Chapter II

REVIEW OF LITERATURE

Literature review refers to the activities involved in searching for information on a topic and developing a comprehensive picture of the knowledge on the topic (Polit and Hungler, 1993).

Therefore, the researcher studied and reviewed the related literature to broaden the understanding about the topic to gain insight into the selected problem under study. The retrieval of relevant literature was done from published articles, journals, books, and other related sources. The keywords like prevalence of menopause, phytoestrogens on menopause, multimodal intervention on midlife women problems, menopause and coping with menopause were used to retrieve the relevant literature from various data bases. The obtained literature reviews were categorized and presented in the following sections:

Section – A : Reviews related to prevalence of menopausal problems.

Section – B : Reviews related to role of soy phytoestrogens on management of menopausal problems.

Section – C : Reviews related to role of multimodal interventions for management of menopausal problems.

Section – D : Reviews related to coping ability of the midlife women towards with menopausal problems.
Section – E : Reviews related to exercises and counseling on management of menopausal problems among midlife women.

Section A : Reviews Related to Prevalence of Menopausal Problems

*Bindhu, Bhaskar and Joseph (2014)* did a study on prevalence of common menopausal symptoms among rural menopausal women at Kerala. Findings revealed that, the most common symptoms found among the midlife population was hot flashes 40.9%, muscle and joint pain 35.9%, lack of energy 49.7%. The least common symptoms were headache 13%, night sweats 16.9%, palpitation 9%, and inner restlessness 15%.

*Chou, Wun and Pang (2014)* conducted a study to assess the intensity of menopausal symptoms among midlife women at China. Results revealed that physical symptoms were noticed in moderate level (88.5%), whereas psychological (17.9%), somatic (42.8%), and urogenital (34.8%) were noticed among the midlife women in severe level and it affected the quality of life (daily life in 36.7%, work in29.2%, sexual life in17%).

*Joseph, et al., (2014)* evaluated the severity of menopausal symptoms among midlife women at south Karnataka, India. Findings showed that, commonest symptoms. Reported was joint pain and mental exhaustion which was noticed 85.4% and it was found to be severe among the midlife women.

*Singh and Pradhan (2014)* conducted a community based cross-sectional study on the assessment of menopausal symptoms
among the post menopausal women in New Delhi. Sample size adopted for this study was 225. Among the 225, majority of them 89.3% of them were experienced at least one or more symptoms. The most common symptoms experienced by the post menopausal women include 62.7% of them experienced sleep disturbances, 46.4% of hot flashes and night sweats, 45.6% of muscle and joint pain, 59.10% of depression and 21% of anxiety during the post menopausal period.

**Badmi, Itagi and Yenagi (2013)** examined the relationship between the physical health and stress level of urban and rural working and non working post menopausal women. The result depicts that 41.66% of urban women belong to high socioeconomic status group, while 33.34% of the women belong to lower middle socio economic status group followed by 28.34% of upper middle socio economic status group. Among them, 90% urban unemployed women had severe physical problems, whereas only 50% of rural unemployed women belong to this category. A total of 73.34% of urban employed and 45% of rural employed women belonged to high and upper middle socio economic group. The post menopausal women had severe physical health problem like back-ache 74%, insomnia 52%, dizziness 21%, weakness 78%, excessive sweating 61%, irritability 55% and loss of memory 75%. It was found that there was a significant association between the physical health and the socioeconomic status of both urban and rural women during menopausal transition (p<0.001).
Dongmei, Hongfang, Changbin and Minfang (2013) conducted a descriptive cross sectional study on sleep disturbances among the midlife women in Shanghai, China. The main objective of this study was to investigate the sleep disturbance among the middle aged women. A total of $n=2046$ women aged between 40 and 60 years were recruited for the study. The results showed that the prevalence of sleep disturbance was 33.2% and it was found higher among women with the menopausal status (from 34.8% in premenopausal women and 40.9% in post menopausal women $p<0.001$). Very severe levels of menopausal symptoms were observed on women who experience sleep disturbance. As the age increases the menopausal problem also increases; and it was found to be significant at $p<0.001$).

