REVIEW OF RELATED LITERATURE

The researcher has tried to present the effects of Yoga training intervention on Fitness components of housewives. Although, there are ample of literature available regarding impact of Yogic exercises on health and fitness, however, few studies are available on Yoga and housewife related fitness. However, the researcher has gone through the reviews, which have been summarized below.

Joshi et al (2011) observed the effect of yoga on menopausal symptoms using a prospective, randomized, controlled and interventional study. Main outcome measures Total Menopause Rating Scale (MRS) score and three subscale scores (somatovegetative, psychological and urogenital) were measured on day 1 and day 90 in the study group which performed yoga (asana, pranayam and meditation) under supervision for three months, and were compared with the control group that did not perform yoga. MRS has been designed to measure health-related quality of life of ageing women. It consists of 11 symptoms and three subscales.

It was observed that on day 1 the scores in both the groups were comparable. On day 90, the scores in the yoga group showed a reduction in score on all the subscales, which was statistically significant. No significant difference was noted in the control group. It was concluded that Yoga is effective in reducing menopausal symptoms and should be considered as alternative therapy for the management of menopausal symptoms.

Vercambre et al. (2011) found that individuals with vascular disease or risk factors have substantially higher rates of cognitive decline, yet little is known about means of maintaining cognition in this group.

They examined the relation between physical activity and cognitive decline in participants of the Women's Antioxidant Cardiovascular Study, a cohort of women with prevalent vascular disease or at least 3 coronary risk factors. Recreational physical activity was assessed at baseline (October 1995 through June 1996) and every 2 years thereafter. Between December 1998 and July 2000, a total of 2809 women 65 years or older underwent a cognitive battery by telephone interview, including 5 tests of global cognition, verbal memory, and
category fluency. Tests were administered 3 additional times over 5.4 years. We used multivariable-adjusted general linear models for repeated measures to compare the annual rates of cognitive score changes across levels of total physical activity and energy expended in walking, as assessed at Women's Antioxidant Cardiovascular Study baseline.

It was found that a significant trend (P < .001 for trend) toward decreasing rates of cognitive decline with increasing energy expenditure. Compared with the bottom quintile of total physical activity, significant differences in rates of cognitive decline were observed from the fourth quintile (P = .04 for the fourth quintile and P < .001 for the fifth quintile), or the equivalent of daily 30-minute walks at a brisk pace. This was equivalent to the difference in cognitive decline observed for women who were 5 to 7 years younger. Regularly walking for exercise was strongly related to slower rates of cognitive decline (P = .003 for trend). It is concluded that regular physical activity, including walking, was associated with better preservation of cognitive function in older women with vascular disease or risk factors.

Kalyani et al. (2011) found that a sensation of vibration is experienced during audible 'OM' chanting. This has the potential for vagus nerve stimulation through its auricular branches and the effects on the brain thereof. The neurohemodynamic correlates of 'OM' chanting are yet to be explored.

Using functional Magnetic Resonance Imaging (fMRI), the neurohemodynamic correlates of audible 'OM' chanting were examined in right-handed healthy volunteers (n=12; nine men). The 'OM' chanting condition was compared with pronunciation of "ssss" as well as a rest state. fMRI analysis was done using Statistical Parametric Mapping 5 (SPM5).

In this study, significant deactivation was observed bilaterally during 'OM' chanting in comparison to the resting brain state in bilateral orbitofrontal, anterior cingulate, parahippocampal gyri, thalami and hippocampi. The right amygdala too demonstrated significant deactivation. No significant activation was observed during 'OM' chanting. In contrast, neither activation nor deactivation occurred in these brain regions during the comparative task - namely the 'ssss' pronunciation condition.
The neurohemodynamic correlates of 'OM' chanting indicate limbic deactivation. As similar observations have been recorded with vagus nerve stimulation treatment used in depression and epilepsy, the study findings argue for a potential role of this 'OM' chanting in clinical practice.

Raju et al. (1997) studied the short-term effects of 4 weeks of intensive yoga practice on physiological responses in six healthy adult female volunteers. Responses were measured using the maximal exercise treadmill test. Yoga practice involved daily morning and evening sessions of 90 minutes each. Pre- and post-yoga exercise performance was compared. Maximal work output (Wmax) for the group increased by 21%, with a significantly reduced level of oxygen consumption per unit work but without a concomitant significant change in heart rate. After intensive yoga training, at 154 Wmin(-1) (corresponding to Wmax of the pre-yoga maximal exercise test) participants could exercise more comfortably, with a significantly lower heart rate (p < 0.05), reduced minute ventilation (p < 0.05), reduced oxygen consumption per unit work (p < 0.05), and a significantly lower respiratory quotient (p < 0.05). The implications for the effect of intensive yoga on cardiorespiratory efficiency are discussed, with the suggestion that yoga has some transparently different quantifiable physiological effects to other exercises.

