INTERNATIONAL JOURNAL OF TECHNO-ENGINEERING
IJTE

ISSN: 2057-5688

The Effect of Yoga on Blood Pressure in Women in the 20s to 40s in Vijayawada

K. Santhi[1], Dr. Narender Kumar[2]

[1]Research scholar, OPJS University Churu, Rajasthan

[2]Associate Professor, Dept of Yoga from OPJS University Churu, Rajasthan

ABSTRACT

All women should take care of themselves since they are incredibly valuable. The mature woman must be graceful, fit, and full of "POISE" since she has a bigger part to play in the family and society. In the absence of a known disease, ageing is the natural progression of changes in structure and function through time. The female reproductive system ages gradually starting at 20 weeks of gestation, around the time of follicular atresia. It is the gradual loss of oocytes due to atresia or ovulation; the rate of loss is not always consistent. Chronological age is a poor predictor of the start or conclusion of the menopausal transition due to the relatively wide age range (20-40 years) for natural menopause. There will be 1.1 billion postmenopausal women in the world by 2025, according to predictions. In 1998, the average woman's life expectancy was 65 years (79 years in highly developed nations). By 2025, this is anticipated to increase to 72 years worldwide (82 years in developed nations). According to the National Family Health Survey 2005–2006, in India, one-fifth of women in the age bracket of 40–41 is menopausal, and the incidence of the condition rises sharply from there to 65% of women in the age bracket of 48–49. Even in India, the number of women in the menopausal age bracket is steadily rising due to increased longevity. The Indian Menopausal Society estimates that there are over 43 million menopausal women worldwide. the results of a nationwide, multi-centric survey done by IMS in 2010.demonstrate that the menopause age for women has changed from 40 to 45 years to between 27 and 42 years.

I Introduction

According to the National Family Health Survey 2005–2006, in India, one-fifth of women in the age bracket of 40–41 is menopausal, and the incidence of the condition rises sharply from there to 65% of women in the age bracket of 48–49. Even in India, the number of women in the menopausal age bracket is steadily rising due to increased longevity. The Indian Menopausal Society estimates that there are over 43 million menopausal women worldwide. the results of a nationwide, multi-centric survey done by IMS in 2010. demonstrate that the menopause age for women has changed from 40 to 45 years to between 27 and 42 years.

Menstrual abnormalities are known to affect women at all stages of their reproductive lives, from menarche (when menses begin) to menopause (when menses stop). A typical menstrual cycle lasts between 25 and 35 days, with bleeding lasting 4 to 6 days and MBL of 30 to 50 ml. At the extremities of reproductive life, i.e., after menarche and before menopause, the median menstrual cycle length varies. Because of the poor functioning of the ovaries and the immaturity of the pituitary gland, menstrual cycles are sometimes protracted and unpredictable right after menarche, but by the time a woman is 18 to 20 years old, the cycles become predictable. Except for a few months after an abortion or delivery (the breastfeeding period), menstrual cycles are often normal in women of childbearing age (20 to 35 years). Menstrual irregularity is more prevalent in the later reproductive years and signals the start of perimenopause.

Women of all ages should take care of themselves because they are priceless. The mature woman plays a more significant role in the home and the community; thus, she has to be physically strong, socially confident, and have "POISE"! Changes in structure and function that occur ordinarily with the passage of time without the influence of any known illness are what we mean when we talk about ageing. Fetal follicular atresia, which occurs around week 20 of pregnancy, marks the beginning of the ageing process in a woman's reproductive system. Oocyte loss may result from atresia or ovulation, and its rate of occurrence varies. Natural menopause may occur

anywhere between the ages of 20 and 40, making chronological age a poor predictor of when the change will begin or conclude.

It is projected that by 2025, there will be 1.1 billion women globally who have experienced menopause. In 1998, women's life expectancy was 65 years globally and 79 years in the most industrialized nations. By 2025, it's projected that this would increase to a global average of 72 years (or 82 y in rich nations).

Menopause affects 20% of Indian women by age 40–41 and rises sharply afterwards, peaking at 65% among women aged 48–49 (National Family Health Survey, 2005–2006). Women of menopausal age are increasing in number everywhere, including India, since people are living longer. There are around 43 million menopausal women in India, as reported by the Indian Menopausal Society. According to results from a 2010 IMS nationwide multi-center survey, the average menopause age for American women is now between 27 and 42 years old, up from 40 to 45 years old.

