
Assessment of Nutritional Adequacy of Perimenopausal and Menopausal Working Women of Allahabad

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ABSTRACT:

The present study was designed with the

***Objective** 1) Assessing the dietary pattern and nutrient intake of perimenopausal and menopausal working women 2) Observing the presence of sign and symptoms of perimenopausal and menopausal working women.*

***Research Design**- 80 samples in the age group of 35-60 years were selected from the list of working women in SHIATS, Allahabad.*

***Results**- In the perimenopausal group the average daily nutrient intake of calories and iron was less than the Recommended Dietary Allowances whereas protein, fat, calcium and vitamin C was more than the RDA; however in menopausal group similar results were found. The associated symptoms of perimenopause and menopause such as hot flashes, headache, depression, fatigue, excessive perspiration, anxiety and stress were more prevalent in menopausal group than perimenopausal group.*

***Keywords**- Perimenopause, menopause, Nutritional Status, Recommended Dietary Allowances*

I. INTRODUCTION:

The term “menopause” comes from the greek word meno (month) and pause (to end). Thus, the literal definition is the end of the cycle of monthly menstrual bleeding. Stages of menopause consist of premenopause, perimenopause, menopause and postmenopause refers to a women’s reproductive or fertile life, from the first menstrual period to the last. Perimenopause represents the year’s immediately preceding menopause (**Rosett, 2005**). Women may experience symptoms associated with menopause, including vasomotor symptoms such as hot flashes, insomnia, night sweats, mood swings, irregular periods, vaginal atrophy, skin changes, urinary tract changes excessive perspiration, headache, emotional changes etc. (**Hall, 2003**). Working women are especially vulnerable to health risk of menopause. Irregular meal pattern along with increased stress levels are a common phenomenon among these women. Vitamin D deficiency can be a problem in elderly women with low sunlight exposure. Low calcium intakes, contribute to osteoporosis because they result in calcium excretion.

II. MATERIALS AND METHODS:

Study design- Cross- sectional and descriptive study. **Study population-** Working women from the age group of 36-60 years. **Study Area-** Sam Higginbottom Institute of Agriculture Technology and Sciences, Allahabad. **Study Tool-** Pre-tested structured questionnaire. A study was conducted on the working perimenopausal and menopausal women from SHIATS, Allahabad to find out their nutritional status and symptoms related to their condition. The respondents were selected by purposive random sampling. The socio-demographic data like age, family type, occupation and monthly income were collected. The anthropometric such as height and weight were measured to find out BMI of the respondents. 24 hour dietary recall method was used to observe the nutrient intake of the respondents and calculation of nutrient intake was done with the help of the “Nutritive value of Indian Foods” (Gopalan et al, 2004) and compared with RDA given by ICMR. Food frequency table was used to observe the food consumption pattern of the respondents. A pre-structured questionnaire was used to assess the complications and symptoms of the respondents.

III. RESULTS AND DISCUSSIONS

Table- 3.1 Socio-demographic profile of the respondents-

Factors	Categories	Perimenopause (n=48)		Menopause (n=32)	
		Count	Percentage	Count	Percentage
Types of Family	Nuclear	42	87.5	28	87.5
	Joint	6	12.5	4	12.5
Marital Status	Married	38	79.18	26	81.25
	Widow	4	8.33	-	-
	Spinster	4	8.33	9	18.75
	Separate	2	4.16	-	-
Educational Qualification	High School	-	-	8	25
	Intermediate	4	8.33	4	12.5
	Under graduate	4	8.33	6	18.75
	Post-graduate	16	33.34	8	25
	Ph.D.	24	50	6	18.75
Economic status	<10,000	16	33.33	16	50
	10,000-20,000	24	50	10	31.25
	20,000-30,000	8	16.66	4	12.5
	>30,000	-	-	2	6.25

3.1 Socio-demographic profile of the respondents

The present study was conducted on the perimenopausal and menopausal working women from the age group of 36-60 years in which maximum number of respondents were belongs to the nuclear family in both group i.e. perimenopausal (87.5%) and menopausal (87.5%) working women. In both the group i.e. perimenopause (79.18%) and menopause (81.25%), majority of respondents were married followed by widow (12.5%), spinster (5%) and separate (2.5%). The sample average showed that maximum number of respondent were Ph. D. qualified (37.5%) followed by postgraduate (30%), undergraduate (12.5%) and

intermediate (10%). In case of economic status of the respondents results showed that maximum respondents (42.5%) earned 10,000-20,000 Rs. per month followed by <10,000 Rs. Per month (40%), 20,000-30,000 Rs per month (15%) and >30,000 Rs. Per month (2.5%) (Bączyk *et al.*, 2013)

