WOMAN & MENOPAUSE

Pre-Mature Menopause & Nutritional Assessment

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Chapter 1

1.1 Introduction

Menarcheis considered as the most critical biological event in the body which arrest menstruation, ovulation and reproductive function.Menarche starts in puberty with secretion of estrogen and progesterone followed by maturation of ovum and release of egg where as menopause referred permanent cessation menses. Menopause is a natural transition in a woman's life as her menstrual cycles come to an end. Changes in hormones can cause symptoms like hot flashes and poor sleep and may negatively affect metabolism and bone density. Menopause is a natural transition in a woman's life as her menstrual cycles come to an end. It's confirmed 12 months after a woman's last period. However, the transition and symptoms associated with menopause can last for several years.

Older segment of population is increasing which is dominated by women. By the age of 85 the men and women ratio is (45:100). As the women has to spent one third of her life after loss of endogenous reproductive capacity, she should learn, prepared and motivated how to face the end part of her life with greater health & vigor. Keeping in view of the above facts, the present research is designed to study the nutritional profile of menopausal women which has a great bearing in the future prospect of her life. While menopause is linked to many uncomfortable symptoms and increases the risk of certain diseases, a perfect diet may help reduce symptoms and ease the transition.

The present research study was intended to study the effect of menopause on women. For this purpose researcher selected a sample of 100women from Rajkot city. In order to obtain a detailed insight on the theme,researcher reviewed the existing literature from various sources. In this current project the researcher has discussed how food may affect the symptoms of menopause. Along with this the researcher also has discussed how women can be able to fight the symptoms of early menopause just with the help of a proper balance diet. In addition, the person has provided some recommendation in order to address the problem based on the findings of the entire research.

1.2Rationale

A rationale for research is a set of reasons offered by a researcher for conducting more research into a particular subject -- either library research, descriptive research, or experimental research. The early menopause can

influences on the life of a woman. A woman can be psychologically as well as physically affected by the premature menopause. It may increase the level of stress in them as well as make them depress. Even in some cases it can be proved as fatal for them. However, there is very little awareness regarding the matter.Most of the time the women neglect the symptoms of early menopause and thus they themselves accelerate the procedure. Sometimes they remain oblivious about the fact that a simple change in their diet can solve the problems in their later life. Therefore, a detail research in this field is utmost essential to increase the awareness regarding the early or premature menopause as well as the proper nutrition as a preventive measure.

1.3Statement of problem

A problem statement is the description of an issue currently existing which needs to be addressed. It provides the context for the research study and generates the questions which the research aims to answer. The statement of the problem is the focal point of any research. Therefore, the statement of the problem in this study is pre-mature menopause and nutritional assessment.

The scope of the study has to be defined at a preliminary stage and that is very important. It cannot be done in the later phase of doing the research as it creates a lot of ambiguity about the research goals. If the researcher fails to define the scope at the initial stage itself it is indicative that the research would eventually not meet the expectations set by the dissertation committee.

A thorough understanding of the field of the study is very important so as to know specifically what the requirements from the research are. It is imperative for the writer/researcher to have unquestionable research and writing skills. In order to acquire high level of research and writing capability, to begin with, the researcher should seek the advice of the experts and thoroughly read papers written by other researchers.

1.4Objectives of the Project

In general, research objectives describe what the researcher expects to achieve by a project. Research objectives are usually expressed in lay terms and are directed as much to the client as to the researcher. The aim of the research is to carry out a critical analysis of the pre-mature menopause and nutritional assessment. In line with the research aim, the researcher has chalked out research objective that can be helpful in carrying the rest of the research topics in detail manner. The division of the topics can be done effectively on the basis of the objectives for better understanding of the research work. The researcher has jotted down some objectives for reaching the aim of the study that are as follows.The main objective of the study is to

impart the knowledge of health and nutrition education early to avoid problems of early menopause. Also, there are some basic objectives that have been discussed below.

- To investigate the symptoms of early menopause
- To inspect the causes of premature menopause
- To assess the effect of food habit in accelerating menopause in a woman's life
- To explore how a healthy food habit can help avoiding the symptoms of early menopause

1.5Hypothesis:

A research hypothesis is a specific, clear, and testable proposition or predictive statement about the possible outcome of a scientific research study based on a particular property of a population, such as presumed differences between groups on a particular variable or relationships between variables. In other words, a hypothesis is a tentative statement about the relationship between two or more variables. It is a specific, testable prediction about what you expect to happen in a study. Research objectives may be linked with a hypothesis or used as a statement of purpose in a study that does not have a hypothesis. In the present study the research has given two hypotheses. Those are given below.

Hypothesis 1

Null hypothesis	The un healthy food habit cannot causes early menopause
Alternative hypothesis	The un healthy food habit can causes early menopause

Hypothesis 2

Null hypothesis	The simple changes to one's diet may not be helpful to control the symptoms of early menopause.
Alternative hypothesis	The simple changes to one's diet may be helpful to control the symptoms of early menopause.

1.6Scope of the study

The scope of the study basically means all those things that will be covered in the research project. It defines clearly the extent of content that will be covered by the means of the research in order to come to more logical conclusions and give conclusive and satisfactory answers to the research.

Aim of the study is to know the prevalence of pre-mature menopause and increase the awareness about the same in women, both who are housewife or working women. Also this will help to impart the knowledge of health and nutrition education early to avoid problems later life.

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1.7 Review of Literature

About Menopause and Premature Menopause:-Menopause is an inevitable part of life of every women. The normal menopause occurs between in the age of 45-55 years. But due to many reason women now-a-days are suffering from 'Early Menopause' also known as 'Pre-mature Menopause'. Aging it is a fact of life and it is a normal process of having brittle bones, sagging skin and degenerating body functions. In aging women, they may experience a popularly known condition called menopause. This is characterized by changes that occur in a woman's life before and her menstruation ends signaling her infertility years.

Causes of Menopause and Pre-Mature menopause:-Menopause is a normal condition that all women experience as they age. Then term menopause can be describe as any changes that women undergoes through either before or after she stops menstruating, marking the end of reproductive cycle. Generally, an adult female has finite number of eggs, which are found in her ovaries. The ovaries secrete hormones, such as estrogen and progesterone. Such hormones are responsible in regulating menstruation and

ovulation. As women get older, menopause results as the ovaries can no longer release an egg each month and the normal menstruation cycle

Menopause after a woman reaches 40 is natural and is considered a normal occurrence due to ageing. However in some women, this condition may come early than expected caused by a surgical intervention like hysterectomy or ovarian damage due to chemotherapy.

Menopause can be categorized in three phases:

a. Perimenopause

b. Menopause

c. Postmenopause

Causes of Menopause can be defines as below:

a. Effect of hormones like estrogen and progesterone

b. Damage to ovaries

c. Surgeries etc

Menopause that occurs before the age of 40, regardless of its cause, is called Pre-mature Menopause. Perimenopause (climacteric) is the period extending from the first sign of menopause. It has also defined as period around menopause, lasting to1 year after last menstrual period. Women have varied beliefs about aging, and must be considered by the nurse caring for or educating perimenopausal patients.Some cases, premature menopause may occur as a result of genetics, autoimmune or surgery. These conditions may lead to early menopause.

Postmenopause is period beginning from about 1 year after mense the same time,health related risk also may be apparent due to loss of estrogen in women.Menopausal symptoms affect about 70% of women approaching menopause. Typical menopause symptoms, such as hot flashes or night sweats, are caused by changing hormonal levels in the female reproductive system. Almost all women notice early symptoms while still having periods. This stage of gradually falling and fluctuating hormone levels is called perimenopause, which often begins in the early40s. The symptoms of menopause usually last for the whole menopause transition (until the mid 50s), but some women may experience them for the rest of their lives.

The most common symptoms are: hot flashes, night sweats, irregular periods, loss of libido, and vaginal, depression, anxiety, irritability, panic disorder, joint pain, burning tongue, digestive problems ,muscle tension, tingling extremities and osteoporosis· Over a million women a year use our website, and most of them are find out about menopause and per menopause.The menopause, also called the change of life. In Western women, it occurs on average at 51 years. But there is wide range of normal extending from 30 to 60s.Many women experiences symptoms of the menopause.

Approximately 10% of the women have no symptoms of menopausal other than cessation of menstruation,70% to 80% are aware of other changes but have no problems and approximately 10% experiences changed severe enough to interfere with activities of daily living.

The average age of the menopause has not changed for centuries, but life expectancy has improved enormously, particularly in the last century. The life expectancy Roman times was 29 years and even by the late 19th century only 30% of women survived to experience the menopause.

Menopause is not a disease. Most women pass through menopause with minimal or no problems The modern menopausal woman is younger-looking, more active and has more positive attitude about menopause than in the past.The stereotype of the menopausal woman who is miserable and who seeks medical assistance for a wide range of symptoms has been disproved.Research shows that does not cause poorer health or greater use of health care facilities

During the menopausal years, many women are faced with life situations that affect mood, such as growing older; adjusting to the children's leaving home and accepting increase responsibility for aging parents.

The symptoms of early menopause

The symptoms of early menopause are similar to regular menopause. Some common symptoms include:

- irregular periods
- absence of periods (amenorrhea)
- hot flashes
- night sweats

- vaginal dryness
- moodiness
- mental fogginess
- decreased sex drive

If a woman hasn't had her period in three or more months, she should see her doctor. There are many reasons why you might not get your period besides menopause, such as:

- stress
- pregnancy
- illness
- change in diet or exercise
- response to a medication or contraceptive

The low estrogen levels associated with missed periods can lead to bone loss("How to Deal with Early Menopause", 2019). Early treatment can help prevent bone damage.

The causes of early menopause

There may be several reasons of premature menopause such as Premature ovarian failure, Induced menopause (Surgical removal of ovaries), Stress, Lifestyle changes, Food and Nutrition and many more. The main reasons of premature menopause are discussed below in detail.

Early or premature menopause can happen for two reasons: follicle depletion or follicle dysfunction. When these occur, eggs don't mature or get released, causing a woman's period to stop. These processes are considered normal when they occur later in life. If they occur early, the menopause doctors will likely check for an underlying causes.

Follicle depletion and dysfunction can happen for a variety of reasons:

- **Aging.** The risks of early menopause rise after age 35.
- **Family history.** Being related to women who have a history of early or premature menopause may raise your risk.

- **Genetic disorders.** Having abnormal chromosomes or genes, as occurs in Turner syndrome or Fragile X syndrome.
- **Toxins.** Exposure to chemotherapy drugs and radiation therapy used to treat cancer can affect onset of menopause.
- **Autoimmune conditions.** When the immune system mistakenly attacks the body's hormone-producing organs, it can sometimes affect the ovaries.
- **Infection.** Having certain infections such as the mumps virus.
- **Surgery.** Procedures to remove the ovaries (bilateral oophorectomy) or uterus (hysterectomy) may cause early menopause.

While women generally enter menopause between the ages of 41 and 55, there are many factors that can interrupt the normal cycle of a woman's reproductive system. This can bring on menopause earlier than normal.

Premature menopause is also referred to as "premature ovarian failure." It occurs when a woman begins menopause before age 40.

According to the American Pregnancy Association, about 1 in 1,000 women ages 15 to 29 and 1 in 100 women between the ages of 30 and 39 experience early menopause ("How to Deal with Early Menopause", 2019).

In some cases, premature menopause is the result of a surgery. Removal of the ovaries or damage through radiation can be the examples. In other cases, premature menopause may be due to a genetic disorder or pre-existing condition. Risk factors for premature menopause include the following.

Surgeries

Women who have some surgeries are at a higher risk for early menopause. This includes women who have one ovary removed (single oophorectomy) or a removal of the uterus (hysterectomy). These surgeries can cause a reduced amount of estrogen and progesterone in the body. Early menopause can also develop as a side effect among women who have cervical cancer surgery or pelvic surgery. The removal of both ovaries (bilateral oophorectomy) causes immediate menopause("Risk Factors of Early Menopause", 2019).

Chemotherapy and radiation

Chemotherapy and radiation greatly increase the risk of premature menopause. According to the Mayo Clinic, radiotherapy can damage ovarian tissues. This can lead to the early onset of menopause.

Chromosome defects

Certain defects in chromosomes can lead to premature menopause. Turner syndrome, for example, occurs when a girl is born with an incomplete chromosome. Women with Turner syndrome have ovaries that don't function properly. This often causes them to enter menopause prematurely.

Autoimmune diseases

Premature menopause can be a symptom of an autoimmune disease. An autoimmune disease occurs when the immune system attacks a part of the body because it mistakes it for a harmful substance. Certain autoimmune diseases like rheumatoid arthritis can cause the immune system to attack the ovaries and ovarian tissues. This can lead to premature menopause("Risk Factors of Early Menopause", 2019).

Epilepsy

A study in EpilepsiaTrusted Source suggested that women with epilepsy have a higher risk of developing early menopause.

Smoking

According to the Mayo Clinic, women who smoke experience menopause one to two years earlier than women who don't smoke.

Medications that reduce estrogen

Some medications reduce the amount of estrogen in the body. This can result in early menopause. Tamoxifen, for example, is a type of medication that blocks and reduces estrogen. It's used as a preventive method for women who are at a high risk of developing breast cancer.

Thyroid disease

Thyroid disorders can cause premature menopause due to hormone levels that are either too high or too low.

While thyroid diseases can cause early menopause, some symptoms of hypothyroidism are similar to menopause symptoms. These include:

- lack of menstruation
- mood swings
- hot flashes
- insomnia

Treating the thyroid condition can alleviate symptoms. It can also prevent the onset of early menopause.

Effects of premature menopause

Premature menopause can have both emotional and physical effect of women. These effects can be categorized into short-term and long-term effect.

Examples of Short-term effects are Irregular or skipped periods, Insomnia, Depression, fatigue, mood swings and many more. Examples of Long term effects of menopause are osteoporosis, Heart diseases, risk of Alzheimersand many more.

The complications of premature menopause

Early and premature menopause can increase your chance of developing other conditions. These include:

- **Infertility.** Most women going through early or premature menopause cannot get pregnant.
- **Stress, anxiety, and depression.** These mood changes often result from infertility and other early menopause health issues.
- **Bone loss (osteoporosis):**Osteoporosis is caused by low estrogen levels and leaves women more at-risk of bone fractures.
- **Heart disease.** Heart disease can also result from low estrogen levels("Risk Factors of Early Menopause", 2019).

According to Nguyen, Milat& Vincent, (2017). Diagnosis of POI requires follicle-stimulating hormone (FSH) levels in the menopausal range on two occasions, at least four to six weeks apart in a woman aged < 40 years, after more than four months of amenorrhoea or menstrual irregularity. The diagnosis is often distressing and women are likely to require psychological support. Hormone replacement therapy, unless contraindicated, is required and should be continued until the age of natural menopause. Contraception is

required if pregnancy is not wanted, and multidisciplinary management is necessary (Nguyen, Milat, & Vincent, 2017).

Changes that occur during menopause

During the transition to menopause and beyond, the hormone estrogen begins to decline, disrupting your normal cyclical patterns of estrogen and progesterone.

Declining estrogen levels negatively impact your metabolism, potentially leading to weight gain. These changes may also affect your cholesterol levels and how your body digests carbs.

Many women experience symptoms like hot flashes and difficulty sleeping during this transition period.

Additionally, hormone changes lead to declined bone density, which can increase your risk of fractures.

How is it diagnosed early menopause

Menopause doctor will ask about the symptoms and the patient's menstrual cycle.

They may also:

- ask about patient's history of exposure to toxins, such as chemotherapy and radiation treatments
- conduct a physical exam (including a pelvic exam)
- perform a pregnancy test
- test your blood for certain hormones, including: follicle-stimulating hormone (FSH), estradiol, prolactin, and anti-Mullerian hormone (AMH)Trusted Source
- test patient's DNA for the genetic causes of early or premature menopause ("Menopause - Diagnosis and treatment - Mayo Clinic", 2019)

The options for treatment

Your doctor will recommend a treatment based on your individual situation. Some common treatments for early or premature menopause include:

Hormone-replacement therapy

Supplemental estrogen and progestin can help replace some of the reproductive hormones your body can no longer make on its own. They're often taken until the average age of menopause (about 50) to manage the uncomfortable symptoms of early menopause("How to Deal with Early Menopause", 2019).

The treatment also helps prevent bone loss and supports heart health.

This treatment is not recommended for all women because it can increase the risk of:

- stroke
- blood clots
- breast cancer

It's important to discuss the risks and benefits of treatment options with your doctor.

Supplemental calcium and vitamin D

Supplementary calcium and vitamin D can help prevent osteoporosis if you aren't getting enough of these nutrients from your diet.