From the commencement of menses (menarche) through the end of menstruation (menopause), menstrual abnormalities are a well-documented part of a woman's reproductive cycle. Bleeding typically lasts between four and six days and menstrual blood loss (MBL) averages between thirty and fifty milliliters (ml) during a normal menstrual cycle (days 25–35). After menarche and just before menopause, the median duration of a woman's menstrual cycle shifts. Due to underdeveloped ovaries and an immature pituitary gland, menstrual cycles are often irregular and protracted in the years immediately after menarche. However, by the time a woman reaches her late teens or early twenties, her periods have settled into a predictable pattern. The menstrual cycles of women of childbearing age (20-35) are typically regular, with the exception of the first few months after an abortion or birth (the breastfeeding phase). Menstrual irregularity is more prevalent in the later reproductive years and signals the start of perimenopause.

Menstrual abnormalities during menopause are caused by a natural decline in healthy oocyte numbers. The remaining oocytes in the ovary are not as competent, thus the natural hormone balance cannot be maintained. Menstrual disorder affects the vast majority of women throughout their reproductive years. Changes in the duration of time between menstrual cycles are a common symptom of perimenopause. There are

two distinct phases of the perimenopause: Menstrual periods may be shorter or longer than normal during early perimenopause. Menstrual cycles become more drawn out and irregular as a consequence of the late perimenopause. Some women have prolonged, excessive menstrual bleeding that need urgent medical intervention.

Estrogen and progesterone (both produced by the ovaries) maintain a healthy equilibrium, resulting in regular menstrual cycles. The endometrium (uterine lining) responds erratically during perimenopause because of disruptions in the regular hormonal sequence. The ovary is the primary source of estrogen in most premenopausal women. However, extra adipose (fat) tissue in overweight women also generates a lot of estrogen. Endometrial thickening and abnormally excessive bleeding may arise from estrogen acting without any counteracting hormones. It's possible that some of the alterations in the endometrium might progress to cancer. Fibroids, polyps, adenomyosis, ovarian tumors, and pelvic infections are all examples of anatomical alterations that may lead to abnormal and excessive menstrual flow. There are a number of different types of menstrual dysfunction that can occur during perimenopause, including regular periods accompanied by excessive cyclic bleeding, short menstrual periods accompanied by normal or excessive bleeding, irregular and non-cyclic prolonged periods accompanied by scanty or excessive bleeding, and so on.

II REVIEW OF LITERATURE

To do a literature review, one must systematically seek for relevant written resources, evaluate them critically, and synthesize their findings into a coherent whole (Polit & Beck, 2010). The term "literature review" refers to an evaluation of previous research on a certain subject. The electronic databases PubMed/Medline, EMBASE, Psych Info, and the Cochrane Central Register of Controlled Trials were scoured for English-language trials and studies. Both forward and backward searches were conducted using the reference lists of relevant articles and particular periodicals. The purpose of this systematic review was to compile evidence from previous research on the efficacy of pharmaceutical and non-pharmaceutical interventions for the treatment of vasomotor, psychological, and urogenital symptoms in women experiencing

perimenopause and menopause. Additionally, the evaluation included the use of Yoga as a mind-body intervention for menopause and other diseases. The current study's literature review is structured as follows: Literature evaluated linked to research work; Development of Nursing Evidence Based Practice Protocol; and Other linked Literature. In addition to the formulation of Nursing Evidence Based Practice questions, the PRISMA Flow Diagram, Characteristics of included articles (research design and Intervention wise in the current research), and Individual Evidence Summary are all part of the Nursing Evidence Based Practice Protocol. The research-related literature review is further organized according to the following topics:

• Menopause and its manifestations

Quality of Life Assessment for the Menopause Era

• The impact of pharmaceutical approaches on menopausal symptoms

• The impact of non-pharmaceutical approaches on menopausal symptoms.

