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Original Article

A Cross-Sectional Study On Cardiovascular Disease Risk Among Post-Menopausal Women In Rural Area Of West Bengal

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Abstract
Aim: This cross-sectional study has been conduced in the west Bengal rural area during the period of one year to study cardiovascular disease among women with post-menopausal.
Materials and methods: In order to gather comprehensive data on typical menopausal symptoms and the existence or lack of traditional CVRFs, 240 consecutive postmenopausal women were separated. Both the amount of physical activity and the dietary habits were evaluated. Hormone replacement therapy (HRT) and other medication use were also observed. Their level of menopausal knowledge was also assessed.
Results: In the rural regions of West Bengal, 240 postmenopausal women were the subjects of a one-year cross-sectional study. Working with general physicians, the principal investigator carefully selected participants based on menopausal symptoms and cardiovascular risk factors (CVRFs) like smoking, alcohol consumption, metabolic syndrome, obesity, diabetes, hypertension, and a history of premature heart disease. For every participant, detailed measurements were taken, including height, waist circumference, blood pressure, weight, and BMI. Additional testing was done, including serum uric acid levels, fasting lipid profile, and blood sugar. A number of parameters, such as obesity and dyslipidemia, were defined using standards from the US National Cholesterol Education Program. Through questions, the levels of physical activity, dietary habits, and menopausal awareness were evaluated. The study attempted to give a comprehensive picture of the health status of postmenopausal women in the designated area.
Conclusion: The majority of the conventional CVRFs, obesity, particularly diabetes, dyslipidemia, hypertension, and other risk factorswere found to be alarmingly prevalent in postmenopausal women living in rural areas.

Keywords: risk factor, menopause, cardiovascular.

Introduction

There is a rapid increase in the global cardiovascular disease problem and it seems to be the most primary cause of women death globally (1). Until 55 years of age the rate of hypertension is higher in men than women, but after the age of 55 its percentage is higher in women. In women especially those who undergone through surgical or natural menopause the rapid increase in cardiovascular disease has been linked with estrogen deficiency (2). Each year the greater no of females claims CVD when compared with men. Annually, almost 250,000 women died with coronary artery disease and more than 450,000 diagnosed with heart disease. In women the risk of CVD enhances after the menopause, that could be linked with hormonal and metabolic changes (3). In reducing the risk of CVD for both men and women a healthy diet and regular physical activities is crucial. Furthermore,

in order to promote early detection and prevention, it is critical to increase public knowledge of the distinct cardiovascular risks that women experience after midlife (4).
Because of the withdrawal of estrogen has a damaging outcome on metabolism and cardiovascular function the risk factor of CVD is menopause. The menopause amalgamsvariety of outdated cardiovascular disease risk factors, involving deviations in body fat dispersal from a gynoid to an automatondesign, improved sympathetic tone, reduced glucose tolerance, endothelial dysfunction, amplified blood pressure, irregular plasma lipids, and vascular tenderness (5).
In women the risk of cardiovascular is poorly managed, specially during the transition of menopausal when exposure to events of cardiovascular enhances(6). Strong gender variations occur in symptoms, prognosis, epidemiology, management, diagnosis and progression of CVD risk. In perimenopausal women the main risk factor that must be under control are obesity, dyslipidemia and hypertension and many other metabolic syndrome factors, with proper diabetes control (7). The most powerful risk factor is hypertension and it is also crucial to regulate or lower blood pressure.The most effective treatment for menopausal vasomotor signs is hormone replacement therapy (HRT). However, the Women's Health Initiative (WHI) study raised concerns about HRT's potential negative impact on cardiovascular events. Hence for the inhibition of cardiovascular disease HRT is not recommended (8). Even if WHI findings in grownup postmenopausal women can be useful to earlier perimenopausal women is indefinite. More and more people are realizing that older postmenopausal women who are no extensive experiencing menopausal indications should not receive hormone therapy. In classifying perimenopausal women who are at cardiovascular mortality and morbidity risk, both cardiovascular physicians and gynecologists contain an important role to play (9). Both of them should work together to manage and identify these risk factors like hypertension. Many studies have been identified in population of west Bengal related to CVRFs. On the other hand, little data is accessible about the frequency of CVRFs in postmenopausal women. Hence, this study has been conducted on the prevalence of cardiovascular disease risk among post-menopausal women in west Bengalrural area (10).