Women ages 19 to 50 should get 1,000 milligrams of calcium per day through food or supplements. Women over age 51 should get 1,200 milligrams per day(Nguyen, Milat, & Vincent, 2017).

A recommended daily amount of vitamin D is around 600 IU/day. For adult women, most doctors recommend 600-800 IU through food or supplements("Menopause Diet: How What You Eat Affects Your Symptoms", 2019).

Strategies to deal with infertility

Some women with premature menopause can still get pregnant without any treatment.

Women who want to have children but become infertile after early or premature menopause should consider in-vitro fertilization using donor eggs or pursuing adoption.

Talk therapy

Many women find talking to a therapist helpful to cope with their stress.

Fortunately, making changes in your diet may help relieve menopause symptoms.

Foods to Eat

There is evidence that certain foods may help relieve some symptoms of menopause, such as hot flashes, poor sleep and low bone density.

Dairy Products

The decline in estrogen levels during menopause can increase women's risk of fractures.

Dairy products, such as milk, yogurt and cheese, contain calcium, phosphorus, potassium, magnesium and vitamins D and K — all of which are essential for bone health. In a study in nearly 750 postmenopausal women, those who ate more dairy and animal protein had significantly higher bone density than those who ate less("Menopause Diet: How What You Eat Affects Your Symptoms", 2019).

Dairy may also help improve sleep. A review study found that foods high in the amino acid glycine — found in milk and cheese, for example — promoted deeper sleep in menopausal women.

Furthermore, some evidence links dairy consumption to a decreased risk of premature menopause, which occurs before the age of 45.

In one study, women with the highest intake of vitamin D and calcium — which cheese and fortified milk are rich in — had a 17% reduced risk of early menopause.

Healthy Fats

Healthy fats, such as omega-3 fatty acids, may benefit women going through menopause.

A review study in 483 menopausal women concluded that omega-3 supplements decreased the frequency of hot flashes and the severity of night sweats.

However, in another review of 8 studies on omega-3 and menopausal symptoms, only a few studies supported the beneficial effect of the fatty acid on hot flashes. Therefore, results were inconclusive.

Still, it may be worth testing if increasing your omega-3 intake improves your menopause-related symptoms.

Foods highest in omega-3 fatty acids include fatty fish, such as mackerel, salmon and anchovies, and seeds like flax seeds, chia seeds and hemp seeds.

Whole Grains

Whole grains are high in nutrients, including fiber and B vitamins, such as thiamine, niacin, riboflavin and pantothenic acid.

A diet high in whole grains has been linked to a reduced risk of heart disease, cancer and premature death.

In a review, researchers found that people who ate three or more servings of whole grains per day had a 20–30% lower risk of developing heart disease and diabetes, compared to people who ate mostly refined carbs.

A study in over 11,000 postmenopausal women noted that eating 4.7 grams of whole-grain fiber per 2,000 calories per day reduced the risk of early death by 17%, compared to eating only 1.3 grams of whole-grain fiber per 2,000 calories("Menopause Diet: How What You Eat Affects Your Symptoms", 2019).

Whole-grain foods include brown rice, whole-wheat bread, barley, quinoa, Khorasan wheat (kamut®) and rye. Look for “whole grain” listed as the first ingredient on the label when evaluating which packaged foods contain primarily whole grains.

Fruits and Vegetables

Fruits and vegetables are packed with vitamins and minerals, fiber and antioxidants. For this reason, American dietary guidelines recommend filling half your plate with fruits and vegetables.

In a one-year intervention study in over 17,000 menopausal women, those eating more vegetables, fruit, fiber and soy experienced a 19% reduction in hot flashes compared to the control group(Bae, 2017). The reduction was attributed to the healthier diet and weight loss.

Cruciferous vegetables may be especially helpful for postmenopausal women. In one study, eating broccoli decreased levels of a type of estrogen linked to breast cancer, while increasing levels of an estrogen type that protects against breast cancer.

Dark berries may also benefit women going through menopause. In an eight-week study in 60 menopausal women, 25 grams a day of freeze-dried strawberry powder lowered blood pressure compared to a control group. However, more research is needed(Bae, 2017).

In another eight-week study in 91 middle-aged women, those who took 200 mg of grape seed extract supplements daily experienced fewer hot flashes, better sleep and lower rates of depression, compared to a control group.

Phytoestrogen-Containing Foods

Phytoestrogens are compounds in foods that act as weak estrogens in your body.

While there has been some controversy on including these in the diet, the most recent research suggests they may benefit health — especially for women going through menopause.

Foods that naturally contain phytoestrogens include soybeans, chickpeas, peanuts, flax seeds, barley, grapes, berries, plums, green and black tea and many more.

In a review of 21 studies on soy, postmenopausal women who took soy isoflavone supplements for at least four weeks had 14% higher estradiol (estrogen) levels compared to those who took a placebo. However, results were not significant.

In another review of 15 studies ranging from 3 to 12 months, phytoestrogens including soy, isoflavone supplements and red clover were found to lower incidences of hot flashes compared to control groups, with no serious side effects.

Quality Protein

The decline in estrogen from menopause is linked to decreased muscle mass and bone strength.

For this reason, women going through menopause should eat more protein. Guidelines recommend that women over 50 eat 0.45–0.55 grams of protein

per pound (1–1.2 grams per kg) of body weight daily — or 20–25 grams of high-quality protein per meal.

In the US, the Recommended Dietary Allowance (RDA) for protein is 0.36 grams per pound (0.8 grams per kg) of body weight for all adults over age 18, which represents the minimum needed for health.

The recommended macronutrient distribution range for protein is 10–35% of total daily calories.

In a recent one-year study in 131 postmenopausal women, those taking 5 grams of collagen peptides daily had significantly better bone mineral density compared to those taking a placebo powder.

Collagen is the most abundant protein in a woman's body.

In a large study in adults over 50, eating dairy protein was linked to an 8% lower risk of hip fracture, while eating plant protein was linked to a 12% reduction(Sathyapalan et al., 2017).

Foods high in protein include eggs, meat, fish, legumes and dairy products. Additionally, you can add protein powders to smoothies or baked goods.

Foods to Avoid

Avoiding certain foods may help reduce some of the symptoms linked to menopause, such as hot flashes, weight gain and poor sleep.

Added Sugars and Processed Carbs

High blood sugar, insulin resistance and metabolic syndrome have been linked to higher incidence of hot flashes in menopausal women .Processed foods and added sugars are known to raise blood sugar rapidly. The more processed a food is, the more pronounced its effect on blood sugar may be.

Therefore, limiting the intake of added sugars and processed foods, such as white bread, crackers and baked goods, may help reduce hot flashes during menopause.

US guidelines recommend keeping your added sugar intake to less than 10% of your daily calorie intake — so if you eat a 2,000-calorie diet, less than 200 calories, or 50 grams, should come from added sugars.

Alcohol and Caffeine

Studies have shown that caffeine and alcohol can trigger hot flashes in women going through menopause.

In one study in 196 menopausal women, caffeine and alcohol intake increased the severity of hot flashes but not their frequency.

On the other hand, another study associated caffeine intake with a lower incidence of hot flashes.

Therefore, it may be worth testing whether eliminating caffeine affects your hot flashes.

Another factor to consider is that caffeine and alcohol are known sleep disruptors and that many women going through menopause have trouble sleeping. So, if this is the case for you, consider avoiding caffeine or alcohol near bedtime.

Spicy Foods

Avoiding spicy foods is a common recommendation for women going through menopause. However, evidence to support this is limited.

One study in 896 women going through menopause in Spain and South America examined the association between lifestyle factors and incidences of hot flashes and associated spicy food intake with an increase in hot flashes.

Another study in 717 perimenopausal women in India associated hot flashes with spicy food intake and anxiety levels. Researchers concluded that hot flashes were worse for women with overall poorer health (Sathyapalan et al., 2017).

As your reaction to spicy foods may be individual, use your best judgment when it comes to including spicy foods in your diet and avoid them if they seem to worsen your symptoms.

High-Salt Foods

High salt intake has been linked to lower bone density in postmenopausal women.

In a study in over 9,500 postmenopausal women, sodium intake of more than 2 grams per day was linked to a 28% higher risk of low bone mineral density (Sathyapalan et al., 2017).

Additionally, after menopause, the decline in estrogen increases the risk of developing high blood pressure. Reducing the sodium intake may help lower this risk.

Furthermore, in a randomized study in 95 postmenopausal women, those who followed a moderate-sodium diet experienced better overall mood, compared to women who followed a generally healthy diet with no salt restriction (Bae, 2017).

A Healthy Diet May Help Delay Start of Menopause

A diet rich in oily fish and legumes is associated with delayed menopause.

Hot flashes, mood swings, irregular periods — these are the telltale signs that you may be headed for menopause.

But while most women begin menopause sometime between the ages of 45 and 55, it's been largely unclear why, exactly, some women experience menopause earlier or later than others.

Researchers at the University of Leeds in England may have found out. After examining the link between diet and menopause, a new study published in the Journal of Epidemiology and Community Health found that the consumption of certain food groups could affect the age at which menopause begins.

A natural start to menopause

Researchers surveyed over 14,150 British women aged between 35 and 69. They collected detailed information on reproductive history along with demographics, weight history, and physical activity. Four years later, a follow-up questionnaire was administered assessing the diets of the women who had begun menopause.

Of the group, about 900 women experienced a natural start of menopause by the time of the follow-up survey. This means they hadn't gotten a menstrual period for at least 12 consecutive months and menopause wasn't brought on by cancer, surgery, or pharmaceutical treatments("Menopause: Healthy Diet May Delay Start", 2019).

The analysis of the data suggests that a high intake of healthy foods — mainly oily fish and fresh legumes, like peas and green beans — is associated with a later onset of menopause. In fact, those who ate a substantial amount of oily fish had a delay of almost three years.

On the other hand, those who consumed considerable amounts of refined white pasta and rice tended to have an earlier start, with menopause beginning about 1 1/2 years earlier than most.

“Our results suggest that some food groups (oily fish, fresh legumes, refined pasta and rice) and specific nutrients are individually predictive of age at natural menopause,” the authors wrote in the study.

The health benefits and risks

The study’s co-author, Janet Cade, PhD, a professor of nutritional epidemiology and public health at the School of Food Science and Nutrition at Leeds, believes that understanding how food affects the start of menopause is extremely valuable to women — especially those who are at risk or have a family history of complications related to menopause("Menopause: Healthy Diet May Delay Start", 2019).

“[This study] puts the power into a woman’s hands, takes the ‘mystery’ out of the start of menopause, and lets a woman know that how she eats and cares for herself absolutely affects the quality of her hormones and her aging process,” said Alisa Vitti, HHC, AADP, a women’s hormone expert, functional nutritionist, and author of the book “WomanCode.”

While many previous studies have investigated the relationship between age and the start of natural menopause — pointing to genetic, behavioral, and environmental factors as the main causes — this is the first to specifically look at the correlation between diet and the age of natural menopause.

The findings are important, as both early and late onset of menopause have been associated with certain risks.

Early menopause is linked to lower bone density, increased risk of cardiovascular diseases, and osteoporosis. Later menopause is associated with a higher risk of developing breast, ovarian, and endometrial cancers.

But delayed menopause is also associated with health benefits.

“It’s beneficial to delay menopause, because with longer exposure to premenstrual estrogen from ovarian production, there are protective effects for the heart, brains, bones, sexual health, and joint health,” said Jessica

Drummond, DCN, CCN, PT, founder and CEO of The Integrative Women's Health Institute("Menopause: Healthy Diet May Delay Start", 2019).

The effect of specific foods

Looking forward, more research is needed to understand how certain foods affect hormonal balance, and, consequently, the onset of natural menopause.

"For example, is the high intake of vegetables having a beneficial effect on hormonal metabolism? Is the intake of omega-3 fatty acids improving the availability of precursors to the hormones needed to maintain them at higher levels?" Drummond asked.

One theory is that the antioxidant properties found in both oily fish and legumes — which play an important role in decreasing ovarian follicular atresia, or deterioration — may be contributing to the delay of menopause.

"It would be interesting to consider whether a diet linked to insulin resistance might cause ovarian dysfunction," said study lead author YashveeDunneram, PhD, a postdoctoral researcher at Leeds' School of Food Science and Nutrition.

"We hope and believe that these findings might prompt future clinical trials, which could show causal relationships between diet and natural menopause," Dunneram added. "Overall, these types of studies would be important to elucidate the mechanism between foods and onset of natural menopause."

Experts said this study is an important step in the right direction in helping women understand how nutrition can affect their hormonal health. The research adds to a large body of evidence proving that what we eat can have a tremendous impact on our health and wellness.

Spontaneous fertility in POI

Premature ovarian insufficiency (POI) is defined as cessation of menstrual cycle, increased serum follicle-stimulating hormone (FSH) levels, and decreased serum oestradiol levels in women before the age 40 years. POI concerns about 1% of women and is characterised by severely diminished fertility. The aetiopathogenesis of this disorder is related to a multifactoral background. A major part is regarded as idiopathic, although it is suspected to be genetically determined. An important part of POI aetiopathogenesis is related to known genetic background. Autoimmunological causes are involved in the pathogenesis of 4-30% of POI cases. The presence of antiovarian autoantibodies (AOAs), lymphocytic oophoritis, and associated

autoimmune disorders are key evidence of autoimmunological background. There is POI association with other autoimmune diseases. Hypothyroidism is the most common associated autoimmune disorder with POI. Diabetes mellitus occurs together with POI in 2.5% of cases. Approximately 10-20% of patients with Addison disease have POI. The increasing number of POI cases is also related to iatrogenic background (use of radiotherapy, chemotherapy, and pelvic surgery in patients treated due to oncological diseases). The described oncological treatment has an important impact on fertility in women.

Spontaneous fertility in POI patients is dramatically limited. Patients are characterized by oligomenorrhoea and amenorrhoea. Although up to 25% of patients can ovulate, only 5% to 10% will conceive and deliver after being diagnosed with POI. This study was conducted on quite a large number (N = 358) of patients with POI.

For contemporary medicine, infertility treatment in POI patients is a real challenge. The problem is that there are no effective therapies to augment ovarian activity in POI patients. At present, oocyte donation is regarded as the only proven method in the treatment of infertility in POI patients. Another study from 1995 presented lower (2.5%) chance for conception in POI patients. Generally, it is important to advise POI patients not to postpone plans to be pregnant.

Oocyte donation

Oocyte donation has quite a long history; the first oocyte donation was performed in 1984 . The number of such procedures in the US and Europe is increasing. POI is the main indication to use oocyte donation in POI women who desire to be pregnant. Oocyte donation in POI patients presents quite high efficacy. According to Ameratunga*et al.*, the pregnancy rate after an oocyte donation cycle is around 40%, and cumulative pregnancy rates after four cycles reach 70-80%("Menopause - Diagnosis and treatment - Mayo Clinic", 2019).

Turner syndrome patients are also candidates for *in vitro*fertilisation with oocyte donation. However, it is well known that in these patients a high rate of cardiovascular anomalies is observed. Therefore, according to the American Society of Reproductive Medicine (ASRM), women with Turner syndrome before attempting to become pregnant should undergo medical and cardiovascular control; this can decrease the high rate of cardiovascular mortality during pregnancy. The procedure of oocyte donation can be used also in cancer survivors.

Recently, numerous studies evaluated the impact of oocyte donation on maternal and foetal outcomes. Oocyte donation pregnancies are associated with a higher rate of placental disorders of pregnancy, such as gestational hypertension and pre-eclampsia.

Fertility preservation

Advancement in fertility preservation gives an optimistic perspective for many POI patients. Gonadal function of women who will undergo radiotherapy (for oncological reasons) can be protected by surgical transposition of ovaries out of the pelvis. Some experimental methods can be performed in women who anticipate undergoing chemotherapy with gonadotoxic agents. It is recommended that gonadotropin-releasing hormone analogues be used before chemotherapy to suppress ovarian function. However, there are conflicting data regarding the efficacy of this therapy. According to the American Society of Clinical Oncology (ASCO) from 2013, there is insufficient evidence concerning the effectiveness of ovarian suppression with GnRH analogues as a fertility preservation method (Męczekalski, Maciejewska&Podfigurna, 2018).

Fertility preservation can concern cryopreservation of oocytes, embryos, and ovarian tissue. There are still technical problems with the cryopreservation of oocytes because oocytes contain more water and are more susceptible to cryoinjury.

Cryopreservation of ovarian tissue can also be a method for women who have hormone-sensitive malignancies, and for women anticipating haematopoietic stem cell transplantation for the treatment of benign haematological diseases (sickle cell anaemia, thalassemia major, aplastic anaemia).

