

# A survey on prevalence of heart diseases in women after menopause

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## ABSTRACT

**Introduction:** The menstrual cycle is a cycle unique to female reproductive system as it is responsible for the pregnancy. This cycle is required for the production of oocytes and the preparation of the uterus for pregnancy. The menopause or also called the climacteric is referred to as the inhibition of the menstrual cycle for a continuous period of 12 months. The main aim of this study is to create awareness among the menopausal women about the prevalence of heart disease. **Materials and Methods:** The female subjects were selected from the outpatient ward of Saveetha Dental College and Hospitals. The female subjects are selected between the age group of 40 and 60 and postmenopausal female subjects were selected. The females were given a questionnaire and they were asked to fill the required data. They responded to the questionnaire with what they were aware of it. **Results and Conclusion:** This study proves that postmenopausal women are more susceptible to cardiovascular diseases. Hence, they need to be more careful about their food habits and their lifestyle changes.

**KEY WORDS:** Cardiovascular diseases, Diseases in women, Infarction, Menopause, Menstruation effects

## INTRODUCTION

The menstrual cycle is a cycle unique to female reproductive system. This cycle is responsible for the pregnancy.<sup>[1,2]</sup> The cycle is required for the production of oocytes and the preparation of the uterus for pregnancy.<sup>[1]</sup> Menopause, also known as the climacteric, is the time in most women's lives when menstrual cycle stops permanently, and they are no longer be able to conceive again.<sup>[3,4]</sup> Menopause typically occurs between 49 and 52 years of age.<sup>[5]</sup> Cardiovascular disease (CVD) is a class of diseases that involve the heart or blood vessels. CVD includes coronary artery disease such as angina and myocardial infarction. These are the predominant diseases.<sup>[6]</sup> Premenopausal women have a lower risk and incidence of hypertension and CVD compared to age-matched men, and this sex advantage for women gradually disappears after menopause, suggesting that sexual hormones play a cardioprotective role in women.<sup>[7]</sup>

There are mainly three types of menopause, natural menopause, premature, and artificial menopause. Natural menopause refers to the menopause obtained by the gradual decrease in the menstrual flow for a continuous period of 12 months. On the other hand, artificial menopause refers to the menopause caused either by any disease or hysterectomy.<sup>[8]</sup> Premature menopause refers to menopause that occurs before the age of 40 years, and early menopause refers to menopause that occurs at or before the age of 45 years, both ranges being well below the median age of natural menopause (age 51 years).<sup>[9]</sup> Premature menopause also called early menopause can be spontaneous or induced. Induced menopause can be due to medical interventions such as chemotherapy or surgical interventions such as bilateral oophorectomy. Regardless of the causes, women who experience estrogen deficiency at an age well before the supposed age of natural menopause are now seen to be at increased risk for premature morbidity and mortality.<sup>[10,11]</sup>

This study is mainly deals the prevalence of heart diseases in women before menopause and after menopause. Trying to find out whether the

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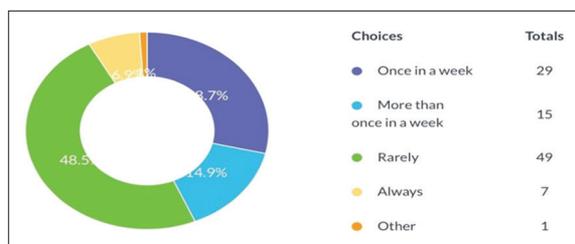


Figure 1: Frequency of outside food taken

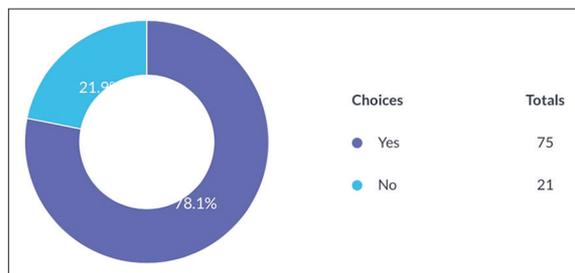


Figure 2: Estimation on the type of menopause attained

premenopausal or the postmenopausal women are prone to heart diseases.

## MATERIALS AND METHODS

This survey was conducted in the Outpatient Department of Saveetha Dental College situated in Chennai. The total participants for this survey are 100 female subjects. These female subjects fall under the category of postmenopausal women under the age groups of 40–60. The questionnaires were given to them to fill and provide the required data. The questions were explained to them and they filled the data according to what they are aware of.

## RESULTS

The survey was completed and the results were discussed with statistics.

