

# Level of Physical Activity and Attitude towards Physical Activity in Perimenopausal Women in India

Dr. Jyoti Parle<sup>1</sup>, Dr. Neha N. Dhobale<sup>2</sup>

<sup>1</sup>Associate Professor, <sup>2</sup>Physiotherapist,  
MGM College of Physiotherapy, Sector-18, Kamothe, Navi Mumbai-410209 Maharashtra, India

Corresponding Author: Neha N. Dhobale

## ABSTRACT

**Context:** Perimenopause, also called menopausal transitional phase, is a period during which a female's body undergoes changes and transitions to menopause. Women in this phase do experience a lot of menopausal symptoms. Several studies have shown that physical activities reduce menopausal symptoms. But there are very few studies assessing the perimenopausal women's level of physical activity and attitude towards physical activity.

**Aim:** To study the level of physical activity and attitude towards physical activity in perimenopausal women of India.

**Materials and Method:** 125 perimenopausal women were conveniently selected on the basis of the primary criteria of Stages of Reproductive Aging Workshop +10. They were then given questionnaires consisting of Demographic data, Menopause Rating Scale (MRS), International Physical Activity Questionnaire (IPAQ) Long form (self-administer format) and a self-made questionnaire for determining the attitude towards physical activity (self-administer format).

**Result:** The data was analysed by descriptive statistics and correlated using Spearman's correlation. The most common menopausal symptoms experienced were joint and muscular discomfort followed by irritability and depressive mood. It was found that majority women performed moderate level physical activity. There was a negative correlation between psychological subscale score of MRS and IPAQ score. Majority of the women thought physical activity was important to lead healthy life.

**Conclusion:** Majority women performed moderate level of physical activity and generally had a positive attitude towards physical activity.

**Key words:** Perimenopausal women, menopausal symptoms, physical activity level, attitude towards physical activity.

## INTRODUCTION

Perimenopause means "around menopause" and refers to the time during which a female's body makes the natural transition to menopause, marking the end of the reproductive years. It is also called as menopausal transition during which there are considerable hormonal fluctuations. [1] Women start perimenopause at different ages. According to Cleveland clinic perimenopause can begin 8 to 10 years before menopause. Signs of progression

towards menopause, such as menstrual irregularity usually start sometime in women's 40s but can also occur as early as their mid-30s as well. [1] Level of oestrogen rises and falls unevenly during perimenopause. Menstrual cycles may lengthen or shorten and women may begin having menstrual cycles in which their ovaries don't ovulate. [1] It lasts up until menopause i.e. the point when the ovaries stop releasing eggs. The drop in oestrogen level accelerates in the last 1-2 years of

perimenopause.

Women in perimenopause can still experience symptoms of menopause: Vasomotor symptoms like hot flushes and sweats, palpitations, headaches. Psychological symptoms like irritability, mood swings, forgetfulness, difficulty in concentration, increased risk of depression and loss of libido. Urogenital symptoms like vaginal dryness, urinary incontinence and difficulty in intercourse (due to diminished oestrogen levels resulting in loss of lubrication and elasticity of vaginal tissues. Skin problems like dryness of skin, dry hair, brittle nails. Other symptoms like sleep problems, loss of bone density. [2]

WHO defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure. Regular physical activity can reduce the risk of cardiovascular diseases, diabetes, colon and breast cancer, and depression. Moreover adequate levels of physical activity will decrease the risk of a hip or vertebral fracture and help control weight. Physical inactivity has been identified as the fourth leading risk factor for global mortality causing an estimated 3.2 million deaths globally. [3] Several previous studies showed that physical activity significantly reduces menopausal symptoms, but other studies have found that physical activity improves general symptoms such as physical and psychosocial symptoms, although it does not influence specific symptoms such as vasomotor and sexual symptoms. [4-10]

A few older cross-cultural studies of physical activity and exercise indicated clear gender and cultural differences in attitudes toward physical activity (Lip, Luscombe, McCarty, Malik, & Beevers, 1996; Tannehill & Zakrajsek, 1993; Taylor et al., 1999). Asians were the least likely to participate in exercise, had a lower awareness of cholesterol or dietary content, and were more opposed to exercise than were Whites and Blacks (Lip et al., 1996; Tannehill & Zakrajsek). African Americans perceived rest as more important than physical activity (Airhihenbuwa,