Transplantation of ovarian tissue into a pelvic site is named orthotopic, and into an extrapelvic site (abdominal wall or forearm) is named heterotopic. So far, pregnancies and live births have been revealed only with orthotopic transplantation of cortical tissue.

In 2004 livebirth occurred after orthotopicautotransplantation of cryopreserved tissue from women diagnosed previously with stage IV Hodgkin lymphoma (Męczekalski, Maciejewska&Podfigurna, 2018).

Ovarian tissue cryopreservation and transplantation is still regarded as experimental. The biggest worldwide report on ovarian transplantation tissue was published in 2016("Menopause - Diagnosis and treatment - Mayo Clinic", 2019). It includes 95 orthotopic transplantations of ovarian tissue in

74 women after cytotoxic treatment in a fertility preservation network (16 centres in Europe). Twenty-one pregnancies and 17 deliveries were reported(Szeliga, Maciejewska-Jeske&Męczekalski, 2019).

Characterisation of the new method – *in vitro* activation

Recently, important progress has been observed in the field of a new method related to infertility treatment in POI patients. This new treatment was named as *in vitro* activation (IVA) of dormant follicles. Residual dormant follicles of POI patients' follicles are difficult to grow spontaneously, and thus the patients are unlikely conceive with their own oocytes. A number of intraovarian factors have been shown to be important for primordial follicle activation. IVA implements ovarian fragmentation disruption of Hippo signalling pathway and treatment with phosphatidylinositol-3-kinase (PI3K) stimulator to activate dormant primordial and restrained secondary and preantral follicles in POI patients. A full cycle of IVA includes laparoscopic surgery to remove the ovary, which is subsequently cut into cortical strips and vitrified. After thawing of cryopreserved ovarian tissues, the ovarian strips are further fragmented and incubated for two days with PI3K stimulators. After that, the ovarian strips are auto grafted under laparoscopic surgery. Then the patient undergoes full protocol of ovarian stimulation and IVF procedure. Currently, two healthy babies were delivered, together with two additional pregnancies. The inventors of the method admit that to improve the efficiency of IVA it is important to develop a noninvasive method to predict the presence of residual follicles before the first laparoscopy. Controlled studies would be required before IVA can be advocated for more widespread clinical use(Szeliga, Maciejewska-Jeske&Męczekalski, 2019).

Possible use of stem cells

Stem cells have self-renewal and regeneration potential; hence they can be very effective in the treatment of ovarian failure and consequently infertility. There are several kinds of stem cells, such as: mesenchymal stem cells (MSCs), stem cells from extraembryonic tissues, induced pluripotent stem cells (iPSCs), and ovarian stem cells that are used in POI stem cell therapy, as observed in previous studies. Stimpfel*et al.* successfully characterised and differentiated *in vitro* stem cells from the adult human ovarian cortex. The question is related to the application of these cells into the therapy of infertility in POI patients (Męczekalski, Maciejewska&Podfigurna, 2018). It may open a completely new chapter in the treatment of premature ovarian insufficiency. Based on the discussion it can be said that POI patients suffer from short- and long-term consequences. Infertility issues are the most

dramatic problems for POI women. They have also an important, negative impact on psychological status and quality of life. Proper diagnosis and treatment of infertility has fundamental significance. Nowadays new methods of infertility treatment in POI patients are being developed (Szeliga, Maciejewska-Jeske&Męczekalski, 2019).

Chapter 2

2.1 Research Methodology

The selection of an appropriate methodology has been found to play a crucial role in the development of the overall research project. It is important that the researcher choose a relevant and suitable research methodology that is in par with the requirements of the research project. The research project discusses the symptoms of pre-mature menopause and nutritional assessment**.** Therefore, an appropriate research design, research approach and a relevant research philosophy is to be implemented in order to proceed with the research. Saunders research onion focuses on the various techniques and procedures involved in the conduction of the research. Figure 1illustrates the research onion by Saunders, which highlights the major aspects involved in the formulation of methodology for undertaking a research.

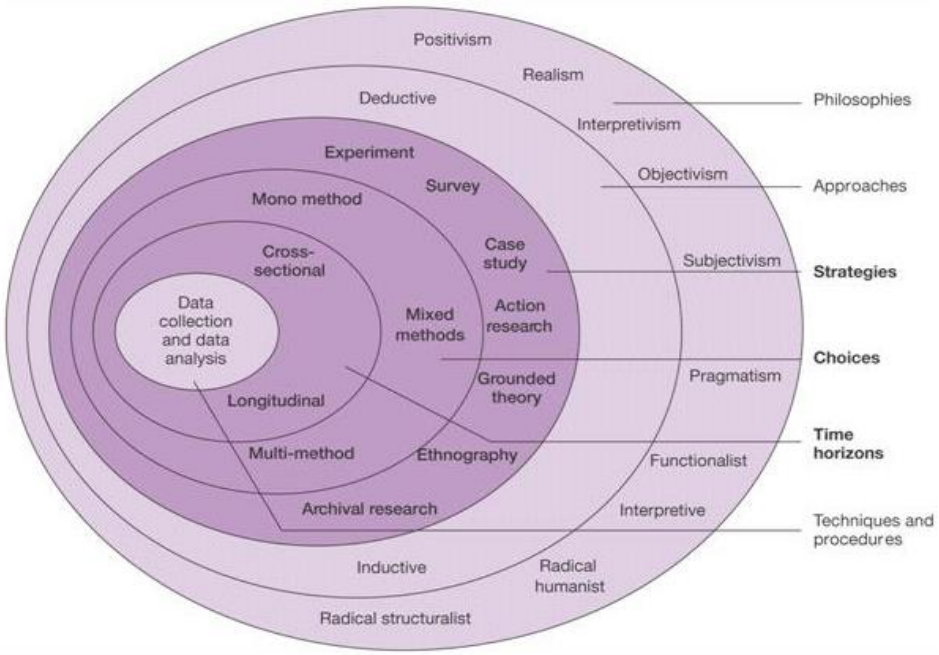

Figure1 : Research Onion
(Source: Saunders, Lewis, Thornhill & Bristow, 2015)

The researcher develops relevant strategies, along with a relevant research design to proceed accordingly with the research. The types of research philosophy may include positivism, interpretivism, realism and more. Furthermore, the research approach may include inductive or deductive approaches, depending on the philosophy chosen by the researcher. In addition to that, the research approach is also selected on the basis of the type of research to be undertaken. For instance, it may be stated in this regards that this particular research project involves the use of information related to premature menopause, therefore, a deductive approach may be implemented which may correlate to the suitable research design for this research project.

2.2 Research Design

The research design represents the set of procedures that are utilised by the researcher in order to gather data as well as to analyse the different variables that are specified in the entire research work. In other word research design is the way of planning that is required by the researcher worker in order to carry out the study.

A research design is conceptual framework within which research is conducted; it constitutes the blue print for the collection and analysis. Decision regarding what where how much and by what means concerning an inquiry constitutes a research design."A research design is the arrangement of condition for collection and analysis of data in a manner that aims to research purpose in the economy in procedure"

For present project report study is desirable as to find out customer's satisfaction at the store. The researcher has tried to ask WHO, WHERE, WHEN AND WHAT kind of questions to the **customers** and tried out the attributes that affected them while making their purchase decisions.

Justification for choosing Descriptive Design: Descriptive design is the selected research design of the researcher as it helps in analysing the details of the research topic. Apart from establishing the description of service-dominant logic, descriptive design will help in explaining the need of the shift towards the service-dominant logic. Thus, descriptive design was the choice of the researcher and rest were avoided.

2.3 Research philosophy

In order to determine the mentality at the first stage of the research, the research philosophy is used. A research philosophy is used in the path in which the data about a particular phenomenon can be analyzed, used and gathered. Research philosophy helps in determining the process in which the

data can be analyzed after gathering. There are two terms, used in case of research philosophy, namely Epistemology and Doxology. Epistemology is the terms used in case of what are known to be true, while Doxology is opposite to epistemology, which is believed to be true. Epistemology is a part of philosophy where the human knowledge in considered and focus on the procedure involved in the project. Whereas, Doxology is also a part of philosophy but the investigation process is considered in the case. In the case of Axiology, the ethics, traditional values and the aesthetics are considered.

2.4 Research approach

Research approach is a procedure in which a platform is created for formulating the research in desired direction. Proper methodology and proper strategy is derived in case of research approach, for the fulfillment of the research and task in a particular and correct manner. The research approach is one of the important portions of the research as it gives a correct path to the research. Therefore, if the person doing research anyhow fails to select the correct research approach then the person may not get the expected outcome. In the case of data collection, the researcher should maintain few strategies like the researcher must collect all the meanings of the participant, needs to bring values which are personal and study on that particularly, needs to create an agenda to reform or change the method involvement in the project for better outcomes. There are basically two type of research approach which is used by the researcher namely: Inductive approach and Deductive approach. In the case of deductive approach, for developing a new theory data is collected, and for new theory development the researcher needs to follow different tools and mechanisms. However, the deductive approach is depended on the old theories and hence the data is also collected from the old theories. In the case of qualitative data, inductive approach is needed for further analysis of data, while the deductive approach is used in the case of quantitative data analysis.

2.4 Nature and source of data

1) Primary Data

The information which is the directly collected from the source is called the primary data. In the present study it is collected by asking question to two groups of people. Group A consists of the community women and Group consists of the gynaecologists. The primary data has been collected by,

- Survey
- Interview
- Questionnaires

2) **Secondary Data:** The researcher has collected such kind of data from different other sources, such as, internet, books, articles or previous researches on the similar topics.

2.5 Sample and Sampling Technique

The researcher needs to go through the sampling process for maintaining relevance of result with the work. As the researcher is taking both quantitative method and qualitative method so, the research worker needs to perform proper sampling of the sizes for the quantitative process. There are different types of sampling, namely

Purposive Sampling- it is the method used by the researcher to collect samples from the World, which are correct from the researcher's point of view

Accurate sampling- it is the method for collecting relevant data from the research work

Convenience sampling- is the method, which is available easily and can be found in the convenient group, it is also known as accidental, opportunistic, or unsystematic sampling where the samples are selected on the basis of the researcher

Quota sampling- it is the method where the judgement is used to choose units from each segregated data in the case of the particular research study.

Simple random method has been used because the researcher can investigate on sampling collection and can choose samples of the researcher's own choice, according to his understanding and not depending on anyone's decision. The method is simple, flexible and helps in proposing new outcomes and methods to be implemented further in the research. The problems related to research and aim needs to be selected when the researcher is selecting the research approach.

In this study population in divided into various several subpopulation that are individually more homogeneous than the total population and then we select item from each constitute a sample. The criteria for stratification may vary from problem to problem for e.g. educational group, professional group, age group, house hold income group and many more

In the present research the sample size is 50. That means the researcher has asked the research questions to 50 women of the society in Bhopal Madhya Pradesh. The researcher also has taken the interview of 5 gynaecologistsor menopause doctors from a clinic in Bhopal Madhya Pradesh

Sample Design

- ***Sample segment*** - Bhopal Madhya Pradesh
- ***Sample unit*** - Community women and gynaecologists
- ***Sample size*** - 50 women and 5 gynaecologists' review
- ***Sampling method***- Simple random sample

2.6 Tools and Techniques

In case of conducting the research the researcher has taken the help of the three following tools, like,

- Interview, which was conducted by the researcher in person
- Questionnaire that was full of several closed ended questions and was server to the respondents at the time of conducting survey
- Evaluation that was based on the interviews as well as the group discussions

2.7 Method/s to be usedfor data collection

The method that the individual has used in accomplishing the study are extensively utilized for collecting deeper perspective of the relation of unhealthy food habit with pre mature menopause. The interview methods are structured for the 5 menopause doctors. The individual has taken two way in order to perform the data handling and data analysis, those are as follows.

- Quantitative analysis from primary sources
- Qualitative analysis from primary sources

2.8 Data handling and analysis

In order to accomplish the entire research the researcher has conducted a survey as well as interview to collect data. After that the researcher has calculated the percentage of the respondents in order to get the response frequency. The researcher has prepared the bar graphs and chart with the help of MS Excel as well as the MS Word software. Those bar charts and tables help the person to analysis the data. Thus the researcher came to the findings and conclusions.

Chapter 3

3.1 Observations

3.1.1 Quantitative analysis from primary sources

Quantitative data analysis is a systematic approach to investigations during which numerical data is collected and/or the researcher transforms what is collected or observed into numerical data. It often describes a situation or event; answering the 'what' and 'how many' questions you may have about something. A quantitative approach is often concerned with finding evidence to either support or contradict an idea or hypothesis you might have. Most often when a researcher is interested in hypothesis testing they will conduct an *experiment* to gather their data.

The researcher has conducted a quantitative analysis with the help of a questionnaire that contained 16questions. All the questions were close ended questions. The individual did this survey with 50 women from the community area in Bhopal Madhya Pradesh. In the current section, the women of the community have been considered for carrying out the quantitative analysis. This will in turn assist the researcher in evaluating the topic of re-mature menopause and nutritional assessment. In the quantitative analysis phase, 50 women have been considered as the sample unit for study. The feedback of these women has been gathered for scrutiny from their responses duly filled in their questionnaire forms.

Q1: Do you know the symptom of menopause can be controlled by having healthy food?

Table 1: Response to Q1

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Agree	15	50	30%
2. Strongly agree	10	50	20%
3. May be	11	50	22%

4. Disagree	6	50	12%
5. Strongly disagree	8	50	16%

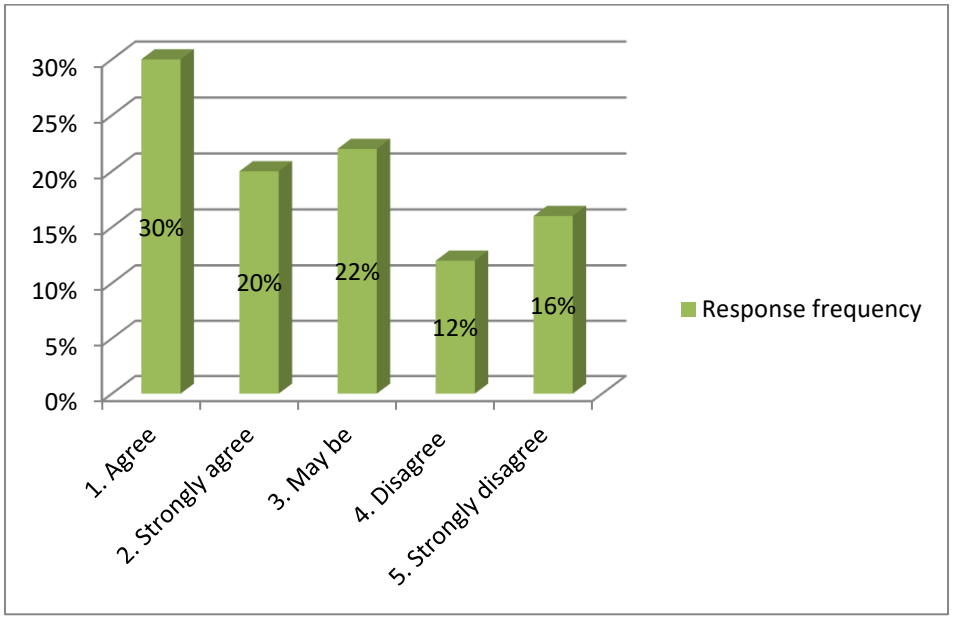

Figure 2: Statistical representation of Q1

(Source: Author's creation)

Findings:

The above bar chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that the symptom of menopause can be controlled by having healthy food or not, she got positive answer most of the time.30% women agreed with the researcher. Another 20% was strongly agreed with the statement. However, 12% of the total responded answered in negative and 16% women strongly disagreed with the statement. The rest 22% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the bar graph the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that the symptoms of menopause can be controlled by having healthy food. The responses of the women of the community have helped the researcher to understand that most of the women were aware about the fact that the symptom of menopause can be controlled by having healthy food. However, it is true that a significant number of the women did not know the reality.

Q2. Do you have sleep disorder?