Dennerstein et al. (2011) conducted survey to determine cross-cultural and other effects on women's experiences of premenstrual symptoms and their impact on activities of daily life (ADL). Sample of 7226 women aged 15-49 recruited by random sampling with approximately 400 each from France, Germany, Hungary, Italy, Spain, UK, Brazil, Mexico, Hong Kong, Pakistan and Thailand. Approximately 1000 women in Japan and Korea and 500 Australian women were found using Internet panels. Main outcome measures Questionnaire of 23 premenstrual symptoms, sociodemographic and lifestyle variables, ADL and women's knowledge of premenstrual terms.

The most prevalent symptoms were abdominal bloating, cramps or abdominal pain, irritability, mastalgia and joint/muscle/back pains. Severity of symptoms was directly proportional to duration (number of affected cycles) (R = 0.78). A linear model found that symptom prevalence (duration×severity) was associated with age (linear and quadratic effects), parity, current smoking and country. Premenstrual physical and mental symptom domains had
similar negative effects on ADL. Impact on ADL was affected by education and exercise participation. Women's knowledge of the terms premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD) varied by symptom intensity, age, education and country.

Four of the five most prevalent premenstrual symptoms were physical. There was a great deal of similarities of women's experiences of these symptoms across countries and regions. Women's knowledge of PMS terms is highly dependent on the country in which they live.

Tran et al. (2011) studied ten healthy, untrained volunteers (nine females and one male), ranging in age from 18-27 years, to determine the effects of hatha yoga practice on the health-related aspects of physical fitness, including muscular strength and endurance, flexibility, cardiorespiratory fitness, body composition, and pulmonary function.

Subjects were required to attend a minimum of two yoga classes per week for a total of 8 weeks. Each yoga session consisted of 10 minutes of pranayamas (breath-control exercises), 15 minutes of dynamic warm-up exercises, 50 minutes of asanas (yoga postures), and 10 minutes of supine relaxation in savasana (corpse pose). The subjects were evaluated before and after the 8-week training program.

Isokinetic muscular strength for elbow extension, elbow flexion, and knee extension increased by 31%, 19%, and 28% (p<0.05), respectively, whereas isometric muscular endurance for knee flexion increased 57% (p<0.01). Ankle flexibility, shoulder elevation, trunk extension, and trunk flexion increased by 13% (p<0.01), 155% (p<0.001), 188% (p<0.001), and 14% (p<0.05), respectively. Absolute and relative maximal oxygen uptake increased by 7% and 6%, respectively (p<0.01). These findings indicate that regular hatha yoga practice can elicit improvements in the health-related aspects of physical fitness. (c) 2001 CHF, Inc.

Ulger et al. (2011) conducted a study with the purpose to investigate the effects of yoga on balance and gait properties in women with musculoskeletal problems. Twenty-seven women (30-45 years old) with musculoskeletal problems, such as osteoarthritis and low-back pain, were included in the present study. The patients participated in 8 sessions (twice weekly for 4 weeks) of a yoga program which included asanas, stretching exercises, and breathing techniques.
Patients' static balance measurements and gait parameters were determined before and after the study using a stabilometer and a gait trainer, respectively. Post-study values of patients' gait parameters were found to be statistically higher than their pre-study values (p < 0.05). The values of patients' balance addressed anterior and right positions with patients' eyes open and subsequently closed pre-treatment. However, it was notable that balance post-treatment was minimal when subjects' eyes were open or closed. Anterior-posterior values and right-left values were almost equal after treatment.

The results showed that yoga has a positive effect on balance and gait parameters of women with gait and balance disturbances that are caused by musculoskeletal problems. It is feasible to conclude that asanas and stretching exercises included in the yoga program brought about such a positive effect, and therefore it is possible to use yoga programs to solve problems caused by musculoskeletal disorders.

Harner et al. (2010) with the purposes conducted this study (a) to address the feasibility of providing a gender-responsive exercise intervention within a correctional institution and (b) to observe the effect of a group-format Iyengar yoga program that met two sessions/week for 12 weeks on levels of depression symptoms, anxiety symptoms, and perceived stress among incarcerated women.