Cutinho, et al., (2013) conducted a descriptive study on the biopsychosocial problems experienced by post menopausal women, at Father Muller Medical College and Hospital, Karnataka. The sample size was $n=50$. The results showed that the biopsychosocial problems experienced by the women at moderate levels. Most of the post menopausal women experienced biological problems, such as joint pain 68%, sleep disturbances 46%, and incontinence of urine 43%. The finding of the study implicates that the biological problems felt by the women are more in comparison with the psychological and social problems.

Kriss, et al., (2013) conducted a study to evaluate the prevalence and occurrence of urinary incontinence among midlife
women. Findings showed that 50% of them had difficulty in urination in moderate level, 55% of them suffered with increased need to urinate in moderate level, 61% of them suffered with involuntary urination in mild level and 27% of them suffered with dribbling of urine in mild level.

**Sagar, Venugopalan and Shruthi (2013)** conducted a community based cross-sectional study on the prevalence of menopausal symptoms and perceptions regarding menopause among the menopausal women. The results revealed that mean age of attaining menopause was 48.26 years. The prevalence of menopausal symptoms among the menopausal women was 90.7% had emotional problems like crying spells, depression, and irritability. 72.9% of them had head ache, 65.4% of them had lethargy, 58.9% of them had dysuria, 57% of them had forgetfulness, musculoskeletal problems like joint pain, muscular pain accounted for 53.3%, sexual problems like decrease libido, dysparunia was 31.8%, genital problems like itching, vaginal dryness accounted for 9.3% and changes in voice of 8.4%. Only 22.4% of women know the correct cause of menopause. The study concluded with the fact that all the midlife women were suffering from minimum one and maximum five or more number of menopausal symptoms.

**Saha, et al., (2013)** conducted a longitudinal study on urinary incontinence among post menopausal women Calcutta National Medical College and Hospital, Kolkata, India. The results
revealed that the urinary incontinence were common in the age group of 51-55 years and they were accounted around 32%. The Incidence of urinary incontinence, stress urinary incontinence, mixed urinary incontinence was observed among the postmenopausal as 61%, 26%, and 13% respectively.

Singh (2013) conducted a study on the prevalence and the risk factors of the urinary incontinence among the midlife women in India. The result depicts that of the 3000 women 47.6% of women experienced incontinence of urine. Of the total stress incontinence was noticed among the midlife women with 22.1%, followed by mixed with 6.0% and urge incontinence with 19.5% of women. There was a significant association noticed between age and urinary incontinence at p<0.005. It was concluded that the urinary incontinence is a bothersome problem for menopausal women. Simple questionnaire can identify this problem and diagnose the associated risk factors, so that necessary steps can be taken in the midlife period for its prevention and treatment.

Stefanopoulou, et al., (2013) conducted a study of climate, altitude, temperature and vasomotor symptoms among the urban menopausal women New Delhi, India. The results revealed that the prevalence of vasomotor symptoms was 34%. The seasonal variation in temperature was not associated with hot flush prevalence, frequency and severity of problem. Hot flush prevalence was mainly associated with higher anxiety and intake of spicy foods, age and frequent exercise, while hot flushes were more problematic for
women who reported poor general health and more negative belief about menopause.

**Sweed, Elawam, Nabeel and Martagy (2013)** did a cross-sectional study on the post menopausal symptoms among 400 Egyptian menopausal women. The results revealed that the most prevalent post menopausal symptoms were joint pain 90.3% followed by sleep problems 84.0% and physical and mental exhaustion 80.0%. A statistically significant positive correlation \( r=0.562 \) was found between the total menopausal rating scale and the age and duration of menopause, but not age at menopause.

**Tamarai, et al., (2013)** assessed the psychological problems among menopausal problems women at Delhi results revealed that 56% of them were suffered with moderate level of mood swing and decreased in their performance, 31.5% of them were felt inner restlessness. 31% of them suffered with moderate to severe level of depression and 42% of them felt mild depression, 45% of them had decrease level of concentration mild to moderate level, 32% of them had sleep disturbances in moderate level and 65% of them felt unusual feeling of tension mild to moderate level.

**Vijayalakshmi and Victoria (2013)** conducted a menopausal transition among the North Indian women residing at selected rural community in Punjab. The results revealed that the average age of menopause was around 48 years, but it strikes Indian women as young as 30-35 years. Most prevalent symptoms found were feeling
of tiredness 92.90%, headache 88.80%, joint and muscular discomfort 76.20%, physical and mental exhaustion 60.09%, sleeplessness 54.40% depressive mood 37.30%, irritability 36%, dryness of vagina 36%, hot flushes and sweating 35.80% and anxiety 34.50%. The rural women experienced high prevalence of menopausal symptoms. The higher percentage perimenopausal and post menopausal women suffer with menopausal problems than the menopausal women.