Kumanyika, Agurs, & Lowe, 1995; Tannehill & Zakrajsek). European and European-American women tended not to engage in any form of exercise, perceived exercise as separate from their daily lives, mentioned body weight as an influence, and chose diet rather than exercise for weight control (Blokstra, Burns, & Seidell, 1999; Conn, 1998; Margetts et al., 1999). [11] Another study by Heesch, Brown, & Blanton, 2000 reported ethnic specific attitude towards physical activity for Caucasian and Native American/Native Alaskan (bad health and being self-conscious), African American (care-giving duties, lack of safe place and fear of injury) and Hispanic (care-giving duties, bad health and being self-conscious) women aged 40 years and older with only lack of time and energy and being too tired being the common reason.

Despite the above mentioned data there is a general lack of studies assessing the level of physical activity and attitude towards physical activity amongst perimenopausal Asian and specifically Indian women. It is therefore imperative to know the level of physical activity and attitude of these women, undergoing such major changes, towards physical activity during this phase. Thus, this study was conducted with the aim and objectives of determining the level of physical activity and attitude towards physical activity among perimenopausal women of India.

## **MATERIALS AND METHODS**

The study was cross-sectional with convenient sampling method. All the subjects were well versed in English language. A total of 125 women of both working and non-working class, from Mumbai city, Navi Mumbai city, Thane city and district, Raigad district and Palghar district of Maharashtra state were categorized into perimenopausal phase on the basis of the primary criteria of Stages of Reproductive Aging Workshop +10 i.e. early menopausal transition marked by increased variability in menstrual cycle

length, defined as a persistent difference of 7 days or more in the length of consecutive cycles and late menopausal transition phase marked by occurrence of amenorrhea of 60 days or longer. They were selected based on inclusion and exclusion criteria. The inclusion criteria were perimenopausal women of age group 45 to 55 years of age, while the exclusion criteria were a) Women on hormonal replacement therapy. b) Women with history of irregular menses e.g. PCOD, fibroid issues. c) Cancer patients. d) Those not willing to participate.

The purpose of the study was explained to the subjects and their written informed consent was taken. Then the subjects were given the questionnaires consisting of Demographic data which included name, age, height, weight, occupation, address and contact number, Menopause Rating Scale, International Physical Activity Questionnaire (IPAQ) Long form (self-administer format) and a self-made questionnaire for determining the attitude towards physical activity (self-administer format). Ample time and privacy was given to fill the Questionnaires. All questions or doubts regarding the questionnaires were answered.

The Stages of Reproductive Aging Workshop (STRAW) was held in Park city, Utah on July 23-24, 2001.<sup>[12]</sup> A follow up workshop “STRAW +10: Addressing the Unfinished Agenda of Staging Reproductive Aging” (STRAW +10) was held in Washington, DC, on September 20 and 21, 2011, reviewed the scientific advances and updated the STRAW criteria. STRAW +10 simplified bleeding criteria for the early and late menopausal transition, recommended modifications to criteria for the late reproductive and the early post-menopause stages, provided information on the duration of the late transition and early post-menopause, and recommended application regardless of women’s age, ethnicity, body size, or lifestyle characteristics.<sup>[13]</sup>

Menopause Rating Scale (MRS) was used to assess the prevalence of the menopausal symptoms and their severity

among the subjects. Then the score of each of the three dimensions (subscales) was calculated based on adding up the scores of the items (symptoms) of the respective dimensions. The three dimensions or subscales being psychological subscale, somatic-vegetative subscale and urogenital subscale. The data was then analyzed to find the three most common symptoms in general and subscale wise.

International Physical Activity Questionnaire in English language (IPAQ) Long form was obtained from [www.ipaq.ki.se](http://www.ipaq.ki.se). Self-administer format was used for the purpose of this study. The MET Values for walking, moderate and vigorous physical activities in work domain, active transportation domain, domestic and garden domain and leisure-time domain were calculated and then added to determine the total physical activity score for each subject. The subjects were then categorized into either Low, Moderate or High level of physical activity based on the total physical activity score.

