

# THE NUTRITIONAL CONDITION AND PSYCHOLOGICAL ALTERATIONS OF POSTMENOPAUSAL WOMEN IN MORADABAD CITY'S RURAL AND URBAN REGIONS

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**Abstract-** The present study was carried out among 50 postmenopausal of urban and rural area women, to assess the psychological status, nutritional status, anthropometric measurement and nutritional knowledge of post-menopausal women (50-55 years) in Moradabad city. The random sampling method was used for the collection of information from post-menopausal women living in different localities in urban and rural area of Moradabad city.

This study shows that 36% women of urban area have a change in their weight after post menopause and 64% women of rural area have no change in their weight. After post menopause 72% urban women have no effect on their physical activity but 28% urban women have effect on their physical activity. 62% rural women have no effect on their physical activity but 38% rural women have effect on their physical activity. In this study 24-hour recall method was used and the nutritive value of Energy, Protein, Fat, Calcium, Iron and Vitamin A are calculated, the result finds a difference in a low level of nutrients of women than comparison of RDA.

So, it is concluded that most of urban women have diseases mostly blood pressure and bone weakness in comparison to rural women, after that women have been also come in the category of overweight and have a wrong dietary feeding pattern because of low knowledge of nutrition. But after the survey the women of urban and rural area are increased with their knowledge regarding their diet.

**Keywords:** Post menopause, Hormones, Anthropometry, Nutrition.

## INTRODUCTION

Menopause is the common and lasting cessation of menses coming about from estrogen lack that's not related with a pathologic prepare. The title menopause comes from the Greek words pausis, which implies stop, and men, which suggests month. Amenorrhea enduring for twelve months marks the conclusion of a woman's regenerative, childbearing time. This happens to most women from the age of 45 to the age of 56. The middle age of characteristic menopause is 51 a long time within the Joined together States. Most ladies encounter vasomotor indications, but menopause can influence numerous other organ frameworks, such as urogenital, psychogenic, and cardiovascular. Menopause implies that periods may be longer or shorter in term, or be lighter or heavier in terms of the sum of stream. Amid this time, ladies frequently encounter hot flashes and may be related with shuddering, sweating and blushing of the skin. Hot flashes regularly halt happening after a year or two. Other indications may incorporate vaginal dryness, inconvenience resting and temperament changes. The seriousness of indications shifts between ladies. Whereas menopause an increment in heart illness, this essentially happens due to expanding age and does not have coordinate relationship with menopause. In ladies, issues contrast in their body accordingly. Menopause is more often than not a characteristic alter. It can basically happen in those who smoke or eat tobacco. Other causes surgery that expels both ovaries and a few sorts of chemotherapy. At the physiological level, menopause happens since of a diminish within the ovaries generation of the hormones estrogens and progesterone. A determination of menopause can be affirmed by measuring hormone levels in either the blood or pee. Menopause is the inverse of menarche, the time at which a periods start in girls. Specific treatment isn't required in menopause. Some indications may be moved forward with the assistance of treatment. By hot maintaining a strategic distance from smoking, caffeine and liquor is frequently prescribed. Menopause takes put when a lady stops ovulating, bleeding and cannot conceive a child; it is by and large considered to have happened to have happened one year after the final menstrual period. In four out of five ladies, this happens between ages 45 and 55; on normal, at almost 50 or 51. [1]

Menopause may be a portion of life; it is brought by diminish within the generation of estrogens hormones. In the long run a lady experienced its final monthly cycle period. A lady is considered to have experienced no period for

one year. The menopause is the misfortune of ovarian follicular work. Clinically menopause is analyzed after 12 months of stoppage of periods for the most part a lady may involvement menopause from her 40's mid 50's. The stage of menarche and menopause has important influences on the physical, mental, social and enthusiastic viewpoints of a ladies. The menopause could be a common wonder in a women life and it is the life's imperative turning points [2].

Also there are not numerous studies on the postmenopausal health problems of pastoral women of India, though they constitute the maturity of Indian women population. Many studies conducted on pastoral postmenopausal women pose a need for of further similar studies necessary especially on pastoral women in order to address the health requirements of postmenopausal women and to include certain important factors in National health Programs[3]. Though there are some studies but they primarily concentrated on assessing and understanding the health status of menopausal women ( 4). But actually the phase of menopause lasts for many times while postmenopausal phase and its confederated health issues are carried by women till death following menopause. Hence, postmenopausal health status actually decides the health of an geriatric woman, morbidity and mortality of the senior geriatric womanish population of a mortal community and affects the overall socio- health status of the population. Some studies reveal difference in the pattern of health problems encountered by menopausal and postmenopausal women in civic and pastoral areas of the Indian key ( 5). According to findings, those differences may be due to variations in life style, environmental conditions, education, mindfulness and concern about the issue and socioeconomic status. Certain significant mischievous cerebral changes like drop in tolerance, increased perversity, depression etc., are also observed in women following menopause ( 6).

#### **Psychological changes in postmenopausal women**

Psychological symptoms include mood changes, depression, irritability, anxiety, lack of self-confidence, memory loss, etc. Studies show that approximately 20% of women suffer from depression at some point during menopause [7]. Although many women enter the postmenopausal age without major psychological problems, there is evidence that postmenopausal women experience significant mood disturbances. Sleep disorders and despair also occur in postmenopausal age. A decrease in the level of female hormones, mainly estrogen, causes such mood disorders [8]. Postmenopausal women have been found to have stronger psychological effects than postmenopausal women [9, 10].

#### **WOMEN'S NUTRITION**

Pregnant women can monitor their nutritional status by measuring their body mass index. Body mass index (BMI) was calculated by dividing weight (kg) by the square of height (m<sup>2</sup>). BMI categories: underweight, normal, overweight and obese are proposed by the World Health Organization. Anthropometric measurements are based on recommendations from the International Biology Program.

Bone strength can be influenced by many interacting factors, including genetic background, race, sex, weight, hormones, physical activity, and diet. Benefits of calcium supplements and dietary calcium in preventing osteoporosis in postmenopausal women, fruit and vegetable consumption has been associated with bone abundance, fruits and vegetables contain several nutrients that can benefit bones. intake may be important during bone growth, calcium supplementation has been shown to reduce one loss in menopausal women, effects of other nutrients on bone mass excess protein, sodium, and caffeine intake, calcium metabolism is known to be involved in calcium metabolism, but they have not been shown to be adverse effect on bone mineral content, fruit and vegetable consumption is associated with a lower risk of cardiovascular disease (CVD) and stroke, the potential protective effect of these foods may be due to antioxidant vitamin and vitamin A. LDLs Oxidation of free radicals is considered an important contributor to the development of atherosclerosis, the formation of oxidized LDL leads to the formation of brain cells even more easily, the risk of stroke and the stroke process or the formation of plaques. [11]

Fruit and vegetable nutrient intake has been associated with higher bone mineral density in late menopausal women and women who are boneless in older men, along with several other nutrients - vitamin C and niacin after menopause. Iron and magnesium were associated with greater freedom of bone mineral and protein, phosphorus, zinc and folate were associated with reduced postmenopausal bone loss, no higher prevalence of osteoporosis in the calcium population, i.e., fatty acids in the Western diet may be a risk factor for osteoporosis, possibly due to decreased calcium absorption of the availability of insoluble calcium fatty acid.

Eat a variety of foods during menopause to get all the necessary nutrients. Women's diets are often low in iron and calcium. Follow these guidelines -

- Consume more calcium
- Increase iron
- Eat more fiber
- Eat fruits and vegetables
- Read labels

- Drink water
- Maintain a healthy weight and diet.
- Use sugar and salt in moderation
- Limit alcohol

## OBJECTIVE

- Know the appropriate dietary patterns for women aged 50-55 (in rural and urban areas).
- Know the necessary nutrients to optimize their activity throughout life.
- Explore changes faced by psychologically
- To compare the results of rural and urban women (target group).

## LITERATURE REVIEW

National Institute on Aging, 2006, Most women can live into their ninth decade because of the changes that come with aging. Menopause in particular can cause anxiety. Menopause is a natural event in the life of every woman, it is the time of the last menstrual period, but symptoms can start many years before those symptoms can last months or years. Sometimes women around the age of 40 notice that the length, frequency and bleeding of their periods varies. Fluctuating levels of estrogen and progesterone, two female hormones produced by the ovaries, can cause these symptoms.

Dillaway, H.E. 2000 evaluated the quality of life of postmenopausal Ecuadorian women and identified factors associated with its deterioration. Postmenopausal women participating in the Metabolic Syndrome Screening and Training Program at the Catholic University Biomedical Institute in Guayaquil, Ecuador, were interviewed using a menopause-specific quality of life questionnaire. In each domain of the questionnaire (vasomotor, psychosocial, physical, and sexual), mean domain scores and factors associated with higher scores were determined. Three hundred and twenty-five postmenopausal women participated in the study. More than 50% of women scored average in each area of the questionnaire. In this postmenopausal Ecuadorian population, decreased quality of life was found to be associated with age and associated co morbidities such as abdominal obesity, hypertension, and hyperglycemia.

Flint, M. & Samil, R.S. 1990 examined menopausal experience and quality of life in a migrant population from the Indian subcontinent living in Birmingham, UK and compares their experiences with a sample of Caucasian women living in the same geographical area and Asian women from a similar socio-economic background. in Delhi, India. In this cross-sectional study, 153 peri - and postmenopausal women aged 45–55 years, 52 Birmingham-based Asian women from the Indian subcontinent, 51 Caucasian women and 50 Indian Asian women were interviewed to collect information about their lifestyle health, menopause and health-seeking behavior.

Soares & Cohen 2001 conducted a study to assess the impact of osteoporosis on quality of life. A total of 100 postmenopausal women were selected as samples from which data were collected using the interview technique. Overall, 41% of women had impaired quality of life.

Kaufert PA 1994 examined the prevalence and correlates of sexual activity and functioning in 2763 postmenopausal women with heart disease. They found that 39% of them were sexually active and 65% of them reported at least one to five sexual problems, such as lack of interest, inability to relax, difficulty achieving orgasm and discomfort during sex.

Singh and Arora (2005) conducted a study examining Impact of Menopause on the Profile of Women in Rural North India. The results showed that of the 558 recruited women between the ages of 35 and 55, the majority (85%) of women admitted that menopause had a negative impact on their physical health. Many postmenopausal women are still sexually active, and 2/3 of them report discomfort and other problems with sexual activity.

McPherson, K. 1990 conducted a study to examine the risk of ovarian cancer screening and anxiety detection in postmenopausal women and quality of life. A total of 147 high-risk women were tested, of which 69 postmenopausal and 78 premenopausal women underwent a transvaginal ultrasound examination, with the risk of ovarian cancer being 37% of premenopausal women and 26% of postmenopausal women. Regarding quality of life, 38% of premenopausal women and 27% of postmenopausal women reported overall quality of life.

## METHODS & MATERIALS

### RESEARCH DESIGN

Research design is simply and purely frame work of plans for a study that guides data collection and analysis. It is

theoretical structure with in which research is conducted.

### **OBJECTIVE**

A study on the physiological changes and nutritional status of postmenopausal women in rural and urban areas of Moradabad city.

### **LOCATION OF THE STUDY**

Study was conducted for data collection in Moradabad city and Uncha gaon (village) was selected.

### **SAMPLE SIZE**

This study was conducted on a group of 50 post menopausal women between the ages of 50-55 years. The subject were selected haphazardly from different localities namely Moradabad city & Uncha gaon as well.

### **DATA COLLECTION**

There are number of tools which could be used for collecting data depending on the nature of study. For the present study a self structured questionnaire comprising of open ended and close ended questions was formulated as per the object of the study.

### **FORMULATION OF QUESTIONNAIRE**

The framed questionnaire contained well defined, simple, short and easy to understand questions. Questionnaire comprised of multiple choice and open ended questions. The information to be collected through the questionnaire was divided under the following sub- headings:

- General information
- Socio economic status
- Dietary Patterns and food habits
- Physical activity Levels
- Anthropometric measurements
- Assessment of nutritional status

### **GENERAL INFORMATION:**

This included information regarding name, sex, age, type of family, number of family members, education of family members, occupation.

### **DIETARY PATTERN AND FOOD HABITS**

In this section information regarding breakfast, packed lunch, lunch and skipping of meals was taken. They were also asked questions regarding type of snacks consumed at home; various types of food preferences of the subject so that the frequency of eating out with family were asked.

### **ANTHROPOMETRIC MEASUREMENTS**

Body measurements such as weight and height are important tool in the assessment of the nutritional status of individuals and groups. Anthropometric measurements are physical measurements that provide an indirect assessment of body composition and development. Anthropometric measurements although genetically determined are strongly prejudiced by nutrition. Correctly recorded and interpreted they reflect the pattern of growth and physical status of individuals and indicate how individuals deviate from the typical at various ages of body size, build and nutritional status.

#### **a) Height**

Height reflects the skeletal growth. Height was measured by using a height meter. The subjects were asked to stand upright against a wall with heels, hips and shoulders touching the wall and without shoes. Height was recorded up to the nearest 0.1cm.

#### **b) Weight**

The weight is the most widely used simple and reproducible anthropometric measurement for evaluation of nutritional status. The weight was measured using a commercial balance scale to the nearest 0.1kg. The subjects were asked to remove their footwear and wear minimal clothes before being weighed.

#### **c) Body Mass Index (BMI)**

The body mass index (BMI) or Quetelet index is a statistical measure of body weight based on a person's weight and height. Though it does not actually measure the percentage body fat, it is used to estimate a healthy body weight based on a person's height.