Materials and Methods:
The cross-sectional study has been directed in rural area of west Bengal in the time period of 1 year. 240 individuals (women with consecutive postmenopausal) were selected as a sample size for this study. These women were separated by principal detective with the assistance of general physicians in case department for comprehensive evidence concerning mutual symptoms of menopause, the absence and presence of conservative CVRFs, specifically hypertension, metabolic syndrome, obesity, diabetes mellitus, tobacco chewing, alcohol, smoking, premature heart disease history; CVRFs treatment and duration if engaged for same (11). In all patient's measurement, weight, blood pressure, BMI (body mass index), height, waist circumference was performed. Every participant had their weight, waist circumference, body mass index (BMI), height, waist-hip ratio (WHR), measurement and blood pressure taken. Moreover, serum uric acid, biochemical tests i.e., fasting etc., fasting lipid profile, and 2-h postprandial estimation of blood sugar were also performed in all patients (12). CRP was administered to a select group of financially able patients.Inquiries about work- and leisure-related activities were used to gauge physical activity, and dietary habits were also evaluated. A person is known as hypertensive when he has diastolic BP greater then equal to 90 mmHg and systolic BP greater then equal to 140 mmHg (13). Weight in kilograms divided by height in meters squared yielded the BMI, with overweight and obesity being defined as BMI ≥ 25 kg/m2.According to the guidelines of the US National Cholesterol Education Program (NCEP), abdominal obesity was defined as a waist size greater than 88 cm for women and >102 cm for men. Truncal obesity was defined as a WHR greater than 8 in females and >9 in males.The NCEP guidelines defined dyslipidemia as having low HDLc (<40 mg/dL), high LDL-c (≥130 mg/dL), high TC (≥200 mg/dL), or high TG (≥150 mg/dL) (14). Metabolic disorder was also identifiedon the basis of NCEP strategies when any three of the five recognizing risk aspects(i.e., high TG (≥150 mg/dL), abdominal obesity, low HDL-c (men < 40 mg/dL, women < 50 mg/dL)were

present.Inquiring about both work-related and recreational activities allowed for the measurement of physical activity.HRT and other medication use were also observed.The patient's case record sheets yielded the identical data. In very few cases, ECG and TMT were advised.Their level of knowledge about menopause was also evaluated (15).

Results:

Mean age of women with menopause was around 48.85 years, mean amounts of menopausal signs was 6.60 ± 5.86 and the mean duration since the start of menopause was 4.80. cold feet and hand, fatigue, energy deficiency (70 percent), weight gain, heart palpitation, anxiety, nervousness, irritability, rheumatology-related symptoms (60 percent) separately were common protests. Of those with known hypertension, 56% had a diagnosis of hypertension.Twenty-one percent had a diagnosis of diabetes or knew they had the disease (16). There exists truncal obesity with WHR greater than 0.8 in almost 68 percent women, although abdominal obesity was in almost 60 percent women with waist size greater than 88 cm. Thirty-nine percent had dyslipidemia.low HDLc (<40 mg/dL) in 21%, High TC (=200 mg/dL) in 30%, or high TG (=150 mg/dL) in 31%, high LDL-c (=130 mg/dL) in 27% were the criteria used to define it.Thirteen percent of them had metabolic syndrome (17). Out of the 39 patients evaluated, 12 had a positive CRP result.4% had serum uric acid levels greater than 6.5 mg/dL.The subsequentsettings were distinguished: smoking (0.5%), family history of premature heart disease (9%), tobacco chewing (4%), alcohol (0%) (18).For PMWs, the lifestyle was sedentary for 55%, hectic for 10%, and active for 35%. HRT was received by 5 percent women, 8 percent lipid lowering drugs, 0.4 percent tibolone, anti-diabetic 9 percent, isoflavone 0.5 percent and only 3 of them diagnosed with anti-obesity along with lifestyle and dietary management. Of the 68 patients who were given an ECG recommendation, 23 showed evidence of ischemic changes on the ECG, and of those 23, 12 women were recommended to have TMT, but only 4 of them showed evidence of IHD (19).Eleven percent had a risk factor count of more than four.In all, menopause-related issues impacted 96% of women.Merely 9% of participants possessed knowledge regarding menopause, while 3% acknowledged the significance of lifestyle modification, weight loss, and dietary management plans in addressing menopause or menopause-related CVRFs (20)

Table 01: shows clinical and demographic characteristics

N = 240	
Menopause (mean age)	48.85
Menopausal symptoms (mean)	6.60 ± 5.86
Menopause duration (mean)	4.80
Education status	
Illiterate	22
Literate	78
Lifestyle	
Sedentary	54%
Hectic	10%
Active	36%
Dietary lifestyle	
Non-vegetarian	11
Vegetarian	74
Mixed	5
Symptoms	
Heat palpitation, anxiety	29%
Energy deficiency, fatigue	71%
Nervousness, cold sweats, irritability, gain of weight.	51%
Affected menopause women and other related issues	95%
Not-affected	5%

