



PREVALENCE OF CARDIOVASCULAR RISK AMONG PRE AND POSTMENOPAUSAL WOMEN

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ABSTRACT

The present study assessed the prevalence of cardiovascular risk among pre and postmenopausal women. Non experimental comparative descriptive survey design was used for the study. One hundred and fifty women (65 premenopausal and 85 postmenopausal women) attending the NCD clinic of Kanyakulangara community health center and who satisfied the inclusion criteria were selected by purposive sampling. Structured Interview schedule was used to collect data regarding socio personal variables and clinical variables and the cardiovascular risk was calculated by using the Framingham risk score sheet to each sample. After data collection individualized teaching on prevention of cardiovascular risk was given to the study participants to reinforce measures to reduce risk factors of CVDs followed by distribution of information pamphlet. The findings showed that 78.5% of premenopausal women and 8.2% of postmenopausal women were having low cardiovascular risk; 18.5% of premenopausal and 27.1% of postmenopausal women were having intermediate cardiovascular risk and 64.7% of postmenopausal women and 3.1% of premenopausal women were having high cardiovascular risk based on Framingham risk score. The chi square value shows that there is statistically significant difference in the prevalence of cardiovascular risk among pre and postmenopausal women ($p < .001$).

KEYWORDS : prevalence, cardiovascular risk, premenopausal women, postmenopausal women

INTRODUCTION

Chronic non-communicable diseases have replaced communicable diseases as the most common cause of morbidity and premature mortality worldwide. According to World Health Organization Statistics report (2018) 41 million deaths occurred due to non-communicable diseases (NCDs) in 2016 accounting for 71% of the overall 57 million deaths globally and it is projected to increase to 52 million by 2030.

Four major NCDs (cardiovascular diseases, cancer, chronic respiratory diseases and diabetes) are responsible for 82% of NCD deaths¹. Majority of the NCD deaths were caused by cardiovascular disease (17.9 million deaths; accounting for 44% of all NCD deaths); cancer (9.0 million deaths; 22%); chronic respiratory disease (3.8 million deaths; 9%); and diabetes (1.6 million deaths; 4%).

In India non-communicable diseases (NCDs) are a major threat to development, economic growth and human health. India stands to lose \$2.17 trillion before 2030 due to cardiovascular diseases. Cardiovascular disease is the leading cause of death accounting for more than 17.9 million deaths per year in 2016, a number that is expected to grow to more than 23.6 million by 2030. Total direct medical costs of cardiovascular disease are projected to increase to \$749 billion in 2035.

According to latest WHO data (2017) coronary heart disease deaths in India reached 16.44% of total deaths. The age adjusted death rate is 146.11 per 100,000 population and India ranks 56th in the World.

Research studies reported that the higher proportion of initial heart attack are fatal in women (39%) than men (31%) and the proportion of women (15.1%) with MI who die in the hospital was higher than men (10.3%). Also women are 1.5 to 4 times more likely than men to die after coronary artery bypass surgery. Healthcare providers play a pivotal role in educating women to become aware about the risk factors of cardiovascular disease and in reducing the risk by lifestyle modification.

Hence the investigator has decided to undertake the study to assess the prevalence of cardiovascular risk among women and to assist them in making necessary lifestyle changes.

MATERIALS AND METHODS

Non experimental comparative descriptive survey design was

used for the study. One hundred and fifty women (65 premenopausal and 85 postmenopausal women) attending the NCD clinic of Kanyakulangara community health center and who satisfied the inclusion criteria were selected by purposive sampling. Structured Interview schedule was used to collect data regarding socio personal variables and clinical variables and the cardiovascular risk was calculated by using the Framingham risk score sheet to each sample. After data collection individualized teaching on prevention of cardiovascular risk was given to the study participants to reinforce measures to reduce risk factors of CVDs followed by distribution of information pamphlet. Data were analyzed using descriptive and inferential statistics.

RESULTS

Sample characteristics based on sociopersonal data and clinical variables.

The majority of premenopausal women (63.3%) of premenopausal women were within the age group 40-49 years and 41.2% and 58.2% of postmenopausal women were within the age group of 45-59 years and 60-74 years respectively. In the present study 44.6% of premenopausal women and 48.2% of postmenopausal women were Hindus and 6.2% premenopausal women and 25.9% of postmenopausal women were widows.

Among the premenopausal women 47.7% studied up to high school level and majority (57.6%) of postmenopausal women had only primary education; 46.2% of premenopausal and 80% of postmenopausal women were housewives.

The majority (63.1%) of premenopausal women and 34.1% of postmenopausal were moderate workers and 65.9% of postmenopausal women and 36.9% of premenopausal women were sedentary workers; 53.8% of premenopausal women had monthly income of Rs.50000- Rs.100000 and 84.7% of postmenopausal women had monthly income less than Rs.5000 and 100% of the pre and postmenopausal women belonged to nuclear family. Major sources of health information for both pre and postmenopausal women were health professionals and mass media.

