70	2	3	4	1	1	7	3	3	1	0	0	1	0	0	1	0	0	2	1936	2576	133.1	2	2	2	5.4	61	23.7	101	43	4	1	2	0	0	0	10	0	0	30	2	2
629	70	1	2	3	2	2	6	6	3	1	0	0	1	0	0	3	18	0	2	1786	973	54.48	2	1	1	5.6	58	20.6	86	29.5	3	1	1	0	0	0	10	0	0	0	2	2
630	69	2	2	4	2	1	2	3	2	1	0	0	1	0	0	3	25	0	2	1917	2296	119.8	1	1	2	5.3	53	20.7	74	27.3	2	1	2	51	10	0	0	15	0	0	2	2
631	66	1	2	4	1	2	6	3	2	1	0	0	1	0	0	3	23	0	2	1786	1391	77.88	2	2	2	5.5	57	20.9	84	39.3	4	2	2	0	10	54	0	0	0	0	2	2
632	62	2	2	4	1	3	8	6	2	1	0	0	1	0	0	1	0	0	2	1782	1159	65.04	2	2	2	5.6	62	22.1	72	43.4	4	1	1	0	0	0	0	0	29	0	2	2
633	61	2	2	4	1	3	5	2	2	1	0	0	1	0	0	1	0	0	2	2097	1549	73.87	2	2	2	5.3	62	24.2	70	37.2	3	1	2	0	0	0	15	0	0	0	1	2
634	71	1	2	3	1	2	7	2	1	1	0	0	1	0	0	1	0	0	1	1883	1357	72.07	1	2	2	5.4	63	23.8	96	11.9	1	1	1	0	0	0	10	0	0	0	2	2
635	62	1	2	2	2	2	7	4	2	1	0	0	3	23	0	2	27	6	2	1981	1482	74.81	1	1	1	5.5	65	23.8	80	10.6	1	2	0	0	0	0	0	0	0	0	0	0
636	65	2	2	3	2	2	7	2	1	1	0	0	1	0	0	1	0	0	2	2187	1527	69.82	1	1	2	5.6	67	23.8	84	20.9	1	1	1	0	10	0	0	0	0	0	2	2
637	72	1	2	3	1	2	7	4	3	3	34	0	1	0	0	1	0	0	1	2079	1372	65.99	1	1	2	5.6	70	24.9	84	25.7	2	1	2	50	0	0	10	0	0	0	2	2
638	66	1	2	3	1	2	4	3	3	1	0	0	2	23	7	2	20	7	1	2079	1638	78.79	1	1	2	5.6	73	26	86	27.8	3	1	2	0	0	0	15	0	0	0	1	2
639	77	1	2	3	1	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2079	1367	65.75	2	2	2	5.2	70	28.2	96	30	4	1	1	0	0	0	21	0	0	0	2	2
640	60	1	2	4	2	2	4	3	4	3	15	0	2	10	5	2	23	3	2	2331	1327	56.93	2	1	2	5	56	24.1	106	23.3	2	1	2	0	0	0	10	0	0	0	2	2
641	78	1	2	1	3	1	4	3	2	2	23	8	2	20	10	2	28	14	2	2446	1839	75.18	2	2	2	5.5	71	26	98	19	2	1	2	0	10	25	0	45	0	0	1	1
642	60	2	2	4	3	2	8	2	2	1	0	0	1	0	0	1	0	0	2	2187	1648	75.35	2	2	2	5.6	68	29.3	89	37.8	3	1	2	0	0	0	10	0	0	0	1	2
643	79	2	2	4	2	2	8	2	1	1	0	0	1	0	0	3	35	0	2	1936	1437	74.23	2	2	2	5.2	73	29.4	90	24.7	2	1	2	0	10	25	0	0	0	0	2	2
