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THE STUDY OF LIFESTYLE PATTERN AND EXERCISE BEHAVIOR OF MENOPAUSAL WOMEN

Home Science

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ABSTRACT

Postmenopausal women have an increased tendency for gaining weight. Evidence suggests that regular exercise and caloric restriction are crucial for weight management after menopause.[4] In the present study 293 menopausal women were surveyed. Interview cum questionnaire method was used for collection of information related to lifestyle pattern and exercise behavior. The mean age of pre, peri and post menopausal women were found to be 40.32 ± 4.02, 44.72 ± 4.14, 49.93 ± 4.03 years respectively. The highest percent of menopausal women were doing exercise. Among the exercising women, walking was the form of exercise performed by higher number of menopausal women. The highest of menopausal women felt freshness and fitness after exercise.

KEYWORDS

Menopause, lifestyle pattern, exercise behavior, time of exercise, type of exercise

INTRODUCTION

Menopause is an adaptation process during which women go through a new biological state. This process is accompanied by many biological and psychosocial changes. [2]Postmenopausal women have an increased tendency for gaining weight. The declines of endogenous estrogens, together with physical inactivity, are probably the major causes of this phenomenon. Postmenopausal overweight and obesity leads to increased rates of hypertension, diabetes mellitus, coronary artery disease, and all cause mortality. Additional consequences may include hormone-dependent cancer, gallstones, nephrolithiasis, and osteoarthritis.[3]

Because of the metabolic changes that many postmenopausal women experience, there can be a decrease in exercise tolerance related to the loss of potent estrogens. Despite the challenges that exercise intolerance may pose for some postmenopausal women, evidence suggests that regular exercise and caloric restriction are crucial for weight management after menopause.[4]

Among menopausal women, regular activity can assist in managing many of the physical changes associated with menopause and can provide health benefits with regard to cardio vascular disease, obesity, diabetes mellitus, osteoporosis, osteoarthritis, and some forms of cancer.[5] Menopause is a time when many women modify their life habits. They may engage in preventive activities, such as a "healthy life plan" that includes healthy eating, regular physical exercise, and maintaining an active family and social life. [6]

In view of present studies, the present investigation was under taken to study the lifestyle pattern and exercise behavior of women of different menopausal status viz., pre menopausal, peri menopausal and post menopausal women.

MATERIALS AND METHODS

In the present study cross-sectional research design was employed wherein pre-menopausal, peri-menopausal and post menopausal women of Nasik city of Maharashtra state were surveyed. The cluster and purposive sampling technique were applied for selection of menopausal women. The subjects who voluntarily participated were included in the study and a written consent was obtained. The subjects were informed the purpose of the questioner and its use for further investigation. The Interview cum questionnaire method was used for collection of information related to the life style pattern of subjects such as duration of exercise, type of workout, period of exercise; physical workout behavior and regular physical activities performed were assessed. The information regarding any special diet if consumed was also recorded. The data was computed for frequencies, percentages, means, standard deviation and chi square test using SPSS version 20. The confidence interval was set at 95%.

RESULTS

In the present study 293 menopausal women were surveyed which included 131 pre menopausal women, 75 peri menopausal women and 87 post menopausal women. The mean age of pre menopausal, peri menopausal and post menopausal women were found to be 40.32 ± 4.02, 44.72 ± 4.14, 49.93 ± 4.03 years respectively. A significant difference (χ^2 =164.707, p = 0.000) was observed between menopausal age and menopausal status of women.

The data in Table 1 elicits that highest percent of post menopausal women (66.26) doing exercise. However, 40.45 % of pre menopausal women, 38.66% of peri menopausal women and 36.78% of post menopausal women did not perform any kind of exercise. An insignificant association (χ2 = 0.299, p =0.861) was observed between menopausal women and their exercise behavior.

Table 1: Distribution of Menopausal Women according to their Exercise Behavior

S. No.	Do you Exercise Regularly	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	No	53 (40.45)	29 (38.66)	32 (36.78)	0.299	0.861
2	Yes	78 (59.54)	46 (61.33)	55 (66.26)		

The data in Table 2 shows that higher number of peri menopausal women (26.7%) started doing exercise for last 3-5 years. A higher number of peri menopausal women (14.7%) started doing exercise for last 6-10 years. About 3.8%, 2.7 % and 8 % of pre menopausal women, peri menopausal women and post menopausal women respectively had started doing exercise for more than 10 years. However, an insignificant association was observed among menopausal status and commencement of exercise ((χ2 = 8.053, p = 0.428).