• Yoga's therapeutic effects in a variety of settings

Literature on **Menopause and Symptoms Gold et al. (2017)** analyzed the association between weight gain and waist circumference changes and the onset of vasomotor symptoms using data from the National Study of Women's Health (SWAN). There were no first cases of VMS in any of the 1,546 individuals who had follow-up visits. Using discrete survival analyses, we accounted for confounders and modelled the time to first symptomatic visit in relation to concomitant BMI and waist circumference, as well as the change in weight and waist circumference during early and late menopause. According to the findings, a higher body mass index (BMI) and waist circumference (WC) simultaneously were associated with an increased risk of incident VMS in early menopause and a decreased risk of VMS in late menopause. It follows that concurrent BMI and waist circumference favorably correlated with incidence VMS throughout the transition to menopause but negatively correlated with the onset of menopause. Keeping your weight in check throughout menopause may reduce your risk of developing VMS.

Ahuja et al. (2016) surveyed the age of menopause and its predictors across 21 chapters of the Indian Menopause Society across India's east, west, north, and south. There were a total of 2184 interviews performed, and 2108 completed surveys were

used for analysis. Only 401 of the 2108 entries belonged to women in the peri-menopausal stage, whereas 1707 belonged to women who had already entered menopause. Menopause occurred naturally in another 1415 women, but 292 had to have surgery after having their hysterectomies. Each woman's body mass index (BMI) was determined by recording her height, weight, and waist size. The average age of natural menopause for Indian women was calculated to be 46.2% +/- 4.9%. Menopausal symptoms, marital longevity, and the age at which menopause begins were all shown to be significantly correlated with one another (P 0.001). The average age of menopause for single women was 45.6.3, for married women it was 46.14.9, and for single women it was 47.9 years.

Widow/er rating: 4.8. It has been noted that as women live longer their waistlines expand.

The prevalence of urine incontinence and risk factors for it were studied by **Juliato, Baccaro, Pedro, Gabiatti, Lui-Filho, and Costa-Paiva (2016)** in a cross-sectional population-based household survey of 741 middle-aged women. There was a 23.6% incidence of UI. Of them, 70 (9.5%) reported a combination of stress and urge incontinence, whereas 59 (7.8%) had just urge incontinence. vaginal dryness (PR: 1.60; 95% CI, 1.23-2.08; P = 0.001), current or previous hormone therapy (PR: 1.38; 95% CI, 1.06-1.81; P = 0.019), pre / perimenopause (PR: 1.42; 95% CI, 1.06-1.91; P = 0.021), and previous hysterectomy (PR: 1.41; 95% CI, 1.03-1.92; P = 0.031) were associated with a greater prevalence of UI. Prevalence ratio (PR) for UI was 0.43 (95% confidence interval [CI]: 0.24-0.78; P = 0.006) among women who were now using or had previously used soy products to address menopausal symptoms.

Suramanjary (2016) used a descriptive correlational approach to examine the relationship between menopausal symptoms and women's quality of life in Dhara Puram. Fifty women between the ages of 40 and 60 were selected at random for the research. Both menopausal symptoms and quality of life had mean and standard deviation values of 13.4 (6.8) and 7.69, respectively. As a result, the authors found that menopausal symptoms significantly correlated positively with QOL. (r = 0.8850).

Abou-Raya et al. (2016) used the Menopause Rating Scale as a screening tool to identify menopausal symptoms in cross-sectional research of Egyptian women to

assess the frequency and predictors of severity of menopausal symptoms. This cross-sectional research included 540 women between the ages of 40 and 65. The Menopause Rating Scale was used to gather demographic data, and a number of demographic questions were also asked. Joint and muscle pain were reported by 501 people (92.8%), followed by urogenital complaints by 460 people (85.2%). Participants' job status ($r = 0.504$, $P = 0.005$), the number of children they had ($r = 0.474$, $P = 0.042$), and their body mass index ($r = 0.544$, $P = 0.006$) were all significantly correlated with their number of menopausal symptoms.

Kulkarni, Savitha Rani, Kumar, and Manjunath (2016) performed cross-sectional research in the community with 100 postmenopausal women aged 40–65. Information on socio-demographics, postmenopausal symptoms, and contributing variables was gathered via interviews using a pilot-tested, standardized questionnaire. The average ages of women who had menarche and menopause were found to be 13.45 1.72 and 46.7 5.2 years, respectively. Joint pain was reported by 92% of postmenopausal women, followed by fatigue (84%), sadness (76%), irritability (73%), hot flushes/night sweats (60%), and insomnia (60%). There was a significant positive link between women's age, how long they'd been postmenopausal, and the severity of their symptoms.