Table2: Response to Q2

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Yes	18	50	36%
2. No	15	50	30%
3. May be	17	50	34%

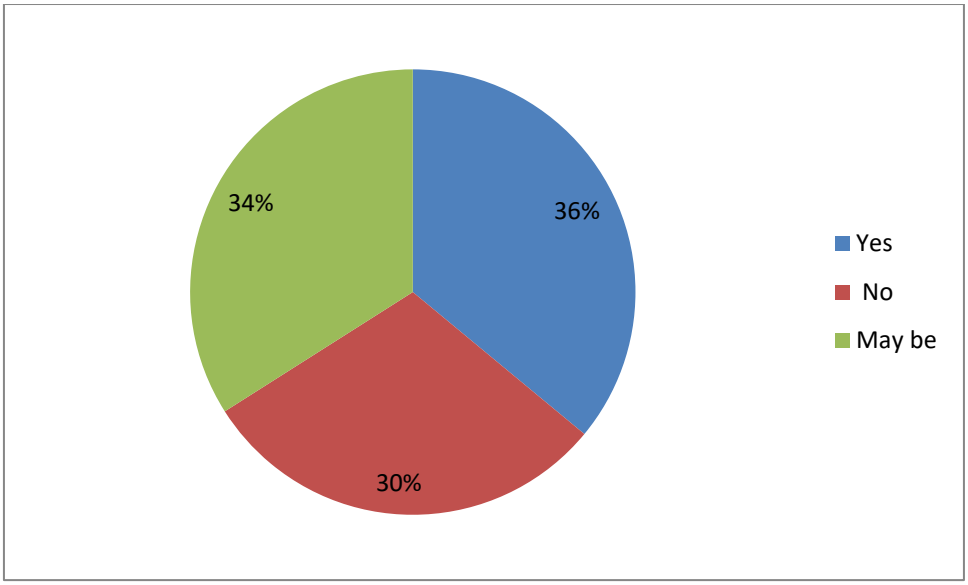

Figure 3: Statistical representation of Q2

(Source: Author's creation)

Findings:

The above pie chart describes the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they have sleep disorderor not, she got a mixed reaction most of the time.36% women agreed with the researcher. However, 30% of the total responded answered in negative. The rest 34% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the pie graph the researcher was able to analysis the data. It is evident from the above result that most ofthe target women of the society primarily agreed to the statement that theyhave sleep disorder. However, there may be a lot of reasons apart from menopause, such as increasing stress of daily life. Almost an equal percentage of women does not have such problem. The responses of the women of the community have helped the researcher to understand that a significant amount of the women are quite oblivious about such problem. It means they do not pay proper attention towards their health.

Q3. Are you suffering from the problem of low bone density?

Table3: Response to Q3

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Yes	12	50	24%
2. No	20	50	40%
3. May be	18	50	36%

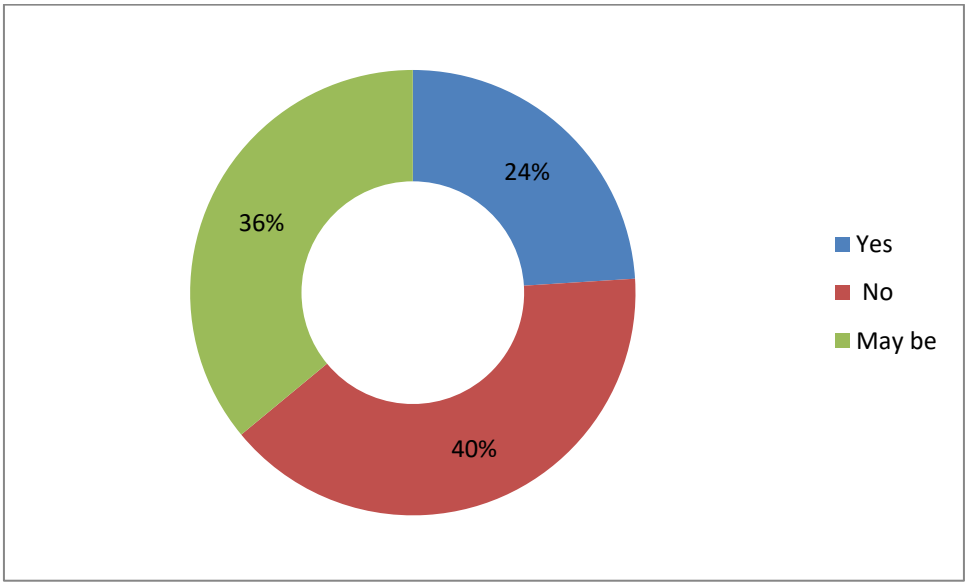

Figure 4: Statistical representation of Q3

(Source: Author's creation)

Findings:

The above doughnut chart illustrates the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether theywere suffering from the problem of low bone densityor not, she got a mixed reaction most of the time.24% women agreed with the researcher. However, 40% of the total responded answered in negative. The rest 36% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the doughnut chart the researcher was able to analysis the data. It is evident from the above result that a significant number of the target women of the society primarily agreed to the statement that they were suffering from the problem of low bone density. However, there may be a lot of reasons apart from menopause, such as smoking or taking some medicine like corticosteroids. It was a good sign that most of women does not have such problem. The responses of the women of the community have helped the researcher to understand that a lot of the women are quite unaware about such problem. It means they do not pay proper attention towards their health.

Q4. Do you know that dairy products, such as milk, yogurt and cheese help in building high bone density?

Table4: Response to Q4

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Agree	15	50	30%
2. Strongly agree	10	50	20%
3. May be	16	50	32%

4. Disagree	9	50	18%
5. Strongly disagree	15	50	30%

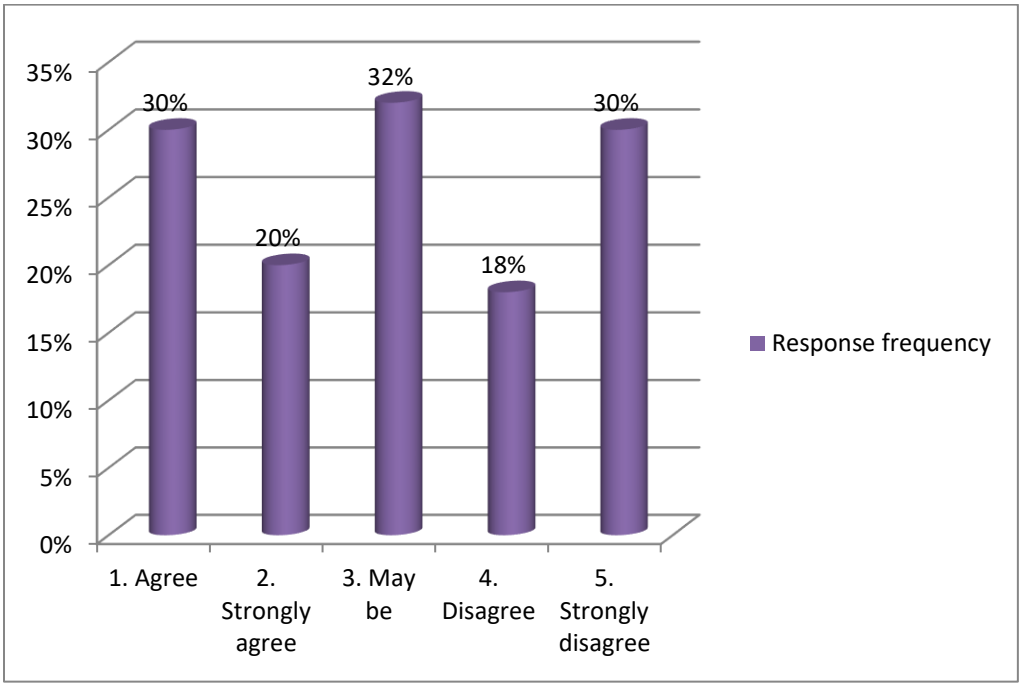

Figure 5: Statistical representation of Q4

(Source: Author's creation)

Findings:

The above cylindrical chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that dairy products, such as milk, yogurt and cheese help in building high bone densityor not, she got positive answer most of the time.30% women agreed with the researcher. Another 20% was strongly agreed with the statement. However, 18% of the total responded answered in negative and 30% women strongly disagreed with the statement. The rest 32% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the cylindrical chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that dairy products, such as milk, yogurt and cheese help in building high bone density. The responses of the women of the community have helped the researcher to understand that most of the women were aware about the fact that dairy products, such as milk, yogurt and cheese help in building high bone density. However, it is true that a significant number of the women were unaware about the fact.

Q5. Do you know that women with the highest intake of vitamin D and calcium had a 17% reduced risk of early menopause?

Table5: Response to Q5

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Agree	14	50	28%
2. Strongly agree	16	50	32%
3. May be	10	50	20%
4. Disagree	5	50	10%
5. Strongly disagree	5	50	10%

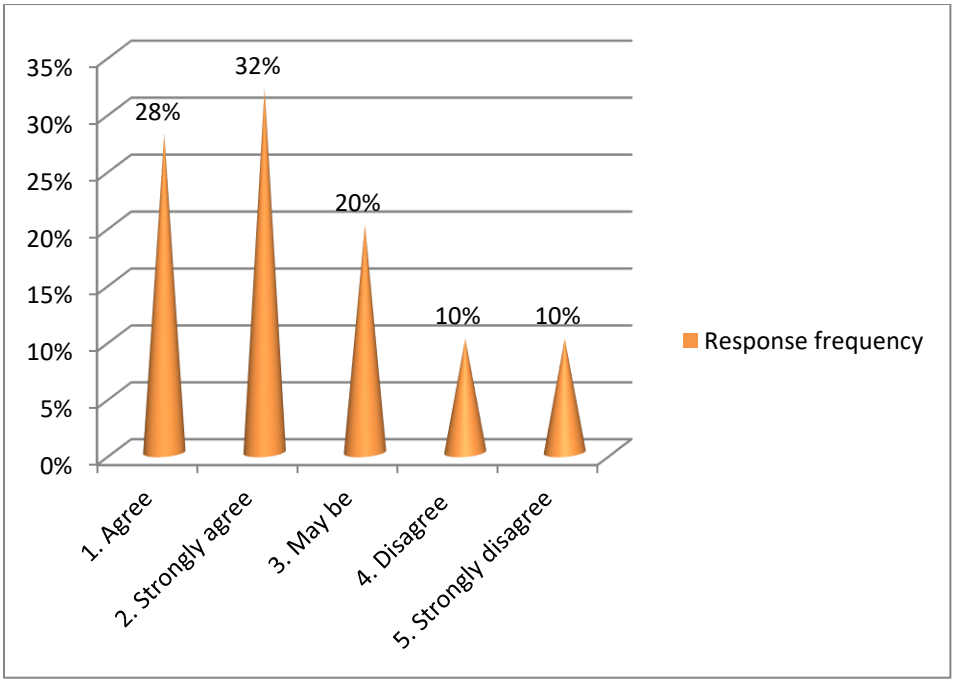

Figure 6: Statistical representation of Q5

(Source: Author's creation)

Findings:

The above conical chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that women with the highest intake of vitamin D and calcium had a 17% reduced risk of early menopauseor not, she got positive answer most of the time.28% women agreed with the researcher. Another 32% was strongly agreed with the statement. However, 10% of the total responded answered in negative and 10% women strongly disagreed with the statement. The rest 20% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the conical chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that women with the highest intake of vitamin D and calcium had a reduced risk of early menopause. The responses of the women of the community have helped the researcher to understand that at least the importance of vitamin D as well as calcium were

known by a large number of community women. However, it is true that a significant number of the women were unaware about the fact. It means more awareness needs to be created regarding the fact.

Q6.Do you know that healthy fats, such as omega-3 fatty acids, may benefit women going through menopause?

Table6: Response to Q6

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Agree	10	50	20%
2. Strongly agree	8	50	16%
3. May be	5	50	10%
4. Disagree	18	50	36%
5. Strongly disagree	9	50	18%

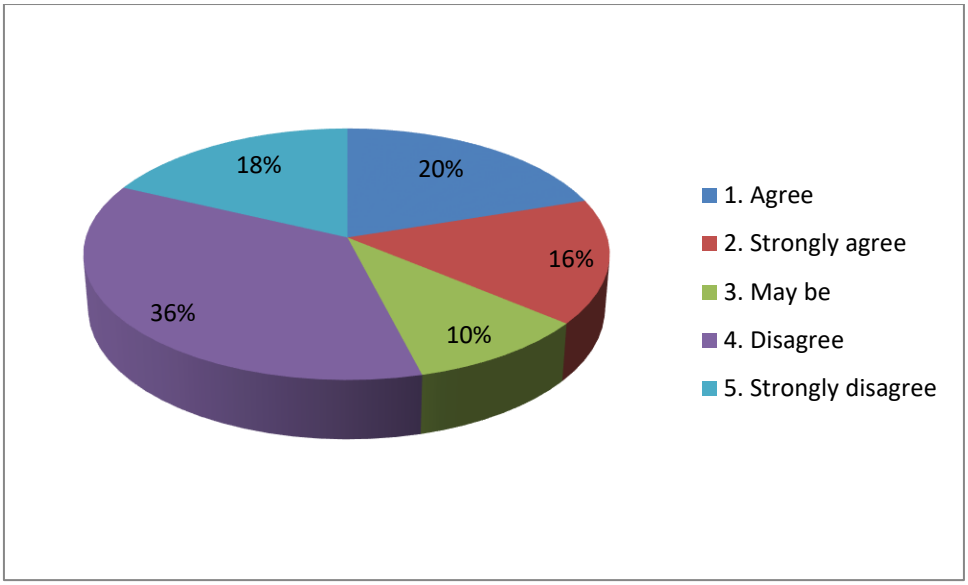

Figure 7: Statistical representation of Q6

(Source: Author's creation)

Findings:

The above pie chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that healthy fats, such as omega-3 fatty acids, may benefit women going through menopauseor not, she got negative answer most of the time. Only 20% women agreed with the researcher. Another 16% was strongly agreed with the statement. However, 36% of the total responded answered in negative and 18% women strongly disagreed with the statement. The rest 10% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the pie chart the researcher was able to analysis the data. It is evident from the above result that the most of the target women of the society did not know that healthy fats, such as omega-3 fatty acids, may benefit women going through menopause. The responses of the women of the community have helped the researcher to understand that most of the women were unaware about the fact that healthy fats, such as omega-3 fatty acids, may benefit women going through menopause. However, it is true that some of the women were aware about the fact. It means more awareness needs to be created regarding the fact.

Q7.Do you know that people who eat three or more servings of whole grains per day has a 20–30% lower risk of developing heart disease and diabetes, compared to people who eat mostly refined carbs?

Table 7: Response to Q7

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Agree	11	50	22%
2. Strongly agree	9	50	18%
3. May be	13	50	26%
4. Disagree	10	50	20%
5. Strongly disagree	7	50	14%

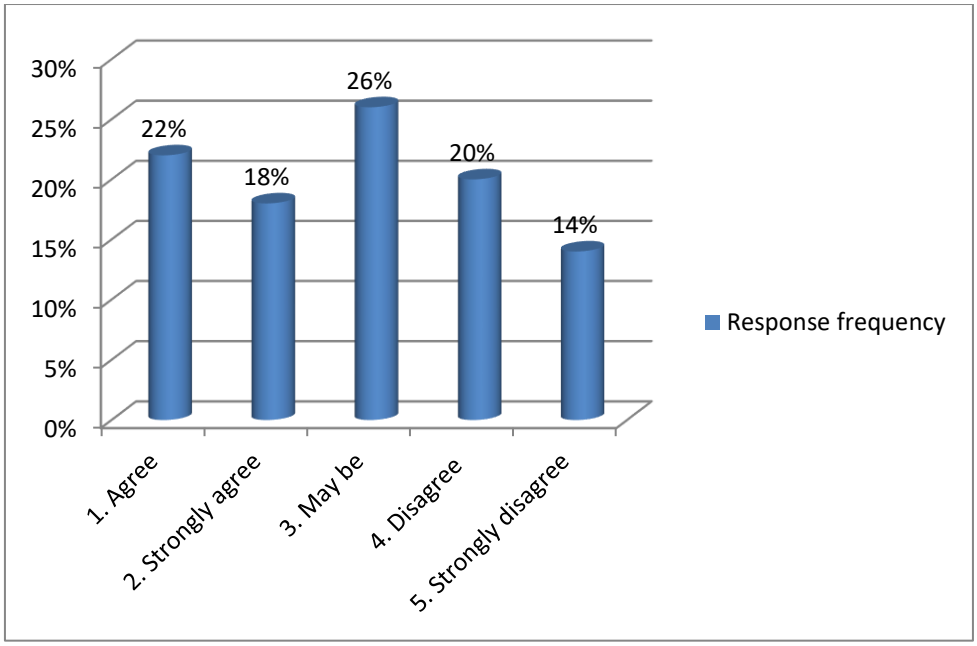

Figure 8: Statistical representation of Q7

(Source: Author's creation)

Findings:

The above cylindrical chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that people who eat three or more servings of whole grains per day has a 20–30% lower risk of developing heart disease and diabetes, compared to people who eat mostly refined carbsor not, she got a mixed reaction most of the time. Only 22% women agreed with the researcher. Another 18% was strongly agreed with the statement. However, 20% of the total responded answered in negative and 14% women strongly disagreed with the statement. The rest 26% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the cylindrical chart the researcher was able to analysis the data. It is evident from the above result that the most of the target women of the society did not know that people who eat three or more servings of whole grains per day has a 20–30% lower risk of developing heart disease and diabetes, compared to people who eat mostly refined carbs. The responses of the women of the community have helped the researcher to

understand that a large number of the women were unaware about the fact that people who eat three or more servings of whole grains per day has a lower risk of developing heart disease as well as diabetes, compared to people who eat mostly refined carbs. However, it is true that some of the women were aware about the fact. It means more awareness needs to be created regarding the fact.