Table 2: Distribution of Menopausal Women according to their Commencement of Exercise

S. No.	When did you start	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	Less than 1 Year	11 (8.50)	6 (8.00)	8 (9.20)	8.053	0.428
2	1-2 Years	20 (15.40)	12 (16.00)	8 (9.20)		
3	3-5 Years	33 (25.40)	20 (26.70)	19 (21.80)		
4	6-10 Years	8 (6.20)	11 (14.70)	8 (9.20)		
5	More than 10 Years	5 (3.80)	2 (2.70)	7 (8.00)		

The data in Table 3 illustrates that maximum numbers of peri menopausal women (58.7 %) were performing exercise on their own. Only 9.3 % of peri menopausal women, 9.2 % of pre menopausal women and 5.7 % of post menopausal women took medical professional advice.

Table 3: Distribution of Menopausal Women according to Exercise Advice given by

S. No.	Who Suggested	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	Self	65 (50.00)	44 (58.70)	45 (51.70)	0.814	0.665
2	Medical Professional	12 (9.20)	7 (9.30)	5 (5.70)		

The data In Table 4 depicts that maximum number of peri menopausal women (49.3 %) followed by post menopausal women (44.8) and pre menopausal women (42.3) performed exercised in morning time. There was no significant association being observed among menopausal status and time of day of exercise ($\chi2 = 10.224$, $p = 0.250$).

Table 4: Distribution of Menopausal Women according to Time of Exercise

S. No.	Time of Exercise	Menopausal Status (N=293)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	Both	7 (5.40)	4 (5.30)	4 (5.30)	10.224	0.250
2	Evening	15 (11.50)	10 (13.30)	7 (8.00)		
3	Morning	55 (42.30)	37 (49.30)	39 (44.80)		

Table 5 shows distribution of menopausal women according to their duration of exercise. Maximum number of pre menopausal women (44.6%) exercised for 30-60 minutes in a day. Very few pre menopausal women (1.5 % and 0.8 %) did exercise for 60-90 minutes and 90-120 minutes respectively in a day. None of the peri menopausal women exercised for 60-90 minutes in a day. An insignificant association ($\chi2 = 38.516$, $p = 0.089$) was observed between menopausal women and duration of exercise.

Table 5: Distribution of Menopausal Women according to their Duration of Exercise

S. No.	Duration of Exercise	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	0 Minutes	53 (40.80)	24 (32.00)	37 (42.50)	38.516	0.089
2	0-30 Minutes	16 (12.30)	19 (25.30)	24 (27.60)		
3	30-60 Minutes	58 (44.60)	31 (41.30)	21 (24.10)		
4	60-90 Minutes	2 (1.50)	0 (0.00)	3 (3.40)		
5	90-120 Minutes	1 (0.80)	1 (1.30)	2 (2.30)		

The data in Table 6 reveals the distribution of menopausal women according to their type of exercise. Among the exercising women, walking was the form of exercise performed by higher number of post menopausal women (70.00%). Higher number of peri menopausal women (58.80%), pre menopausal women (49.40%) and post menopausal women (44.00%) followed yoga. Neither pre menopausal women nor post menopausal women performed swimming activity. An insignificant association ($\chi2 = 6.604$ $p = 0.358$) was observed between the menopausal status of women and type of exercise.

Table 6: Distribution of Menopausal Women according to their Type of Exercise

S. No.	Type of Exercise	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	Walking	48 (62.30)	29 (56.90)	35 (70.00)	6.604	0.358
2	Yoga	38 (49.40)	30 (58.80)	22 (44.00)		
3	Gym	2 (2.66)	1 (2.00)	1 (2.00)		
4	Swimming	0 (0.00)	2 (3.90)	0 (0.00)		

Table 7 reveals the distribution of menopausal women according to benefits observed during exercise. The majority of peri menopausal women (57.1%) felt freshness after exercise. Fitness was observed by 22.1% of pre menopausal women. The majority of post menopausal women (18.4%) felt flexible after doing exercise. Weight control, increased stamina and sugar control was observed by pre menopausal women (6.5%, 5.2% and 1.3 %). An insignificant association ($\chi2 = 0.304$, $p = 0.741$) was observed between the menopausal status of women and benefits observed during exercise.