644	66	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	2	2097	1539	73.39	1	2	2	5.4	68	25.7	85	32.5	2	1	2	51	0	0	15	0	0	0	2	2
645	62	1	1	3	1	2	7	3	2	1	0	0	1	0	0	1	0	0	1	1883	1549	82.26	1	1	2	5.5	60	22	119	24.6	2	1	2	0	0	0	0	0	29	0	1	2
646	74	1	2	3	1	2	7	3	2	1	0	0	1	0	0	1	0	0	1	1981	1143	57.7	2	1	2	5.5	65	23.8	114	30	4	2	0	0	0	0	0	0	0	0	0	0
647	66	1	2	2	2	2	7	3	1	1	0	0	3	40	0	2	20	15	2	1883	1342	71.27	1	2	2	5.5	60	22	76	23	2	1	1	0	0	0	10	0	0	0	2	2
648	60	2	2	3	1	1	8	1	1	1	0	0	1	0	0	1	0	0	1	2187	1002	45.82	1	1	2	5.5	65	23.8	78	19.2	1	1	1	0	0	54	0	0	0	0	2	2
649	60	2	2	4	1	2	8	2	4	1	0	0	1	0	0	1	0	0	2	2097	1320	62.95	1	1	2	5.3	60	23.4	86	34.1	2	1	1	0	10	0	0	0	0	0	0	0
650	60	1	2	4	2	1	2	3	4	1	0	0	2	25	5	3	25	0	2	2216	983	44.36	1	1	2	5.2	60	24.2	82	40.1	4	1	2	51	10	0	10	0	0	0	1	2
651	60	1	2	3	2	2	4	2	1	3	12	0	2	15	9	1	0	0	2	1981	1194	60.27	1	1	2	5.4	65	24.6	84	21.9	2	1	1	0	0	0	0	15	0	0	2	2
652	70	2	2	4	2	1	8	2	1	1	0	0	1	0	0	3	14	0	2	2097	930	44.35	2	2	2	5.5	60	22	76	30.8	2	1	1	0	0	0	0	0	29	0	2	2
653	65	1	2	2	2	2	3	2	2	1	0	0	3	31	0	1	0	0	2	2331	1164	49.94	2	1	2	5.5	65	23.8	74	39.2	4	1	2	50	0	54	10	0	0	0	2	2
654	65	2	2	3	2	2	2	3	2	1	0	0	1	0	0	1	0	0	2	1781	1329	74.62	1	2	2	5.3	64	25.5	72	22.7	1	1	1	0	0	0	0	45	0	0	2	2
655	60	1	1	3	3	2	3	2	1	1	0	0	3	28	0	1	0	0	1	1782	1357	76.15	2	1	2	5.3	63	24.7	76	36.1	4	1	1	0	0	0	15	0	0	0	2	2
656	62	2	1	3	3	2	8	3	1	1	0	0	1	0	0	1	0	0	1	2007	1182	58.89	2	1	2	5	57	24.5	86	41	4	1	2	50	10	0	0	0	0	0	2	1
657	74	2	1	3	3	2	8	2	2	1	0	0	1	0	0	3	24	0	2	2187	1047	47.87	2	2	2	5.2	66	26.6	72	21.4	1	1	2	51	0	0	0	0	0	30	2	2
658	60	2	2	3	1	1	8	2	1	1	0	0	1	0	0	1	0	0	2	2097	1110	52.93	2	1	2	5.2	61	24.6	70	23.7	1	1	1	0	0	0	10	0	0	0	2	2
659	65	2	2	3	1	2	8	2	3	1	0	0	1	0	0	1	0	0	1	2097	1537	73.3	1	1	1	5.3	62	23.8	76	28.5	2	1	2	0	0	0	15	0	0	0	1	2
660	62	1	1	3	2	1	2	3	1	3	25	0	3	23	0	1	0	0	2	2101	1753	83.44	2	2	2	5.2	58	23.4	94	22.7	2	1	1	0	0	0	21	0	0	0	2	2