## DISCUSSION

The results were put into circular charts as shown above. There are five charts to be discussed and they consist of five questions. The first chart depicts the frequency of outside food taken. In this study, around 18.7% of them tell that they take outside food once a week. 14.9% say that they take outside food more than once in a week, 48.5% rarely, 6.9% always, and 1% of say others [Figure 1]. The second chart depicts whether the women had undergone a normal menopause or an induced menopause [Figure 2]. Around 79.6% had a normal menopause while 20.4% had an induced menopause. The third chart depicts one of the symptoms for menopause. Women before attaining menopause are said to have irregular menstrual cycle.<sup>[12]</sup> Around 78.1% say that they had a normal menstrual cycle while 21.9% had an irregular

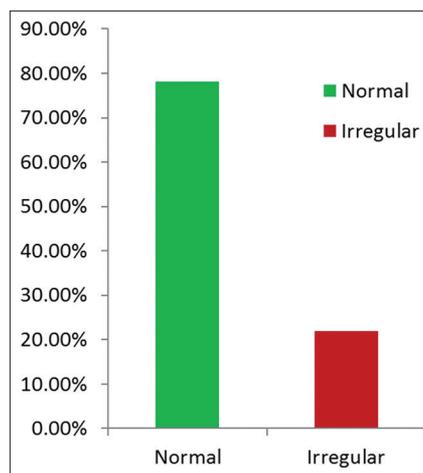


Figure 3: The regulation of menstrual cycle before menopause

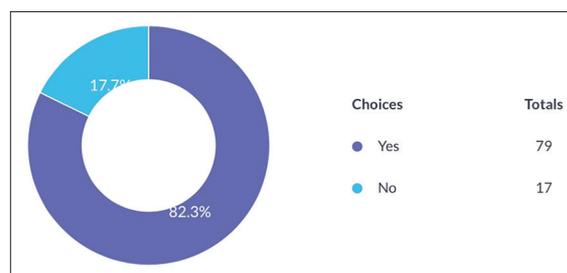


Figure 4: The awareness on the patient's history of heart disease

menstrual cycle [Figure 3]. The fourth chart depicts the subject's history of heart disease. Around 18.4% of them had experienced an episode of CVD while the remaining 81.6% does not have a history of heart disease [Figure 4]. The final chart advises the patient about their heart health.

The data are derived from the above charts. The first chart says about the frequency of outside food taken. The outside food contains excessive amount of monosodium glutamate as an agent for enhancing the taste of the food. This glutamate salt is being used in the hotels and other fast food centers to as a seasoning and taste enhancer.<sup>[13,14]</sup>

Little did we know that this monosodium glutamate is a silent killer and is a factor that causes abnormal heartbeats, chest pains, and cardiac muscles arrest.<sup>[15]</sup> Hence, we need to avoid the intake of this kind of foodstuffs.

The second chart says about the type of menopause the subjects attained, i.e. whether the menopause is normal or induced. The normal menopause refers to the menopause attained by a woman gradually in her lifetime.<sup>[16]</sup> Induced menopause refers to the menopause caused by an external factors that resulted in an early menopause. These factors refer to oophorectomy,

which is the surgical removal of both the ovaries, damage to the uterus by the effects of chemotherapy, medications, and radiation. This may also happen due to any other diseases of the female reproductive system. The third chart deals with the symptoms of menopause. One of the symptoms of menopause discussed here is the regularity of menstrual disease. It is said that the irregular menstrual cycle also leads the patient to get the exposure of heart disease.<sup>[17]</sup>

The awareness of heart disease is discussed in the fourth chart. The awareness of the heart disease and the case history is important as it aids in the better understanding of the remedial measures to be undertaken in the near future. Hence, the understanding and awareness are important among the population. The final chart deals with the patient's perception and the understanding of the patient toward the survey and their health after menopause.

From the data obtained from the charts and the reference articles, it is evident that the postmenopausal women are prone to CVDs. The postmenopausal women have a comparatively low amount of estrogen hormone.<sup>[18]</sup> Estrogen is an important factor in maintaining a good heart health.<sup>[19]</sup> This female reproductive hormone acts on the innermost layer of the arteries to the heart, the tunica intima. Due to the action of estrogen on the tunica intima, this layer's wall gets expanded and the blood flow to heart gets fast aiding in better heart health.<sup>[20]</sup> Hence, estrogen has a very good cardioprotective role in the body. Hence, the study gives a better insight into the awareness of CVDs among the population.

## CONCLUSION

Menopause is not a disease condition. Menopause also plays one of the factors for causing cardiovascular problem. Estrogen may act as vital play in cardiovascular problem. Hence, by this survey makes awareness among menopause individuals to maintain their health.

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