III Context of the Study

Two primary health care facilities in the Vijayawada district, Theuerkauf PHC and Naravarikuppam PHC, provided the research's study sites. The Ministry of Health and Family Welfare operates basic and secondary health care facilities in this area of Vijayawada District. Hence The research was conducted with the formal written approval of the Directorate of Public Health and the Deputy Director of Health Services for the Vijayawada District.

There are 3,725,697 people living in the Vijayawada District, 34.70% (1,292,679) of whom live in the city and 65.30% (243,3018) who live in the surrounding rural areas. Among Vijayawada's rural residents, there are 647,183 men and 645,496 women. All menopausal women registered at two different primary health care facilities in the rural Vijayawada area are included in this research. Naravarikuppam PHC and

Theuerkauf PHC are chosen as the appropriate primary health care facilities for the Yoga and Non-Yoga groups, respectively.

The Directorate of Public Health offers services to postmenopausal women in Primary Health Centers and Sub centers. Diabetes, hypertension, breast, and cervical cancer screenings (VIA / VILI - visual examination of cervix using acetic acid and logo's iodine) are also part of the services provided. For the last six years, Tamil Nadu Health Systems Project has provided all of these services. Currently, they are carried out at the Primary Health Centers' NCD (Non-Communicable Disease) Clinics as part of the National Rural Health Mission. Primary care clinics use body mass index (BMI) measurements to detect obesity and help patients change their eating and exercise habits. Midlife adults may also take use of new services, such as ECG monitoring and referral to a specialist if abnormalities persist. Registered nurses from all throughout the state staff the NCD clinic. No targeted programmers for menopausal women were found to be active in PHC settings.

IV DATA ANALYSIS AND INTERPRETATION

The following sections include the meat of the data analysis summaries.

In the first section, we compare two groups of postmenopausal women who practice yoga and those who don't.

Clinical variables, menopause symptoms, and quality of life during and after menopause were compared between the Yoga and non-Yoga groups of postmenopausal women in Section 2.

Section 3: Mean, Standard Deviation, and t value comparing Yoga and Non-Yoga groups of menopausal women indicating the effectiveness of Yoga in controlling clinical variables, reducing menopausal symptoms, and enhancing menopause-specific quality of life.

Evaluation of Yoga Group Postmenopausal Women's Satisfaction with the Yoga Intervention

Menopausal symptoms and quality of life before and after menopause were measured in pre- and post-tests for two groups of women: those who practiced yoga and those who did not.

INTERNATIONAL JOURNAL OF TECHNO-ENGINEERING
IJTE
ISSN: 2057-5688

Pre and post-test correlations of demographic and clinical variables with menopausal symptoms and quality of life in yoga and non-yoga practitioners are discussed in Section 6.

Menopausal women who practice yoga and those who don't undergo a regression analysis of related factors with MRS and Menopause Specific Quality of Life

Section 1: Homogeneity Analysis Description of Yoga and Non-Yoga Group Demographic and Clinical Variables

Table 3 compares the homogeneity of the Yoga and Non-Yoga group of postmenopausal women based on the frequency, percentage, and Chi square values of categorical demographic data.

Demographic Components	Variables	Yoga group (n=108) f	%	Non-Yoga group (n=120) f	%	χ^2	df	Sig
	Illiterate	29	26.9	30	25.0			
	Primary & High							
Educational		48	44.4	49	40.8			
	School					0.943	3	P>0.05
status								
	Hr. Secondary	19	17.6	27	22.5			
	UG and PG	12	11.1	14	11.7			
	Home maker	84	77.8	93	77.5			
	Self Employed	13	12.0	12	10.0			
Occupation						0.592	3	P>0.05
	Employed	10	9.3	13	10.8			
	Others	1	0.9	2	1.7			
Nature of								