To assess the attitude of the subjects towards physical activity a close ended questionnaire was made taking into which aimed to determine the study population’s view towards physical activity like whether they take part in it; if no then why; did they thought whether physical activity was important to lead a physically fit life; did they think physical activity was only for sports people/sports lovers; if their age prevented them in taking part in physical activity; whether they thought they lead physically fit life; their willingness to recommend some or any form of physical activity to others.

## RESULT

For interpretation of the result the data recorded was analyzed using descriptive statistics and the IPAQ score was then correlated with each of the MRS subscale scores using Spearman’s correlation with SPSS software, version 20.0.

The mean age was  $48.52 \pm 2.37$ . Out of 125 women 79% were working women however all were educated. Most women (44.80%) were Overweight followed by Normal weight (39.20%) and Obese Class I (11.20%) respectively, according to BMI classification. The symptoms reported by perimenopausal women are given in Table-1 and subscale wise in Table-2.

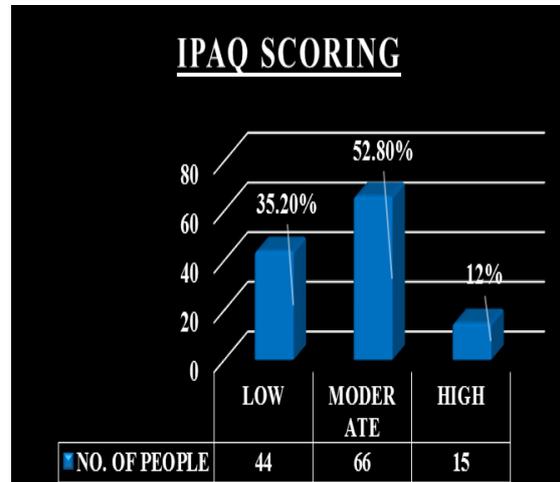
Among 125 women who participated in the study most of the women performed moderate level of physical activity as shown in Fig 1.

**Table 1: Symptoms reported by perimenopausal women included in study (n=125)**

Symptoms	n
A. Psychological subscale	
Depressive Mood	101
Irritability	102
Anxiety	89
Physical and Mental Exhaustion	96
B. Somato-vegetative subscale	
Hot flushes, sweating	84
Heart discomfort	73
Sleep problems	71
Joint and muscular discomfort	105
C. Urogenital subscale	
Sexual problems	78
Bladder problems	78
Dryness of Vagina	82

**Table 2: Subscale wise score**

Subscales	n	%
Somato-vegetative subscale	114	34.23
Psychological subscale	113	33.93
Urogenital subscale	106	31.83



**Figure 1: Level of physical activity IPAQ score**

On correlating IPAQ score with the subscale scores of MRS using Spearman's correlation, a negative correlation was found between IPAQ score and psychological subscale score, as shown in Table 3, which indicated that increase in physical activity reduces psychological symptoms.

**Table 3: Correlation between IPAQ score and psychological subscale score of MRS**

Spearman's rho	IPAQ	Psychological Subscale	
		Correlation Coefficient	Sig. (2-tailed)
		1.000	-.237**
		.	.008
		125	125
	Psychological Subscale	Correlation Coefficient	Sig. (2-tailed)
		-.237**	1.000
		.008	.
		125	125

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Attitude of women towards physical activity is given in Table 4

**Table 4: Attitude of perimenopausal women towards physical activity. (n=125)**

Description	n	%
A. People who take part in physical activity	63	50.40
i. Of those who don't reasons for not taking part (n=62)		
a. Don't have time	52	83.87
b. Don't have energy	18	29.03
c. Don't know what to do	13	20.96
d. Don't have interest in it	10	16.12
e. Don't have motivation	8	12.9
B. Think physical activity only for sports people/sports lovers		
Yes	1	1
No	124	99
C. Think age prevents from performing physical activity		
Yes	38	30
No	87	70
D. Think daily chores are enough physical activity	67	54
E. Think physical activity is important to lead a healthy life	125	100
F. Think currently lead a healthy life	79	63.20
G. Will recommend physical activity to others	125	100