A repeated measures design, in which each participant served as her own control, was used. Participants completed three self-administered instruments: the Beck Depression Inventory, the Beck Anxiety Inventory, and the Perceived Stress Scale before treatment (baseline) and during treatment (Weeks 4, 8, and 12). Linear mixed effects models were used to examine statistically significant changes in mental health measures over time, taking advantage of all available data.

Although 21 women initially participated in the intervention, 6 women completed the 12-week intervention. A significant linear decrease was demonstrated in symptoms of depression over time, with mean values changing from 24.90 at baseline to 5.67 at Week 12.
There was a marginally significant decrease in anxiety over time (12.00 at baseline to 7.33 at Week 12) and a nonlinear change in stress over time, with decreases from baseline to Week 4 and subsequent increases to Week 12.

Women who participated in this program experienced fewer symptoms of depression and anxiety over time. Findings from this study may be used to improve future interventions focusing on the health outcomes.

According to Dhikav et al. (2010) Yoga is a popular form of complementary and alternative therapy. It is practiced both in developing and developed countries. Female sexual dysfunctions are common and do not always get adequate clinical attention. Pharmacotherapies for treating female sexual dysfunctions are available but suffer from drawbacks such as poor compliance, low efficacy, and side effects. Many patients and yoga protagonists claim that it is useful in improving sexual functions and treating sexual disorders.

Forty (40) females (age range 22-55 years, average age 34.7 +/- 8.49 years) recruited who were enrolled in a yoga camp and were given a standardized questionnaire named Female Sexual Function Index (FSFI) before and after the 12 weeks session of yoga.

It was found that after the completion of yoga sessions; the sexual functions scores were significantly improved (P < 0.0001). The improvement occurred in all six domains of FSFI (i.e., desire, arousal, lubrication, orgasm, satisfaction, and pain). The improvement was more in older women (age > 45 years) compared with younger women (age < 45 years).

Yoga appears to be an effective method of improving all domains of sexual functions in women as studied by FSFI.

McIver S, McGartland M, and O'Halloran P. (2009), for their study, collected data from 20 personal journals and analyzed to examine the experience of a 12-week yoga treatment program for binge eating among a sample of 25 women who were obese. Qualitative analysis revealed a positive shift experienced by the women during the program, summarized by a general structural description: disconnection versus connection.
Women’s comments suggested that the program appeared to encourage a healthy reconnection to food, as well as the development of physical self-empowerment, through cultivating present-moment awareness. Specifically, women perceived an overall reduction in the quantity of food they consumed, decreased eating speed, and an improvement in food choices throughout the program. The women also reported feeling more connected to and positive about their physical well-being.

These evolving outcomes were summarized through two major themes: the way their physicality changed, and the way their food consumption changed over time. Findings provide insights relevant to therapeutic processes that might occur within eating disorder interventions that draw on meditation-based approaches.

Greendale G. A, et al. (2009), assessed whether a specifically designed yoga intervention can reduce hyperkyphosis. A 6-month, two-group, randomized, controlled, single-masked trial.

One hundred eighteen women and men aged 60 and older with a kyphosis angle of 40 degrees or greater. Major exclusions were serious medical comorbidity, use of assistive device, inability to hear or see adequately for participation, and inability to pass a physical safety screen. The active treatment group attended hour-long yoga classes 3 days per week for 24 weeks. The control group attended a monthly luncheon and seminar and received mailings.

Primary outcomes were change (baseline to 6 months) in Debrunner kyphometer-assessed kyphosis angle, standing height timed chair stands, functional reach, and walking speed. Secondary outcomes were change in kyphosis index, flexicurve kyphosis angle, Rancho Bernardo Blocks posture assessment, and health-related quality of life (HRQOL).

Compared with control participants, participants randomized to yoga experienced a 4.4% improvement in flexicurve kyphosis angle (P=.006) and a 5% improvement in kyphosis index (P=.004). The intervention did not result in statistically significant improvement in Debrunner kyphometer angle, measured physical performance, or self-assessed HRQOL (each P>.1).

The decrease in flexicurve kyphosis angle in the yoga treatment group shows that hyperkyphosis is remediable, a critical first step in the pathway to treating or preventing this
condition. Larger, more-definitive studies of yoga or other interventions for hyperkyphosis should be considered. Targeting individuals with more-malleable spines and using longitudinally precise measures of kyphosis could strengthen the treatment effect.