Si no:	age	sex	marital status	SES	Religion	type of family	occupation	education	physical activity	alcohol	duration/yr	left,duration	smoking tobacco	duration/yr	left duration in month	smokless tobacco	duration in yr	left,duration	diet	required cal.	consumed cal	%	family h/o dm	family h/o HTN	family h/o obesity	HT.	WT	BMI	WAIST CRM.	FAT %	classification	MORBIDITY	no.of morbidity	D	E	H	I	J	K	L	M	N
661	65	1	2	3	1	2	4	4	2	3	29	0	1	0	0	3	30	0	2	1985	1175	59.19	2	1	2	5.4	53	22.8	85	28.6	3	1	2	0	10	25	10	0	0	0	2	2
662	70	1	2	4	1	2	6	2	3	1	0	0	1	0	0	1	0	0	1	1985	1638	82.52	2	2	2	5	54	23.3	89	24.6	2	1	1	0	0	0	10	0	0	0	2	2
663	70	2	2	3	1	2	8	2	2	1	0	0	1	0	0	1	0	0	1	2331	1179	50.58	1	2	2	5.3	67	26	101	34	2	1	2	0	0	0	15	15	0	0	2	2
664	75	1	2	3	1	2	7	2	1	1	0	0	1	0	0	1	0	0	1	2079	1104	53.1	1	2	2	5.5	70	24.9	112	31	4	1	1	0	0	0	10	0	0	0	2	2
665	70	1	2	2	2	2	7	4	2	1	0	0	3	23	0	2	27	6	2	1981	1184	59.77	1	1	2	5.4	66	25	114	19.7	2	1	2	0	0	0	10	0	29	0	2	2
666	63	2	2	3	2	2	7	2	1	1	0	0	1	0	0	1	0	0	2	1860	1748	93.98	1	2	2	5.5	68	24.2	96	29.9	2	1	2	0	0	0	10	0	0	0	1	2
667	65	1	2	3	1	2	7	4	3	3	34	0	1	0	0	1	0	0	1	1786	1538	86.11	1	2	1	5.3	58	22.7	55	26.8	3	1	2	50	0	0	15	0	0	0	2	2
668	70	2	2	2	1	2	8	2	2	1	0	0	1	0	0	3	30	0	2	2097	1141	54.41	1	1	2	5.2	60	23.4	93	30.5	2	1	2	0	0	54	10	0	0	0	2	1
669	79	1	1	2	2	2	7	2	1	1	0	0	1	0	0	3	42	0	2	1883	1482	78.7	1	1	2	5.5	60	23.9	86	21.6	2	1	1	51	0	0	0	0	0	0	2	2
670	66	2	2	2	2	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2187	1632	74.62	2	1	2	5.6	68	24.2	93	19.5	1	1	1	0	10	0	0	0	0	0	0	0
671	66	2	2	2	1	2	6	2	2	1	0	0	1	0	0	2	12	9	1	2097	1328	63.33	1	1	2	5.5	60	22	76	17.4	1	1	2	51	10	0	0	0	29	0	2	2
672	85	1	2	4	1	2	7	2	2	1	0	0	1	0	0	1	0	0	1	1981	1149	58	1	2	2	5.4	68	25.7	93	0	0	1	1	0	0	0	10	0	0	0	2	2
673	62	2	2	3	1	1	8	2	3	1	0	0	1	0	0	1	0	0	1	2187	1192	54.5	1	2	2	5.5	65	24.6	90	27.1	2	1	1	50	0	0	0	0	0	0	2	2
674	60	1	2	2	2	2	4	3	2	2	19	11	2	20	9	1	0	0	2	1981	1365	68.9	1	1	2	5.5	65	23.1	96	37.8	4	1	1	0	0	0	0	0	0	0	1	2
675	64	1	2	3	2	2	7	3	3	1	0	0	3	22	0	3	25	0	2	1883	1932	102.6	2	2	2	5.2	60	24.2	91	27.5	3	2	0	0	0	0	0	0	0	0	0	0
676	63	2	2	3	2	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2187	1739	79.52	2	2	2	5.2	65	26.2	89	37.5	3	1	2	0	0	0	10	0	29	0	1	2
677	68	2	2	3	1	2	3	2	2	1	0	0	1	0	0	1	0	0	1	1706	1173	68.76	2	1	2	5.3	55	20.8	86	38.1	3	1	2	0	0	0	10	45	0	30	2	2
678	78	1	2	3	1	2	7	3	1	2	30	13	1	0	0	3	43	0	1	2079	1429	68.73	2	1	2	5.6	70	27.9	109	37.3	4	1	2	0	0	54	95	0	59	0	2	2