ISSN: 2057-5688

	Sedentary	40	37.0	39	32.5	0.533	3	P>0.05
Work								
	Moderate	56	51.9	67	55.9			
	Heavy	11	10.2	13	10.8			
	Others	1	0.9	1	0.8			
Family	<5000	6	5.6	4	3.3	2.472	3	P>0.05
monthly	5000-10000	22	20.4	32	26.7			
Income in	10000-15000	29	26.9	36	30.0			
Rs	Above 15000	51	47.2	48	40.0			
Food habits	Vegetarian	24	22.2	28	23.3	1.110	2	P>0.05
	Ova vegetarian	4	3.7	8	6.7			
	Mixed diet	80	74.1	84	70.0			
Religion	Hindu	92	85.2	89	74.2	5.899	2	P>0.05
	Christian	15	13.9	31	25.8			
	Muslim	1	0.9	0	0.0			

Menopausal women were more likely to be married and living with their spouse (85.2%, 85.8%), to have completed primary and high school (44.4%, 40.8%), to be homemakers (77.8%,77.5%), to be moderate workers (51.9%), to have a monthly family income of 15,000 (47.2%), to eat a mixed diet (74.1%), to be part of a nuclear family (83.3%), and to be Hindu (85.2%,74. None of the groupings diverged significantly from one another (P>0.05). Therefore, they are all in the same category and may be compared.

ISSN: 2057-5688

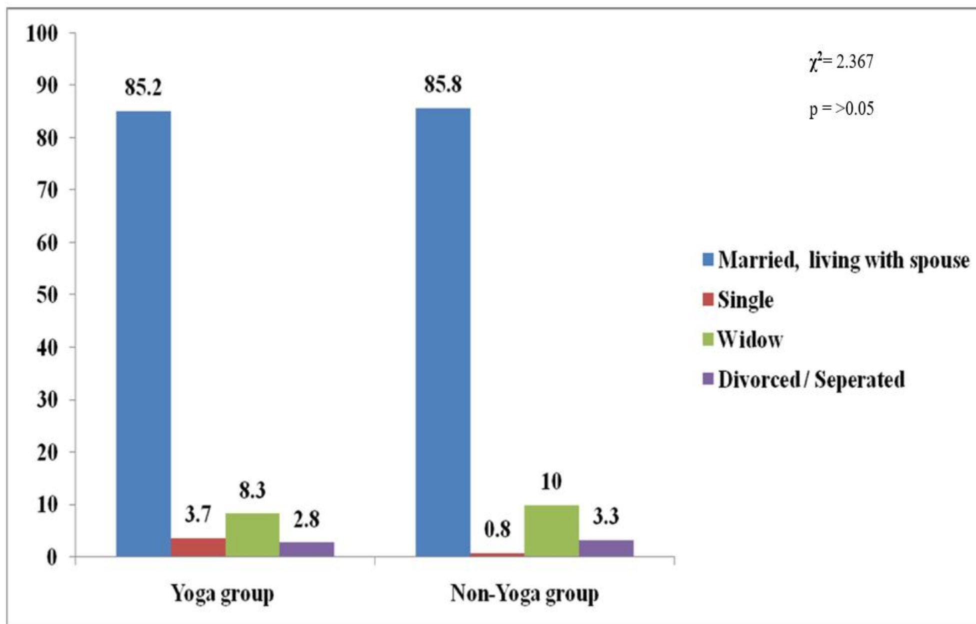
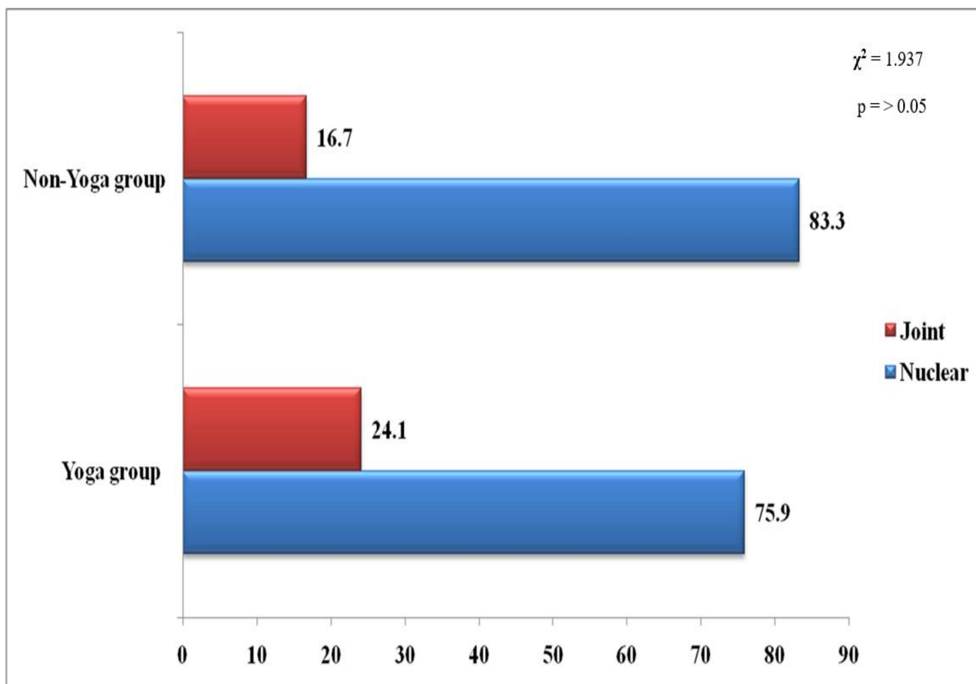