Javnbakht M. et al. (2009), conducted the study to evaluate the influence of yoga in relieving symptoms of depression and anxiety in women who were referred to a yoga clinic. The study involved a convenience sample of women who were referred to a yoga clinic. All new cases were evaluated on admission using a personal information questionnaire as well as Beck and Spielberger tests.

Participants were randomly assigned into an experimental and a control group. The experimental group (n=34) participated in twice weekly yoga classes of 90 min duration for two months. The control group (n=31) was assigned to a waiting list and did not receive yoga. Both groups were evaluated again after the two-month study period.

The average prevalence of depression in the experimental group pre and post Yoga intervention was 12.82+-7.9 and 10.79+-6.04 respectively, a statistically insignificant decrease (p=0.13). However, when the experimental group was compared to the control group, women who participated in yoga classes showed a significant decrease in state anxiety (p=0.03) and trait anxiety (p<0.001).

Participation in a two-month yoga class can lead to significant reduction in perceived levels of anxiety in women who suffer from anxiety disorders. This study suggests that yoga can be considered as a complementary therapy or an alternative method for medical therapy in the treatment of anxiety disorders.

Tekur P et al. (2008) conducted study with the aim to compare the effect of a short-term intensive residential yoga program with physical exercise (control) on pain and spinal flexibility in subjects with chronic low-back pain (CLBP).

This was a wait-list, randomized controlled study. The study was conducted at a residential integrative health center. Eighty (80) subjects (females, n = 37) with CLBP, who consented were randomly assigned to receive yoga or physical exercise if they satisfied the
selection criteria. The intervention consisted of a 1-week intensive residential yoga program comprised of asanas (physical postures) designed for back pain, pranayamas (breathing practices), meditation, and didactic and interactive sessions on philosophical concepts of yoga. The control group practiced physical exercises under a trained physiatrist and also had didactic and interactive sessions on lifestyle change. Both of the groups were matched for time on intervention and attention.

Pain-related outcomes were assessed by the Oswestry Disability Index (ODI) and by spinal flexibility, which was assessed using goniometer at pre and post intervention. Data were analyzed using repeated measures analysis of variance (RMANOVA). Data conformed to a Gaussian distribution. There was a significant reduction in ODI scores in the yoga group compared to the control group (p = 0.01; effect size 1.264). Spinal flexibility measures improved significantly in both groups but the yoga group had greater improvement as compared to controls on spinal flexion (p = 0.008; effect size 0.146), spinal extension (p = 0.002; effect size 0.251), right lateral flexion (p = 0.059; effect size 0.006); and left lateral flexion (p = 0.006; effect size 0.171).

Seven (7) days of a residential intensive yoga-based lifestyle program reduced pain-related disability and improved spinal flexibility in patients with CLBP better than a physical exercise regimen.

Chen K.M and Tseng W. S. (2008), conducted the study with aim to pilot-test the health promotion effects of a silver yoga exercise program for female seniors. Using a one-group, pre-post test design, a convenience sample of 16 community-dwelling female seniors was recruited. The silver yoga exercise intervention was administered three times a week, 70 minutes per session, for four weeks. Data were collected at baseline and after completion of the four-week intervention.

Results indicated that participants' body fat percentage and systolic blood pressure decreased, balance and range of motion on shoulder flexion and abduction improved, and sleep disturbance was minimized (all p < .05). Preliminary evidence supports that the silver yoga
exercise program provides positive effects on the promotion of good health in female seniors living in the communities.

Moliver N. et al. (2011) conducted this study with the purpose to examine the extent to which body mass index (BMI) and medication use in a sample of female yoga practitioners over 45 years varied according to the length and frequency of yoga practice. They administered online surveys to 211 female yoga practitioners aged 45 to 80 years. We used regression analyses to evaluate the relationship of extent of yoga experience to both BMI and medication use after accounting for age and lifestyle factors. We also conducted comparisons with 182 matched controls.

Participants had practiced yoga for as long as 50 years and for up to 28 hours between yoga experience and both BMI and medication load. These significant relationships remained after accounting for age and lifestyle factors. When we computed yoga experience in terms of total calendar years, without accounting for hours of practice, significant relationships did not remain. However, there was no obesity in the 49 participants with more than 25 years of yoga practice. Yoga practitioners were less likely than non-practitioners to use medication for metabolic syndrome, mood disorders, inflammation, and pain. A long-term yoga practice was associated with little or no obesity in a non-probability sample of women over 45 years. Relationships showed a dose-response effect, with increased yoga experience predicting lower BMI and reduced medication use.