Q8.Do you feel hot flashes?

Table 8: Response to Q8

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Yes	15	50	30%
2. No	16	50	32%
3. May be	19	50	38%

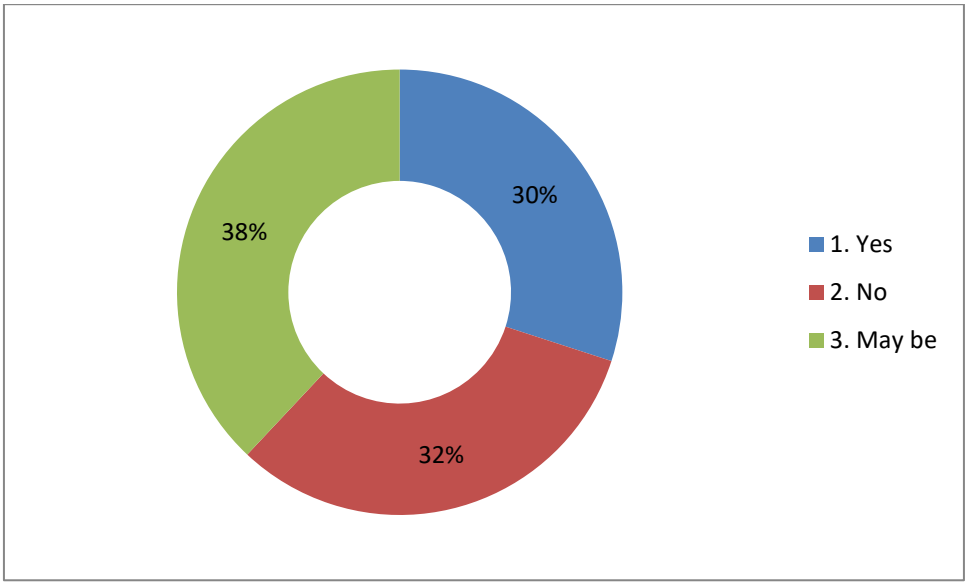

Figure 9: Statistical representation of Q8

(Source: Author's creation)

Findings:

The above doughnut chart describes the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they feel hot flashes or not, she got a mixed reaction most of the time. 30% women agreed with the researcher. However, 32% of the total responded answered in negative. The rest 38% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the doughnut chart the researcher was able to analysis the data. It is evident from the above result that most of the target women of the society primarily agreed to the statement that they feel hot flashes. However, there may be a lot of reasons apart from menopause, such as smoking, obesity or ethnicity. Almost an equal percentage of women do not have such problem. The responses of the women of the community have helped the researcher to understand that a significant amount of the women are quite oblivious about such problem. It means they do not pay proper attention towards their health.

Q9.Do you know that vegetables, fruit, fiber and soy can have 19% reduction in hot flashes?

Table 9: Response to Q9

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Agree	11	50	22%
2. Strongly agree	12	50	24%
3. May be	10	50	20%
4. Disagree	8	50	16%
5. Strongly disagree	9	50	18%

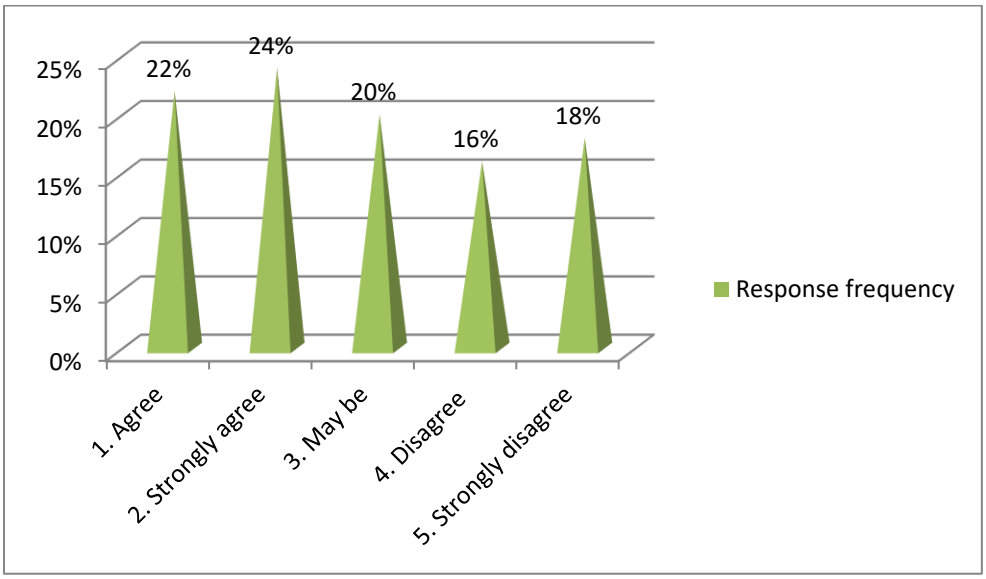

Figure 10: Statistical representation of Q9

(Source: Author's creation)

Findings:

The above pyramids provide the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that vegetables, fruit, fiber and soy can have 19% reduction in hot flashes or not, she got a mixed reaction most of the time.22% women agreed with the researcher. Another 24% was strongly agreed with the statement. However, 16% of the total responded answered in negative and 18% women strongly disagreed with the statement. The rest 20% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the pyramids the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that vegetables, fruit, fiber and soy can have 19% reduction in hot flashes. The responses of the women of the community have helped the researcher to understand that at least the importance of vegetables, fruit, fiber and soy were known by a large number of community women. However, it is true that a significant number of the women were unaware about the fact. It means more awareness needs to be created regarding the fact.

Q10.Do you know that dark berries may also benefit women going through menopause?

Table 10: Response to Q10

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Agree	9	50	18%
2. Strongly agree	8	50	16%
3. May be	11	50	22%
4. Disagree	12	50	24%
5. Strongly disagree	10	50	20%

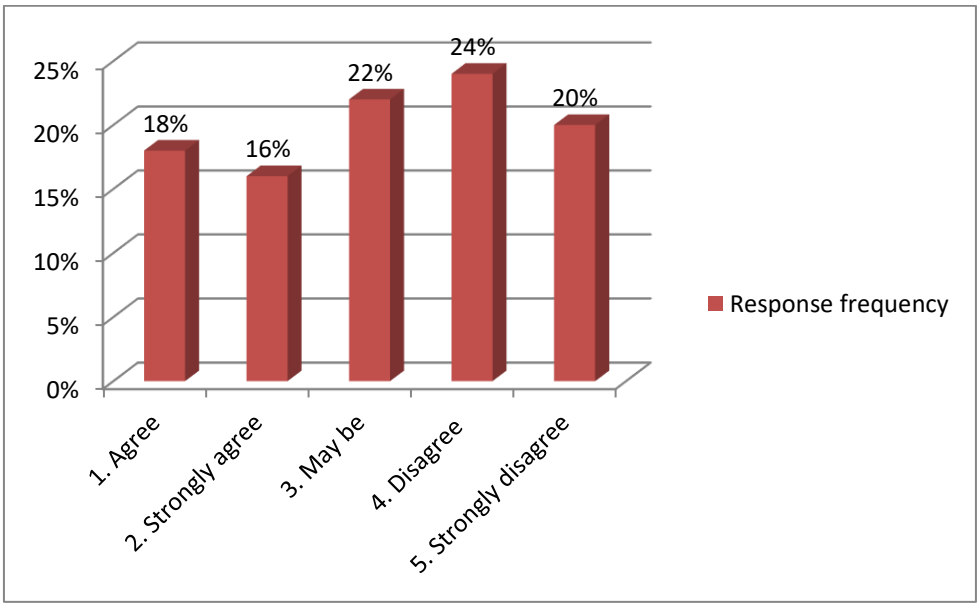

Figure 11: Statistical representation of Q10

(Source: Author's creation)

Findings:

The above bar chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that dark berries may also benefit women going through menopauseor not, she got a mixed reaction most of the time. 18% women agreed with the researcher. Another 16% was strongly agreed with the statement. However, 24% of the total responded answered in negative and 20% women strongly disagreed with the statement. The rest 22% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the bar chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that dark berries may also benefit women going through menopause. The responses of the women of the community have helped the researcher to understand that at least the importance of dark berries wasknown by a large number of community women. However, it is true that a significant number of the women were unaware about the fact. It means more awareness needs to be created regarding the fact.

Q11.Do you know that the decline in estrogen from menopause is linked to decreased muscle mass and bone strength?

Table 11: Response to Q11

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Agree	10	50	20%
2. Strongly agree	9	50	18%
3. May be	11	50	22%
4. Disagree	13	50	26%
5. Strongly disagree	7	50	14%

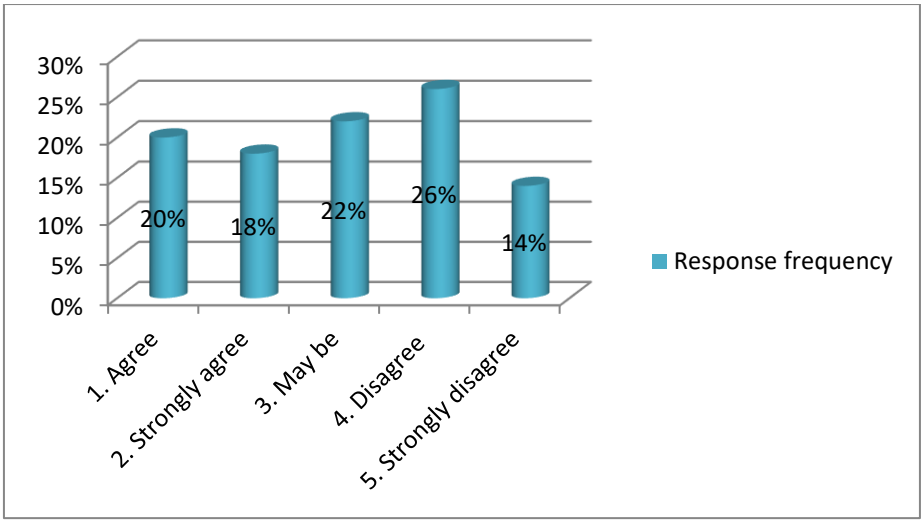

Figure 12: Statistical representation of Q11

(Source: Author's creation)

Findings:

The above cylindrical chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that the decline in estrogen from menopause is linked to decreased muscle mass and bone strengthor not, she got a mixed reaction most of the time. However, the percentage of the respondents who gave negative answer to the person was slightly high.20% women agreed with the researcher. Another 18% was strongly agreed with the statement. However, 26% of the total responded answered in negative and 14% women strongly disagreed with the statement. The rest 22% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the cylindrical chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that the decline in estrogen from menopause is linked to decreased muscle mass and bone strength. The responses of the women of the community have helped the researcher to understand that at least some women in the society were conscious about the fact. However, it is true that a significant number of the women were unaware about the information. It means more awareness needs to be created regarding the fact.

Q12.Do you know that avoiding certain foods may help reduce some of the symptoms linked to menopause?

Table 12: Response to Q12

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Agree	12	50	24%
2. Strongly agree	8	50	16%
3. May be	11	50	22%
4. Disagree	10	50	20%
5. Strongly disagree	9	50	18%

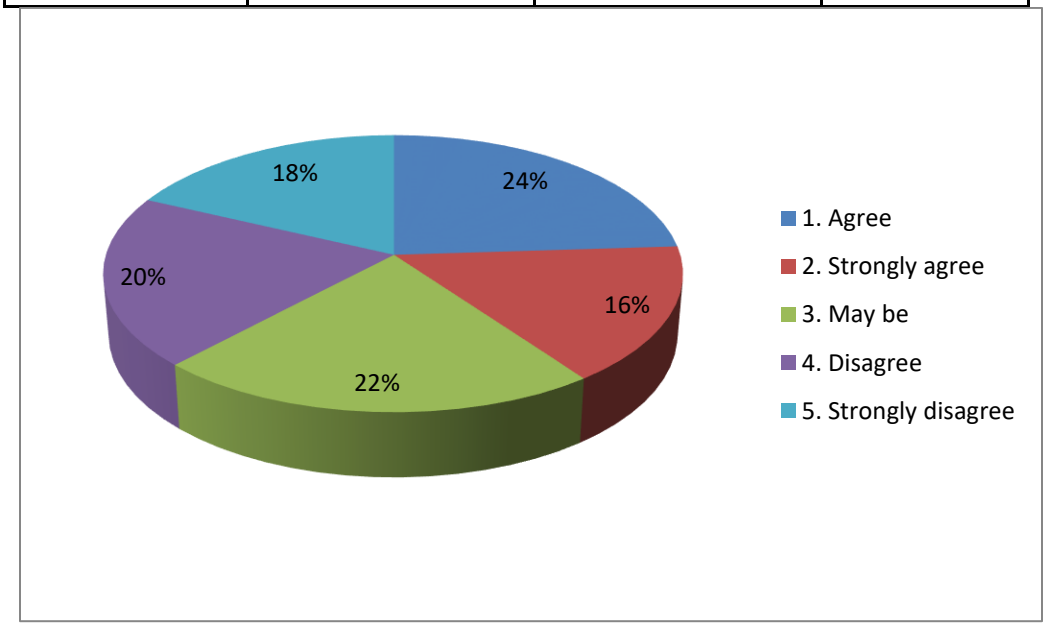

Figure 13: Statistical representation of Q12

(Source: Author's creation)

Findings:

The above pie chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that avoiding certain foods may help reduce some of the symptoms linked to menopause or not, she got a mixed reaction most of the time. However, the percentage of the respondents who gave positive answerto the person was slightly high. 24% women agreed with the researcher. Another 16% was strongly agreed with the statement. However, 20% of the total responded answered in negative and 18% women strongly disagreed with the statement. The rest 22% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the pie chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that avoiding certain foods may help reduce some of the symptoms linked to menopause. The responses of the women of the community have helped the researcher to understand that at least some women in the society were conscious about the fact. However, it is true that a significant number of the women were unaware about the information. It means more awareness needs to be created regarding the fact.

Q13.Do you know that limiting your intake of added sugars and processed foods, such as white bread, crackers and baked goods may help reduce hot flashes during menopause?

Table 13: Response to Q13

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Agree	9	50	18%
2. Strongly agree	8	50	16%
3. May be	15	50	30%
4. Disagree	11	50	22%
5. Strongly disagree	7	50	14%

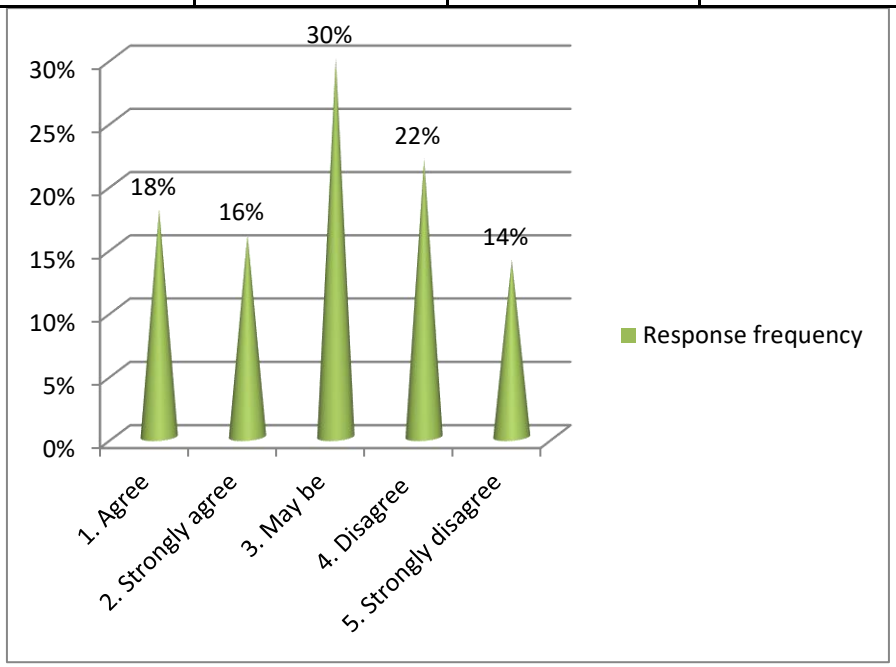

Figure 14: Statistical representation of Q13

(Source: Author's creation)

Findings:

The above conical chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that limiting your intake of added sugars and processed foods, such as white bread, crackers and baked goods may help reduce hot flashes during menopause or not, she got a mixed reaction most of the time. However, the percentage of the respondents who gave negative answer to the person was slightly high. 18% women agreed with the researcher. Another 16% was strongly agreed with the statement. However, 22% of the total responded answered in negative and 14% women strongly disagreed with the statement. The rest 30% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the conical chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that that limiting your intake of added sugars and processed foods, such as white bread, crackers and baked goods may help reduce hot flashes during menopause. The responses of the women of the community have helped the researcher to understand that at least some women in the society were conscious about the fact. However, it is true that a significant number of the women were unaware about the information. It means more awareness needs to be created regarding the fact.