Fig. 2 Menopausal women's marital status distribution as a percentage



V The aims of the research were as follows

1. The purpose of this study is to examine pre- and post-Yoga treatment results in two groups of menopausal women: those who practice Yoga and those who do not.

2. The purpose of this study is to compare the quality of life of menopausal women

who regularly practice Yoga to those who do not.

3. The purpose of this study is to compare the quality of life of menopausal women who practice Yoga to those who do not.

4. The purpose of this study is to compare menopausal symptoms in Yoga practitioners and non-practitioners before and after participating in a series of standardized yoga posture and breathing exercises.

1. The purpose of this study is to compare menopausal symptoms between Yoga and Non-Yoga practitioners and to identify the clinical characteristics that are associated with these symptoms in both groups.

2. The purpose of this study is to compare the quality of life of menopausal women who practice Yoga with those who do not, and to identify the factors that contribute to these differences.

3. Examine the correlation between pre- and post-test quality of life in Yoga and Non-Yoga groups and a set of pre- and post-selected clinical characteristics.

4. The purpose of this study is to assess the contentment of menopausal women who participate in Yoga classes.

The next sections of the discussion of the study's findings keep these goals in mind:

Evaluation of Menopausal Women's Sociodemographic Profile.

Most of the women in the Yoga and Non-Yoga groups were married and living with their husbands (85.2%, 85.8%), were homemakers (77.8%, 77.5%), reported eating a mixed diet (74.1%, 70.0%), were part of a nuclear family (75.9%, 83.3%), and were Hindus (85.2%, 74.2%). Menopausal women in the Yoga and Non-Yoga groups, respectively, had significantly lower rates of elementary and secondary school education (44.4% and 40.8%), moderate employment (51.9% and 55.9%), and family monthly income $15,000 (47.2% and 40%).

Most of the menopausal women were married (93.1%), the vast majority were homemakers (77.4%), the vast majority were Hindus (82.9%), and a sizable percentage of them were taking a mixed diet (45.4%), all of which was consistent with a recent PAN India survey of the Indian Menopause Society by Ahuja et al (2016). Sacramentary (2016) found similar information, namely that the vast majority of postmenopausal women were part of nuclear families (68%), and that a significant

proportion of postmenopausal women (44%) had only completed elementary and secondary education. Dutta et al.'s (2012) findings in the rural Poona mallee block of Vijayawada district, which found that most of the menopausal women were married (86.2%), corroborated these findings.

Since most rural women are wives and mothers, it is assumed that they are adaptable and usually take their place at the marital table alongside their husbands. When compared to women who are divorced or separated, this data demonstrates that the presence of a man in the family has a tremendous impact on the perimenopausal transition. Women may also confide in their partners about their health concerns and emotional distress. Their kids have all moved out for various reasons: college, work, or marriage. Married women entering menopause now have the opportunity to reconnect and deepen their mutual understanding.

VI Conclusions

Yoga Philosophy is the culmination of thousands of years of human learning and insight into the realms of physiology, psychology, ethics, and spirituality, all practiced for the benefit of all people. The yogic approach to stress management is comprehensive. The ancient practice of yoga has been reaffirmed for its effectiveness in relieving stress. 1. Yoga has been shown to have a positive impact on women's stress levels and, by extension, on their well-being in all aspects of their lives, including their careers, families, finances, relationships, social lives, and physical health.