The BMI (body mass index) of the subjects was calculated using the formula which is as follows:

$$BMI = \frac{Weight (kg)}{Height (m^2)}$$

**TABLE FOR BMI CLASSIFICATION**

S.No.	BMI Classification	Principal cut-off Points
1.	<18.50 Kg/m <sup>2</sup>	Underweight
2.	18.5-24.99kg/m <sup>2</sup>	Normal
3.	≥25	Overweight
4.	≥30	Obese

(WHO,2004)

### ASSESSMENT OF NUTRITIONAL STATUS

The dietary intake was calculated by using a three day, 24 hour dietary recall Performa. The subjects were asked to recall and describe carefully all foods that had been taken in 3 days. This section deal with 24 hours dietary intake listening the details of dietary intake from early morning, breakfast, mid morning, lunch, early evening, late evening, dinner and bed time which included portion size, ingredients, amount of food consumed. The nutritive value was computed manually by the help of nutritive value of Indian foods (ICMR, 2009).

### PSYCHOLOGICAL INFORMATION

The subjects were chosen to examine their psychological changes after menopause. The subjects are counseled and their changes are seen regarding their mental changes and behavior. The subjects were noticed and asked regarding their life and changes they experience in their day to day life. Their behavior with the family members and friends are also noticed.

### ANALYSIS OF THE DATA

The method used for data analysis included tabulation and diagrammatic representation.

#### a) Tabulation of the data:

When data has been classified, it is arranged in the form of tables. Tabulation is defined as orderly and systematic representation of numerical data in a form designed to elucidate the problem under consideration.

#### b) Objective of Tabulation Data:

1. It simplifies the complex data.
2. It saves time.
3. Avoid mistake.

#### c) Diagrammatic representation

Questions with significant responses were illustrated in the form of suitable graphic representation.

### ASSESSMENT OF POSTMENOPAUSAL WOMEN

Symptoms of post menopause tend to develop slowly often over several years. The common climatic symptoms experienced by them can be group into: Physical, psychological or sexual complaints. Other symptoms hot flashes, night sweats, vaginal dryness, irregular menstrual bleeding, headache and joint pain.

### NUTRITIONAL EDUCATION

As we know that postmenopause is a hormonal problem that can be control by diet and physical exercise with the concept to made this study more wrathful teaching aids like booklets and charts were prepared which helps in important information regarding the importance of diet in post menopause women.

### 24 HOUR RECALL METHOD

It was done by using every 2 weeks recall method information was gathered through survey technique. This is probably most widely used method of dietary assessment. It is quick and simple to perform, place a minimal burden on the subject and is applicable to most target groups regardless of their background. This technique aims to quantify dietary intake over previous weeks 24 hours information obtained by this method. It is not unnecessarily representative of unusual intake of an individual.

### DIETARY MODIFICATION

Major changes in the prevailing dietary pattern were not made and they were advised to continue the same dietary pattern along with some changes in their diets. They should avoid some food in post menopausal condition.

### STATISTICAL ANALYSIS

Collected data was arranged in simply tabular forms. Tables were prepared according to general and specific

information. Table was prepared with suitable class intervals, cases were matched. Calculation was done to find out the percentage of each group. Whole of the data was tabulation and analyzed with the suitable statistical tools.

**MEAN**

The most popular and widely used measure of representing the entire data by one value is what most laymen called as “average” and what the statisticians called the “arithmetic”. Its value is obtained by adding together all the items and by dividing this total by the items. (Gupta).

The formula used to calculate mean is –

$$X = \frac{\sum X}{N}$$

N

X = MEAN N=TOTAL

X=VALUEOFVARIABLE

∑= SUMMATION

**STANDARD DEVIATION**

The standard deviation concept was introduced by Karl Pearson in 1823. It is by far the most important and the squared deviation from the arithmetic mean.

The formula used to calculate standard deviation is–

$$= \sqrt{\frac{\sum d^2}{N}}$$

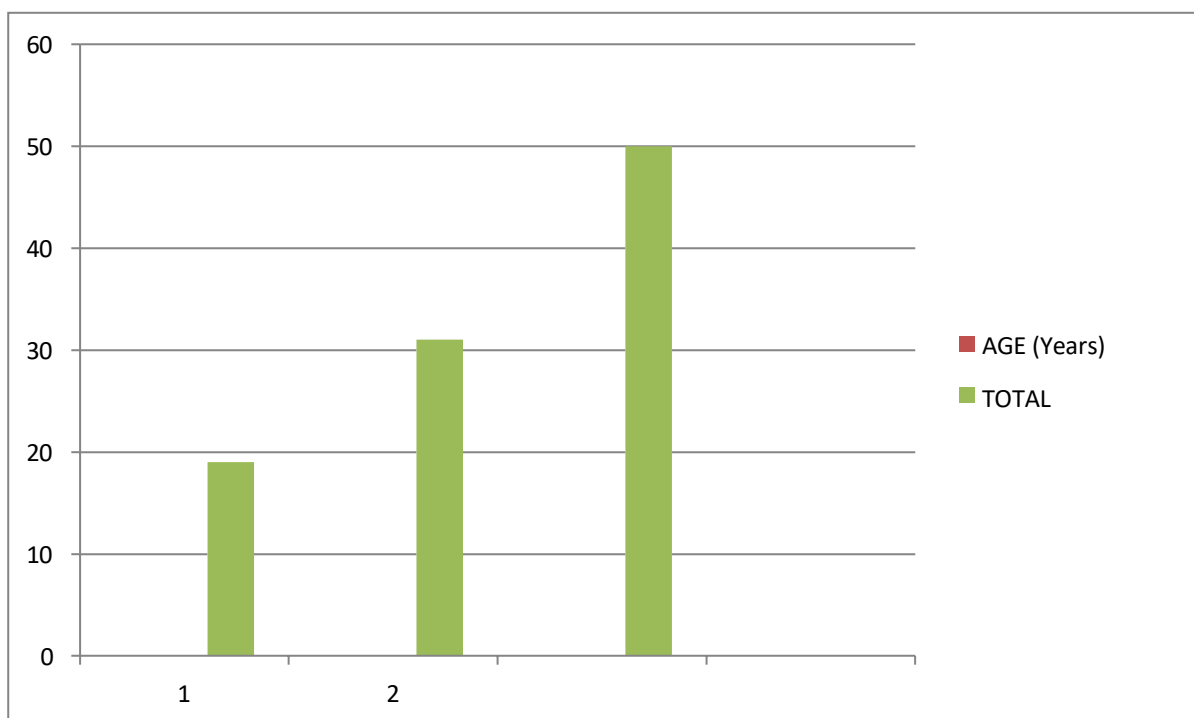
Where, = Standard deviation

d<sup>2</sup> = Sum of square of deviation measured from the arithmetic mean N = Total number of sample

**Table-1 Distribution of respondent according to their age.**

S.NO	AREA	AGE (years)	TOTAL
1	Urban	50-55	19
2	Rural	50-55	31
		<b>TOTAL</b>	<b>50</b>

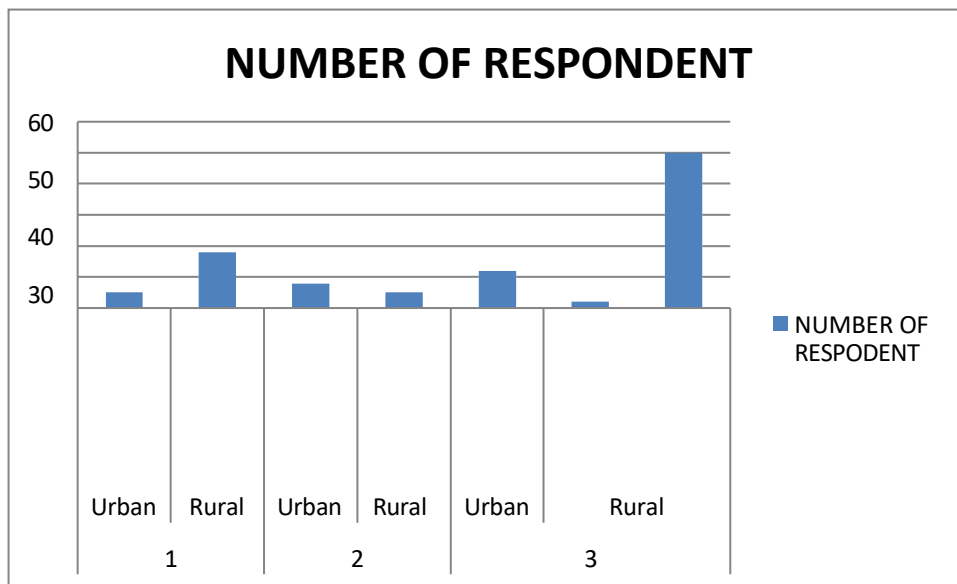
Majority of 31 post menopausal women in rural area of the age group 50-55 years and 19 in urban area with the age group of 50-55 years. The ideal age of post menopausal women is 50- 55 years that’s why rural area is higher for post menopausal condition.



**Table-2 Distribution of respondent according to their BMI (BODY MASS INDEX)**

S.NO	AREA	BMI	NUMBER OF RESPONDENT
1	URBAN	NORMAL	5
	RURAL	NORMAL	18
2	URBAN	OVERWEIGHT	8
	RURAL	OVERWEIGHT	5
3	URBAN	OBESITY	12
	RURAL	OBESITY	2
		<b>TOTAL</b>	<b>50</b>

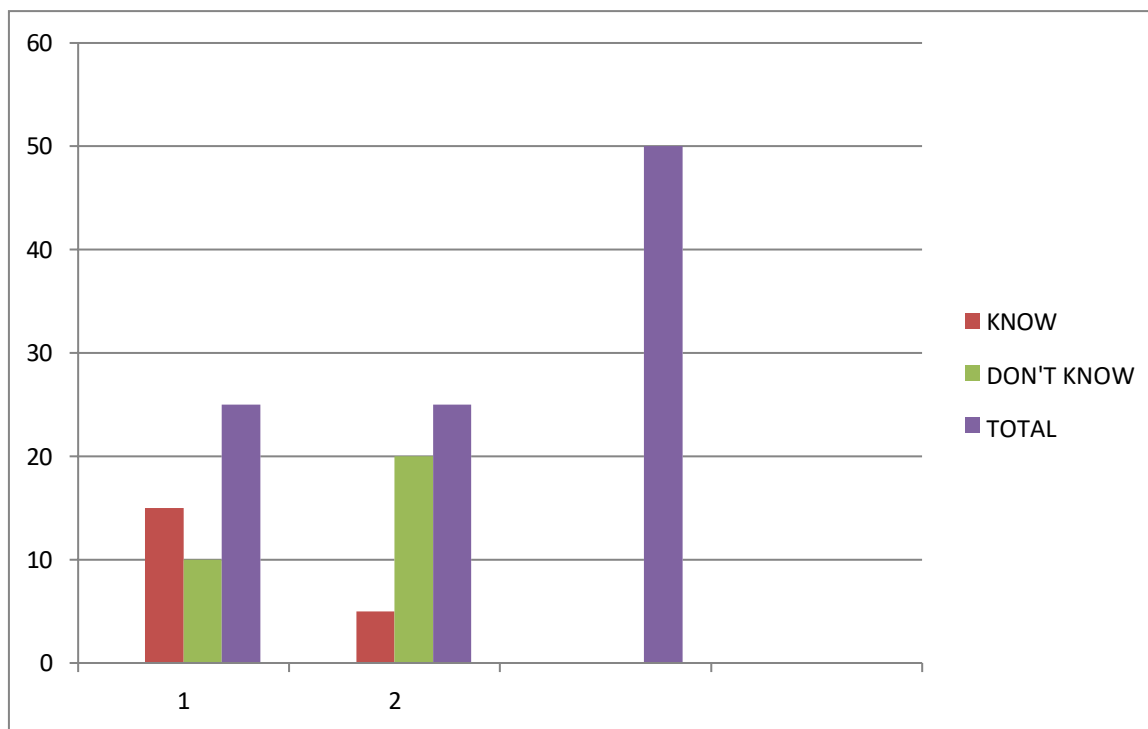
Majority of subjects with normal BMI are present in rural area as they perform number of physical work as compare to urban women. The urban women are overweight and obese then rural as they their life are more luxurious then the women of rural area.