Q14.Do you know that caffeine and alcohol can trigger hot flashes in women going through menopause?

Table 14: Response to Q14

(Source: Author's creation)

Options	**Number of respondents**	**Total number of respondents**	**Response frequency**
1. Agree	13	50	26%
2. Strongly agree	11	50	22%
3. May be	11	50	22%

4. Disagree	9	50	18%
5. Strongly disagree	6	50	16%

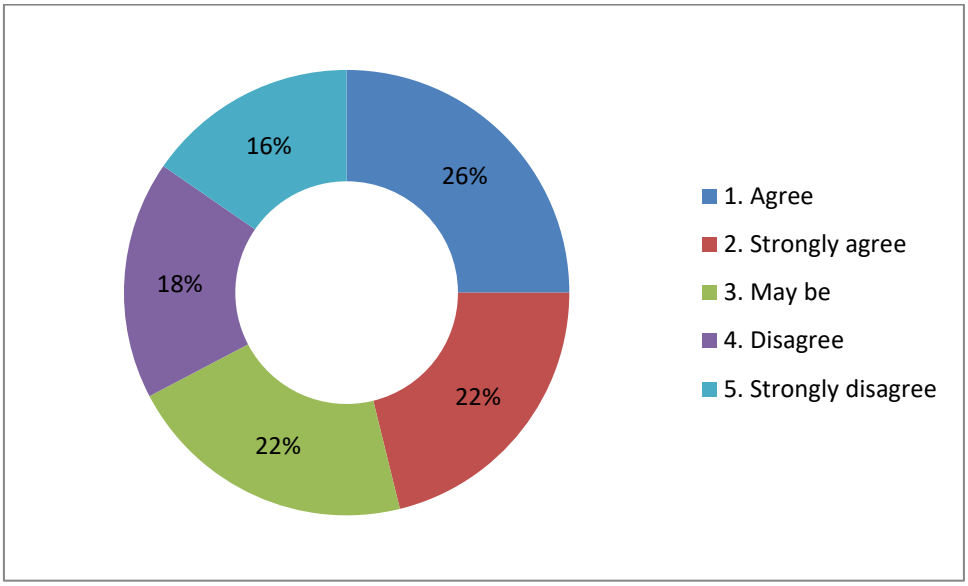

Figure 15: Statistical representation of Q14

(Source: Author's creation)

Findings:

The above doughnut chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that caffeine and alcohol can trigger hot flashes in women going through menopause or not, she got positive answer most of the time. However, the percentage of the respondents who gave negative answer to the person was quite high. 26% women agreed with the researcher. Another 22% was strongly agreed with the statement. However, 18% of the total responded answered in negative and 16% women strongly disagreed with the statement. The rest 22% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the doughnut chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that that caffeine and alcohol can trigger hot flashes in women going through menopause. The responses of the women of the community have helped the researcher to understand that at least most of the women in the society were conscious about the fact. However, it is true that a significant number of the women were unaware about the information. It means more awareness needs to be created regarding the fact.

Q15.Do you know that avoiding spicy foods you can prevent the symptoms of early menopause?

Table 15: Response to Q15

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Agree	15	50	30%
2. Strongly agree	12	50	24%
3. May be	13	50	26%
4. Disagree	4	50	8%
5. Strongly disagree	6	50	12%

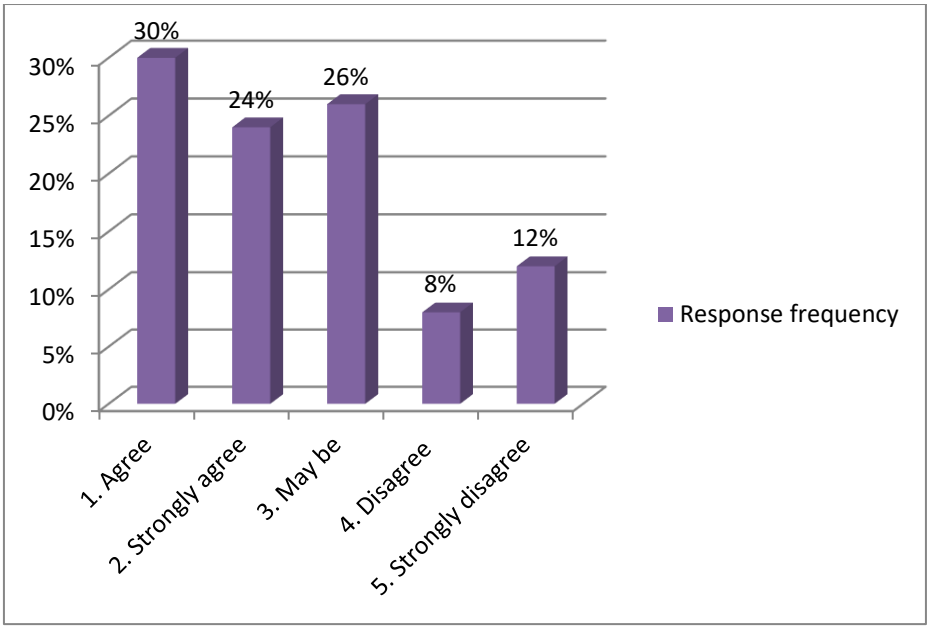

Figure 16: Statistical representation of Q15

(Source: Author's creation)

Findings:

The above doughnut chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that avoiding spicy foods you can prevent the symptoms of early menopause or not, she got positive answer most of the time. However, the percentage of the respondents who gave negative answer to the person was not so negligible. 30% women agreed with the researcher. Another 24% was strongly agreed with the statement. However, 8% of the total responded answered in negative and 12% women strongly disagreed with the statement. The rest 26% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the doughnut chart the researcher was able to analysis the data. It is evident from the above result that the target women of the society primarily agreed to the statement that that avoiding spicy foods you can prevent the symptoms of early menopause. The responses of the women of the community have helped the researcher to understand that at least most of the women in the society were conscious about the fact. However, it is true that a significant number of the women were unaware

about the information. It means more awareness needs to be created regarding the fact.

Q16. Do you know that high salt intake has been linked to lower bone density in menopausal women?

Table 16: Response to Q16

(Source: Author's creation)

Options	Number of respondents	Total number of respondents	Response frequency
1. Agree	7	50	14%
2. Strongly agree	8	50	16%
3. May be	12	50	24%
4. Disagree	13	50	26%
5. Strongly disagree	10	50	20%

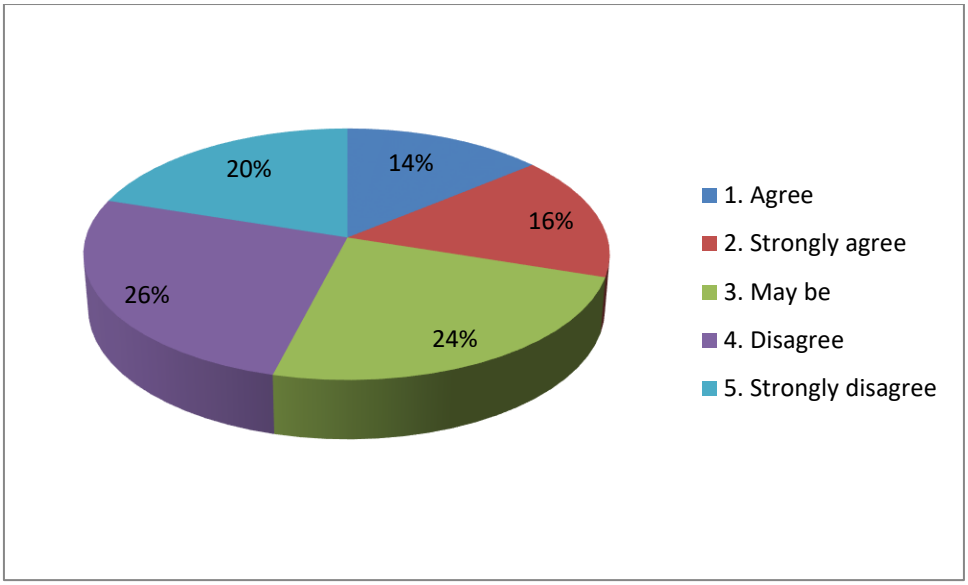

Figure 17: Statistical representation of Q16

(Source: Author's creation)

Findings:

The above doughnut chart provides the information about the percentage of the respondents in the community. When the researcher asked the women of the society whether they know that high salt intake has been linked to lower bone density in menopausal women or not, she got negative answer most of the time. However, the percentage of the respondents who gave positive answer to the person was not so negligible. 14% women agreed with the researcher. Another 16% was strongly agreed with the statement. However, 26% of the total responded answered in negative and 20% women strongly disagreed with the statement. The rest 24% women were not sure about the answer. Therefore, they remained neutral.

Analysis:

From the above table as well as the doughnut chart the researcher was able to analysis the data. It is evident from the above result that some of the target women of the society primarily agreed to the statement that that high salt intake has been linked to lower bone density in menopausal women. The responses of the women of the community have helped the researcher to understand that at least most of the women in the society were conscious about the fact. However, it is true that most of the women were unaware

about the information. It means more awareness needs to be created regarding the fact.

Q17. What kind of food do you normally take?

Table 17: Response to Q17

(Source: Author's creation)

Sl. No.	**Food Stuffs**	**Less than RDA**	**Equivalent to RDA**	**More than RDA**	**Actual Mean Food Intake**	**Balanced Diet for Moderate Worker RDA**	**% of deficiency or Excess**
1	Cereals & Millets	36	04	60	369.82 ± 21.36	330	12.07+
2	Pulses	48	30	22	68.75 ± 11.26	75	8.33-
3	Milk & Milk product	18	11	71	198.01 ± 18.11	200	0.995 -
4	Leafy Vegetable	34	12	54	108.32 ± 18.67	100	8.32+
5	Other Vegetables	28	24	48	257.23 ± 25.71	200	28.61+
6	Roots & Tubers	42	30	28	183.78 ± 32.16	200	8.11--
7	Fats & Oils	32	57	11	23.95 ± 11.23	28	4.2--
8	Sugar & Jiggery	70	23	07	19.28 ± 22.3	30	35.73-
9	Fruits	58	32	0	35.11 ±	100	64.89-

					21.30		
10	Meat / Fish / Egg	31	-	38	76.15 ± 21.33	100	24.85-

Findings and analysis:

The above table is showing the Mean Food intake of the respondents. Data on eating habits of the respondents showed that majority (69%) of the respondents were non vegetarian and were taking 3 to 4 meals per day. It was interesting to note that 32% of the respondents skipped breakfast, 64% respondents were found to skip snacks and used to take only tea or coffee at that time. Data on food likes & dislikes showed that 56% of them liked sweet foods followed by sour (18%) food. Roasted and fried food was found to be preferred by 28% and 42% respondents respectively. 22% respondents found to prefer boiled food and 8% liked baked food.

Q18. What is your main nutrient intake?

Table 18: Response to Q18

(Source: Author's creation)

Sl. No.	Nutrients	Actual Mean Nutrient Intake	RDA for Moderate activity	% of Excess or deficiency RDA
1	Protein	60.38 ± 28.11	55	9.78+
2	Fat	32.52±73.21	25	30.08+
3	Calorie	2283.62±1.1.2	2230	2.40+
4	Calcium	887.62±80.2	600	47.94+
5	Iron	28.718±33.79	21	36.+7

Findings and analysis:

The above table is showing the mean nutrient intake of the respondents.The nutrient intake of the respondents showed interesting results. The actual mean nutrient intake of the respondents was more than RDA in all cases which may be due to consumption excess cereals, vegetables and more or less inclusion of milk, meat& fish and other food stuffs in their diet on regular basis. Interestingly the excess consumption of calorie was 2.4%, protein was 9.78%, fat was 30.08% and Iron was 36.71. However the

calcium consumption was found to be excess by 47.94%. All the above results may be due to working women, economic condition of family, education level of the respondents as well as health consciousness. But excess consumption may lead to obesity and bad cholesterol level which needs education. However a wide variation of food & nutrient intake was observed among the respondents in this study.

3.1.2Qualitative analysis from primary sources

Qualitative data analysis is a vital part of all qualitative research. Qualitative data which is also known as descriptive data is a non-numerical data that captures concepts and opinions. Some examples of qualitative data include transcripts from interviews, audio/video recordings and notes from an observation. Qualitative data analysis is simply the process of examining qualitative data to derive an explanation for a specific phenomenon. Qualitative data analysis gives the researcher an understanding of his or her research objective by revealing patterns and themes in your data.

Q1: What are the symptoms of early menopause?

Table 19: Response to Question 1

(Source: Author's creation)

Designation	**Opinion**
Gynaecologist 1	*"See, The average age for onset of menopause is 51. The majority of women stop having periods somewhere between ages 45 to 55. The beginning stages of declining ovary function can start years before that in some women. Others will continue to have menstrual periods into their late 50s. The age of menopause is thoughtTrusted Source to be genetically determined, but things such as smoking or chemotherapy can accelerate ovary decline, resulting in earlier menopause.* *Perimenopause refers to the period of time right before menopause begins. During perimenopause, your body is beginning the transition into menopause. That means that hormone production from your ovaries is beginning to decline. You may begin to experience some symptoms commonly associated with menopause, like hot flashes. Your menstrual cycle may become irregular, but it won't cease during the perimenopause stage.* *Once you completely stop having a menstrual cycle for 12 consecutive months, you've entered menopause. Some*

	common symptoms include: irregular periods, absence of periods (amenorrhea), hot flashes, night sweats, vaginal dryness, moodiness, mental fogginess, decreased sex drive"
Gynaecologist 2	*"You know, about 75 percent of women experience hot flashes during menopause, making them the most common symptom experienced by menopausal women. Hot flashes can occur during the day or at night. Some women may also experience muscle and joint pain, known as arthralgia, or mood swings.* *It may be difficult to determine whether these symptoms are caused by shifts in your hormones, life circumstances, or the aging process itself. During a hot flash, you'll likely feel your body temperature rise. Hot flashes affect the top half of your body, and your skin may even turn red in color or become blotchy. This rush of heat could lead to sweating, heart palpitations, and feelings of dizziness. After the hot flash, you may feel cold.* *Hot flashes may come on daily or even multiple times a day. You may experience them over the course of a year or even several years."*
Gynaecologist 3	*"Well, the decline in estrogen production can affect the amount of calcium in your bones. This can cause significant decreases in bone density, leading to a condition known as osteoporosis. It can also make you more susceptible to hip, spine, and other bone fractures. Many women experience accelerated bone loss the first few years after their last menstrual period. Conditions related to your heart may arise during menopause, such as dizziness or cardiac palpitations. Decreased estrogen levels can prevent your body from retaining flexible arteries. This can impact blood flow.* *Watching your weight, eating a healthy and balanced diet, exercising, and not smoking can reduce your chances of developing heart conditions."*
Gynaecologist 4	*"Changes in your hormone levels may cause you to gain weight. However, aging can also contribute to weight gain.* *Focus on maintaining a balanced diet, exercising regularly, and practicing other healthy habits to help control your weight. Being overweight can increase your*

	risk for heart disease, diabetes, and other conditions. The symptoms of early menopause are similar to regular menopause. Some common symptoms include: irregular periods, absence of periods (amenorrhea), hot flashes, night sweats, vaginal dryness, moodiness, mental fogginess, decreased sex drive."
Gynaecologist 5	*"Well, the symptoms of menopause vary from one woman to another, even in the same families. The age and rate of decline of ovary function differ tremendously. This means you'll need to manage your menopause individually. What worked for your mother or best friend may not work for you. If your uterus was surgically removed through a hysterectomy, you may not know you're going through menopause unless you experience hot flashes.* *This can also happen if you've had an endometrial ablation and your ovaries weren't removed. Endometrial ablation is the removal of the lining of your uterus as treatment for heavy menstruation.*

Q2:What are the causes of early menopause?