It has been noted that women also benefited in other ways. Those who were overweight saw improvements in the following areas: a) their weight and body measurements decreased; b) their digestion improved and constipation was alleviated; c) their sleeping habits improved; d) their menstrual problems subsided; e) their general health and happiness increased; f) they developed a more optimistic and responsible outlook; and g) they experienced relief from pain in their lower back and joints. Second, the stress-relieving effects of yoga on women do not seem to vary much with a woman's a) age, b) marital status, c) family size, d) socioeconomic situation, or e) employment status. As a result, women of diverse ages, marital and

family statuses, economic and employment circumstances, and family sizes may benefit greatly from yoga practice. Third, although yoga has been shown to significantly reduce stress levels for males, there is no discernible difference in the impact of yoga on stress levels for women and men across all domains of life. That is to say, yoga is equally helpful for men and women in relieving stress from every facet of their lives. Due to their many duties, modern women often have just a few hours each week to focus on themselves, their health, and the things that bring them joy. However, consistent yoga practice has been shown to reduce stress in women.

Ashtanga yoga and hatha yoga, developed by Patanjali, serve as the foundation for modern yoga instruction. Yoga asanas, pranayama, meditation, the yogic diet, philosophical discussions, and prayers were all part of the regimen. The Yama and Niyama from Patanjali's Ashtanga Yoga were often discussed in the philosophical debates. Lifestyles are defined by the Yama's and Niyama's. Yama is a collection of principles for societal behaviors, including nonviolence, truth, no stealing, celibacy, and no hoarding; Niyaz is a set of rules for personal conduct, including cleanliness, happiness, Satsang, and self-study, as outlined by sage Patanjali. It is a fundamental tenet of all yoga traditions that one must maintain mental tranquilly in order to get the benefits of the practice. The current yoga package of suryanamaskara, yoga asanas, pranayama, meditation, the yogic diet, philosophical discourses, and prayer has produced remarkable results in reducing stress and anxiety and fostering a more optimistic and self-assured approach to dealing with the challenges of daily life. It's possible that after a month of yoga instruction, they felt more at ease with themselves and were able to accept life more gracefully.

REFERENCES

1. Aaron, R. & Muliyil, J. (2002). Medical social dimensions of menopause. *NationalMedical Journal of India*, *ISSN*: 2378-1815 15(1), 14-17.
2. Abernethy, K. (2002). The Menopause and HRT. Edinburgh: Bailliere Tindall.

3. Abou-Raya, S. (Aug 23rd 2016). Relationship between sociodemographic,

reproductive, and lifestyle factors and the severity of menopausal symptoms among Egyptian women in Alexandria. *Menopause*. *ISSN* 2614-6258, (8), 888-93

4. Adele, P. (2007). Menopause. Maternal and child health nursing, (6th ed), Philadelphia,*ISSN* 2614-6320, 102-104.
5. Afonso, RF. et al. (2012). Yoga decreases insomnia in post-menopausal women: a randomized clinical trial. *Menopause*.ISSN:2320-5407, 2, 186-93.
6. Agarwal, N. Singh, S. Kriplani, A. Bhatia, N. Singh, N. (2015). Safety and efficacy of gabapentin in management of psychosomatic and sexual symptoms in postmenopausal women: A pilot study. *J Mid-Life Health*. *ISSN*: 2229-5178, 6(1), 10-15.
7. Ahuja, M. Strengthening the back muscles in mature women. Retrieved jan 3rd 2017 from Indian menopause society website: www.indianmenopausesociety.org, *ISSN* 0970-2555.
8. Ajuja, M et al. (2016). Age of menopause and determinants of menopause age: A PAN India survey by IMS. *J Midlife Health*.7(3), *ISSN* 0970-2555, 126 - 131
9. Alan, F & Katrina, R. (2005). Chakra Yoga – Balancing energy for physical, spiritual and mental wellbeing. Boston: Shambala publications. *ISSN*: 1618-1530.
10. Allender, (2010). Women's health. Community Health Nursing, (7thed), Lippincott, ISSN: 1820-1932, 662– 663.
11. Alice, C. Easy does its yoga – The safe and gentle way to health and wellbeing. The American Yoga Association. New York: A Fireside book. *ISSN*: 2040-3372,