679	60	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2277	1439	63.2	2	2	2	5.5	70	25.7	99	35.2	2	1	1	0	0	0	10	0	0	0	2	2
680	70	1	2	3	1	2	5	2	1	1	0	0	3	32	0	3	30	0	2	2216	1943	87.68	2	1	2	5.8	64	21.5	74	22.8	2	1	2	0	10	0	95	0	0	0	2	2
681	74	1	2	2	2	2	6	2	2	1	0	0	3	28	0	3	38	0	2	2216	1327	59.88	1	2	2	5.6	60	21.3	72	16.8	2	1	1	0	0	0	0	15	0	0	2	2
682	70	2	2	3	2	2	8	2	1	1	0	0	1	0	0	1	0	0	1	2277	1103	48.44	1	1	2	5.6	70	24.9	89	20.8	1	1	1	0	0	0	10	0	0	0	2	2
683	79	1	2	5	2	2	7	4	1	1	0	0	1	0	0	1	0	0	2	1981	1492	75.32	1	1	2	5	65	28	98	24.9	2	1	1	0	0	54	0	0	0	0	2	2
684	65	1	2	3	1	2	7	6	3	1	0	0	3	25	0	1	0	0	1	1981	1109	55.98	1	2	2	5.1	69	28.7	102	30	4	1	2	51	0	0	10	0	29	0	2	2
685	79	1	2	1	1	2	3	3	3	2	19	7	2	27	7	1	0	0	2	1981	1003	50.63	1	1	2	5	65	28	81	20.7	2	1	2	0	10	0	15	0	0	0	2	2
686	79	1	2	3	2	2	7	3	1	1	0	0	2	30	10	1	0	0	2	2216	1182	53.34	1	1	2	5.1	60	22	106	11.6	1	1	1	0	0	0	10	0	0	0	2	2
687	70	2	3	4	2	3	8	3	2	1	0	0	1	0	0	3	30	0	2	2097	1368	65.24	1	1	2	5.6	64	22.8	87	38.3	3	1	2	50	0	25	0	15	0	0	1	1
688	65	1	2	4	1	3	7	4	4	1	0	0	2	15	6	3	15	0	2	2177	1426	65.5	2	2	2	5.5	76	27.9	94	19.7	2	2	0	0	0	0	0	0	0	0	0	0
689	63	2	3	4	2	3	6	3	4	1	0	0	1	0	0	3	33	0	2	1860	1637	88.01	1	1	2	5.5	65	23.8	86	34.6	2	1	2	51	0	0	0	0	29	0	1	2
690	60	2	2	2	1	2	5	1	1	1	0	0	1	0	0	1	0	0	1	2187	1132	51.76	1	1	2	5.6	66	26.6	82	38	3	1	1	51	0	0	0	0	0	0	2	2
691	60	2	2	3	1	2	8	1	1	1	0	0	1	0	0	3	8	0	1	2277	1658	72.82	1	2	2	5.6	70	28.2	84	45.3	4	1	1	0	0	0	0	45	0	0	2	2
692	65	2	2	2	2	2	8	2	3	1	0	0	1	0	0	3	9	0	2	2277	1130	49.63	1	1	2	5.2	74	28.9	86	26.8	2	1	2	0	10	0	0	15	0	0	0	0
693	61	2	2	3	1	1	8	2	3	1	0	0	1	0	0	1	0	0	1	2097	1019	48.59	2	1	2	5.3	60	24.2	102	34.8	2	1	2	50	10	0	10	0	59	0	1	2
694	60	2	2	3	2	2	6	2	1	1	0	0	1	0	0	2	23	8	2	2277	1748	76.77	1	2	2	5.6	70	24.9	84	19.3	1	1	1	0	0	0	0	0	0	0	1	2
695	60	2	2	3	2	2	4	2	2	1	0	0	1	0	0	3	15	0	2	1782	982	55.11	2	2	2	5.2	60	24.2	96	27.4	2	1	1	0	0	0	0	15	0	0	2	2
696	70	2	2	3	2	2	8	2	1	1	0	0	1	0	0	2	12	5	1	2097	1002	47.78	2	2	2	5.6	64	22.8	112	35.8	2	2	0	0	0	0	0	0	0	0	0	0
697	65	2	2	3	2	2	7	2	1	1	0	0	1	0	0	1	0	0	2	1782	1537	86.25	2	1	2	5.7	60	20.7	76	28.1	2	1	2	51	0	0	0	0	0	0	1	2
698	65	2	2	3	2	2	8	2	3	1	0	0	1	0	0	1	0	0	2	2097	983	46.88	1	2	2	5.4	60	22.7	84	37.5	3	1	1	0	0	0	0	0	0	0	1	2
699	60	2	2	2	2	1	8	2	4	1	0	0	1	0	0	1	0	0	2	2187	1537	70.28	2	1	2	5.4	68	25.7	84	44.3	4	2	0	0	0	0	0	0	0	0	0	0
700	72	1	2	3	2	1	7	6	1	2	24	15	1	0	0	1	0	0	1	1981	1741	87.88	2	2	2	5.6	67	23.8	102	15.8	2	1	2	0	0	0	0	0	59	0	2	2

