

Prevalence of Anaemia among Postmenopausal Women in Karunmandi Chellipalayam Panchayat of Perundurai Taluk in Erode District

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Abstract

Menopause is the most challenging period for every woman. Balanced diet and healthy life style has a great bearing on their future health. The objective of the present investigation was to study the prevalence of anaemia among postmenopausal women. The study was carried out in Karumandi Chellipalayam Panchayat of Perundurai Taluk. Two hundred postmenopausal women were randomly selected for the present study by following cluster sampling method. The data was collected by interview method with the help of structured and validated questionnaire. A sub-sample of 40 subjects was selected for dietary assessment, biochemical examination and biophysical measurement by convenient sampling method. Diet survey was done by weighment method. Height and weight of the respondents was measured with the help of required tools and BMI was computed. Blood pressure also measured with the help of digital Bp apparatus. Statistical comparison of means was performed for anthropometric measurement and blood haemoglobin level assessment using t-test. Health problems like Diabetes, joint pain / back pain, Thyroid, hypertension, Bad Cholesterol, cardiac problems and obesity etc. was found among the respondents. Thus, regular exercise, health monitoring and nutrition education is highly essential for postmenopausal women to prevent future health complications.

Keywords: Anaemia, BMI, Diet Survey, Hypertension, Menopause, Postmenopause

1. Introduction

Menopause is a natural event in the ageing process and signifies the end of reproductive years with cessation of cyclic ovarian functions resulting in permanent amenorrhea¹. Menopause is the transition that occurs gradually over a period of several years and begins at 48 years of age for an average Indian woman. The mean age of menopause is 51 years but can vary from 45-55 years². Many symptoms are found related to postmenopausal syndrome that are hot flushes, irritability, mood swings, insomnia, dry vagina, difficulty concentrating, mental confusion, stress incontinence, urge incontinence,

osteoporotic symptoms, depression, headache, vasomotor symptoms, insomnia etc³. Good nutrition is paramount for women enduring post menopause because a women metabolism tends to slow during this time. Adult micronutrients deficiency is a serious public health concern in most of the developing countries. The most common cause of Iron Deficiency Anaemia (IDA) in postmenopausal women is chronic gastrointestinal bleeding and malabsorption^{4,5}. Anaemia is more prevalent among women than men, and according to the WHO, the anaemia prevalence among women is 21-80 per cent worldwide. IDA which is common in developing as well as developed countries results from decreased iron

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stores due to inadequate iron intake, poor absorption and increased iron demand and blood loss. Iron deficiency leads to decline in RBC production causing microcytic and hypochromic anemia. Initiation of food fortification, awareness on benefits of dietary iron rich diet, use of fresh fruits and green leafy vegetables are best approaches to combat anaemia. To combat moderate and severe anaemia Iron and folic acid tablets supplementation is recommended⁶.

The aim of this survey is to study the prevalence of anaemia among postmenopausal women in Karumandi Chellipalayam Panchayat of Perundurai Taluk in Erode district.

2. Materials and Methods

2.1 Selection of Area and Subjects

The area selected for present study is Karumandi Chellipalayam Panchayat of Perundurai Taluk as it is the native place of the investigator. From this Panchayat, postmenopausal women were randomly selected for the present study by following cluster sampling method⁷.

The selected Panchayat consists of 18 wards. From these wards, as per the convenience of the investigator eight areas were selected from eight different wards i.e., Sanitorium, Slater nagar Harijana colony, Slater nagar, Anna nagar, Silampatti, Samanathapuram, Pandiyan street and Silampatti Harijana colony. From the mentioned areas of eight wards, 200 postmenopausal women were selected for the study.

The investigator randomly selected the menopausal women for the study from the above selected panchayat. A sub-sample of 40 subjects was selected for dietary assessment, biochemical examination and biophysical measurement by convenient sampling method. For the sub-sample, biochemical examination was done with the help of lab technician.

2.2 Collection of Data

2.2.1 General and Socio-economic Information

Assessing the general information and socio-economic status is one of the important methods to get a true picture of the nutritional status of the individuals⁸. General information like name, age, age of menarche, age of menopause, number of deliveries, type of delivery,

occupation, type of family, educational status and family income were collected for all the subjects.

2.2.2 Anthropometric Measurement

Anthropometry is the branch of the human science that studies the physical measurement of the human body, particularly size and shape. Height and weight are the major two determinants for various anthropometric properties at any age in life. People of different racial origins and geographical locations have specific anthropometric features⁹. Height and weight of the respondents was measured with the help of required tools and BMI was computed.

2.2.3 Clinical Assessment

Clinical examination is used to assess the health status of individuals through visible signs. It is the simplest and practical method. When two or more clinical signs characteristic of a deficiency disease are present simultaneously, their diagnostic significance is greatly enhanced¹⁰. Clinical assessment on general appearance, eyes, mouth, teeth, hair, skin, nail and other disorders were assessed. Symptoms of menopause and symptoms of anaemia were also assessed for all the subjects.

2.2.4 Dietary Survey

The data regarding the dietary pattern of the selected 40 subjects was collected by weighing method for three consecutive days. In this method, food either raw or cooked is actually weighed using an accurate balance. It is ideal to conduct the survey for 7 consecutive days to know the true picture of diet. Every day food is weighed in the morning and evening, before and actual cooking is begun by the housewife. Only edible portion of raw food is weighed. Age, sex and physiological status of all family members who consume their food should be noted down. Survey should not be done on fast and festival days¹¹. Based on food intake and frequency of consumption of food items nutrient intake was assessed. The cooking method was also noted.