**Vishal and Mahajan (2013)** performed an observational cross sectional study to evaluate the menopausal symptoms among the urban women at Jammu, North India. The results revealed that the mean age of menopause was 47.35 years. The mean number of menopausal symptoms in three age groups were found (Mean±SD) 10.53±0.76 and 14.50±10.77 respectively, which varied significantly (F=4.86, df =2.87, p=0.009). It was concluded that the vasomotor symptoms, psychological and rheumatic complaints were more prevalent during the midlife period.

**Yazdi, et al., (2013)** identified the influence of sleep disturbances during menopausal transition. The result showed that 50% of them felt difficulty in falling into sleep 12% in severe level, 28% in moderate level and 10% in mild level, 40% of them felt difficulty in sleeping through 23% in mild level and 17% in moderate level and 51% of them felt early awakening in mild to moderate level.
Christian and Bhavsar (2012) investigated a cross-sectional study on health problems of post menopausal women in rural areas of Vadodara District, Gujarat. The main objective of the study was to find out the health problems among rural post menopausal women. Findings showed that, most of the post menopausal women suffered from physical symptoms of unusual tiredness 88.4% and musculoskeletal problems 74.8%, vasomotor symptoms like hot flushes 40.1%, night sweats 40.8% and palpitation 37.4% as well as psychological symptoms like insomnia 57.1%, anxiety 38.1% and lack of concentration in the work 33.3%. It was concluded that, the rural postmenopausal women suffer from variety of health problems.

Jagun (2012) conducted a survey based cross-sectional study on the prevalence of post menopausal symptoms in gynecological practice in Nigeria. The results revealed that 90.2% gynecologist reported that 20% of their patients present with menopausal complaints. The most common complaint among the women presenting with menopausal problem was hot flushes 81.0%, while menopause related fracture was 48%. The treatment modality employed among most 53.0% menopausal women was counseling and reassurance. Only 47% of them were treated with hormone replacement therapy after noticing the symptoms.

Jouyandeh and Naybzadeh (2012) conducted a cross-sectional study on prevalence of menopausal symptoms among Iranian menopausal women. Result showed that the most common
problems experienced by the midlife women were 69.5%, mood swing 62.6%, lack of energy 65%, vaginal dryness 41.1%, urinary symptoms 68.3%, and joint and muscle pain 69.9%. The least common problems were sleep problems 50.4% night sweats 48.2% and memory loss 42.3% and rare problems were changes in sexual desire 18.3%, palpitation 6.6%, anxiety 5.8% and depression 4.4%.

Narinder, Aggarwal and Bagga (2012) examined a community based cross-sectional study on the health issues of menopausal women in North India. The aim of the study was to evaluate the health status, age of menopause and its symptoms. The result shows that the mean age of menopause was 44.54 years. The main symptoms were reported as fatigue 62%, hot flashes 56%, sweats 52% and back aches 51%. Other ailments associated with menopause were arthritis 25%, hypertension 23% and they profoundly affect the health status and physical ability of the midlife women.

Pal, et al., (2012) investigated a study on the prevalence of menopausal symptoms in perimenopause and post menopause women aged above 40 years in the rural areas of Maharashtra, India. The results showed the most prevalent symptoms reported as somatic 89%, psychological symptoms 57%. However, urogenital symptoms 29) were noted very less. The mean age of menopause is 48.9+3.2 years with a range from 45-52 years. After the onset of menopause there is a proportionate increase in the symptoms as age increases. The study concluded with the point that the
perimenopause and post menopausal women experienced higher prevalence of somatic and psychological symptoms. However, the urogenital symptoms mostly occur in the post menopausal group of women.

