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ASSESSMENT OF CARDIOVASCULAR RISK FACTORS IN POST MENOPAUSAL WOMEN

Pandisappaga Prathyusha¹, Ameerjan Fayaz Thasmiya², Nallacharuvu Keerthi³, Lakshmi Ishwarya⁴, Jangama Thippe Rudra⁵.Department of Pharmacy Practice, Balaji College of Pharmacy, Ananatapuramu^{1,2,3,4,5}.

Email: psprathyusha2@gmail.com, dr2rudra@gmail.com, psprathyusha2@gmail.com, shabazkhan64580@gmail.com, keerthanallacharuvu@gmail.com, ishu66883@gmail.com, dr2rudra@gmail.com

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ABSTRACT

Background: Menopause is a significant life transition for women and they experience many changes in the body, which can affect their cardiovascular health. To enhance their lifestyle modification is important for women quality of life. **Aim:** To assess the cardiovascular risk factors in post-menopausal women to enhance understanding and inform preventive strategies tailer for this population. **Objectives:** To identify and evaluate the prevalence and impact of metabolic syndrome components such as abdominal obesity, hypertension and diabetes mellitus on cardiovascular risk in postmenopausal women. **Methodology:** The study will employ prospective cross sectional observational study was conducted over 6 months on 264 postmenopausal women at a tertiary care hospital, to analyse cardiovascular risk factors, menopausal symptoms and stress level by using Framingham risk score, Menopausal rating scale and 5point likert scale respectively, in menopausal women. **Result:** Among 264 post-menopausal women the most of the participants have cardiovascular responses majority was hypertension (46%), Obesity (29%), and Diabetes mellitus (25%). The common symptoms were calculated using MRS scale like Hot-flashes (34%), joint pains (30%). The most of the women experience stress level at sometimes (35%). **Conclusion:** The findings convey that a significant percentage on post-menopausal women are at considerable risk in hypertension, obesity, and diabetes mellitus. Awareness is need for menopausal women which can reduce the level of risk for cardiovascular disease

INTRODUCTION:

MENOPAUSE: The end of menstruation is known as menopause. In greek “mens” means monthly and “pauis” means cessation. Women experience menopause as a natural part of their aging process when their ovaries produce a lower level of estrogen and progesterone.

During menopause metabolic changes can lead to an increase in the risk of cardiovascular disease. These disturbances can be attributed to an increase in the severity of hot flashes during the menopause transition which may have an impact on metabolic risk factors for cardiovascular disease.

Menopause symptoms like hot flashes, palpitations,

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night sweats, etc are caused by the decrease in estrogen production. Estrogen deficiency leads to the risk of CVD which is the leading cause of death for postmenopausal women⁶.

CARDIOVASCULAR DISEASE:

Cardiovascular diseases are the most common noncommunicable diseases in the world, causing nearly 20.5 million deaths each year. It causes 35% of women death each year.

The global burden of cardiovascular disease is increasing rapidly, heart disease is the leading cause of death for women worldwide. Cardiovascular risk is poorly managed in women especially during the menopausal transition when susceptibility to cardiovascular events increases.

In this stage which lead to increase heart risk these can change during perimenopause which is a multi-year process of declining oestrogen and progesterone that ends with the last menstrual period. During these years patients tend to experience cycle irregularities is the most important side Hypertension is the strong risk factor. It affects women is higher due to oestrogen deficiency which leads to increase in cardiovascular disease in women Diabetes it cause unpredictable rise and falls in blood sugar levels leading to weight gain. Dyslipidaemia which changes in the lipid profile lowering HDL and increasing high LDL thus the changes that increase the risk of cardiovascular disease were due to the decrease in oestrogen concentration during menopause¹⁶.

AIM: To assess the cardiovascular risk factor in postmenopausal women to enhance understanding and inform preventive strategies tailer for this population.

OBJECTIVES: To identify and quantify traditional cardiovascular risk factor including hypertension, dyslipidemia, obesity and diabetes millets in post-menopausal women.

To evaluate the prevalence and impact of metabolic syndrome components such as abdominal obesity, dyslipidemia, hypertension and diabetes millets on cardiovascular risk in post-menopausal women. To investigate the association between life style modification, include diet, physical activity, smoking habits and cardiovascular risk profile in post-menopausal women.

To explore the relationship between psychological factors such as stress and depression in CVD risk factor in post-menopausal women

METHODOLOGY:

Study design: This study will employ Prospective cross-sectional study to assess cardiovascular risk factor in post- menopausal women.