ANNEXURE V

KEY TO MASTER CHART

"PREVALENCE OF OBESITY AMONG ELDERLY IN URBAN FIELD PRACTICE AREA"

1) Age

2) Sex – Male =1, Female=2

3) Marital Status

1.Single

2.Married

3.Widow/Widower

4.Divorced

4) Socioeconomic Status Class I=1,

Class II=2,

Class III=3,

Class IV=4,

Class V=5

5) Religion Hindu 1

Muslim 2

Others 3

6) Type of Family 1- Joint

2- Nuclear

3- Three Generation Family

4- Broken Family

5- Problem Family

7) Occupation 1.Professional

2.Officer/Supervisor

3.Clerk/Salesman

4.Bussinessman

5.Skilled Worker

6.Unskilled Worker

7. Retired

8. Housewife

8) Literacy Status-

1- Illiterate

2- Primary

3 -High School

4- Puc

5- Diploma

6- Graduate

7-Post Graduate

9) Physical Activity

1= Sedentary

2= Mild Moderate

3= Moderate

4= Vigorous

10) Alcohol Use

1= Non User

2= Ex-User

3= Current User

11) Current User -Duration in yr.

12) If Left, Duration in yr.

13) Smoking Tobacco Use

1= Non User

2= Ex-User

3= Current User

14) Current User - Duration in yr.

15) If Left, Duration in yr.

16) Use of Smokeless Tobacco

1= Non User

2= Ex-User

3.= Current User

17) Current user duration in Yr.

18) If Left, duration in Yr.

19) Diet

1. Veg 2. Mixed

20) Required Cal.

21) Consumed Cal.

22) % of Consumed Cal. out of Required Cal.

23) Family History of Diabetes Present =1, Absent =2.

24) Family History of Hypertension Present=1, Absent =2.

25) Family History of Obesity Present=1, Absent =2.