**Table- 3 Distribution of respondents according to the information regarding the subject of Menopause.**

S.NO	AREA	KNOW	DON'T KNOW	TOTAL
1	Urban	15	10	25
2	Rural	5	20	25
			<b>TOTAL</b>	<b>50</b>

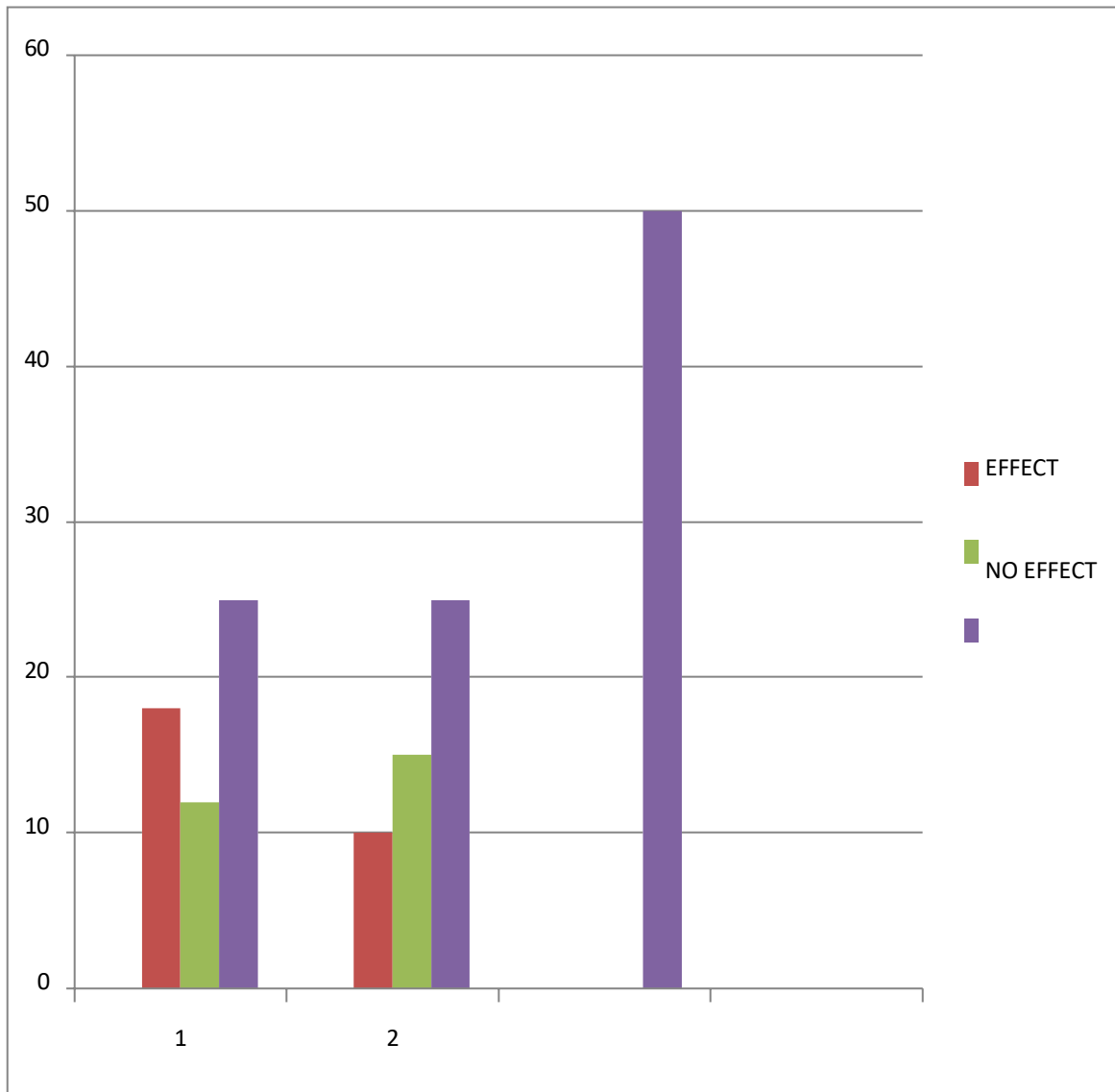
According to the survey we come to know that 15 out of 25 women in urban area are aware about the term menopause and 5 out of 25 women in rural area know about menopause so survey says that majority of urban women are aware about the information regarding menopause as compare to rural women as they do not have any information source for this.



**Table- 4 Distribution of respondents according to their effect on physical activity after post menopause.**

S.NO	AREA	EFFECT	NO EFFECT	TOTAL
1	Urban	18	7	25
2	Rural	10	15	25
			<b>TOTAL</b>	<b>50</b>

Majority shows that the women of urban area have more effect on their physical activity as compare to the rural area women i.e. 18 out of 25 women in urban area noticed more effect on their physical activity and 10 out of 25 women in rural area notice



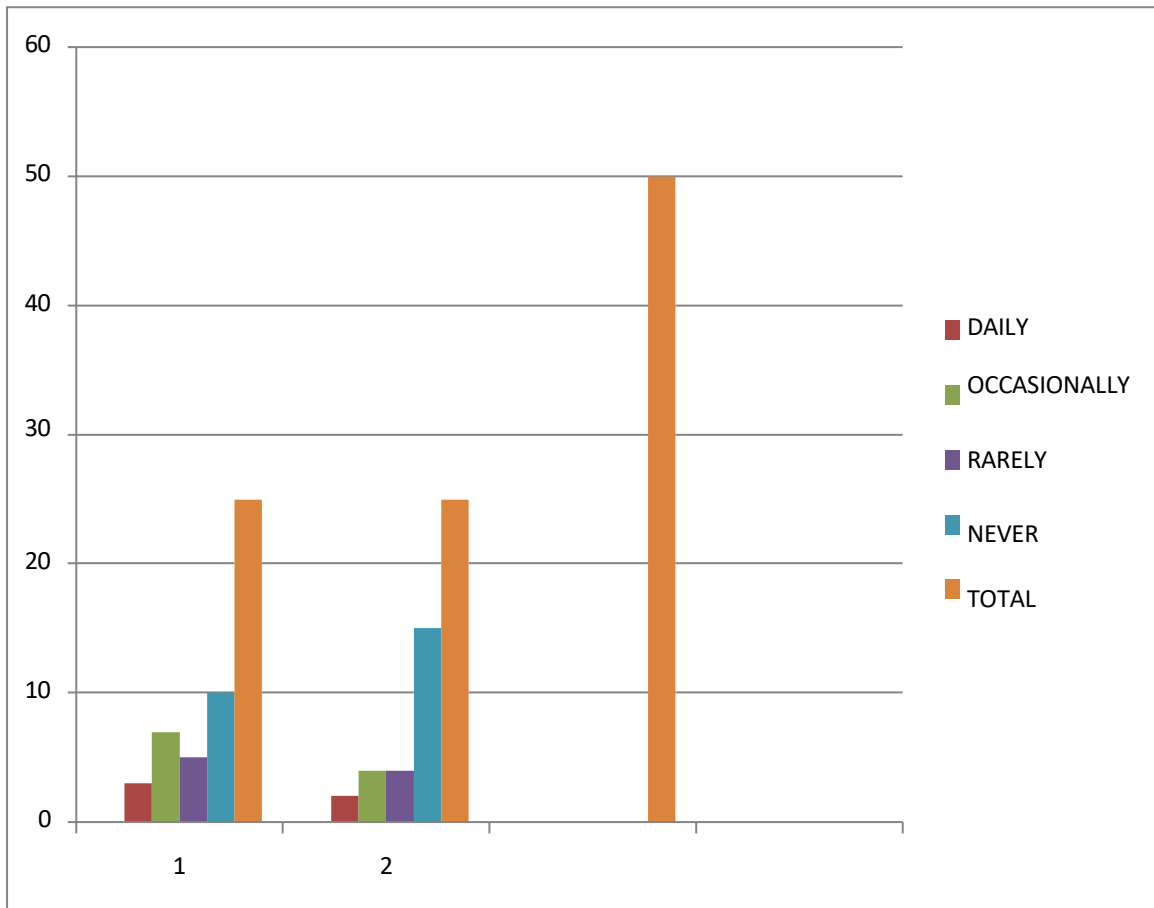
**Table- 5 Distribution of respondent according to their habit of exercise.**

S.NO	AREA	DAILY	OCCASIONALLY	RARELY	NEVER	TOTAL
1	Urban	3	7	5	10	25
2	Rural	2	4	4	15	25
					<b>TOTAL</b>	<b>50</b>

According to the survey, in urban area 3 out of 25 women has the habit of regular exercise and 7 out of 25 have the habit of exercise occasionally and 5 out of 25 rarely exercise and 10 out of 25 never exercise.

In rural area, 2 women out of 25 has the habit of regular exercise and 4 out of 25 have the habit of exercise occasionally and 4 out of 15 rarely exercise and 15 out of 25 never exercise.

So majority shows urban women exercise more as compare to the rural women as they are more conscious to keep themselves fit and healthy.



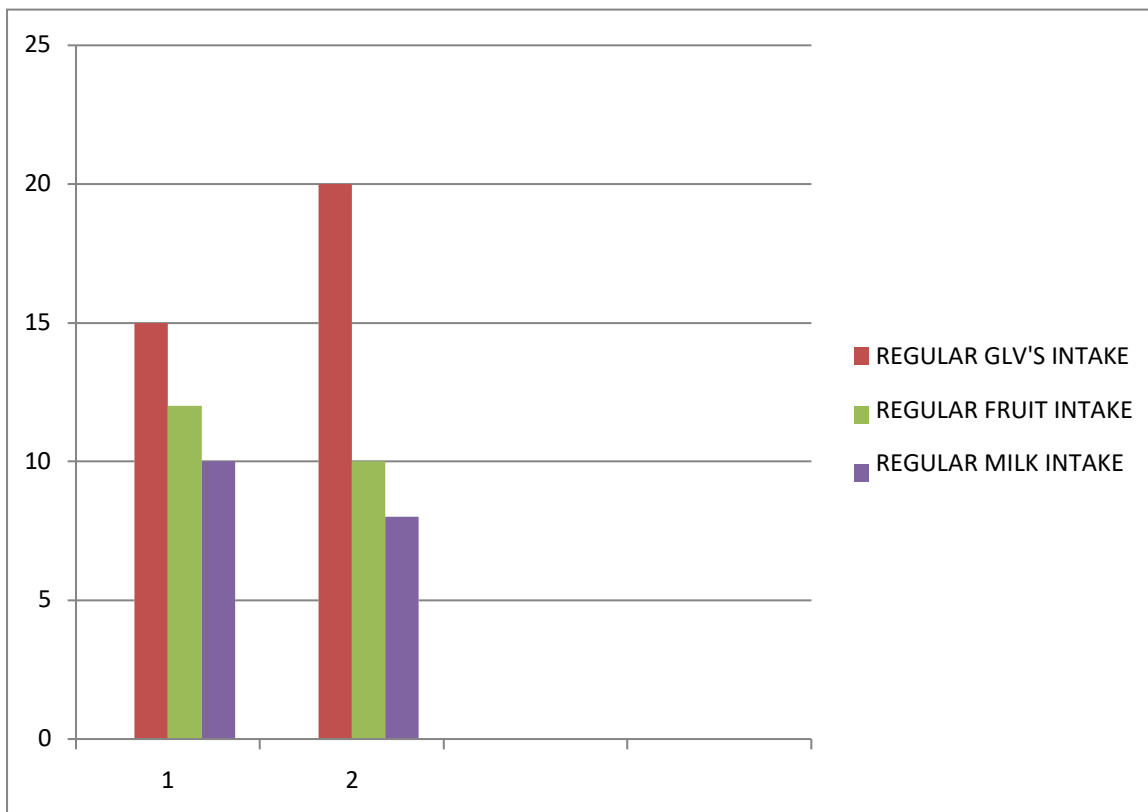
**Table- 6 Distribution of respondents according Nutritional habit.**

S.NO	AREA	REGULAR GLV's INTAKE	REGULAR FRUITS INTAKE	REGULAR MILK INTAKE
1	Urban	15	12	10
2	Rural	20	10	8

In urban areas the regular intake of Green leafy vegetable is (15 out of 25) less than in rural areas as about 20 out of 25 take GLV's in their diet. Majority shows that women of rural area take regular GLV's in their diet as compared to urban women.

About regular fruits intake the women of urban area is 12 out of 25 and in rural that is 10 out of 25 in their diet. Majority shows that women of urban area take regular fruits in their diet as compared to women of rural area.

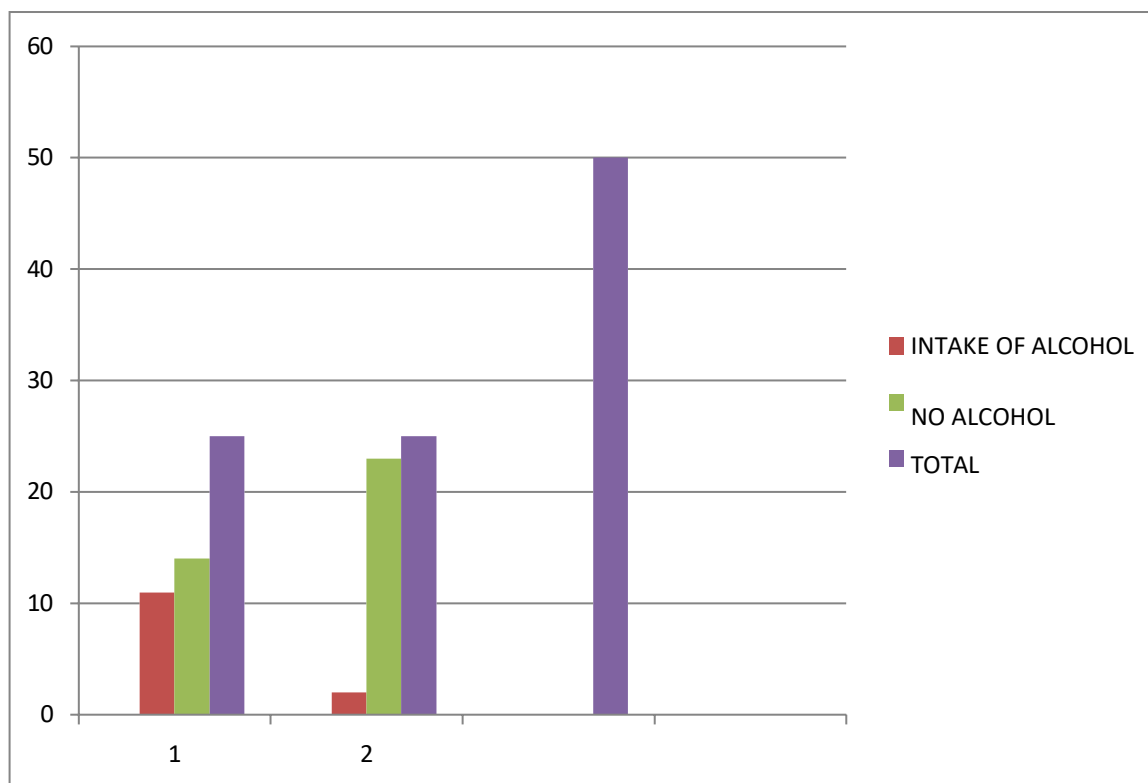
In urban areas the regular intake of milk is (10 out of 25) more than in rural areas as about 8 out of 25 take milk regularly in their diet. Majority shows that women of urban area take milk regularly than the women of rural areas.