Table-3.2 Food consumption pattern of the respondents

Food	Perimenopause (n=48)								Menopause (n=32)							
	Daily		Weekly		Occasionally		Never		Daily		Weekly		Occasional ly		Never	
	n	%	n	%	N	%	n	%	n	%	n	%	n	%	n	%
Soyabean	-	4.2	26	54.2	6	12.5	16	33.3	-	-	10	31.3	20	62.5	2	6.2
Milk	26	54.2	4	8.3	8	16.7	10	20.8	18	56.3	2	6.3	2	6.3	10	31.5
Cheese	4	8.3	16	33.3	16	33.3	12	25	4	12.5	6	18.7	16	50	6	18.7
Pulses	40	83.3	8	16.7	-	-	-	-	24	75	6	18.7	2	6.2	-	-
GLV	26	54.2	22	45.8	-	-	-	-	24	75	6	18.7	2	6.2	-	-
Egg	10	20.8	18	37.5	12	25	8	16.7	2	6.3	18	56.3	6	18.7	2	6.2
Meat	8	16.7	24	50	12	25	4	8.3	4	12.5	18	56.3	10	31.2	2	6.2
Jaggery	10	20.8	14	29.2	8	16.7	16	33.3	6	18.8	12	37.5	4	12.5	12	37.5
Fruits	30	62.5	14	29.2	4	8.3	-	-	16	50	10	31.2	4	12.5	2	6.2

3.2 Food consumption pattern of the respondents

The data related to the food consumption pattern of the respondents illustrated that in perimenopausal group maximum number of respondents was having daily consumption of milk (54.2%) followed by Pulses (83.3%), GLV (13%) and fruits (62.5%) while there is weekly consumption of cheese, egg, meat and jaggery by most of the respondents in this group. In the menopausal group similar results were found i.e. there was daily consumption of milk (56.3%) followed by pulses (75%), GLV (75%) and fruits (50%) while weekly consumption of cheese, egg, meat, and jaggery was present (Diane *et al.*, 2003).

Table-3.3 Average daily nutrient intake of the respondents

Group	Nutrient	Energy (kcal)	Protein (gm)	Fat (gm)	Iron (mg)	Calcium (mg)	Vit. C (mg)
Perimenopausal (n=48)	Intake	1440.67	58.79	33.10	18.78	567.23	111.60
	RDA	1875	50	20	30	400	40
	Difference	-434.33	+8.79	+13.10	-11.22	+167.23	+71.6
Menopausal (n=32)	Intake	1549.58	59	36.10	19.68	542.04	101.57
	RDA	1875	50	20	30	400	40
	Difference	-325.42	+9	+16.10	-10.32	+142.04	+61.57
z-value		-1.55	-0.56	-0.42	-0.63	0.60	0.66

3.3 Average daily nutrient intake of the respondents

The data showed that mean average daily intake of calories, protein, fat, iron, calcium and vitamin C compared with ICMR RDA by both the group of perimenopausal and menopausal women. In perimenopausal group the average daily intake of calories and iron was less than the RDA whereas protein, fat, calcium and vitamin C was more than the RDA however similar results were found in the menopausal group. According to z-test there is no significant difference between the daily nutrient intake and RDA.

Table- 3.4 Presence of menopausal symptoms in the respondents

Symptoms	Perimenopause (n=48)				Menopause (n=32)			
	Yes		No		Yes		No	
	n	%	n	%	n	%	n	%
Hot flushes	10	20.83	38	79.16	10	31.25	22	68.75
Headache	32	66.66	12	25	20	62.5	12	37.5
Depression	4	8.33	44	91.67	8	25	24	75
Fatigue	28	58.35	20	62.5	24	75	8	25
Excessive Perspiration	8	16.66	40	83.33	18	56.25	14	43.75
Anxiety	8	16.66	40	83.33	12	37.5	20	62.5
Stress	28	58.35	20	62.5	22	68.75	10	31.25
Nausea	-	-	48	100	-	-	32	100
Irregular periods	12	25	36	75	20	62.5	12	37.5

3.4 Presence of menopausal symptoms in the respondents

The data illustrated that maximum respondent in perimenopausal group suffering from headache (66.66%) followed by fatigue and stress (58.35%), anxiety and excessive perspiration (16.66%) and depression (8.33%) while in menopausal group maximum respondents suffering from fatigue (75%) followed by stress (68.75%), headache (62.5%), hot flushes (31.25%), excessive perspiration (56.25%) and anxiety (37.5%) (**Freeman et al., 2007**)

IV. CONCLUSION

In this study among the perimenopausal and menopausal women the average daily nutrient intake was normal in both the group and they are following different patterns of food consumption. In both the groups there is presence of various menopausal symptoms in which headache, fatigue, hot flushes, depression, stress and excessive perspiration were more prevalent symptoms in both the group.

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