Ruma, et al., (2012) examined a population - based study on the menopausal symptoms in a rural area of Tamil Nadu, India. the results revealed that the mean age at menopause was 44.49 years and the median age was 44 years Menopausal Rating Scale (MRS) was used as a evaluative tools. The overall prevalence of any one symptom during the post menopausal period among the study participants was 88.1% (95% CI: 85.8-90.3). Most frequent symptoms, noticed among the menopausal women were somatic 60.9%, sleep related symptoms 40.1% and anxiety 35.4%. Only 46% of the menopausal women underwent treatment for the symptoms. The reason for not taking treatment for the menopausal symptoms among the study participants were mainly their financial constrains 56.1% and family problems 35.2%.

Sudeep (2012) conducted a community based cross-sectional study on the perception about menopausal symptoms and quality of life of post menopausal women in Bangalore. The findings revealed that the mean age at menopause was 49.7±7. Menopausal women felt firmly that they were affected by menopause in negative manner. Most frequent menopausal symptoms were aching in muscle and joints, feeling tired, poor memory, lower backache and
difficulty in sleeping. The vasomotor and sexual domains were less frequently complained when compared to the psychological domain.

**Taebi and Sadat (2012)** did a study on prevalence and severity of menopausal symptoms and related factors among the women aged 40-60 years in Kazan, Iran. The findings showed the most common symptoms as vasomotor 74%, psychosocial 69%, and sexual symptoms 56%. There was a statistically significant difference between the severity of menopausal symptoms and working status p<0.017, different educational levels p<0.001, exercise activity p<0.001, exercise frequency p<0.04, and the duration of menopause at p<0.03.

**Rahman and Iqbal (2011)** conducted a study on the menopausal symptoms assessment among the middle aged women in Kustia, Bangladesh. Results showed that, the most prevalent symptoms reported include feeling tired 92.90%, head ache 88.80%, joint and muscular discomfort 76.20%, physical and mental exhaustion 60.70% and sleeplessness 54.40% which are followed by depressive mood 37.30%, irritability 36%, dryness of vagina 36%, hot flushes and sweating 55.8%, anxiety 54.20% however noted less frequent symptoms were sexual problem 31.20%, cardiac discomfort 19.10% and bladder problems 12.80%.

**Ayranci, et al., (2010)** conducted an epidemiological study to assess the menopausal status among Turkish midlife women. Findings showed that the most common problems transpire during
the midlife period was hot flashes accounted for 96.5% of the females and it was found to be severe in 32.9% of the midlife population, moderate in 43.1% and mild in 20.4% Backache and muscle pain was found to be 95% of the midlife women and out of them 25.9% of them felt in severe level, 46.0% of them felt moderate level and 23.1% in mild level, regarding headache 91.7% (21.9% severe, 34.9%, moderate and 34.9% mild) and feeling tired 91.0% (15.3% severe, 38.6% moderate and 37.1% mild).

Laximinarayana and Shalini (2010) did a study on the prevalence of menopausal symptoms and quality of life after the menopause among the women from south India. The menopausal specific quality of life questionnaire was used in the study. The results showed that the mean age at menopause was 48.7 years. Most frequent physical symptoms associated with menopause were aches in muscle and joints 61%, feeling tired 82%, poor memory 53%, lower back ache and difficulty in sleeping 48%. The vasomotor and sexual domains 15% were less frequently complained when compared to physical domains among postmenopausal women.

Nisar and Sohoo (2010) investigated a cross sectional hospital based survey on frequency of menopausal symptoms and their impact on the quality of life of women at Pakistan. Results revealed that, mean age of menopause was 50.17±6.0 years. Mean length of time since menopause was 8.39±6.0 yrs. Most prevalent symptoms were body ache 165(81.7%), 134(66.35%) reported lack of energy and decrease in physical strength respectively
Nusrat, et al., (2010) conducted a cross sectional survey based study to determine the knowledge and attitude and remedial measures adopted towards menopausal problems among postmenopausal women. Frequently reported symptoms were back ache 653(75.66%), body ache 576 (66.74%), insomnia 544(63.44%) vasomotor symptoms (hot flushes and night sweats) were reported by 513 (59.4%) and 390(45.19%) respectively. Remedial measures adopted among them were 649(75.20%) women were not taking any medicine for symptoms, 8(0.926%) were taking herbs, 10(1.15%) were on hormonal replacement therapy and 196(22.71%) women were taking analgesics and calcium supplements on and off. Majority of women were unaware of menopausal symptoms and its health effects. Most of them considered it as a natural process of aging, though bothered by symptoms but did not go for consultation due to lack of awareness and poverty.