**Table- 7 Distribution of respondents regarding intake of alcohol.**

S.NO	AREA	INTAKE OF ALCOHOL	NO ALCOHOL	TOTAL
1	Urban	11	14	25
2	Rural	2	23	25
			<b>TOTAL</b>	<b>50</b>

In rural areas the intake of alcohol is less than in urban area. The women of urban areas take more alcohol i.e.11 out of 25 and women of rural area take less alcohol i.e.2 out of 25. So, it is concluded that women of urban area are more curious to take alcohol than women of rural areas.



**Table- 8 Distribution of respondent regarding their mood disorder.**

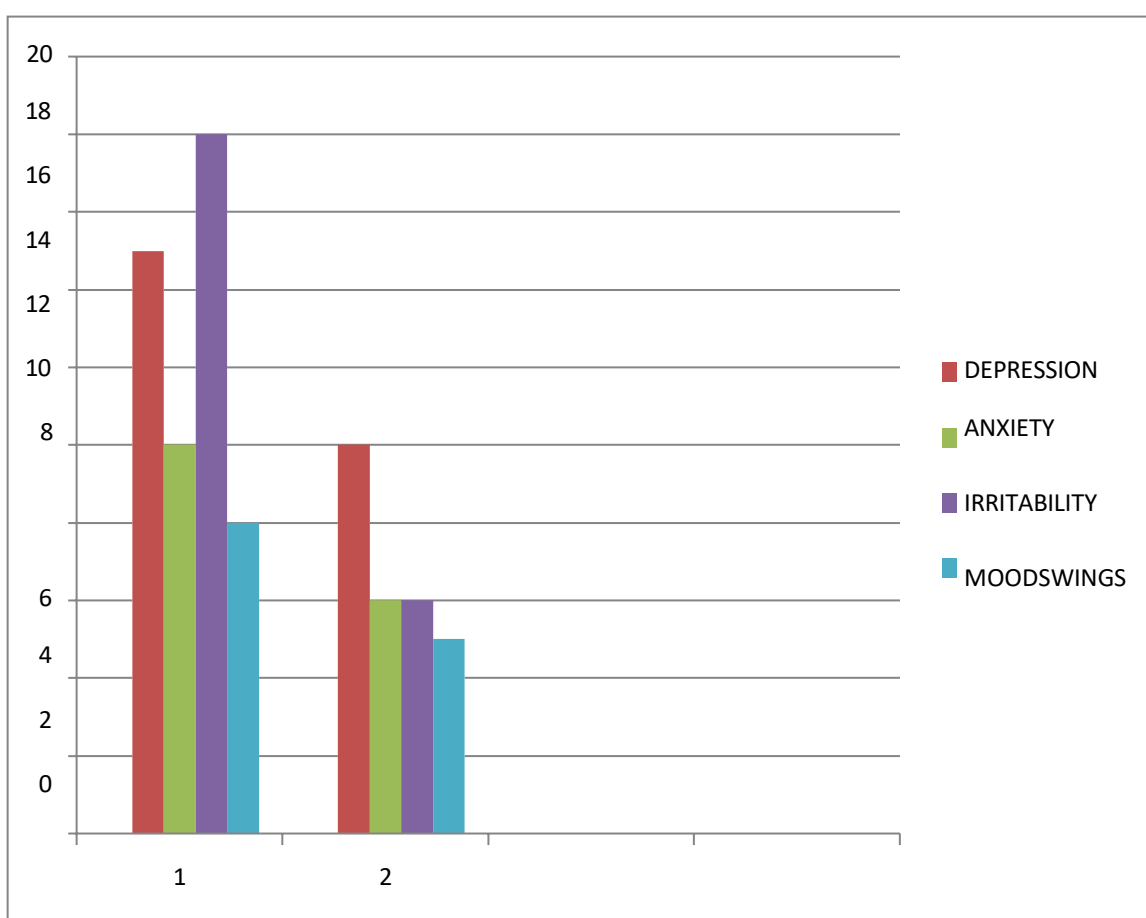
S.NO	AREA	DEPRESSION	ANXIETY	IRRITABILITY	MOOD SWING
1	Urban	15	10	18	8
2	Rural	10	6	6	5

In urban area 15 out of 25 women are depressed and in rural area 10 out 25 women are depressed. So it is noticed that women of urban area are more depressed than the women in rural areas.

In urban area 10 out of 25 women feel anxiety and in rural area 6 out 25 women feel anxiety. So it is noticed that women of urban area feel more anxiety than the women in rural areas.

In urban area 18 out of 25 women are irritate with their work and in rural area 10 out 25 women are irritate with their work. So it is noticed that women of urban area are more irritated than the women in rural areas.

In urban area 8 out of 25 women get mood swings and in rural area 5 out 25 women get mood swings. So it is noticed that women of urban area get more mood swings than the women in rural areas.



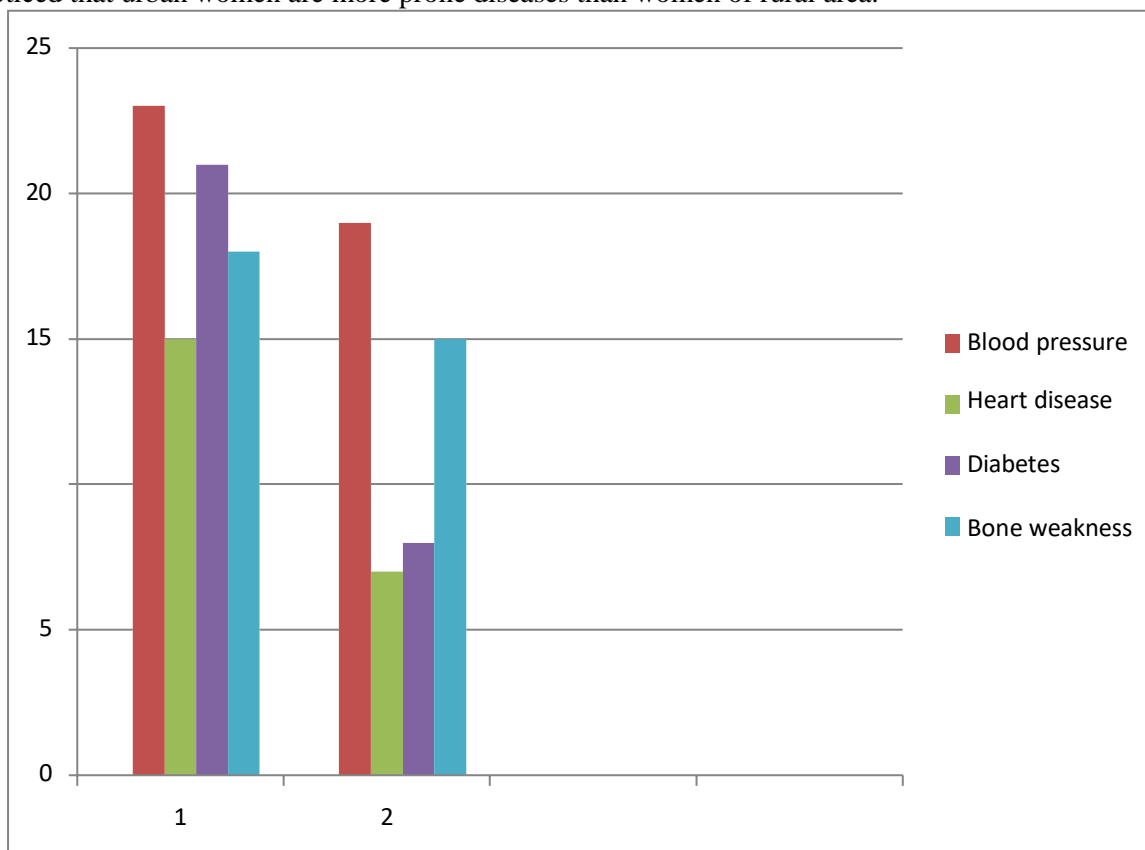
**Table- 9 Distribution of respondent according their any type of disease.**

S.NO	AREA	BLOOD PRESSURE	HEART DISEASE	DIABETES	BONE WEAKNESS
1	Urban	23	15	21	18
2	Rural	19	7	8	15

In urban area women are more prone to diseases than women of rural areas. As 23 urban women are having the problem of blood pressure, 15 are having heart disease, 21 are diabetic and 18 are prone to bone weakness.

In rural area, 19 women suffer from blood pressure, 7 are having heart disease, 8 are diabetic and 15 are prone to bone weakness.

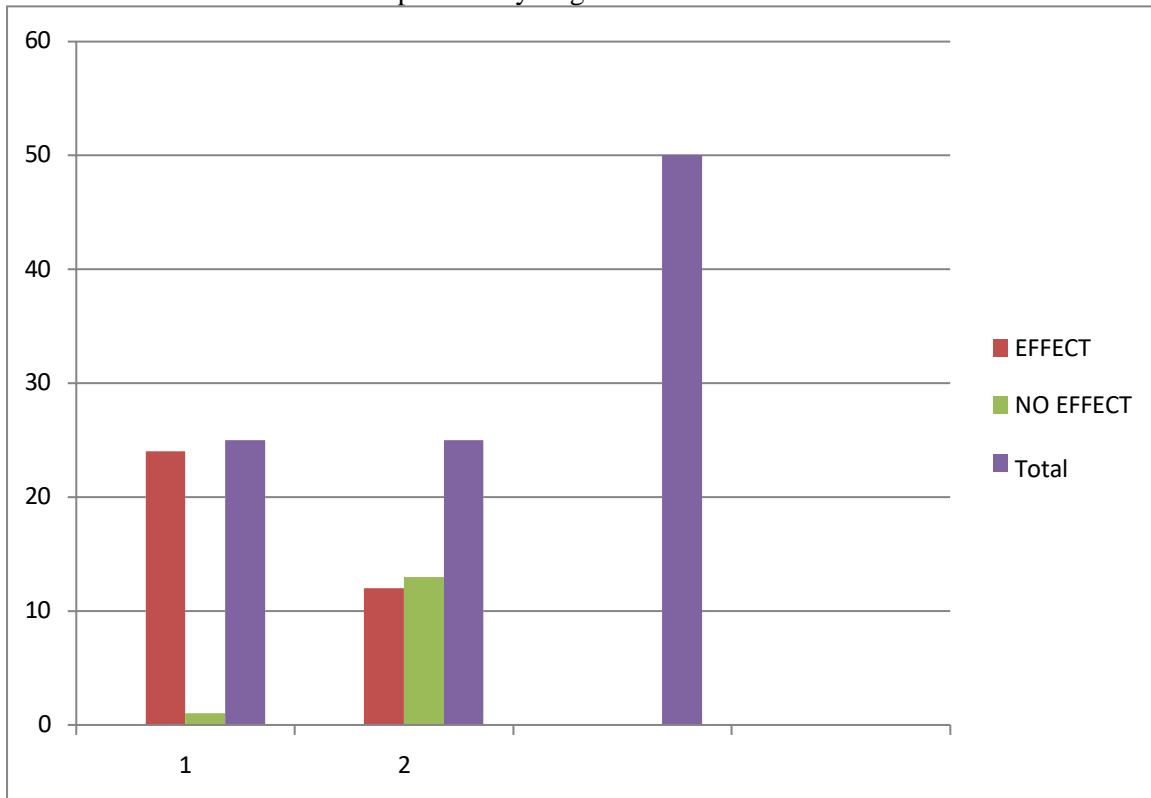
So it is noticed that urban women are more prone diseases than women of rural area.



**Table- 10 Distribution of respondent according the eye sight effect after postmenopause.**

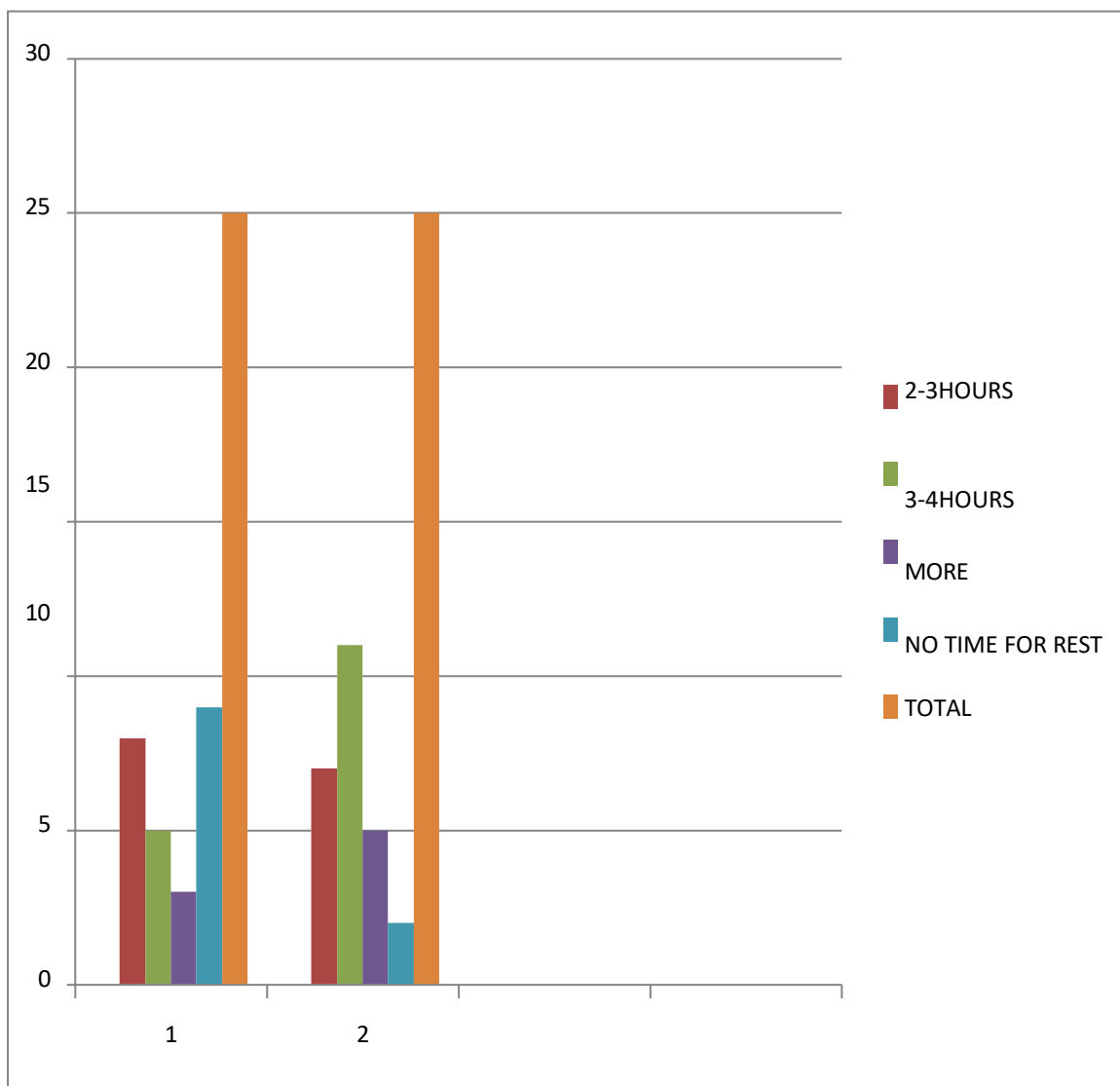
S.NO	AREA	EFFECT	NOEFFECT	TOTAL
1	Urban	24	1	25
2	Rural	12	13	25
			<b>Total</b>	<b>50</b>

In rural area 12 women noticed eye sight problem and in urban area 24 women noticed eye sight problem. So it is noticed that women of urban area are more prone to eye sight disorder than women of rural area.