2.2.5 Biochemical Assessment

Biochemical tests are precise measurement of individual nutrient concentration in body fluids to help diagnose malnutrition in its preclinical stage¹². Blood samples of the selected 40 subjects were collected for the estimation of haemoglobin level in blood using photometry method.

2.2.6 Blood Pressure Measurement

Blood pressure of the selected 40 subjects is measured using Omron digital BP monitor. The American Heart Association (2004)¹³, recommends the following guideline for upper limit of normal for home blood pressure readings i.e., an average systolic blood pressure 135 mm Hg and an average diastolic blood pressure 85 mm Hg. This is a general guideline because blood pressure depends on age and morbidity

3. Results and Discussion

3.1 General and Socio-economic Status

Of the 200 postmenopausal women, majority 40.5% of the selected subjects belonged to the age group of 60-69 years. 36% of the selected subjects attained menarche in the age of 12 years. Majority (47.5%) of the selected subjects attained normal menopause in the age of 45-49 years. 41% of the selected subjects had two deliveries and 33.5% had only one delivery. 87.5% of the selected subjects had normal delivery. Among the selected subjects' majority 49% were illiterate and 29.5% had completed only primary level of education. The data revealed that 59.5% of the selected subjects belonged to joint family and 40.5% of them belonged to nuclear family. Majority (46.5%) of the selected subjects belonged to low income group.

3.2 Anthropometric Measurements

The mean height and weight of the selected subjects were significantly lower than the ICMR standards. But the mean Body Mass Index was within the normal range (Table 1).

Table 1. Height, Weight and Body Mass Index of the Selected Subject (n=200)

Variables	ICMR Standard	Mean ± S.D	't' value
Height (cm)	161	151.7 ± 5.135	14.79**
Weight (kg)	55	50.765 ± 7.413	8.033**
BMI	20-24	21.924 ± 2.705	3.780**

** - Significant at 1% level

3.3 Clinical Picture of the Selected Subjects

The clinical picture was noticed among the selected subjects' majority 51% of the subjects were fair in their general appearance, 20.5% of them had loss of teeth, 39% of the selected subjects had sparse and brittle hair, 36% of them had loss of luster in skin, 38% of them had brittle nails, 8.5% of them had constipation.

3.4 Dietary Pattern of the Selected Subjects

All the subjects consumed rice and onion daily. Fifty-four per cent and 52.5 per cent of the subjects were taking red gram dhal and Bengal gram dhal daily, respectively. Fifty-two per cent of the selected subjects were using refined oil daily. Majority 61% of the selected subjects consumed meat weekly once and 82% consumed fish occasionally. In this study, consumption of leafy vegetables, other vegetables and fleshy foods was found to be less which may be due to low family income and education level of the selected subjects. Results showed that intake of nutrients except calcium, fat and vitamin C were less in the selected subjects.

3.5 Anaemia and Menopausal Symptoms Experienced by the Subjects

More than 60% of the selected subjects had anaemic symptoms like lassitude, fatigue, headache and insomnia, 25.5% of them had dizziness, 24.5% of them had paraesthesia in finger and toes and 24% of them had anorexia. Majority of the selected subjects had menopausal symptoms like hair loss (74.5%), hot flashes (60.5%), dry skin or wrinkle skin (56.5%), painful joints (55.5%) and breast tenderness (47%).

3.6 Blood Haemoglobin Level of Selected Subjects

The present study revealed that 14% of postmenopausal women had mild anaemia. The statistical analysis did not show any significant difference between the ICMR (1989) standard¹⁴ and mean haemoglobin level of the selected subjects (Table 2).

3.7 Blood Pressure of the Selected Subjects

42.5% and 37.5% of the selected subjects had pre-hypertension in their systolic and diastolic pressure

Table 2. Blood Haemoglobin Level of the Selected Subjects (n=40)

Blood haemoglobin level (g/dl)	Number	Per cent	Mean \pm S.D	Normal value (g/dl) *	't' value
Normal (12-15.5)	22	55	11.833 \pm 1.474	12 – 15.5	1.67 ^{NS}
Mild anaemia (10-11.9)	14	35			
Moderate anaemia (7.1 – 9.9)	3	7.5			
Severe anaemia (below 7)	1	2.5			

*ICMR (1989)

NS – Not Significant

Table 3. Blood Pressure of the Selected Subjects (n=40)

Blood pressure	Systolic blood pressure			Diastolic blood pressure		
	Ref. range*	Number	Per cent	Ref. range*	Number	Per cent
Normal level	<120	13	32.5	<80	13	32.5
Pre-hypertension	120-139	17	42.5	80-89	15	37.5
Stage 1 – hypertension	140-159	8	20	90-99	10	25
Stage 2 – hypertension	>160	2	5	\geq 100	2	5

*WHO (2004)¹³

respectively. The present study revealed that 40% of postmenopausal women had pre - hypertension due to changes in their eating habits, depression and anxiety. 21% of the selected subjects were suffering from joint pain/ back pain and 19.5% were suffering from diabetes. Due to faulty food habits, diabetes, joint pain and back pain were found to be prevalent in most of the respondents (Table 3).

4. Conclusion

It may be concluded from the above findings that the postmenopausal women had poor nutrient intake, and suffered from anaemia, menopausal symptoms and other disorders. Adequate iron, protein, calcium, vitamin D and functional foods should be provided to maintain normal health and to prevent osteoporosis and other menopausal symptoms. Intake of fatty foods is to be reduced. Normal weight should be maintained by following regular exercise to prevent obesity, cardiovascular disease, diabetes, osteoporosis and arthritis.

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