Rahman, et al., (2010) performed an assessment of menopausal symptoms by using MRS among menopausal women in Malaysia. Results revealed that 67.1% of them were suffered with mental exhaustion in mild level, 37.9% of them had irritability and mood swing in moderate level, 32.6% of them felt depressive mood in mild to moderate level and 36.5% of them felt anxiety in moderate to severe level.

Sharma (2010) performed a study to assess the knowledge, attitude, problem faced and remedial measures adopted by menopausal women at south Delhi. Study findings revealed that
among 100 menopausal women 54% had inadequate knowledge, and positive attitude towards menopause. It was found that 89% had mood swings and irritability, 64% of them discussed their problems with their husband as a remedial measure adopted for their menopausal problems.

**Subha (2010)** did a cross-sectional study on the menopausal symptoms of peri and post-menopausal women among the rural women of west Bengal India. The findings stated that 78% peri and 82% of postmenopausal rural women were mostly affected with menopausal discomfort with different socio demographic and reproductive characteristics.

**Zainudin, et al., (2010)** conducted a descriptive study on assessment of menopausal symptoms by using menopausal rating scale among midlife women in Kuching, Malaysia. Results revealed that, the mean age of menopause was 51.3±7. The most prevalent symptoms reported were joint and muscular discomfort 80.1%, physical and mental exhaustion as 67.1% and sleeping problem 52.2%, hot flushes and sweating 41.6%, irritability 37.9% dryness of vagina 37.9%, anxiety 36.5%, and depressive mood 32.6% other complaints noted were sexual problem 30.9%, bladder problems 13.8% and heart discomfort 18.3%, perimenopausal women experienced higher prevalence of somatic and psychological symptoms than the menopausal and postmenopausal women.
Section B: Role of Soy Phytoestrogens on Management of Menopausal Problems

Roundsari, et al., (2015) conducted a study on the effectiveness of soy phytoestrogens on bone turnover indicators among menopausal women. Findings showed that 50 gms of soy powder supplementation for three months significantly reduce the urinary deoxypyridoline and increasing the total alkaline phosphates p<0.005 and it creates slight alterations in osteocalcin, c-telepeptide, type I collagen telepeptide. It was concluded that inclusion of soy in the daily diet will reduce the menopausal symptoms, will probably delay bone resorption, thereby preventing osteoporosis among menopausal women.

Hakan (2014) conducted a study to compose the effectiveness of aerobic exercise and moderate exercise, dietary phytoestrogen though during the midlife period will significantly increase P < 0.01 the work ability and decrease the menopausal symptoms in experimental group rather than the menopausal women practicing aerobic exercise. It was evidently observed that the interventional group showed the statistically significant improvement in Work Ability Index (WAI) score at P < 0.01.

Harkense, et al., (2014) investigated the effect of soy isoflavone supplementation on bone mineral density and markers of bone turnover in postmenopausal women. The results showed that 37% decrease in urinary concentrations of type I collagen helical peptide, a marker of bone resorption during the soy isoflavones
supplementation $p<0.005$. The mean spine bone mineral density was significantly greater for soy isoflavone group $p<0.05$. The study concluded with the finding that soy isoflavone was effective in bone resorption in postmenopausal women.

**Jhon (2014)** did a study on soy germ isoflavones which reduces the post menopausal bone loss. The study aimed to examine the effects of a high-dose supplementation of soy germ isoflavones (84 and 126 mg Soy Life EXTRA/day) in slowing bone loss among 90 early postmenopausal Chinese women. Isoflavones are found predominately in soy products. Their structure and functions are similar to estrogen, and observational studies suggest that higher intake of soy and soy products may lower the prevalence of osteoporosis.

**Messina and Hughes (2014)** investigated the efficacy of soy food and soy isoflavone extracts on alleviation of menopausal hot flashes. The results showed that there was a significant relationship $p<0.01$ between initial hot flashes frequency and treatment efficacy. After both the intervention hot flushes frequency decreased about 5%, it was concluded that the menopausal women suffering with hot flashes may try for soy foods or isoflavone extracts for the alleviation of their symptoms.