Table 02: postmenopausal women with cardiovascular risk factor

Diabetes	21%
Hypertension	55%
Dyslipidemia	38%
Metabolic syndrome	13%
Alcohol	0
Smoking	0.4%
Tobacco chewing	3%
CRP positive	12/39
TMT positive	4/12
Women who are aware of their menopause	0.8%

Table 03: history of drug:

Anti-diabetic	8%
Anti-HT	23%
Tibolone	0.5%
Women receiving HRT	1.4%
Antiplatelet	2.4%
Antianginal	5%
Reducing lipid Drugs	7%
Drugs for anti-obesity	0.5%
Multivitamins antioxidants	78%
Antacid, PPIs, H2 blockers	49%
Others	12%

Discussion:

The purpose of the cross-sectional study, which was agreedupon in a rural West Bengali area, was to learn more about the health profile and prevalence of cardiovascular risk factors (CVRFs) in postmenopausal women. It was important to look at the mean age at menopause, mean number of menopausal symptoms, and mean duration since menopause (MDSM). The participants' mean age at menopause, according to the study, was 48.85 years, with an average 4.80 years of MDSM (21). The women indicated a variety of physical and psychological difficulties during this stage of life, with an average of 6.60 menopausal symptoms. The symptoms that were most frequently reported were rheumatic pain, cold sweats, tiredness, nervousness lack of energy, irritability, cold hands and feet, and weight gain (22). These results were consistent with those of an earlier urban study conducted in Jammu, indicating that fatigue, low energy, and other symptoms were prevalent. When the current study was contrasted with research by Kasliwal et al., which concentrated on patients with higher body mass indices (BMIs) and reported elevated rates of diabetes, hypertension, and dyslipidemia, a noteworthy difference became apparent. Lower prevalence rates of these risk factors were found in the current investigation (23). For example, the proportion of women with diabetes mellitus was lesser, and the percentage of women with high blood pressure or dyslipidemia was lower. The two study populations' different demographic profiles could be the cause of this disparity. Kasliwal et al. focused on patients having coronary artery bypass surgery, which is a subgroup with different health conditions and possibly more serious cardiovascular problems (24). There exist few limitations despite all these findings. Although the high frequency of CVRFs in the rural population was concerning, the researchers emphasized that care should be taken when interpreting the data. Even though the chosen population lived in a rural area, they pointed out that it might not accurately reflect the traditional rural lifestyle. West Bengal, a region with a strong religious following, was included; this could have affected the findings because of a higher proportion of floating urban

residents who brought aspects of urban life into the rural setting (25). This highlighted how crucial it is to take into account regional differences and the influence of outside variables on research results. This highlighted how crucial it is to take into account regional differences and the influence of outside variables on research results. It emphasized the necessity of conducting more thorough research to close this knowledge gap, especially in rural areas (26). To provide a more complete picture of CVRF prevalence, the authors advocated for comparative screenings of urban and rural populations. Given that lifestyles, socioeconomic conditions, and regional differences can have a substantial impact on risk factor prevalence and health profiles, this recommendation takes that into consideration. Ultimately, the research provided insight into the health conditions of postmenopausal women residing in a rural region of West Bengal (27). The documented frequency of menopausal symptoms and CVRFs underscored the significance of comprehending the distinct health obstacles encountered by this population. The acknowledgement of study limitations and the comparison with urban studies highlighted the complexity of health research and the need for nuanced interpretations (28).In the end, the study called for more research to inform targeted interventions and public health strategies for postmenopausal women in rural areas, and it added insightful information to the body of knowledge already in existence (29).

Conclusion:

The majority of the conventional CVRFs were found to be highly prevalent in postmenopausal women from rural areas, particularly risk factors like obesity, dyslipidemia, hypertension, diabetes, and hypertension. It is crucial to find out that these postmenopausal patient's CVRFs for an initial CVRF's treatment. It is urgently necessary for doctors in rural areas and postmenopausal women to receive education about and awareness of these CVRFs. The study emphasizes the concerningly high rates of cardiovascular risk factors (CVRFs) in postmenopausal women living in rural areas, with a focus on diabetes, obesity, dyslipidemia, and hypertension. Women and healthcare professionals need to be made aware of these risks immediately, with a focus on early detection and intervention. Specialized training courses for medical staff working in remote areas can improve their ability to handle CVRFs, and postmenopausal women should focus on lifestyle changes that promote cardiovascular health. A thorough public health strategy is necessary because some rural populations are impacted by urban lifestyles. Policymakers, communities, and healthcare professionals working together is essential to creating context-specific strategies that take sociocultural and environmental factors into account. The study also emphasizes how crucial it is to compare screening results between urban and rural populations in order to properly customize interventions. Making awareness and education a priority can lessen the effects of CVRFs and improve the outcomes for postmenopausal women's cardiovascular health in a variety of contexts.

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