**TABLE- 11 Distribution of respondent according to their time of take rest in a day.**

S.NO	AREA	2-3 HOURS	3-4 HOURS	MORE	NO TIME TO REST	TOTAL
1	Urban	8	5	3	9	25
2	Rural	7	11	5	2	25
					<b>Total</b>	<b>50</b>

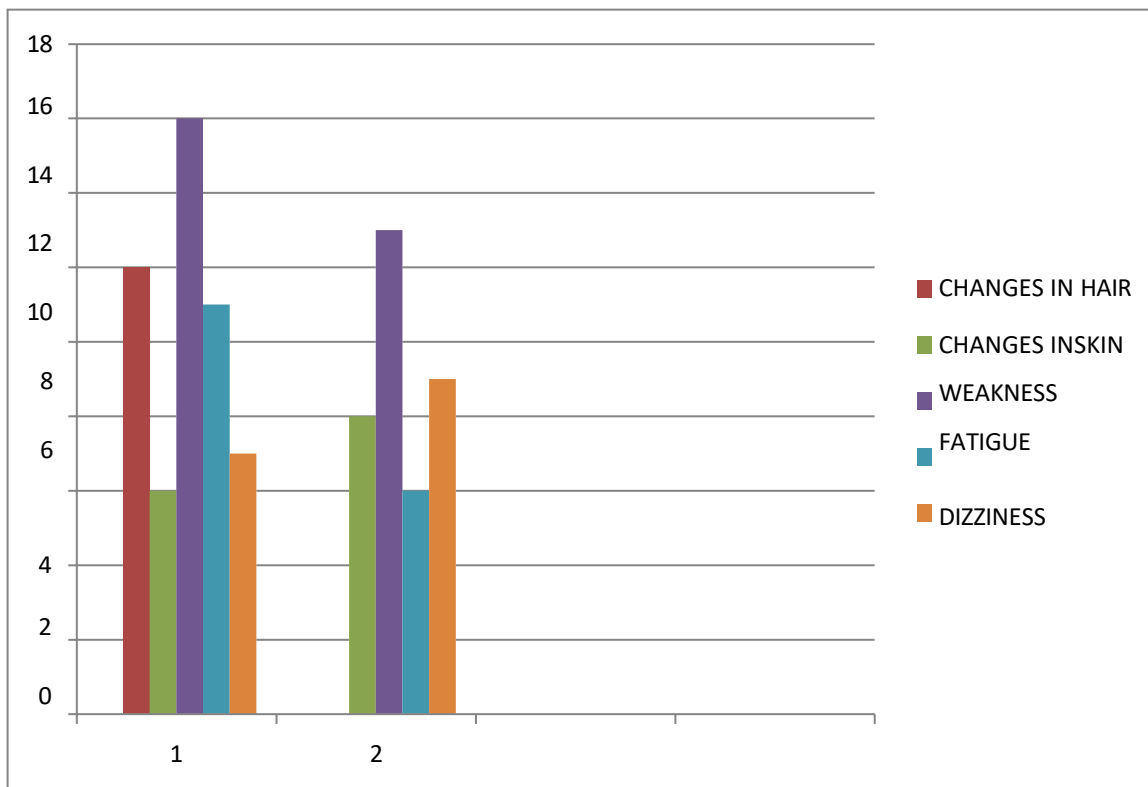
In rural area 7 women take rest at least 2-3 hours, 11 at least 3-4 hours, 5 take more than 4 hours and 2 donot have time to take rest. In rural area 8 women take rest at least 8 hours, 5 at least 3-4 hours, 3 take more than 4 hours and 9 donot take rest because of their busy schedule. So it is clear that urban area women take less rest than the women of rural area women.



**Table-12 Distribution of respondent according to their symptoms.**

S.NO	AREA	CHANGES IN HAIR	CHANGES IN SKIN	WEAKNESS	FATIGUE	DIZZINESS
1	Urban	12	6	16	11	7
2	Rural	7	8	13	6	9

In urban and rural area the symptoms of the age changes after postmenopausal period. According to the noticed record the urban area women notice more changes after menopause than the women of rural area.



**Result & Discussion**

Menstruation is a special time in a woman's life, but many of the symptoms and illnesses that accompany menopause can affect adulthood. Menopause, i.e. age 50, is used as the limit of recovery after menopause. It means giving birth early. Women suffer from this disease at the age of 55 and reach menopause.

Food intake according to the following 24- hour memories.

- 1- Average food intake of urban women.
- 2- Average food intake. of urban women in the countryside Women.

**Table-1 Mean nutrient intake of the urban women.**

Nutrients	Mean intake of urban women	RDA	Difference
ENERGY	1576.52 ± 265.9	1875kcal	-299kcal
PROTEIN	67.91 ± 12.3	50gm	17.91gm
FAT	46.6 ± 6.2	37gm	9.6gm
CALCIUM	348 ± 101	400mg	-52mg
IRON	29 ± 8.1	30mg	-1mg
VITAMINA	1665 ± 25.48	2400mg	-735mg

**Table-2 Mean nutrient intake of the rural women.**

Nutrients	Mean intake of urban women	RDA	Difference
ENERGY	2048.12 ± 200.3	2875 kcal	-827 kcal
PROTEIN	74.90 ± 11.9	60 gm	+14.9 gm
FAT	40.6 ± 3.9	30 gm	+10.6 gm
CALCIUM	816.8 ± 249.5	400 mg	+416.8 mg
IRON	29.12 ± 8.4	30 mg	-0.88 mg
VITAMINA	2316.6 ± 499.5	2400 mg	-83.4 mg

**ENERGY**

The need of energy requirement for post menopausal women (50-55 years) aged groups according to their physical activity (energy expenditure) and appetite, the energy according to RDA is recommended for women who belong to urban area 1875 kcal and average energy through this study is 1576.52 kcal which is low and women who belong to rural women energy 2875 kcal and the average 2048 kcal which is also low.

**PROTEIN**

The protein consumption is about to normal the post menopausal women as compared to RDA, allowances for protein recommended by nutrition Expert Group of Indian Council of medical Research for adult is about 1gm per kg body weight per day, the protein is required is 50-60 gm per day and average difference in this study is plus 16 for urban women and plus 14.9 gm for rural women.

**FAT**

Study shows that a big difference of fat between average intake and the RDA.

**CALCIUM**

After or during the time of menopause women mostly get bone weakness and osteoporosis for the prevent from these disease the consumption of calcium is very important with calcium supplements, the amount according to the RDA 400mg daily, average of calcium in the study shows 348mg of urban women and 816 mg of rural women with the difference of 52mg of urban and 416.8 mg of rural.

**IRON**

Iron is very necessary nutrient for women who are crossing or passing the period of menopause because the haemoglobin level maintain through the consumption of adequate amount of iron, the iron for women according to RDA is 30gm and the result shows that 45gms of iron taken by women per day.

**VITAMIN A**

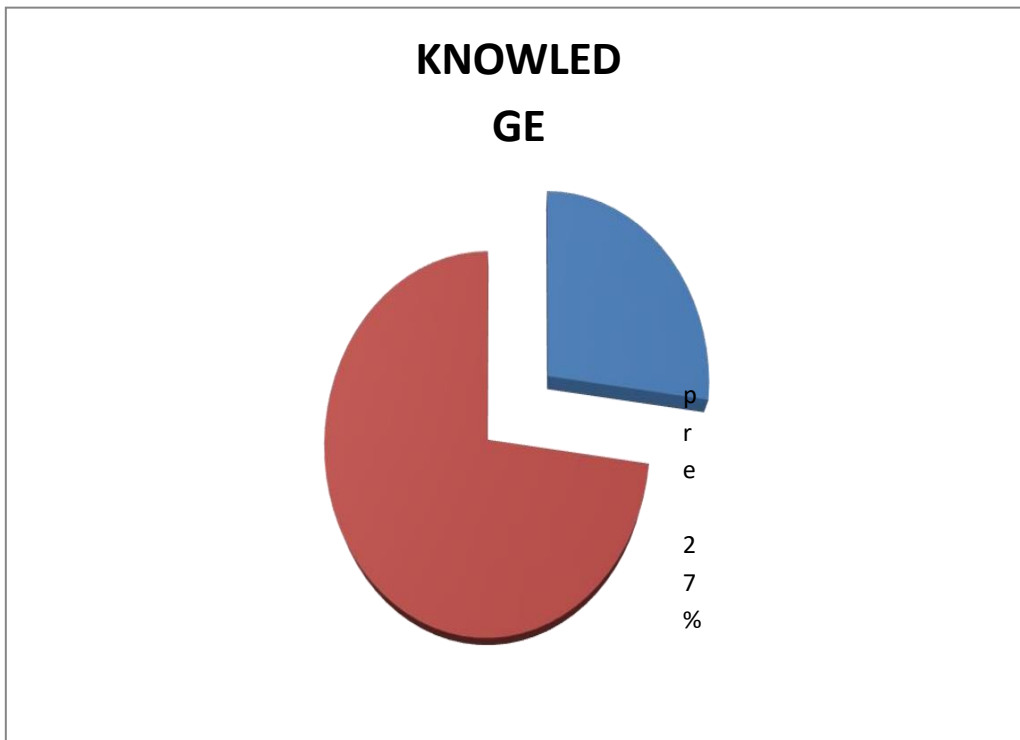
Vitamin A is required for human in the form of carotene and the retinol form for animals the needs of vitamin A is 2400mg is decided by RDA, the average of vitamin A is 1665mg in this study.

All nutrients are very important for all age group and for post menopausal women energy, protein, vitamin. Vitamin A shows a less amount but iron, fat and calcium shows high amount in this study.

**Table- 1 Distribution of respondents according to the information regarding the subject of Menopause.**

S.NO	CONDITION	KNOW	DON'T KNOW	TOTAL
1	Pre	17	33	50
2	Post	46	4	50

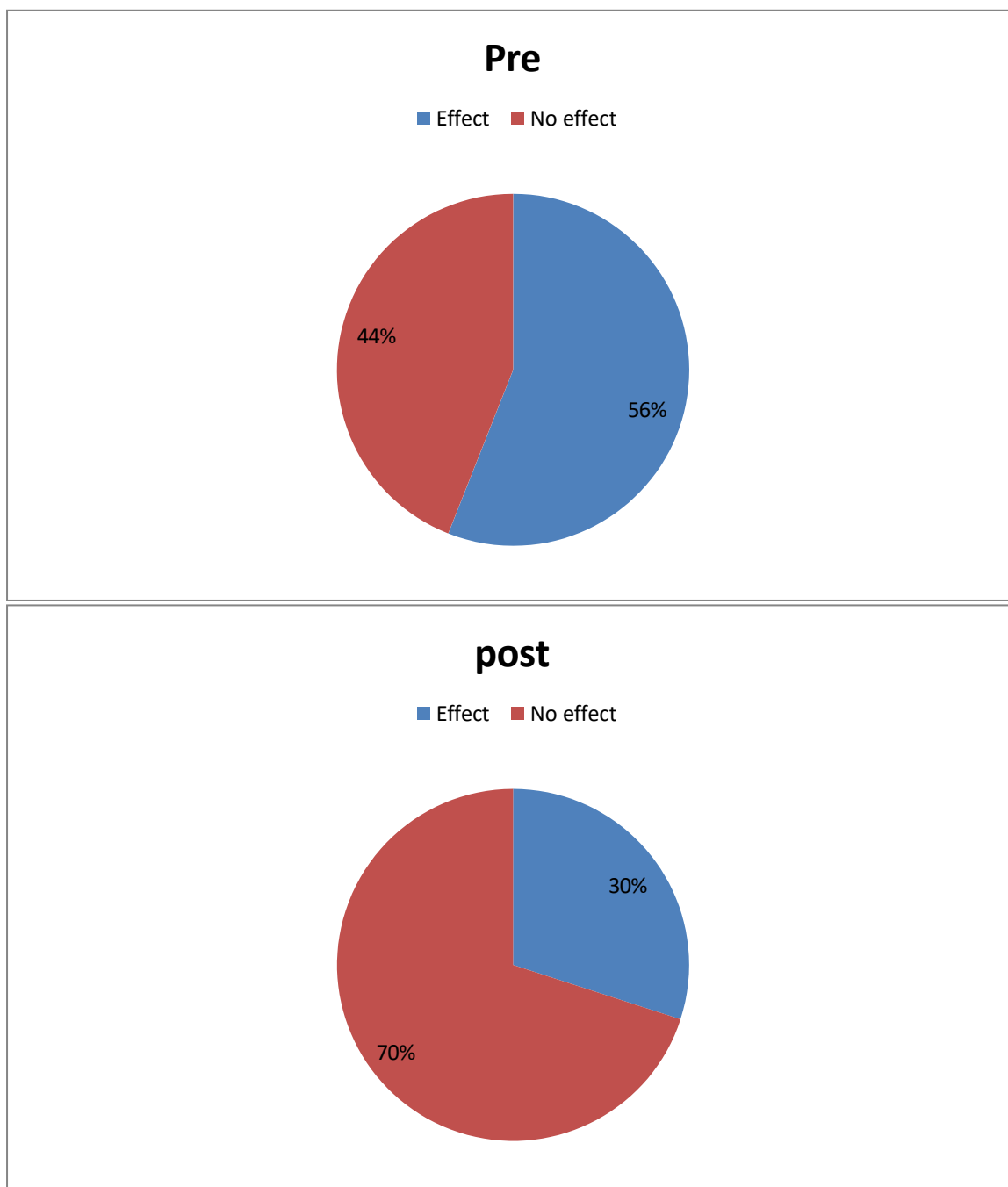
Pre survey 17 women of urban and rural areas are aware about the topic of post menopause. But after the survey the knowledge is given to them know 46 out of 50 know about the post menopause.