## DISCUSSION

In this study it was found that these perimenopausal women did experience menopausal symptoms. The symptoms were grouped into categories i.e. psychological, somato-vegetative and urogenital subscale. The most common symptom in psychological subscale was Irritability, in urogenital subscale was dryness of vagina and in somato-vegetative subscale was joint and muscular discomfort. In general the most common symptoms were joint and muscular discomfort followed by irritability and depressive mood. These findings are consistent with the findings of a similar study conducted in Abbottabad, Pakistan. Same study concluded that stress of midlife rather than menopause causes irritability. [2] Destabilizing effects of the cyclic fluctuations of estradiol, which can increase with ovarian aging, particularly in the transition to menopause, are an important factor both for depressive symptoms and for diagnosis of depressive disorders. [14] Dryness of vagina occurs in perimenopausal women because falling levels of oestrogen causes vaginal tissue to become thinner and drier. [15] A study conducted by Freeman, Sammel et al, 2007 suggested that fluctuations of E2 may be involved in the aches, joint pain, and stiffness reported by perimenopausal women. [16]

On evaluating the result it was found that majority women performed moderate physical activity but had BMI of over 24.9. This was because majority of the physical activity was performed during transportation, primarily walking from one place to another and moderate level physical activities involving household maintenance/care/chores. Increase in weight can also be caused due to genetics (leptin deficiency), over eating, frequency of eating, type of diet (carbohydrate or fat rich diet), medications (anti-depressants, anti-convulsant, corticosteroids etc.).

There was found to be a negative correlation between psychological subscale score and IPAQ score which indicates that increase in physical activity reduces

psychological symptoms and their severity among women. Exercise improves mental health by reducing anxiety, depression, and negative mood and by improving self-esteem and cognitive function. Exercise has also been found to alleviate symptoms such as low self-esteem and social withdrawal. [17] Exercise promotes the secretion of neurotransmitters like serotonin (Ransford 1982, Morgan 1985). Also, evidence from animal studies suggests exercise stimulates the secretion of endogenous morphines ('Endorphins') and produces a state of euphoria (Pert & Bowie 1979). [18] There are several views that seek to explain the beneficial effects of exercise on anxiety. One view suggests that exercise raises body temperature and reduces muscle tension similar to the effect of having a warm bath – the so called thermogenic hypothesis (Raglin & Morgan 1985). Another view suggests that exercise stimulates activity in the sympathetic nervous system (SNS); adrenaline levels are increased and this has an arousing effect. When the SNS is activated, it provides a catalyst for parasympathetic nervous system (PNS) activity; acetylcholine is released and this has a calming effect. This is known as the Opponents Process Model (Solomon 1980). Exercise is also thought to distract people from stressful events thereby reducing the anxiety provoking impact of these events (Bakre & Morgan 1978). [18]

49.60% women did not take part in additional physical activity in the form of recreational activities like walking, jogging, yoga, and when asked why not the answer was found to be lack of time followed by lack of energy and motivation; very few stated lack of knowledge or interest in it as a reason for not performing physical activity. This might be because majority women who participated in the study were working women and felt that their daily chores were enough physical activity for them. Of those who did take part in physical activity all said that they enjoyed it.

All women felt that physical activity was important to lead a healthy life. Very

few women felt that physical activity should only be performed when prescribed by professionals like physiotherapist. This might be because of their lack of knowledge or awareness as to what physical activity really is. It could also be because of their perception of physical activity as only a form of treatment and not something everybody could do. Similarly very few women felt that their age prevented them from performing physical activity. This could be presence of certain symptoms related to aging, which also occurred in perimenopausal women, like joint and muscular discomfort, physical and mental exhaustion, preventing them from participating in it. When asked if they thought they lead a healthy life, 63.20% of the women felt that they did. This could be because majority were working women who travelled quite a bit to and from their work place, did household chores and did feel physical exhaustion by the end of the day and might take this to mean they perform adequate physical activity to lead a healthy life. All women readily agreed to recommend physical activity to others to create more awareness of its need.

## CONCLUSION

Thus this study concludes that majority of the perimenopausal women performed Moderate level of physical activity. The study also observed that higher the physical activity lesser the psychological symptoms. Majority women thinking that physical activity is important to lead a healthy life, as well as agreeing to recommend it to others showed a positive attitude of these women to physical activity. Limitations of the study were lack of generalizability, study population was restricted to a small area of country.

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How to cite this article: Parle J, Dhobale NN. Level of physical activity and attitude towards physical activity in perimenopausal women in India. *Int J Health Sci Res*. 2018; 8(7):170-176.

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