Study site: The study was carried out in Government General Hospital, Anantapur.

Protocol approval: The protocol of study submitted to institutional ethical board-Balaji collage of pharmacy Anantapuramu.

Study Duration: The study was conducted over 6months.

Data collection: Participants underwent a comprehensive assessment of Cardiovascular risk factors through.

Anthropometric Measurement: Height, weight were measured to calculate body mass index (BMI) **Blood pressure measurement:** Systolic and diastolic blood pressure reading were obtained using standard protocols **Questionnaires:** Standardized questionnaires were administered to collect information on medical history, lifestyle factors (Alcohol status, physical activity), dietary habits, and menopausal symptoms.

Medical records review: Relevant medical history, include history of cardiovascular disease, diabetes, hypertension, and medication use, was extracted from medical records where available.

Data Analysis: Descriptive statistics such as frequencies and percentage were used to summarize the prevalence of cardiovascular risk factors in the study population.

Sub group analysis by age, BMI categories, and other relevant demographic variables were performed where applicable.

Relation between life style modification such as stress, physical activity, diet and alcohol were conducted using appropriate statistical test (eg:t-test)

Study criteria:

Inclusion criteria- The women with >45years of age. The women undergone 12months without a menstrual period.

Exclusion criteria- Women with the history of cvd disease are major CVD events and individual with significant comorbidity affecting CVD risk profile. Pregnancy, lactating women, women who are undergone surgical menopause [hysterectomy] and under hormonal Therapy.

Sample size: 264

Statistics: Student t- test, p value
Scales: MENOPAUSE RATING SCALE (MRS)
 FRAMINGHAM RISK SCORE
 5-POINT LIKERT SCALE

RESULTS:

Frequency and percentage distribution of post-menopausal women according to their demographic variables:

The demographic and clinical characteristics of the study population and grouping are summarized in Table 1. Majority of the population lies between the age groups of 55-65 years (42%) followed by 66-75 years (33%) 45-55 (24%) and >75 years (1%). Total 264 participants were involved in this study; majority of the subject population are Hindu religion (80%) and (20%) population were Muslim religion. Most of the participants (98.5%) were married. (56%) of population are house wife, and (44%) population were skilled workers.

Table-1: -

S.no	Demographic variables		Frequency N (%)
1	Age group	a) 45 - 55	63 (24)
		b) 56 - 65	110 (42)
		c) 66 - 75	86 (33)
		d) >75	2 (1)
2	Religion	a) Hindu	210 (80)
		b) Muslim	54 (20)
3	Education	a) Illiterate	234 (89)
		b) Literate	30 (11)
4	Occupation	a) Housewife	147 (56)
		b) Skilled worker	117 (44)
5	Socio-economic status	a) Upper	38 (14)
		b) Middle	70 (27)
		c) Lower	156 (59)
6	Marital status	a) Married	264
		b) Widowed	46 (17)

Prevalence of cardiovascular risk factor in post-menopausal women:

Our study concluded that the majority of the study population (46%) were suffered with the

hypertension, followed by (29%) obesity and (25%) diabetes mellitus.

Table-2:

RISK FACTORS	NUMBER OF CASES	PERCENTAGE (%)
Hypertension	232	46%
Obesity	144	29%
Diabetes mellitus	126	25%

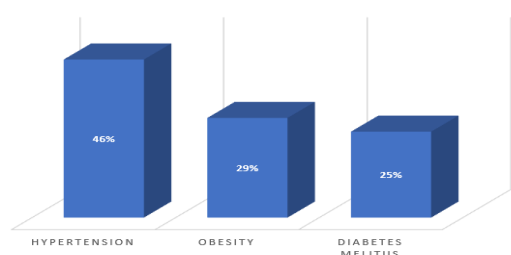


Figure-1 Cardiovascular Risk Factors

Frequency of menopausal symptoms in study population by using menopause rating scale (MRS)

Table 3 shows that frequency of post-menopausal symptoms. Majority of the population suffered with hot flashes (34%), followed by joint pains (30%), heart discomfort (23%), sleep problems (22%), depressive mood (18%), physical and mental exhaustion (16%), irritability (15%), bladder problems (15%), anxiety (14%), sexual problems (13%) and at last dryness of vagina (12%).