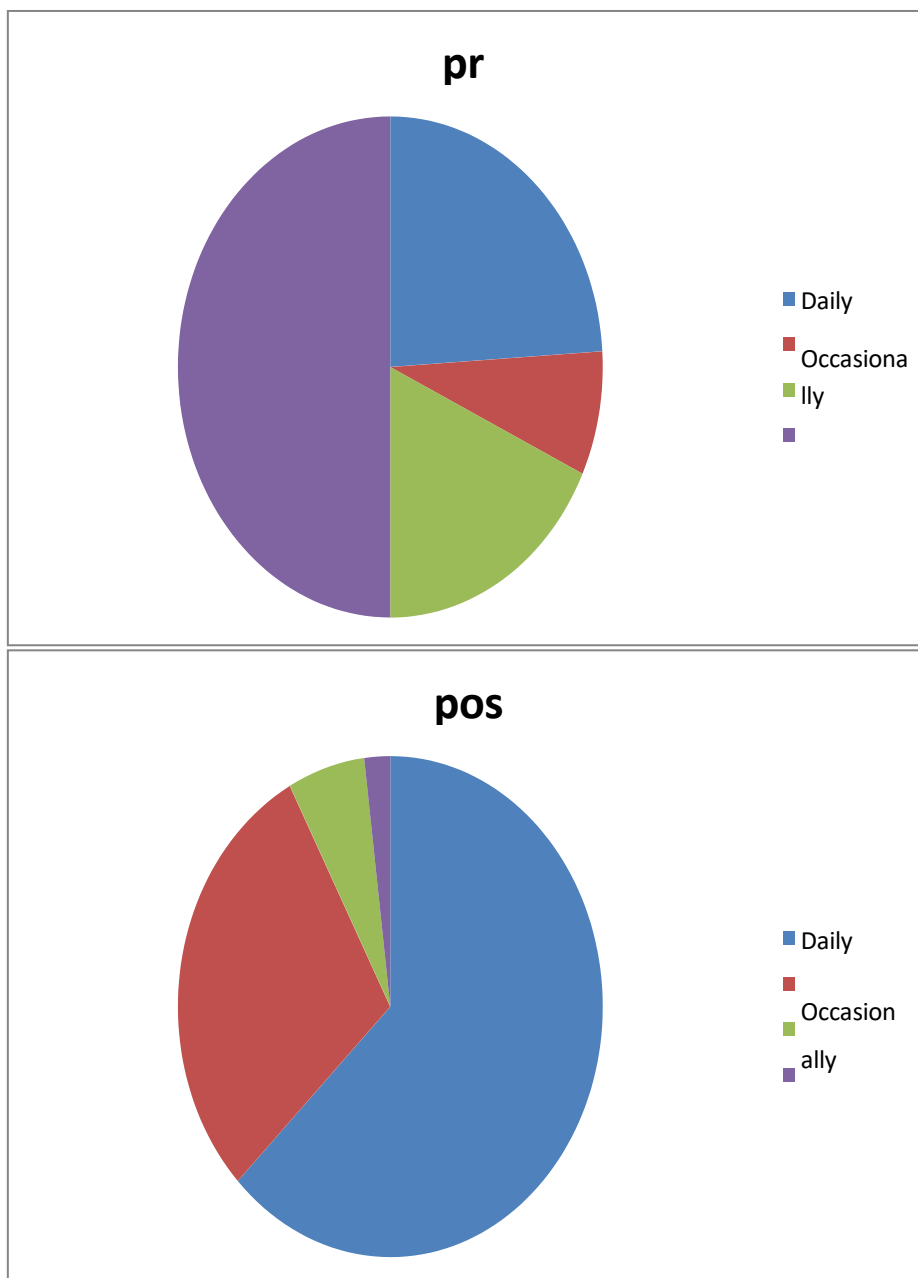


**Table- 2 Distribution of respondents according to their effect on physical activity after post menopause.**

S.NO	CONDITION	EFFECT	NO EFFECT	TOTAL
1	Pre	28	22	50
2	Post	15	35	50

Pre survey 28 women of urban and rural areas seen the changes in their physical activity after post menopause, but after the survey the effect decreases to 5 women.





**Table-3 Distribution of respondent according to their habit of exercise.**

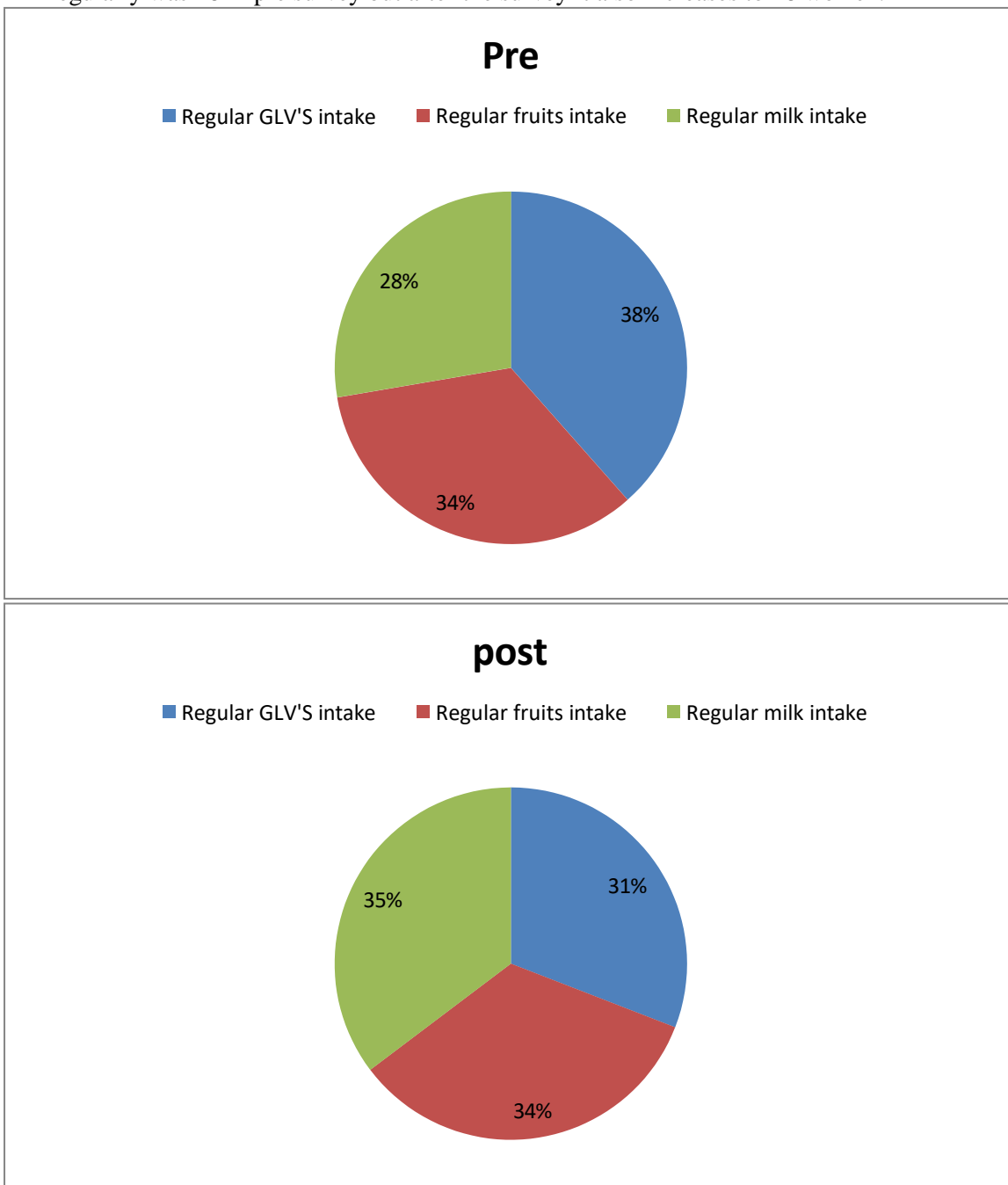
S.NO	CONDITION	DAILY	OCCASIONALLY	RARELY	NEVER	TOTAL
1	Pre	12	4	9	25	50
2	Post	32	14	3	1	50

Pre survey 12 women of urban and rural areas do exercise daily, 4 occasionally exercise, 9 rarely exercise and 25 do never exercise. But, after the survey the women doing regular exercise. Increases to 32, 15 occasionally exercise, 3 rarely exercise and no women left who don't exercise.

**Table-4 Distribution of respondents according Nutritional habit.**

S.NO	CONDITION	REGULAR GLV'S INTAKE	REGULAR FRUITS INTAKE	REGULAR MILK INTAKE
1	Pre	25	22	18
2	Post	42	46	48

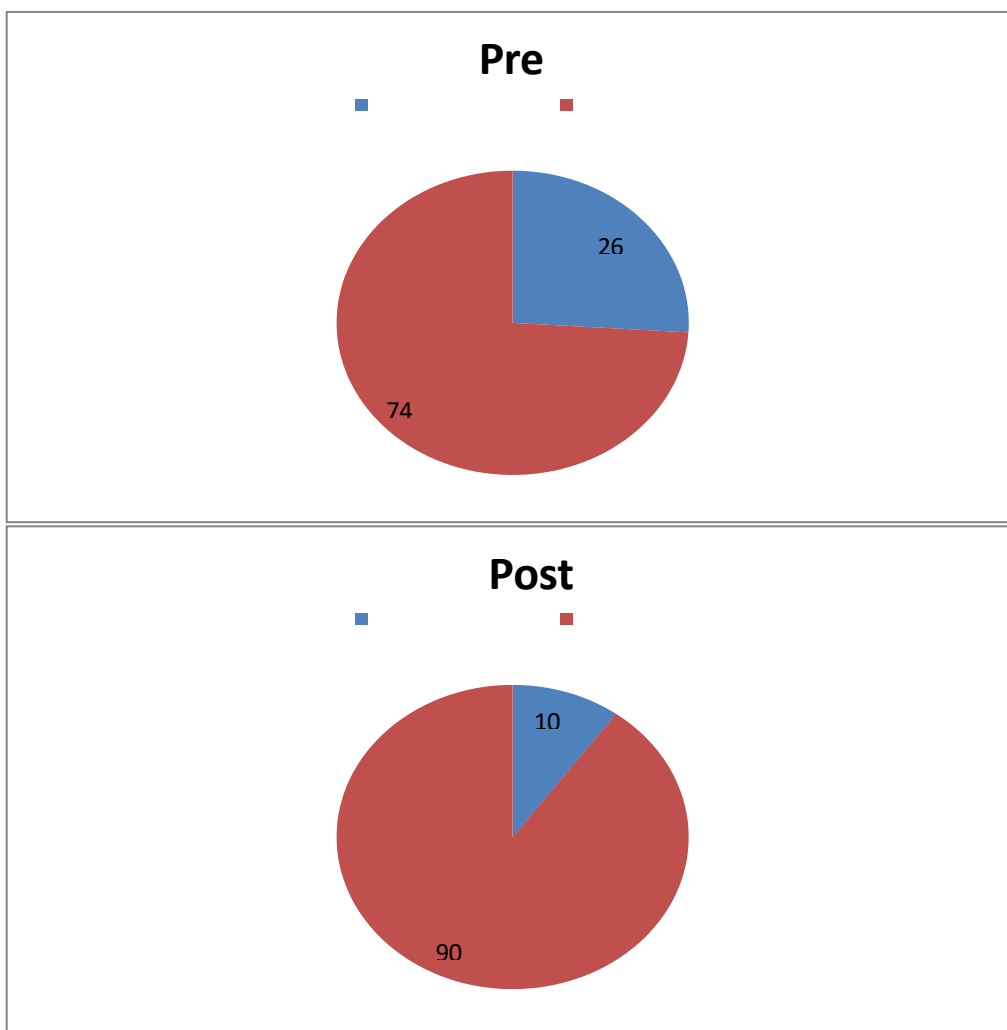
Pre survey 25 women of urban and rural areas take regular GLV'S in their diet but after the survey it increases to 42 women. In pre survey the intake of fruits regularly in rural and urban area are 22 but after survey it increases to 46 and intake of milk regularly was 18 in pre survey but after the survey it also increases to 48 women.