Table 20: Response to Question 2

(Source: Author's creation)

Designation	**Opinion**
Gynaecologist 1	*"While women generally enter menopause between the ages of 41 and 55, there are many factors that can interrupt the normal cycle of a woman's reproductive system. This can bring on menopause earlier than normal.* *Premature menopause is also referred to as "premature ovarian failure." It occurs when a woman begins menopause before age 40.* *According to the American Pregnancy Association, about 1 in 1,000 women ages 15 to 29 and 1 in 100 women between the ages of 30 and 39 experience early menopause.* *In some cases, premature menopause is the result of a surgery. Removal of the ovaries and damage through radiation are the examples. In other cases, premature menopause may be due to a genetic disorder or pre-existing*

	condition. Risk factors for premature menopause include the following."
Gynaecologist 2	*"Women who have some surgeries are at a higher risk for early menopause. This includes women who have one ovary removed (single oophorectomy) or a removal of the uterus (hysterectomy). These surgeries can cause a reduced amount of estrogen and progesterone in the body. Early menopause can also develop as a side effect among women who have cervical cancer surgery or pelvic surgery. The removal of both ovaries (bilateral oophorectomy) causes immediate menopause. Besides, Chemotherapy and radiation greatly increase the risk of premature menopause. According to the Mayo Clinic, radiotherapy can damage ovarian tissues. This can lead to the early onset of menopause."*
Gynaecologist 3	*"Well you know, certain defects in chromosomes can lead to premature menopause. Turner syndrome, for example, occurs when a girl is born with an incomplete chromosome. Women with Turner syndrome have ovaries that don't function properly. This often causes them to enter menopause prematurely.Premature menopause can be a symptom of an autoimmune disease. An autoimmune disease occurs when the immune system attacks a part of the body because it mistakes it for a harmful substance. Certain autoimmune diseases like rheumatoid arthritis can cause the immune system to attack the ovaries and ovarian tissues. This can lead to premature menopause."*
Gynaecologist 4	*"Well, a study in EpilepsiaTrusted Source suggested that women with epilepsy have a higher risk of developing early menopause. According to the Mayo Clinic, women who smoke experience menopause one to two years earlier than women who don't smoke. Some medications reduce the amount of estrogen in the body. This can result in early menopause. Tamoxifen, for example, is a type of medication that blocks and reduces estrogen. It's used as a preventive method for women who are at a high risk of developing breast cancer."*
Gynaecologist 5	*"Thyroid disorders can cause premature menopause due to hormone levels that are either too high or too low.* *While thyroid diseases can cause early menopause, some symptoms of hypothyroidism are similar to menopause*

	symptoms. These include: lack of menstruation, mood swings, hot flashes insomnia. *Treating the thyroid condition can alleviate symptoms. It can also prevent the onset of early menopause. Besides, women who have some surgeries are at a higher risk for early menopause. Chemotherapy and radiation also greatly increase the risk of premature menopause."*

Q3:How do you diagnose the early menopause?

Table 21: Response to Question 3

(Source: Author's creation)

Designation	**Opinion**
Gynaecologist 1	*"I generally ask my patients the symptoms and about their menstrual cycle. Some doctor may also askabout your history of exposure to toxins, such as chemotherapy and radiation treatments or they may conduct a physical exam (including a pelvic exam)"*
Gynaecologist 2	*"I sometime asked my patients to test their blood for certain hormones, including: follicle-stimulating hormone (FSH), estradiol, prolactin, and anti-Mullerian hormone (AMH) or perform a pregnancy test. I also enquire about their symptoms and their menstrual cycle."*
Gynaecologist 3	*"In my opinion, signs and symptoms of menopause are usually enough to tell most women that they've started the menopausal transition. ests typically aren't needed to diagnose menopause. But under certain circumstances, your doctor may recommend blood tests to check your level of:* • *Follicle-stimulating hormone (FSH) and estrogen (estradiol), because your FSH levels increase and estradiol levels decrease as menopause occurs* • *Thyroid-stimulating hormone (TSH), because an underactive thyroid (hypothyroidism) can cause symptoms similar to those of menopause*
Gynaecologist 4	*"Well most of the time I ask about the patients' symptoms and their menstrual cycle. I often test their DNA for the*

	genetic causes of early or premature menopause
Gynaecologist 5	*"You know, over-the-counter home tests to check FSH levels in your urine are available. The tests could tell you whether you have elevated FSH levels and might be in perimenopause or menopause. But, since FSH levels rise and fall during the course of your menstrual cycle, home FSH tests can't really tell you whether or not you're definitely in a stage of menopause."*

Q4:How food habit can influence on the symptoms of menopause?

Table 22: Response to Question 4

(Source: Author's creation)

Designation	**Opinion**
Gynaecologist 1	*"Dairy products, such as milk, yogurt and cheese, contain calcium, phosphorus, potassium, magnesium and vitamins D and K — all of which are essential for bone health.Dairy may also help improve sleep. A review study found that foods high in the amino acid glycine — found in milk and cheese, for example — promoted deeper sleep in menopausal women. Healthy fats, such as omega-3 fatty acids, may benefit women going through menopause. A diet high in whole grains has been linked to a reduced risk of heart disease, cancer and premature death."*
Gynaecologist 2	*"Fruits and vegetables are packed with vitamins and minerals, fiber and antioxidants. Cruciferous vegetables may be especially helpful for postmenopausal women.Eating broccoli decreased levels of a type of estrogen linked to breast cancer, while increasing levels of an estrogen type that protects against breast cancer. Dark berries may also benefit women going through menopause. During menopause, eat a variety of foods to get all the nutrients you need. Since women's diets are often low in iron and calcium. Eat and drink two to four servings of dairy products and calcium-rich foods a day. Eat at least three servings of iron-rich foods a day. Iron is found in lean red meat, poultry, fish, eggs, leafy green vegetables, nuts, and enriched grain products. The recommended dietary allowance for iron in older women is 8 milligrams a day. yourself to foods high in fiber, such as whole-grain*

	breads, cereals, pasta, rice, fresh fruits, and vegetables. Most adult women should get about 21 grams of fiber a day."
Gynaecologist 3	*"Women going through menopause should eat more protein. Guidelines recommend that women over 50 eat 0.45–0.55 grams of protein per pound (1–1.2 grams per kg) of body weight daily — or 20–25 grams of high-quality protein per meal. Incorporating dairy products, healthy fats, whole grains, fruits, vegetables, foods high in phytoestrogens and quality sources of protein into your diet may help relieve some menopause symptoms. Along with this you need to avoid alcohol and caffeine, spicy food, high salt food."*
Gynaecologist 4	*"A whole-foods diet high in fruits, vegetables, whole grains, high-quality protein and dairy products may reduce menopause symptoms. Phytoestrogens and healthy fats, such as omega-3 fatty acids from fish, may also help.* *You may want to limit added sugars, processed carbs, alcohol, caffeine and high-sodium or spicy foods as well."*
Gynaecologist 5	*"Avoiding processed carbs, added sugars, alcohol, caffeine, spicy foods and foods high in salt may improve symptoms of menopause. Besides, dairy products, healthy fats, whole grains, fruits, vegetables, foods high in phytoestrogens and quality sources of protein into your diet may help relieve some menopause symptoms. Use the package label information to help yourself make the best choices for a healthy lifestyle, drink eight glasses of water every day."*

Q5:What are the complications the related with early menopause?

Table 23: Response to Question 5

(Source: Author's creation)

Designation	**Opinion**
Gynaecologist 1	*"Well you know early and premature menopause can increase your chance of developing other conditions. These include Infertility. Most women going through early or*

	premature menopause cannot get pregnant. *In addition you can feel stress, anxiety, and depression. These mood changes often result from infertility and other early menopause health issues."*
Gynaecologist 2	*"Regardless of the cause, women who experience hormonal menopause and estrogen deficiency before reaching the median age of natural menopause are at increased risk for morbidity and mortality. Women who enter menopause early may be at greater risk for heart disease and premature death, a new analysis suggests. Estrogen treatment should be considered for these women, but may not eliminate all of the adverse outcomes.*
Gynaecologist 3	*"Well because of premature menopauseone can have bone loss or osteoporosis and heart disease.Osteoporosis is caused by low estrogen levels and leaves women more at-risk of bone fractures. On the other hand heart disease can also result from low estrogen levels."*
Gynaecologist 4	*"Actually you know what, women in early or premature menopause often have hormone therapy. Long-term use of the female hormone estrogen has been associated with cancer and stroke risks. Many experts believe the risks outweigh the benefits."*
Gynaecologist 5	*"Premature menopause or early menopause may be either spontaneous or induced. Women who experience premature menopause (before age 40 years) or early menopause (between ages 40 and 45 years) experience an increased risk of overall mortality, cardiovascular diseases, neurological diseases, psychiatric diseases, osteoporosis, and other sequelae. The risk of adverse outcomes increases with earlier age at the time of menopause. Some of the adverse outcomes may be prevented by estrogen treatment initiated after the onset of menopause. However, estrogen alone does not prevent all long-term consequences and other hormonal mechanisms are likely involved."*

Q6:Is there any therapy to treat the early menopause?

Table 24: Response to Question 6

(Source: Author's creation)

Designation	opinion
Gynaecologist 1	*"Well there is a therapy that we called Hormone-replacement therapy. The treatment helps to prevent bone loss and supports heart health. But we do not recommend for all women because it can increase the risk of stroke, blood clots, breast cancer.Several hormone therapies are FDA-approved for treatment of hot flashes and prevention of bone loss. The benefits and risks vary depending on the severity of your hot flashes and bone loss, and your health. These therapies may not be right for you. Talk to your doctor before trying any hormone therapies."*
Gynaecologist 2	*"Of course, there is a treatment. Supplemental estrogen and progestin can help replace some of the reproductive hormones your body can no longer make on its own. They're often taken until the average age of menopause (about 50) to manage the uncomfortable symptoms of early menopause. However, there are certain risks associated with this so It's important to discuss the risks and benefits of treatment options with your doctor."*
Gynaecologist 3	***"****One can have Hormone-replacement therapythough it is necessary to discuss the pros and cons of it with your gynaecologist. Hormone therapy may not be the right choice for you. Some medical conditions may prevent you from safely being able to use hormone therapy or you may choose not to use that form of treatment for your own personal reasons. Changes to your lifestyle may help you relieve many of your symptoms without need for hormonal intervention.The supplementary calcium and vitamin D can help prevent osteoporosis if you aren't getting enough of these nutrients from your diet. Women ages 19 to 50 should get 1,000 milligrams of calcium per day through food or supplements. Women over age 51 should get 1,200 milligrams per day."*
Gynaecologist 4	*"I believe that Some women with premature menopause can still get pregnant without any treatment. Women who want to have children but become infertile after early or premature menopause should consider in-vitro fertilization using donor eggs or pursuing adoption. In addition there is Hormone-replacement therapy.Medications such as birth control pills, hormone therapy, or even other prescriptions may help you reduce hot flashes. See your doctor if you're having difficulty managing hot flashes on your own."*

Gynaecologist 5	*"Many women find talking to a therapist helpful to cope with their stress. Along with this, women who want to have children but become infertile after early or premature menopause should consider in-vitro fertilization using donor eggs or pursuing adoption. A recommended daily amount of vitamin D is around 600 IU/day to fight the symptoms of early menopause. For adult women, I recommend 600-800 IU through food or supplements. However, there is Hormone-replacement therapy too in order to deal with the problem but there is the risk of breast cancer, stroke, and blood clots."*

Q7:What will recommend to fight with early menopause?

Table 25: Response to Question 7

(Source: Author's creation)

Designation	**Opinion**
Gynaecologist 1	*"Well to prevent the early menopause one can eat foods rich in calcium and vitamin d, achieve and maintain a healthy weight, eat lots of fruit and vegetables, avoid trigger foods, exercise regularly, eat more foods that are high in phytoestrogens, drink enough water, reduce refined sugar and processed foods, eat protein-rich foods, take natural supplements."*
Gynaecologist 2	*"Hormonal changes during menopause can cause bones to weaken, increasing the risk of osteoporosis. So, calcium and vitamin D are linked to good bone health, so it's important to get enough of these nutrients in your diet. It's common to gain weight during menopause.* *This can be due to a combination of changing hormones, aging, lifestyle and genetics. Gaining excess body fat, especially around the waist, increases your risk of developing diseases such as heart disease and diabetes.* *In addition, your body weight may affect your menopause symptoms. A diet rich in fruits and vegetables can help prevent a number of menopause symptoms.* *Fruits and veggies are low in calories and can help you feel full, so they're great for weight loss and weight*

	maintenance. *They may also help prevent a number of diseases, including heart disease."*
Gynaecologist 3	*"Eating regular meals may be important when you're going through menopause.Irregular eating may make certain symptoms of menopause worse, and may even hinder weight loss efforts. Besides, consuming protein throughout the day at each meal may slow down muscle loss due to aging. In addition to helping prevent muscle loss, high-protein diets can help with weight loss because they enhance fullness and increase the amount of calories burned. Certain foods may trigger hot flashes, night sweats and mood swings. They may be even more likely to trigger you when you eat them at night. Common triggers include caffeine, alcohol and foods that are sugary or spicy."*
Gynaecologist 4	*"Well changes in food habit may help you to fight with the symptoms of menopause. A diet rich in fruits and vegetables can help prevent a number of menopause symptoms.* *Fruits and veggies are low in calories and can help you feel full, so they're great for weight loss and weight maintenance.* *They may also help prevent a number of diseases, including heart disease.* *This is important, since heart disease risk tends to increase after menopause. This could be due to factors such as age, weight gain or possibly reduced estrogen levels.* *Finally, fruits and vegetables may also help prevent bone loss.* *One observational study of 3,236 women aged 50–59 found that diets high in fruit and vegetables may lead to less bone breakdown. Besides, avoidecaffeine, alcohol and foods those are sugary or spicy. Keep a symptom diary. If you feel that particular foods trigger your menopause symptoms, try to reduce your consumption or avoid them completely."*

Gynaecologist 5	*"I will recommend for having health diet, such as meal that contains lot of vegetables as well as fruits. Drink enough water at least 8 glasses per day and also avoid the spicy food, fast food or junk food, alcohol, caffeine, smoking. Along with these, do exercise or practice yoga regularly."*

Chapter 4

4.1 Result and Discussion

After analysing the data the researcher came to know that the target women of the society primarily agreed to the statement that the symptoms of menopause can be controlled by having healthy food. A large number of the women was suffering from sleep disorder, low bone density, hot flashes or the other symptoms of early menopause. Most of them know that dairy products, such as milk, yogurt and cheese help in building high bone density. They were also aware of the importance of vitamin D as well as calcium. However, a huge section of the community women were unaware about the fact that healthy fats, such as omega-3 fatty acids, may benefit women going through menopause. They did not knot even know that people who eat three or more servings of whole grains per day has a lower risk of developing heart disease as well as diabetes, compared to people who eat mostly refined carbs. Very few women know that vegetables, fruit, fiber and soy can have 19% reduction in hot flashes and dark berries may also benefit women going through menopause. Some women in the society were conscious about the fact that avoiding certain foods such as spicy food, alcohol, caffeine and many more may help reduce some of the symptoms linked to menopause. The researcher has discussed the result of the study in detail manner that is given below.

1) Socio - demographic Profile of the respondents

Results on socio-demographic profile of the respondents revealed that majority of the respondents belonged to the age group of 35-45 age having a mean age at menopause 40.6 ±. 69% respondents were married, 8% were divorced, 12% widower & 11% were unmarried. Majority (59%) of them were homemakers, 33% were working women & 8% were business women and all of them were literate. 46% of them had natural menopause. Nuclear family system having middle family income status was found to be prevalent among majority of the respondents.

2) Food habits and food preferences of the respondents

Data on eating habits of the respondents showed that majority (69%) of the respondents were non vegetarian and were taking 3 to 4 meals per day. It was interesting to note that 32% of the respondents skipped breakfast, 64% respondents were found to skip snacks and used to take only tea or coffee at that time. Data on food likes & dislikes showed that 56% of them liked sweet foods followed by sour (18%) food. Roasted and fried food was found to be preferred by 28% and 42% respondents respectively. 22% respondents found to prefer boiled food and 8% liked baked food.