26) Height

27) Weight

28) BMI

29) Waist Circumference

30) Percentage of Body Fat

31) Classification according body fat %

0= Not Applicable

1= Low

2 = Normal

3 = Pre Obese

4= Obese

32) Morbidity- Yes=1, No=2.

33) No. of Morbidity 0. Not Applicable

1. Single

2. More Than 1

34) D= Disease Of Blood forming organ

0 = No Disorder

D50= Iron Deficiency Aneamia

D51= Vit.B12 Deficiency

35) E=Endocrine Disorders

0 = Disorder

E10=Diabetes

36) H= Eye Disorders

0 = No Disorder

H25 =Senile Cataract

H54= Low Vision

37) I= Hypertension Disorders

0 = No Disorder

10= Essential Hypertension

15= Secondary Hypertension

21= Acute Myocardial Infarction

95= Hypotension

25= CHD

11= Hypertensive Heart Disease

38)J = Rs Disorders

0 = No Disorder

45= Asthma

15= Acute Lower Rs Infection

39) K = GI Disorders

0. No Disorder

29= Gastritis

59.0= Constipation

40) L =Skin Disorders

0. No Disorder

30= Dermatitis

40= Psoriasis

41) M =Musculoskeletal Disorders

0. Not Applicable
1. Present
2. Absent

42) N= Urogenital Disorders

0. Not Applicable 1.Present 2.Absent

ANNEXURE II

INFORMED CONSENT

"PREVALENCE OF OBESITY AMONG ELDERLY IN URBAN FIELD PRACTICE AREA"

Investigators: Dr. _____

Introduction:

Prevalence rates of obesity are increasing all over the world and it is important risk factor, which promotes the onset and severity of NCDs. In elderly population, obesity contributes to the early onset of chronic morbidities and functional impairment. I am Dr. _____, post graduate student of Dept. of Community Medicine, JNMC, KLE University, Belgaum. I am conducting a study to find out prevalence of obesity among elderly in Ashok Nagar urban field practice areas of Belgaum under guidance of Dr_____, Community Medicine, JNMC, KLE University, Belgaum.

Methodology:

I will be interviewing eligible population to know the prevalence of obesity and associated life style and socio demographic factor. No laboratory investigations will be done. No treatment will be provided if any illness is found during the study.

Possible benefits:

You will not be eligible for any kind of monetary benefits or free services by virtue of your participation in the study. You will be benefitted by the health education given during the study regarding appropriate weight management and diet.

Possible risks:

Methods applied to do the study are safe. No risk is involved in the study.

Cost of participation:

The cost of the study will be borne by the researcher. You will not have any costs attached to your participation.

Legal rights:

By signing this consent form, you are not waiving off any of your legal rights.

Privacy and Confidentiality:

The results of the study may be published for scientific purposes. However your identity will not be revealed. All information collected will be coded so that no one other than the investigator will know your identity.

Withdrawal from the study:

You can withdraw from the study at any time, if you wish to do so.

Authorization to publish the results:

The researcher may use the information gathered from this study for presentation in scientific journals. However your identity will not be revealed.

Questions:

If you have any queries regarding the study, you can contact **Dr_____** PG Student, Dept. of Community Medicine, J.N.M.C Belgaum-590010, mobile no:

Dr. _____, , Dept. of Community Medicine, J.N.M.C Belgaum-590010, phone no: 0831-2473778.If you have any questions about rights as a research participant, you can contact **Dr. Ganga Pilli,** Chairperson, Institutional Ethics Committee on Human Subjects' Research, J. N. Medical College, Belgaum - 590010 phone no: 9448863866.

Consent summary:

"I have been explained all the contents of this consent form in my local language and having understood and clarified all my queries about the study to the best of my knowledge, I hereby give my voluntary consent for participation in the study. I do sign the informed consent form in front of an eyewitness whom I recognize."

Name and Signature/ left thumb impression of the participant:

Name and Signature/ left thumb impression of the eyewitness

Name and Signature of the interviewer:

Signature of the guide:

Date: _____