Table 7: Distribution of Menopausal Women according to Benefits Observed during Exercise

S. No.	Benefits Observed	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	Freshness	42 (54.50)	28 (57.10)	26 (53.10)	0.304	0.741
2	Flexibility	7 (9.10)	6 (12.20)	9 (18.40)		
3	Fitness	17 (22.10)	7 (14.30)	7 (14.30)		
4	Weight Control	5 (6.50)	5 (10.20)	3 (6.10)		
5	Increased Stamina	4 (5.20)	2 (4.10)	4 (8.20)		
6	Sugar Control	1 (1.30)	1 (2.00)	1 (2.00)		
7	Any Other	7 (9.10)	7 (14.30)	5 (10.20)		

It is evident from the Table 8 that majority of peri menopausal women (97.3%), pre menopausal women (95.4%) and post menopausal women (94.3%) had sedentary life style. Only 5.7 % of post menopausal women, 4.6% of pre menopausal women and 2.7% of peri menopausal women belonged to moderate daily activity category.

Table 8: Distribution of Menopausal Women according to their Daily Activity

S. No.	Benefits Observed	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	Moderate	6 (4.60)	2 (2.7)	5 (5.7)	2.31	0.315
2	Sedentary	124 (95.40)	73 (97.30)	82 (94.30)	2.888	0.236

The study comprised of 293 menopausal women altogether, however only 57 pre menopausal women, 44 peri menopausal women and 37 post menopausal women suffered from some or other kind of health related problems. The data in Table 9 illustrates that the majority of peri menopausal women (39.50%) suffered from high blood pressure, diabetes (15.80%) and osteoporosis (15.08%). The majority of post menopausal women (32.30%) suffered from hypothyroidism. Neither pre menopausal women nor peri menopausal women suffered from heart disease. PCOD was observed among 3.80% of pre menopausal women and 2.60% of peri menopausal women. 28.80% of pre menopausal women, 19.40% of post menopausal women and 18.40% of peri menopausal women suffered from any other health conditions. An insignificant ($\chi2 = 20.573$, $p = 0.113$) was observed between menopausal status and morbidity status.

Table 9: Distribution of Menopausal Women according to Health Conditions

S. No.	Suffering from Any Health Conditions	Menopausal Status (N=293) (%)			χ2-Value	p-Value
		Pre Menopausal Women (N=57)	Peri Menopausal Women (N=44)	Post Menopausal Women (N=37)		
1	Diabetes	5 (9.60)	6 (15.80)	5 (16.10)	20.573	0.113
2	Heart Disease	0 (0.00)	0 (0.00)	4 (12.90)		
3	High Blood Pressure	12 (23.10)	15 (39.50)	9 (29.00)		
4	Hypothyroidism	15 (28.80)	8 (21.10)	10 (32.30)		
5	Osteoporosis	5 (9.60)	6 (15.80)	1(3.20)		

6	Spondilisis	3 (5.80)	1 (2.60)	2 (6.50)		
7	PCOD	2 (3.80)	1 (2.60)	0 (0.00)		
8	Any Other	15 (28.80)	7 (18.40)	6 (19.40)		

The data in Table 10 reveals the distribution of menopausal women according to their diet modifications. The majority of pre menopausal women (75%) preferred eating low sugar in diet and about 48.1 % of pre menopausal women took low fat in the diet. Maximum number of post menopausal women (68.9%) preferred taking high fiber in the diet. High fluid and dixit diet was observed by 42.3 % and 5.8% of pre menopausal women; 40.6% and 6.3% of peri menopausal women and 44.4% and 4.4% of post menopausal women respectively. An insignificant association ($\chi 2 = 7.140$, $p = 0.848$) was observed among menopausal women and diet modifications.

Table 10: Distribution of Menopausal Women according to their Diet Modifications if Any Made

S. No.	Diet Modification if Any Made	Menopausal Status (N=293)			$\chi 2$-Value	p-Value
		Pre Menopausal Women (N=131)	Peri Menopausal Women (N=75)	Post Menopausal Women (N=87)		
1	Low Salt	1 (1.90)	0 (0.00)	0 (0.00)	7.140	0.848
2	Low Sugar	39 (75.00)	22 (68.80)	26 (57.80)		
3	Low Fat	25 (48.10)	19 (59.40)	17 (37.80)		
4	High Fiber	26 (50.00)	20 (62.50)	31 (68.90)		
5	High Fluid	22 (42.30)	13 (40.60)	20 (44.40)		
6	Low Carbohydrate	1 (1.90)	0 (0.00)	0 (0.00)		
7	Dixit Diet	3 (5.80)	2 (6.30)	2 (4.40)		