**Table-5 Distribution of respondents regarding intake of alcohol.**

S.NO	CONDITION	INTAKE OF ALCOHOL	NO ALCOHOL	TOTAL
1	Pre	13	37	50
2	Post	5	45	50

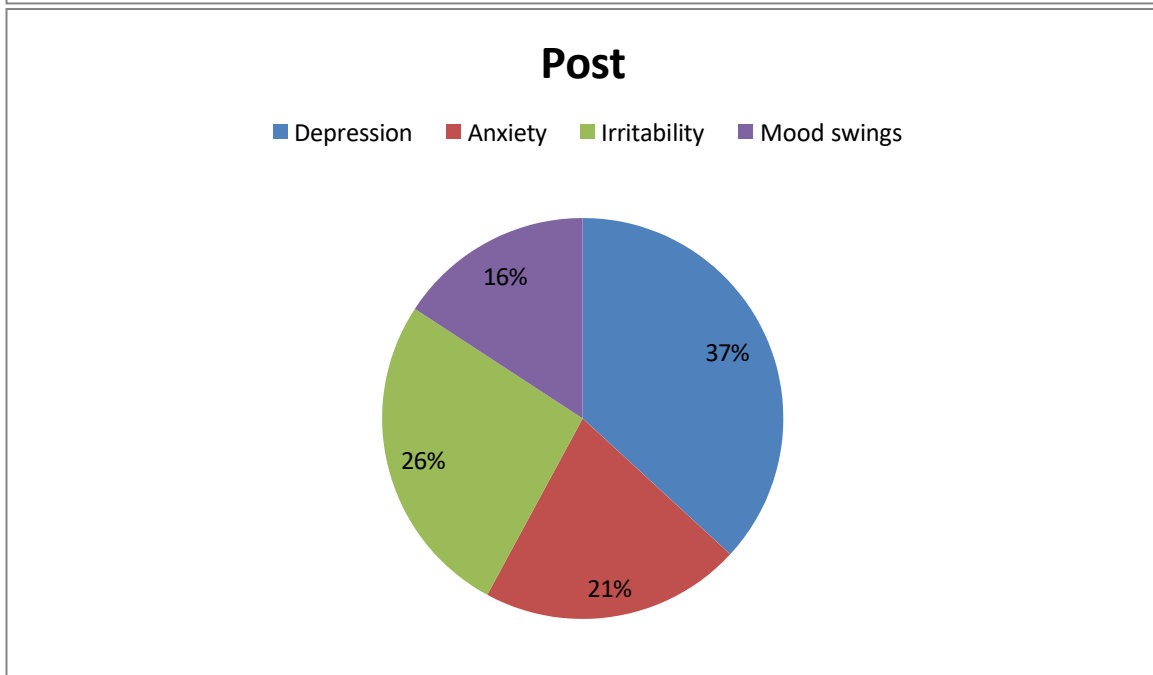
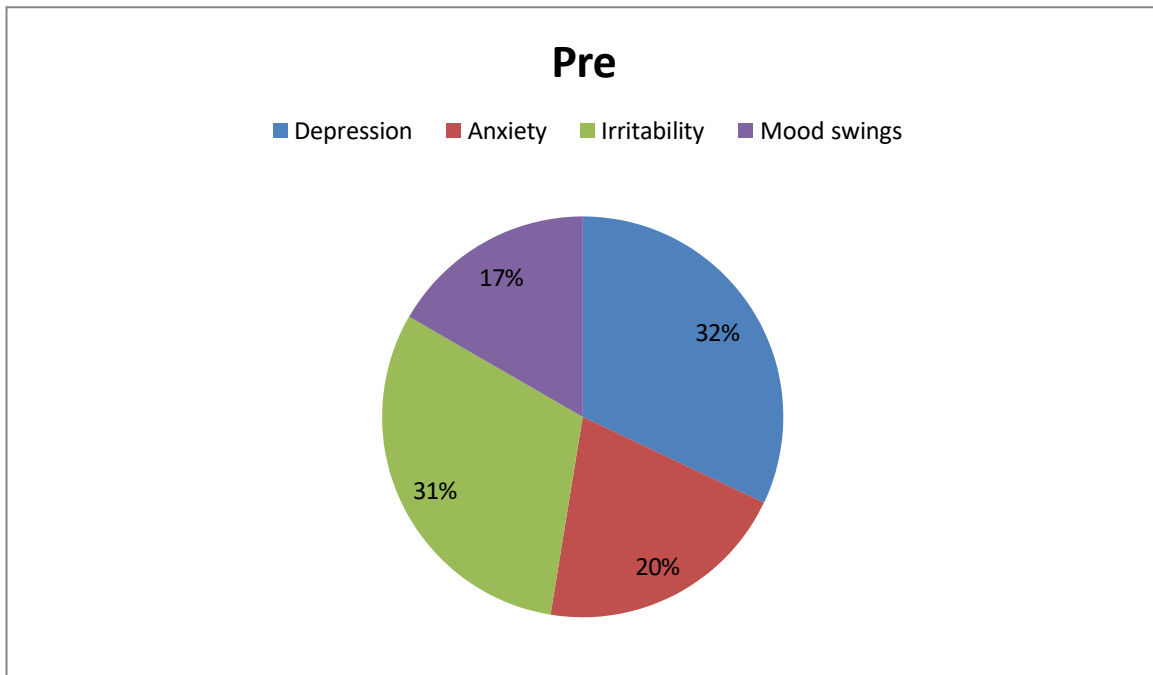
Pre survey 13 women of urban and rural areas take alcohol in their diet, but after the survey the knowledge is given to them now 45 out of 50 reduce the intake of alcohol in their diet.



**Table-6 Distribution of respondent regarding their mood disorder.**

S.NO	CONDITION	DEPRESSION	ANXIETY	IRRITABILITY	MOOD SWING
1	Pre	25	16	24	13
2	Post	7	4	5	3

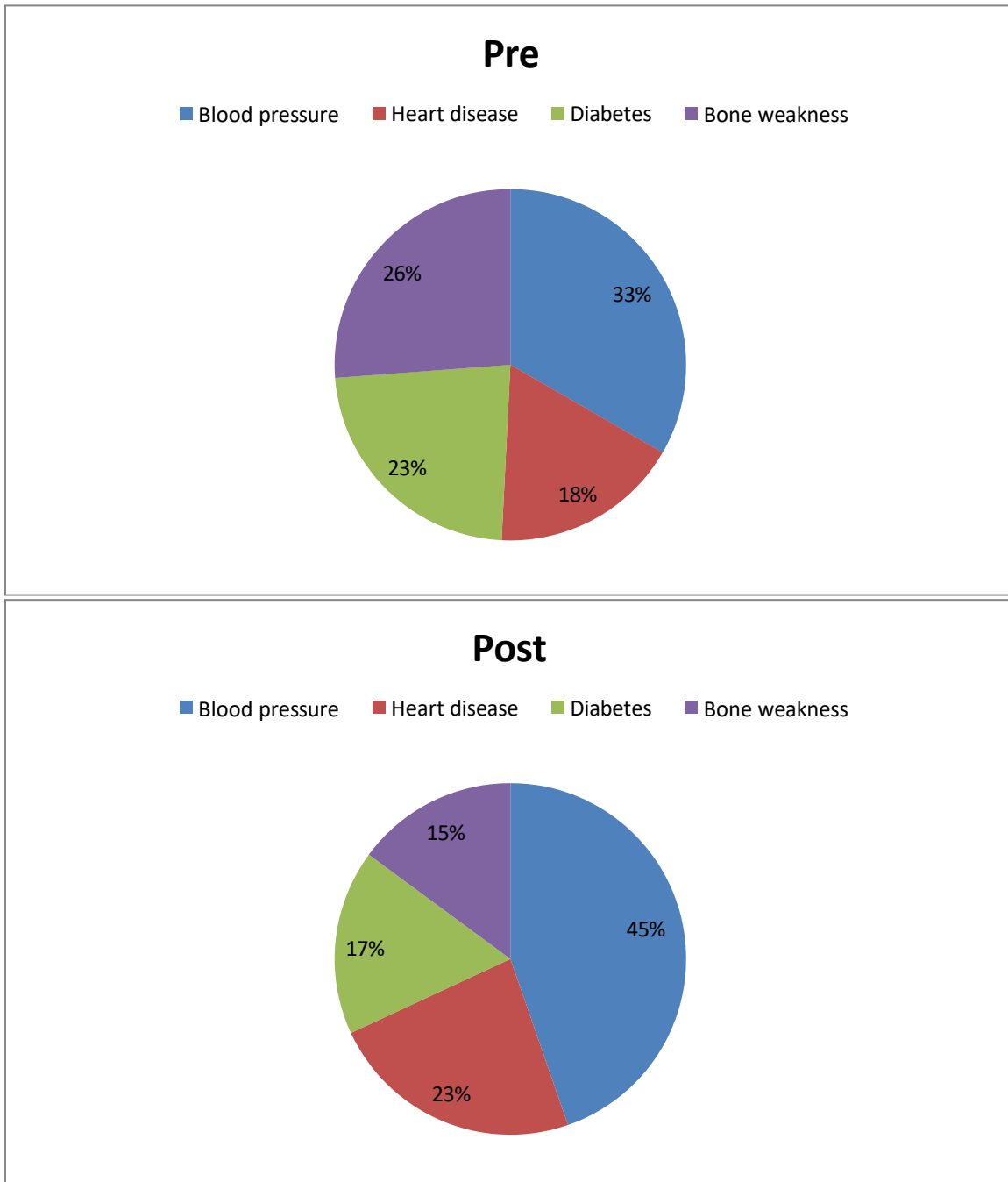
Pre survey 25 women of urban and rural areas are depressed with their life, 16 feels anxiety, 24 are irritate with life and 13 notice mood swings. But after survey we come to notice that the graph decrease i.e. 7 with depression, 4 with anxiety, 5 are irritate with their life and 3 notice mood swings.



**Table-7 Distribution of respondent according their any type of disease.**

S.NO	CONDITION	BLOOD PRESSURE	HEART DISEASE	DIABETES	BONE WEAKNESS
1	Pre	42	22	29	33
2	Post	21	11	8	7

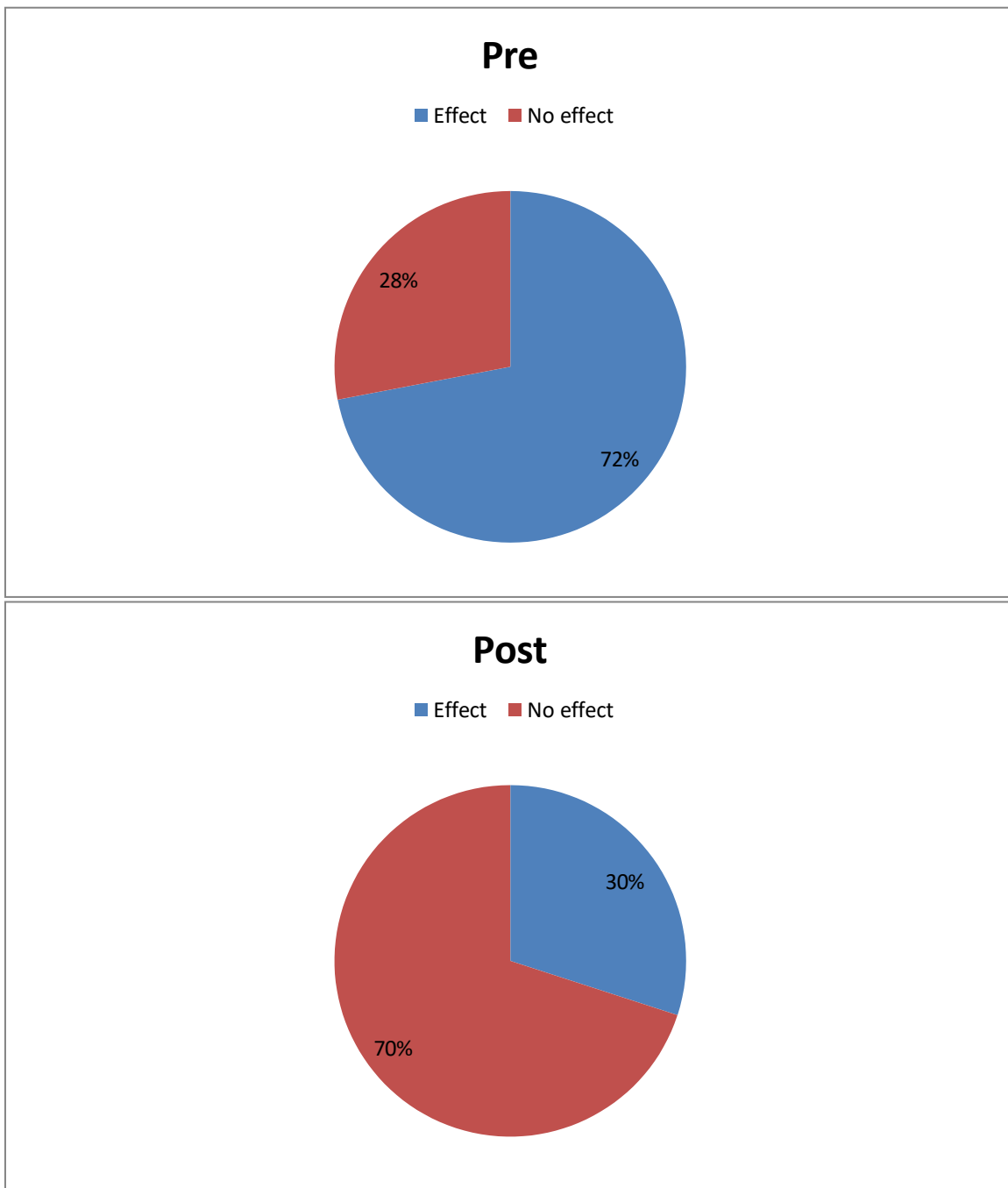
Pre survey 42 women of urban and rural areas are noticed with the blood pressure, 22 with the heart disease, 29 with diabetes and 33 with the bone problems but after the survey we noticed that the graph decreases to 21 women with blood pressure, 11 with heart disease, 8 with the diabetes and 7 with the bone weakness.