Table-3: -

S.no	Symptoms	None	Mild	Moderate	Sever	Extreme sever
1	Hot flashes	6(2%)	64(24%)	90(34%)	16(6%)	88(34%)
2	Joint pains	2(0%)	56(20%)	86(40%)	47(10%)	77(30%)
3	Heart discomfort	6(2%)	60(23%)	120(46%)	17(6%)	61(23%)
4	Sleep problems	10(4)	68(26%)	102(38%)	26(10%)	58(22%)
5	Depressive mood	16(6%)	82(31%)	91(35%)	27(10%)	48(18%)
6	Physical and mental exhaustion	26(10%)	73(28%)	88(33%)	34(13%)	43(16%)
7	Irritability	20(8%)	98(37%)	77(29%)	28(11%)	40(15%)
8	Bladder problems	26(10%)	87(33%)	78(29%)	34(13%)	39(15%)
9	Anxiety	24(9%)	93(35%)	78(30%)	35(13%)	34(13%)
10	Sexual problems	20(8%)	84(32%)	91(34%)	32(12%)	37(14%)
11	Dryness of vagina	25(10%)	90(34%)	82(31%)	35(13%)	32(12%)

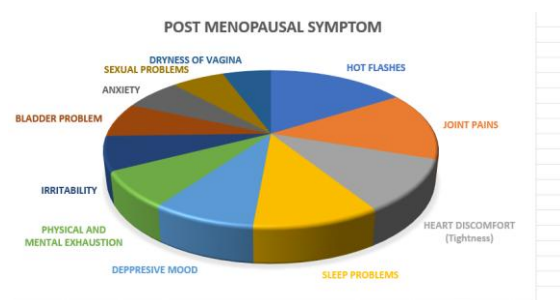


Figure-2

Description of the level of stress among post-menopausal women

The data present in table-4 shows that 35% of population experience stress sometimes, 31% of population rarely experiences stress, 18% of population experiences most frequently, 10% of population experience frequently, and 6% of population not at all experiences stress.

Table-4: - Description of the level of stress among post-menopausal women:

S.no	Stress levels	Number of cases	P value
1	Not at all	17(6)	< 0.0001
2	Rarely	81(31)	< 0.0001
3	Some times	91(35)	0.0012
4	Frequently	27(10)	< 0.0001
5	More frequently	48(18)	< 0.0001



Figure-3

Description of lifestyle modification factors

The below table shows that association of lifestyle modification includes

Such as: Diet non- vegetarian (77%) & vegetarian (23%)

Social history includes non-alcoholic (94%) & alcoholic (6%)

Physical activity includes physically inactive (77%) & physically active (23%)

Table-5: -

S.no	Life style modification		Frequency	P value
1	Diet	Vegetarian	60(23)	< 0.0001
		Non-vegetarian	204(77)	< 0.0001
2	Social history	Alcoholic	15(6)	0.0011
		Non-alcoholic	249(94)	< 0.0001
3	Physical	Physically	61(23)	< 0.0001

	activity	active		
		Physically inactive	203(77)	<0.0001

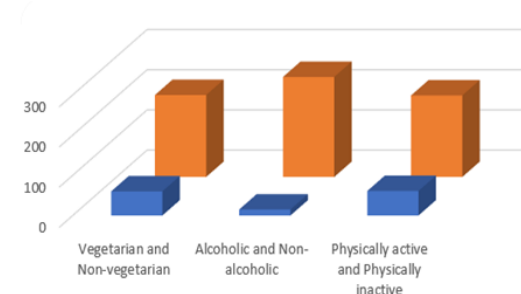


Figure-4

LIFESTYLE MODIFICATION FACTORS DISCUSSION:

This observational cross-sectional prospective study conducted among 264 post-menopausal women at Government General Hospital Anantapur. Among them most of the participants have cardiovascular risk factors such as hypertension (46%), obesity (29%), and Diabetes mellitus (25%). This information was collected from medical records review in tertiary care hospital which include relevant medical history diabetes, hypertension.

By using MRS (Menopause Rating Scale) standardized questionnaires we concluded that Hot flashes (88%) and joint pains (77%) are the most common symptoms and also rare symptoms like sleep problem, heart discomfort (chest tightness), Depressive mood Using The 5point Likert scale, majority of the postmenopausal women experienced stress at sometimes (35%), followed by 31%, and the more frequently 18%.

CONCLUSION:

The findings convey that a significant percentage on post-menopausal women are at considerable risk in Hypertension, Obesity, & Diabetes Mellitus. Efforts are needed to educate these women to make them aware about various menopausal symptoms. present evidence suggest that diet may affect level of blood pressure in post-menopausal women. Awareness is needed for menopause women to recognise their menopausal symptoms & cardiovascular risk factors as early, which can reduce the level of risk for the cardiovascular disease.

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