DISCUSSION

The current study was undertaken to examine details of information related to the life style and regular physical activities performed who are under menopausal transition. In the present research the majority of menopausal women were doing some kind of exercise. Whereas in a study by nalini mishra (2003) it was concluded that the social scenario of senior women in our country is sadly that of reduced activity. Women often exercise less when they enter menopause, which can lead to weight gain. To further complicate matters, the metabolism is also decreased. One reason of this metabolism decline with age is the loss of muscle mass (about half-a-pound a year). Muscle burns more calories than fat, so whenever the muscle is not preserved with weight training exercise, the body simply does not burn as many calories. There is also a tendency to increase the intake of calories. As the metabolism drops, many women do not adjust their calories accordingly, which often leads to weight gain. The prevalence of the metabolic syndrome is reported to be significantly higher in postmenopausal women in India. [7]A survey was carried by Healthify Me, showed that 53 per cent of Indian women are “inactive” and burn less than 50 per cent of calories that a person should burn through physical activity, daily, as against 44 per cent of men (Hinduatan times , 2019). [8]

In present investigation the highest number of menopausal women were involved in regular exercise rogramme. However, Jet, *et al,* (1996) obserevd that many Americans were inactive or irregularly active during their leisure time. Rates of inactivity are greater for women, older persons, non-Hispanic blacks, and Mexican Americans. Intervention strategies meant to promote lifetime physical activities among all Americans represents a major health priority.[9]

In the present research work, a maximum number of menopausal women prefered during exercise in morning time. Tworoger *et al*., (2003) observed the similar results that among 87 postmenopausal women, 50 women performed exercise in morning where as 36 women performed exercise in evening time and only 1 woman preferred during both morning and evening timing. There was no significant difference being observed between interventions groups. [10]

For general good health, the 2008 Physical Activity Guidelines for Americans recommends that adults get a minimum of 2-1/2 hours per week of moderate-intensity aerobic activity. Yet many people may need more than 2-1/2 hours of moderate intensity activity a week to stay at a stable weight.[11] In the present study, menopausal women were performing exercise for 30-60 minutes in a day and or 3 to 3 ½ hours in a week.

In the present study among the exercising women, walking was the form of exercise performed by menopausal women. Nalini Mishra *et al*., (2011) prescribed menopause friendly exercise that should include, endurance exercise (aerobic), strength exercise, and balance exercise. Out of these aerobics, weight bearing, and resistance exercises are all effective in increasing the bone mineral density of the spine in postmenopausal women. An effective exercise prescription may be resistance and weight bearing exercise three days a week (on alternate days). [12]

Menopause societies recommend physical exercise for symptom relief and for health promotion. However, many of these recommendations are extrapolated from studies that include women (and men) of different ages. [13] in the present study, the majority of menopausal women experienced freshness and flexibility after exercise.

Most studies have reported a high rate of abandonment of physical exercise regimes. Therefore, psychosocial interventions are being established as promising methods for improving the quality of life of postmenopausal women and to increase adherence to programmes that promote a healthy lifestyle. These interventions range from health promotion or health education to support systems and even cognitive behavioral therapies. They are especially useful when associated with other healthy lifestyle habits, mainly physical exercise, which increases their capacity for reducing the stress and discomforts of menopause. [13]

The highest number of menopausal women belonged to sedentary category whereas lowest number of menopausal women had moderate activity levels. In a study Jhajharia (2017) observed that sedentary lifestyle nowadays is becoming more and more frequent in all over world. An individual with sound body and health also leads to the development in the socio economic aspect in any country. In modern scenario, problems related to health are increasing as the generation is becoming more advance and inactive. This area is of great attention and need some solution for attainment of health and fitness for longevity and prosperity. [14]

In the present study, majority of menopausal women made diet modifications viz., low sugar, low fat, high fibre and high fluid diet. In a research by GalDubnova *et al*., (2003) suggested the demands of dietary and behavioral modification is essential in managing postmenopausal obesity and overweight, which further reduces obesity-related morbidity and mortality.

Despite all the physiological changes, menopause should not be viewed as a sign of impending decline, but rather a wonderful beginning of a good health program including lifestyle changes in diet, exercise, including yoga and limiting smoking as well as alcohol. [1]

CONCLUSION:

The situation of post menopausal women in our society is that of decreased physical activity, which further leads to weight gain. It is well documented that women who are involved in some kind of exercise can maintain a good quality of life even after menopause without medication. Women who are engaged in some form of exercise tends to have healthy body weight, bone mineral density status and overall the psychological health.

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