Out of the total sample 1.5% of premenopausal and 1.2% of postmenopausal women were underweight; 24.6% of premenopausal and 42.4% of postmenopausal women were overweight and 12.3% of premenopausal and 9.4% postmenopausal women were obese. With regard to family history of cardiovascular disease 24.6% of premenopausal

and 32.9% of postmenopausal women have the family history of CVD

- Among the samples 23.1% of premenopausal women had no risk factors and 36.9% of premenopausal and 9.4% of postmenopausal women had single cardiovascular risk factor; 69.6% postmenopausal women and 13.8% of premenopausal women had 3 to 5 risk factors of cardiovascular disease.

The majority (65.9%) of postmenopausal women and 36.9% of premenopausal women were doing mild physical activity and 63.1% of premenopausal women and 34.1% of postmenopausal women were doing moderate physical activity. Among the postmenopausal women 56.4% women attained menopause before the age of 50 years and they are having intermediate/high risk for cardiovascular disease

Section 2: Prevalence of cardiovascular risk among pre and postmenopausal women based on Framingham risk score

Majority (50.7%) of premenopausal women and 69.1% of postmenopausal women have increased risk for CVD based on HDL Cholesterol level as per Framingham risk score. In the present study 86.2% of premenopausal women and 82.4% of postmenopausal women had total cholesterol level more than 160mg/dl, and are having increased risk of CVD as per Framingham risk score. In the present study 79.3% of women (66.2% of premenopausal women and 90.4% of postmenopausal women) were hypertensive. Among them 26.2% of not treated and 39.9% of treated premenopausal women for hypertension and 9.5% of not treated and 82.3% of treated postmenopausal women were having systolic BP more than 120-130mm Hg and are at high risk for CVD based on systolic BP according to Framingham risk score.

Among the subjects 57% of the women (24.6% of premenopausal and 82.4% of postmenopausal women) were diabetic. The study shows that 10.8% of premenopausal and 7.1% of postmenopausal have history of CVD in first degree relative before the age of 65 years which doubles the risk of CVD according to Framingham risk score. The findings showed that 78.5% of premenopausal women and 8.2% of postmenopausal women were having low cardiovascular risk; 18.5% of premenopausal and 27.1% of postmenopausal women were having intermediate cardiovascular risk and 64.7% of postmenopausal women and 3.1% of premenopausal women were having high cardiovascular risk based on Framingham risk score.

The chi square value shows that there is statistically significant difference in the prevalence of cardiovascular risk among pre and postmenopausal women ($\chi^2=84.961, p<.001$). Hence it is inferred that postmenopausal women are at high risk for cardiovascular disease compared to premenopausal women.

DISCUSSION

The present study shows that 79.3% of women (66.2% of premenopausal women and 90.4% of postmenopausal women) were hypertensive. Among them 26.2% of not treated and 39.9% of treated premenopausal women for hypertension and 9.5% of not treated and 82.3% of treated postmenopausal women were having systolic BP more than 120-130mmHg and are at high risk for CVD based on systolic BP according to Framingham risk score. Among the subjects 57% of the women (24.6% of premenopausal and 70% of postmenopausal women) were diabetic; 10.8% of premenopausal and 7.1% of postmenopausal women have history of CVD in first degree relative before the age of 65 years which doubles the risk of cardiovascular disease according to Framingham risk score.

These findings are consistent with the findings of a retrospective study done in Trivandrum, findings show that

70% of the women were hypertensive (premenopausal 46.96% and postmenopausal 80.12%, $P < 0.001$); 57% were diabetic (premenopausal 42.42% and postmenopausal 62.65%, $P < 0.005$); 16.66% of premenopausal and 12.65% of postmenopausal women had family history of premature CAD. The study concluded that postmenopausal women had 0.367 and 0.558 times greater risk of CAD when compared to premenopausal women with hypertension and DM respectively. There was statistically significant association between CAD and history of hypertension and DM in the postmenopausal group.

The present study shows the majority of (78.5%) of premenopausal women and 8.2% of postmenopausal women were having low cardiovascular risk; 18.5% of premenopausal and 27.1% of postmenopausal women were having intermediate cardiovascular risk; 64.7% of postmenopausal women and 3.1% of premenopausal women were having high cardiovascular risk based on Framingham risk score. The chi square value shows that there is statistically significant difference in the prevalence of cardiovascular risk among pre and postmenopausal women ($\chi^2=84.961, p<.001$).

These findings are consistent with the findings of a cross sectional study on evaluation of cardiovascular risk in 137 women (89 premenopausal and 48 postmenopausal women). The study results show that according to Framingham risk score 93.3% of premenopausal and 85.4% of postmenopausal women were having low cardiovascular risk; 6.7% of premenopausal women and 14.6% of postmenopausal women were having intermediate/high risk for cardiovascular disease ($p=0.219$).

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