3) Food and Nutrient Intake

The distribution of food and nutrient intake of the respondents in comparison to RDA is discussed below:

The data on food intake of respondents showed that cereal & millet consumption was more that RDA in 60% respondents. The actual mean consumption of cereal was found to be 369.82 ± 21.36 which 12.07% excess in comparison to RDA. Parboiled rice, wheat and Ragi was their staple food. Pulse consumption was found to be less than RDA in 48% respondents and actual mean consumption was 68.75%. which is 8.33% less in comparison to RDA. Leafy vegetables and other vegetables consumption was to be excess by 8.32% & 28.61%. Milk & milk product was found to be less than RDA by 0.995%. Main source of milk was in tea and coffee. However a positive trend of regular consumption of milk and milk products, leafy vegetables and other vegetables was found in this study which may be due to family income and education level of the respondents. Due to health consciousness, the roots and tubers, fats and oils, sugar and jiggery consumption was found to be less than RDA i.e. 8.11%, 04.28% and 35.73% Regular consumption of fruit was found only in 10% respondents. Rest of the respondents consumed fruits as per availability. Even though 69% respondents were non-vegetarian only 38% respondents were found to take non-vegetarian foods on regular basis.

4.2 Recommendation

Menopause begins in the late 40s or early 50s for most women. It usually lasts for a few years.

During this time, at least two-thirds of women experience symptoms of menopause.

These include hot flashes, night sweats, mood swings, irritability and tiredness.

In addition, menopausal women are at a higher risk of several diseases including osteoporosis, obesity, heart disease and diabetes.

Many women turn to natural supplements and remedies for relief.

Here is a list of natural ways to reduce the symptoms of menopause.

1. Eat Foods Rich in Calcium and Vitamin D

Hormonal changes during menopause can cause bones to weaken, increasing the risk of osteoporosis.

Calcium and vitamin D are linked to good bone health, so it's important to get enough of these nutrients in your diet.

Adequate vitamin D intake in postmenopausal women is also associated with a lower risk of hip fractures due to weak bones.

Many foods are calcium-rich, including dairy products like yogurt, milk and cheese.

Green, leafy vegetables such as kale, collard greens and spinach have lots of calcium too. It's also plentiful in tofu, beans, sardines and other foods.

Additionally, calcium-fortified foods are also good sources, including certain cereals, fruit juice or milk alternatives.

Sunlight is your main source of vitamin D, since your skin produces it when exposed to the sun. However, as you get older, your skin gets less efficient at making it.

If you aren't out in the sun much or if you cover up your skin, either taking a supplement or increasing food sources of vitamin D may be important.

Rich dietary sources include oily fish, eggs, cod liver oil and foods fortified with vitamin D.

2. Achieve and Maintain a Healthy Weight

It's common to gain weight during menopause.

This can be due to a combination of changing hormones, aging, lifestyle and genetics.

Gaining excess body fat, especially around the waist, increases your risk of developing diseases such as heart disease and diabetes.

In addition, your body weight may affect your menopause symptoms.

One study of 17,473 postmenopausal women found that those who lost at least 10 lbs (4.5 kg) of weight or 10% of their body weight over a year were more likely to eliminate hot flashes and night sweats.

3. Eat Lots of Fruit and Vegetables

A diet rich in fruits and vegetables can help prevent a number of menopause symptoms.

Fruits and veggies are low in calories and can help you feel full, so they're great for weight loss and weight maintenance.

They may also help prevent a number of diseases, including heart disease.

This is important, since heart disease risk tends to increase after menopause. This could be due to factors such as age, weight gain or possibly reduced estrogen levels.

Finally, fruits and vegetables may also help prevent bone loss.

One observational study of 3,236 women aged 50–59 found that diets high in fruit and vegetables may lead to less bone breakdown.

4. Avoid Trigger Foods

Certain foods may trigger hot flashes, night sweats and mood swings.

They may be even more likely to trigger you when you eat them at night.

Common triggers include caffeine, alcohol and foods that are sugary or spicy.

Keep a symptom diary. If you feel that particular foods trigger your menopause symptoms, try to reduce your consumption or avoid them completely.

5. Exercise Regularly

There is currently not enough evidence to confirm whether exercise is effective for treating hot flashes and night sweats.

However, there is evidence to support other benefits of regular exercise.

These include improved energy and metabolism, healthier joints and bones, decreased stress and better sleep.

For example, one study found that exercising three hours per week for one year improved physical and mental health and overall quality of life in a group of menopausal women.

Regular exercise is also associated with better health and protection against diseases and conditions including cancer, heart disease, stroke, high blood pressure, type 2 diabetes, obesity and osteoporosis.

6. Eat More Foods That Are High in Phytoestrogens

Phytoestrogens are naturally occurring plant compounds that can mimic the effects of estrogen in the body.

Therefore, they may help balance hormones.

The high intake of phytoestrogens in Asian countries such as Japan is thought to be the reason why menopausal women in these places rarely experience hot flashes.

Foods rich in phytoestrogens include soybeans and soy products, tofu, tempeh, flaxseeds, linseeds, sesame seeds and beans. However, the phytoestrogen content in foods varies depending on processing methods.

One study found that diets high in soy were associated with reduced cholesterol levels, blood pressure and reduced severity of hot flashes and night sweats among women who were starting to enter menopause.

However, the debate continues over whether soy products are good or bad for you.

Evidence suggests that real food sources of phytoestrogens are better than supplements or processed foods with added soy protein.

7. Drink Enough Water

During menopause, women often experience dryness. This is likely caused by the decrease in estrogen levels.

Drinking 8–12 glasses of water a day can help with these symptoms.

Drinking water can also reduce the bloating that can occur with hormonal changes.

In addition, water can help prevent weight gain and aid in weight loss by helping you feel full and increasing metabolism slightly.

Drinking 17 oz (500 ml) of water, 30 minutes before a meal may lead you to consume 13% fewer calories during the meal.

8. Reduce Refined Sugar and Processed Foods

A diet high in refined carbs and sugar can cause sharp rises and dips in blood sugar, making you feel tired and irritable.

In fact, one study found that diets high in refined carbs may increase the risk of depression in postmenopausal women.

Diets high in processed foods may also affect bone health.

A large observational study found that among women aged 50–59 years, diets high in processed and snack foods were associated with poor bone quality.

9. Don't Skip Meals

Eating regular meals may be important when you're going through menopause.

Irregular eating may make certain symptoms of menopause worse, and may even hinder weight loss efforts.

A year-long weight management program for postmenopausal women found that skipping meals was associated with 4.3% less weight loss.

10. Eat Protein-Rich Foods

Regularly eating protein throughout the day can help prevent the loss of lean muscle mass that occurs with age.

One study found that consuming protein throughout the day at each meal may slow down muscle loss due to aging.

In addition to helping prevent muscle loss, high-protein diets can help with weight loss because they enhance fullness and increase the amount of calories burned.

Foods rich in protein include meat, fish, eggs, legumes, nuts and dairy.

Here is a list of 20 healthy high-protein foods.

11. Take Natural Supplements

Many women take natural products and remedies to relieve their menopause symptoms.

Unfortunately, the evidence behind many of them is weak.

Here are the most common natural supplements for reducing symptoms of menopause:

- **Phytoestrogens:** These can be consumed through natural food sources or supplements such as red clover extracts. There is currently not enough evidence to recommend them for alleviating menopause symptoms .
- **Black cohosh:** Although some studies found that black cohosh may effectively alleviate hot flashes, the evidence is mixed. In addition, there is a lack of long-term data on the safety of this supplement .
- **Other supplements:** Evidence is scarce for the effectiveness of other commonly used supplements such as probiotics, prebiotics, kava, DHEA-S, dong quai and evening primrose oil.

Chapter 5

5.1 Summary and Conclusion

Menopause is the permanent physiologic cessation of menses associated with declining ovarian function; during this time reproductive function diminishes and ends. It is also natural event that normally occurs between the ages of 45 and 55.Once menopause is complete, they can no longer pregnant .Changes and symptoms can start several years earlier. The symptoms of menopause are caused by change s in estrogen and progesterone levels. As the ovaries becomes less functional they produce less of these hormones and body responds accordingly.

Menopause starts gradually and usually signaled by changes in menstruation. The specific symptoms women experience may varies from woman to woman. In some women, menstrual flow comes to a sudden halt. The monthly flow may increase, decrease, become irregular and finally cease. Often interval between period is longer; a lapse of several months between period is not uncommon.

The menopause occurs when the ovaries no longer respond to the controlling hormones released by the pituitary gland of the brain. As a result, the ovaries fail to release an egg each month and to produce the female sex hormones estrogen and progesterone. It is fall in the levels of these hormones in the blood stream that gives rise to the symptoms of menopause.

Perimenopause (climacteric) is the period extending from the first sign of menopause. It has also defined as period around menopause, lasting to1 year after last menstrual period. Women have varied beliefs about aging, and must be considered by the nurse caring for or educating perimenopausal patients.

Some cases, premature menopause may occur as a result of genetics, autoimmune or surgery. These conditions may lead to early menopause.

Menopause is a natural transition in a woman's life as her menstrual cycles come to an end. Changes in hormones can cause symptoms like hot flashes and poor sleep and may negatively affect metabolism and bone density.

Incorporating dairy products, healthy fats, whole grains, fruits, vegetables, foods high in phytoestrogens and quality sources of protein into your diet may help relieve some menopause symptoms.

Avoiding processed carbs, added sugars, alcohol, caffeine, spicy foods and foods high in salt may improve symptoms of menopause.

Menopause is linked to changes in metabolism, reduced bone density and increased risk of heart disease.

Additionally, many women going through menopause experience unpleasant symptoms, such as hot flashes and poor sleep.

A whole-foods diet high in fruits, vegetables, whole grains, high-quality protein and dairy products may reduce menopause symptoms. Phytoestrogens and healthy fats, such as omega-3 fatty acids from fish, may also help.

You may want to limit added sugars, processed carbs, alcohol, caffeine and high-sodium or spicy foods as well.

These simple changes to your diet may make this important transition in your life easier.

Menopause and Good Nutrition

Some risk factors and symptoms linked with aging and menopause can't be changed. But good nutrition can help prevent or ease certain conditions that may develop during and after menopause.

Basic Dietary Guidelines for Menopause

During menopause, eat a variety of foods to get all the nutrients you need. Since women's diets are often low in iron and calcium, follow these guidelines:

Get enough calcium. Eat and drink two to four servings of dairy products and calcium-rich foods a day. Calcium is found in dairy products, fish with bones (such as sardines and canned salmon), broccoli, and legumes. Aim to get 1,200 milligrams per day.

Pump up your iron. Eat at least three servings of iron-rich foods a day. Iron is found in lean red meat, poultry, fish, eggs, leafy green vegetables, nuts, and enriched grain products. The recommended dietary allowance for iron in older women is 8 milligrams a day.

Get enough fiber. Help yourself to foods high in fiber, such as whole-grain breads, cereals, pasta, rice, fresh fruits, and vegetables. Most adult women should get about 21 grams of fiber a day.

Eat fruits and vegetables. Have at least 1 1/2 cups of fruit and 2 cups of vegetables each day.

Read labels. Use the package label information to help yourself make the best choices for a healthy lifestyle.

Drink plenty of water. As a general rule, drink eight glasses of water every day. That fulfills the daily requirement for most healthy adults.

Maintain a healthy weight. If you're overweight, cut down on portion sizes and eat fewer foods that are high in fat. Don't skip meals, though. A registered dietitian or your doctor can help you figure out your ideal body weight.

Cut back on high-fat foods. Fat should provide 25% to 35% or less of your total daily calories. Also, limit saturated fat to less than 7% of your total daily calories. Saturated fat raises cholesterol and boosts your risk for heart

disease. It's found in fatty meats, whole milk, ice cream, and cheese. Limit cholesterol to 300 milligrams or less per day. And watch out for trans fats, found in vegetable oils, many baked goods, and some margarine. Trans fat also raises cholesterol and increases your risk for heart disease.

Use sugar and salt in moderation. Too much sodium in the diet is linked to high blood pressure. Also, go easy on smoked, salt-cured, and charbroiled foods -- these foods have high levels of nitrates, which have been linked to cancer.

Limit alcohol to one or fewer drinks a day.

Going through early or premature menopause can be challenging. Consider joining local support groups and talk to your doctor about any concerns you have.

Learning more about your condition can arm you with the knowledge you need to make informed decisions about the treatment. Always it needs to be kept in mind that Menopause is a natural part of a woman's life cycle. It's a time when your estrogen and progesterone levels decrease. Following menopause, your risk for certain conditions like osteoporosis or cardiovascular disease may increase.To manage your symptoms, maintain a healthy diet and get plenty of exercise to avoid unnecessary weight gain. A women should contact your her if you experience adverse symptoms that affect your ability to function, or if you notice anything unusual that might require a closer look. There are plenty of treatment options to help with symptoms like hot flashes. One needs to check in with one's doctor during regular gynecological exams as one experience menopause.

From the above discussion it is clear that menopause is not an illness. It's a natural part of life.

Though its symptoms can be difficult to deal with, eating the right diet and exercising regularly may help alleviate and prevent them.

Experiment with the tips above to make your time during menopause and beyond easier and more enjoyable.

5.2 Limitations of the Project

A research study that can help in gaining results of the concerned topic is allowed to encounter list of restrictions that are both avoidable and non-avoidable in nature. Silverman (2005) commented that limitations within a research topic are natural that also defines the area with restricted scope and

abilities. In the particular research work, areas encountered with research limitations are enlisted as following:

- **Reliability:** Respondents involved in the process were not involved in any form of pressure or influence. However, all the women of the societywere not aware about the adverse effect of unhealthy food habit on their later life therefore, the response of them cannot be hundred percent reliable. Hence, obviously the findings of the research topic may be affected. Thus, the issues related to reliability are present in the study.

- **Time-Constraint:** Due to cross-sectional nature of the study, the researcher had time limitation that led to study of the work within a short time. Many deep details of the study were not analyzed due to cross-sectional study that also erupted as a cause of research limitations for studying the organization, Primark.

- **Budget-Constraint:** With a limited budget, the researcher faced few limitations in the study of the research topic. Lack of finance limited the application of SPSS software that could have enhanced the quality analysis with better statistical tool applications.

5.3 Direction for further research

There is no doubt that it is a successful research however, the individual has already discussed what limitations he had in the entire study. The researcher needed some more time as well as more fund in order to perform a deep research on the topic. The time and money could have helped the individual to take a large sample numbers. Obviously, it could enhance the quality of the work. Undoubtedly, these limitations or the experiences of the person will help the future researchers in the upcoming day. Therefore, the future researchers can keep those points in mind then they can conduct a more detailed research on the same topic. However, the entire research work does provide a very useful input in evaluating thesymptoms of premature menopause and nutritional assessment. The researcher also has tried to find out some solutions in order to reduce the problem. Therefore it can prove to be very valuable to assess the responses effect on the young people in upcoming days. Therefore, the research work could be welcomed by the future researchers.

References

Bae, Y. J. (2017). Vegetarian Diet and Menopausal Women. In *Vegetarian and Plant-Based Diets in Health and Disease Prevention* (pp. 589-597). Academic Press.

Diagnosis and treatment - Mayo Clinic. (2019). Retrieved 16 October 2019, from https://www.mayoclinic.org/diseases-conditions/menopause/diagnosis-treatment/drc-20353401

How to Deal with Early Menopause. (2019). Retrieved 16 October 2019, from https://www.healthline.com/health/menopause/dealing-early#treatment

Menopause Diet: How What You Eat Affects Your Symptoms. (2019). Retrieved 16 October 2019, from https://www.healthline.com/nutrition/menopause-diet#bottom-line

Menopause: Healthy Diet May Delay Start. (2019). Retrieved 16 October 2019, from https://www.healthline.com/health-news/healthy-diet-may-delay-start-of-menopause#3

Nguyen, H. H., Milat, F., & Vincent, A. (2017). Premature ovarian insufficiency in general practice: meeting the needs of women. *Australian family physician*, *46*(6), 360.]

Risk Factors of Early Menopause. (2019). Retrieved 16 October 2019, from https://www.healthline.com/health/menopause/risk#surgeries

Sathyapalan, T., Aye, M., Rigby, A. S., Fraser, W. D., Thatcher, N. J., Kilpatrick, E. S., & Atkin, S. L. (2017). Soy reduces bone turnover markers in women during early menopause: a randomized controlled trial. *Journal of Bone and Mineral Research*, *32*(1), 157-164.

Szeliga, A., Maciejewska-Jeske, M., &Męczekalski, B. (2019). Bone health and evaluation of bone mineral density in patients with premature ovarian insufficiency. Retrieved 16 October 2019, from