**Table-8 Distribution of respondent according the eye sight effect after post menopause.**

S.NO	CONDITION	EFFECT	NOEFFECT	TOTAL
1	Pre	36	14	50
2	Post	15	35	50

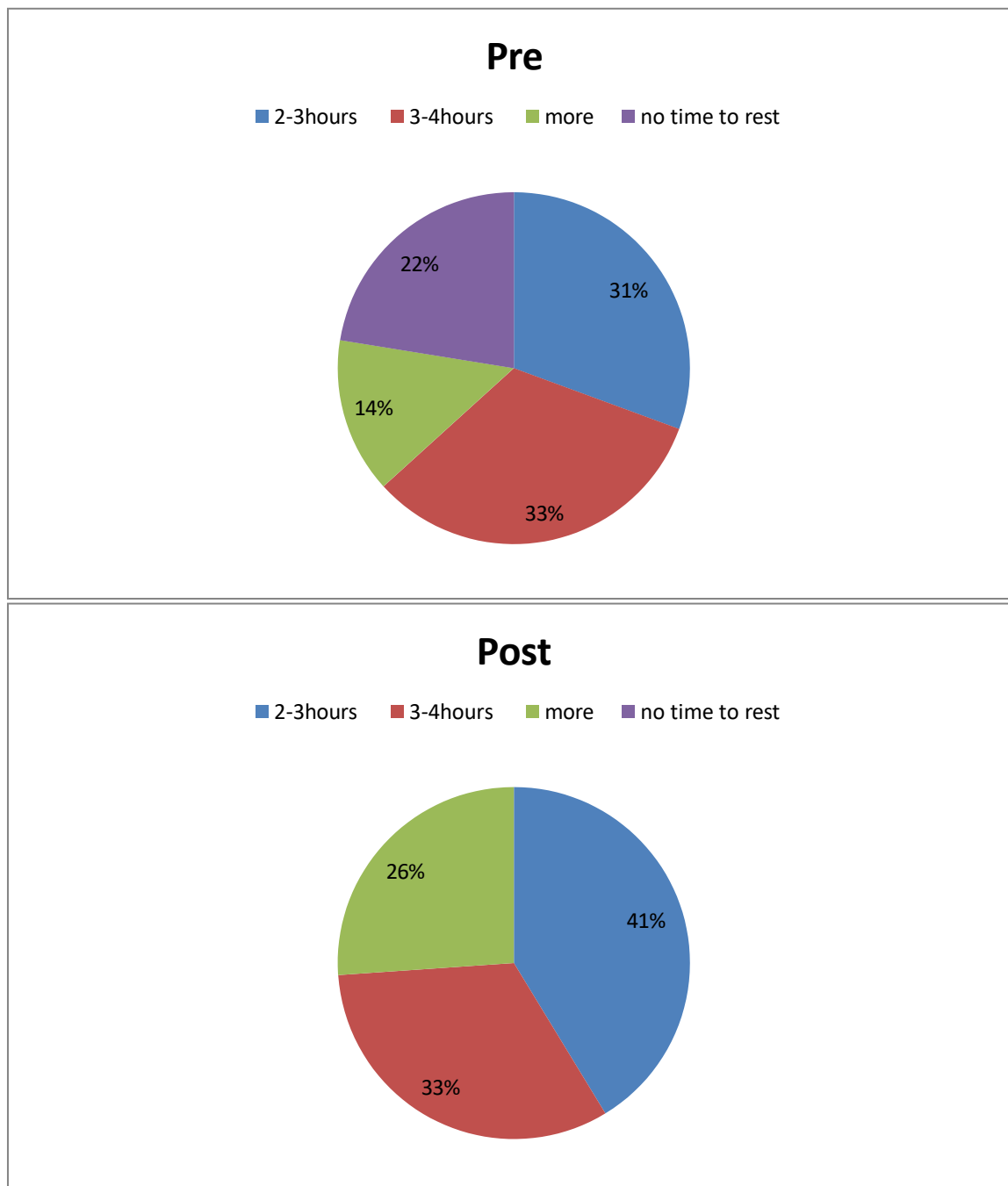
Pre survey 36 women of urban and rural areas are affecting by the eyesight problem but after the survey and nutritional knowledge 15 women are noticed with the same problem after post menopause.



**Table-9 Distribution of respondent according to their time of take rest in a day.**

S.NO	CONDITION	2-3 HOURS	3-4 HOURS	MORE	NO TIME TO REST	TOTAL
1	Pre	15	16	7	11	50
2	Post	19	15	12	4	50

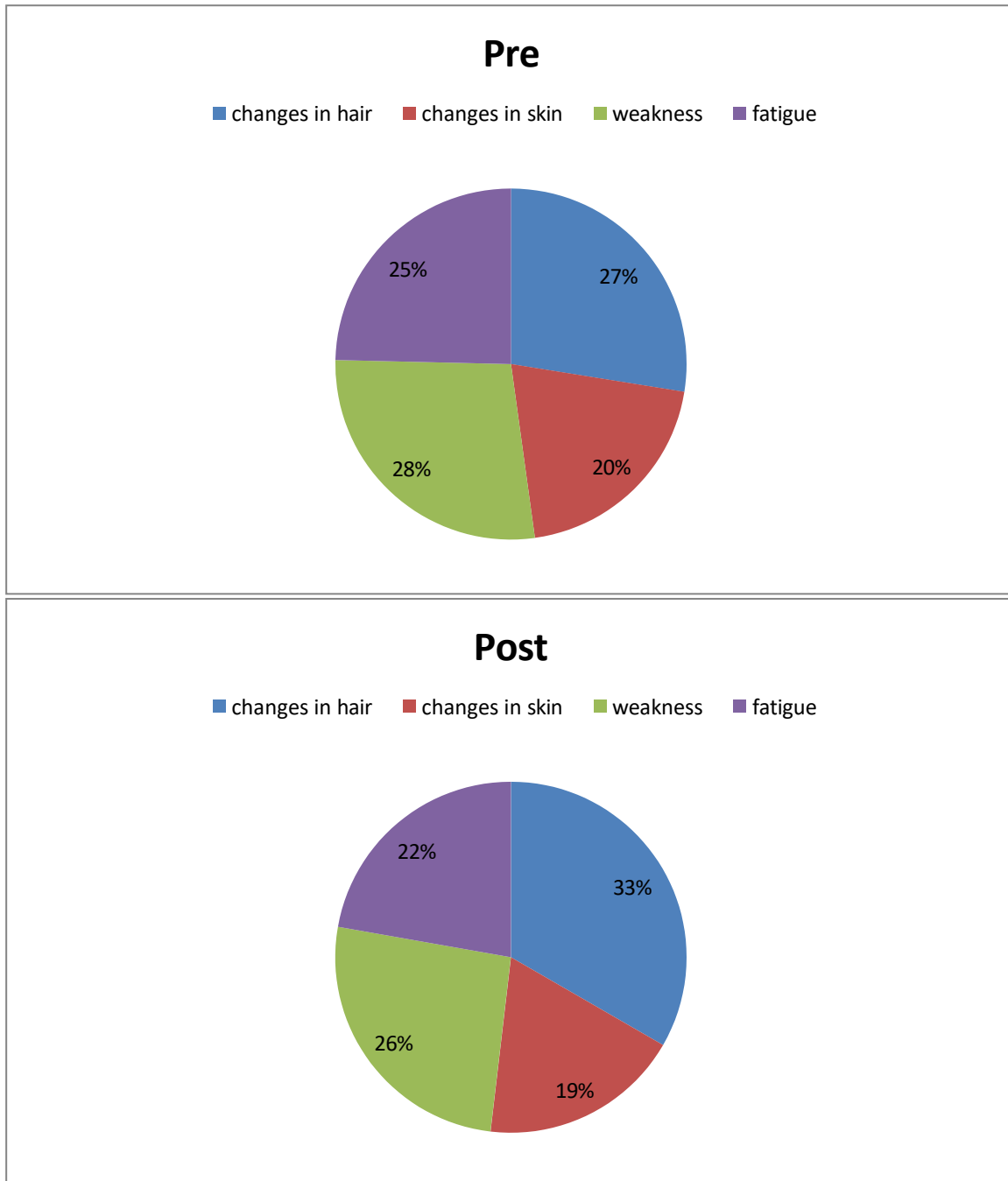
Pre survey 19 women of urban and rural areas face change in hair, 14 feels change in skin, 19 noticed weakness and 17 are fatigue with their work. But after the survey the knowledge is given to the mab out their diet and body need than 9 women face change in hair, 5 feels change in skin, 7 feel weakness and 6 are fatigue with their work.



**Table-10 Distribution of respondent according to their symptoms.**

S.NO	CONDITION	CHANGES IN HAIR	CHANGES IN SKIN	WEAKNESS	FATIGUE
1	Pre	19	14	19	17
2	Post	9	5	7	6

Pre survey 19 women of urban and rural areas face change in hair, 14 feels change in skin, 19 noticed weakness and 17 are fatigue with their work. But after the survey the knowledge is given to the mabout their diet and body need than 9 women face change in hair, 5 feels change in skin, 7 feel weakness and 6 are fatigue with their work.



**Summary & Conclusion**

Following menopause is a common experience. It is caused by a decrease in the production of the hormone estrogen. Finally, the woman felt her last period. A woman considered to have gone through natural menopause if she has not had period for a long time.

Postmenopause refers to the permanent cessation of menstruation due to loss of ovarian follicular function. Clinically post menopause is diagnosed after menopause, generally a woman may experience post menopause anywhere from her 50's mid 55's.

The present study was carried out among 50 post menopausal of urban and rural area women, to assess psychological status, nutritional status, anthropometric measurement and nutritional knowledge of post menopausal women 50 to 55 years in Moradabad city.

The random sampling method was used for the collection of information from post menopausal women living in different localities in urban and rural area of Moradabad.

Anthropometric measurements height and weight were recorded using standard techniques to calculate BMI (body mass index).

Questionnaire method was used for collecting information regarding dietary pattern and 3 weeks dietary recall method used for it.

The results of study undertaken are summarized below:

→ Present study shows that majority of urban women are 38% are in the age group of 50-55 years, followed by 62% women of rural area are in the age group of 50-55 years.

In this study there are 36% of women are have normal weight, but 60% rural women come in the category of overweight and 4% of urban women are obese.

There are 68% women of urban and rural women are working and 32% women are housewives. Most of the 88% urban and rural women are from nuclear family and 12% from joint family. The present study is totally belongs to postmenopause. After post menopause 72% urban women have no effect on their physical activity but 28% urban women have effect on their physical activity. 62% rural women have no effect but 38% rural women have effect on their physical activity. This study shows that 36% women of urban area have a change in their weight after post menopause and 64% women of rural area have no change in their weight. Majority of 62% urban women have no habit of exercise and 38% rural women have the habit of exercise. Present study shows that 65% women of urban area have different types of body disease but 15% of women of rural area have different types of body disease. Majority of 64% rural women take rest 2-3 hours in a day but 12% women of urban area take rest 2-3 hours in a day.

→ In this study 52% woman of urban area take meal 3 times in a day, 42% women of rural area take 4 time meal in a day.

→ 48% women of urban area have any type of effect on their diet but 46% have become less effect on their diet and 6% become effect on their diet.

→ Majority of 64% urban area women are vegetarian and 36% are non-vegetarian. But in rural area 78% are vegetarian and 22% are non-vegetarian.

→ 94% women of urban area does not consume green leafy vegetable daily remaining 6% consume daily amount of green leafy vegetable. But in rural area 78% women take green leafy vegetable daily remaining 22% consume daily amount of green leafy vegetable.

→ Majority of urban area women 56% does not drink milk daily but 44% drinks milk daily, among 36% drinks milk 1 time in a day and 8% drinks milk 2 times in a day. But 66% women of rural area drink milk daily but 32% does not drink milk daily, among 11% drinks milk 1 time in a day.

→ After post menopause 52% women of urban area have physical weakness and 48% have no any type of physical weakness. But women of rural area have physical weakness.

→ Majority of urban women 70% shows the effect on eyes and 30% have no effect. But women of rural area 45% show the effect on eyes and 55% have no effect.

## Conclusion

Post menopause is a stage which comes in the life of every woman who had menstruation period, it is the period when a woman have free from menstruation period from 10 years, we can say that it is the end of menstrual cycle; the mean age for post menopause is 50-55 years.

In this study there are five objectives have decided which are related to nutritional status assessment of post menopausal, anthropometric measurement of the subjects and the assessment of post menopausal women, the anthropometric measurement of the subjects and the assessment of nutritional knowledge of postmenopausal women. Sedentary and moderate women included in this study of rural and urban area. The survey was conducted on 50 postmenopausal women i.e. 25 urban women and 25 rural women between the ages of 50-55 year.

The result of the study shows that small group of women of rural area have blood pressure and bone weakness compl

aint after postmenopause and they take large amount of calcium in their diet, in rural area less subjects are affected to w eye sight after menopause because of consumption of green leafy vegetable was high and vitamin A amount is properly consumed by the subjects.

In this study 24 hour recall method was used and the nutritive value of Energy, Protein, Fat, Calcium, Iron and Vitamin A are calculated, the result finds a difference in a low level of nutrients of women than comparison of RDA. The anthropometric measurement shows that 60% of urban women were overweight other than in rural area 20% women were overweight. According their the nutritional knowledge of women were very poor due to it they have a negative impact on their weight for improving it, they need to be change their dietary feeding pattern all nutrient should be included in their diet in sufficient amount but not in excess, low consumption of fat is very necessary for or attain a ideal body weight.

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