**Potter (2014)** did an experimental study on the effect of soy isoflavones on lipids and bone density among postmenopausal women. The findings stated that significant increases in bone
mineral content and density observed in experimental group rather than control group p<0.005. The HDL cholesterol was significantly increased in experimental group than the control group p<0.05. It was concluded that the intake of 50 gms of soy 45 mg contains isoflavones for 3 months decrease the risk factors associated with cardiovascular disease and protect the bone density in postmenopausal women.

**Vieira, Araujo, Haidar and Silva (2013)** did a prospective memory assessment on before and after the use of 50 gms of soy powder among the post menopausal women complaining of memory impairment. The findings suggested that significantly improved in memory p<0.01 were observed, especially, in verbal fluency, executive function tasks of planning and mental flexibility among post menopausal women receiving soy powder supplementation than the control group. It was concluded that the soy isoflavones act favorably on selective cognitive functions.

**Han, et al., (2012)** examined a double blind, placebo controlled study on the benefits of soy isoflavones on menopausal problems among the midlife women. The objectives were to examine the change in menopausal symptoms and cardio vascular risk factors in response to four months of daily intake of 50 gms of soy as 45 mg among the post menopausal women. The results showed that the decreased level in menopausal symptoms P<0.01 noticed in soy isoflavones group. Total cholesterol and low density lipoprotein decreased significantly in the isoflavone group compared with
baseline or placebo group (P<0.001). This study suggested that isoflavone 45 mg treatment may be a safe and effective alternative therapy for menopausal symptoms and may offer a benefit to the cardiovascular system.

Liu, Chen and Caichen (2012) performed a systemic review of soy isoflavone supplements on osteoporosis among the menopausal women. The results showed that there was a significant improvement noticed by 54% and decreased bone resorption marker (urinary deoxypyridinoline) by 23% among soy isoflavone users. It was concluded that soy supplementation significantly increased the bone mineral density and decreased the bone resorption markers at p<0.03.

Yang, et al., (2012) investigated a randomized study on the effectiveness of soy on menopausal problems among the postmenopausal women. The findings showed that 35 gms of soy supplementation for three months was reduced with climacteric score 19.66%, and found to be significant at p<0.01. It reduced the total cholesterol of 4.50% p<0.05 besides the deoxypyrudidoline and creatinine level by 10.53% p<0.05. The study concluded with the point that soy found to be highly efficacious at reliving menopausal symptoms and demonstrated a positive effect on the cardiovascular and skeleton system.

Allen (2011) conducted a study on the beneficial effect on soy trial. A total of 160 healthy postmenopausal women (50% African-
American) with LDL cholesterol between 130 mg/dL and 190 mg/dL were enrolled. Adopting a pre-randomization, post menopausal women were randomized into two groups. One group receives 50 gms soy containing 45 mg of isoflavones and other groups receive 50 gms of casein dietary supplements for 3 months. The major outcome variables were assessed in both groups at baseline and again at 3 months. Soy supplementation will result in significantly greater reduction in LDL cholesterol, LDL particle concentration, and prevalence of dense LDL particles and improvement in menopausal quality of life compared with placebo and that these effects will be comparable in African-Americans and Whites.

Arjmandi, et al., (2011) investigated a positive effect of soy supplementation on bone formation marker among the postmenopausal women. A total N=62 samples were randomly assigned in control and experimental group. For the experimental group 50 gms of soy which contains 45 mg of isoflavones was administered for three months. The findings showed that significantly increased bone formation markers noticed in the experimental group (bone specific alkaline phosphate activity 25.8, insulin like growth factor – I 26.3%, osteocalcin 103.4%) than in the control group. The study also suggests that three months supplementation of soy powder positively modulates the bone formation markers.

Lucio, Pedro, Paiva and Neto (2011) investigated a double blind randomized controlled trail on the effect of dietary 50 gms of
soy supplementation compared to estrogen and placebo on menopausal symptoms. The objectives of the study were to compare the effect of daily ingestion of 50 gms of dietary soy supplementation, low dose hormone therapy and placebo on psychological, somatic and urogenital symptoms among the postmenopausal women. Sixty healthy, symptomatic, post menopausal women of 40-60 years of age were allocated to use 50 gms of dietary soy supplementation (containing 45 mg of isoflavone) or hormone therapy (1mg estradiol and 0.5 mg norethisterone acetate) as a placebo. Main outcome measures were used by menopausal rating scale to assess menopausal symptoms at baseline and after 16 weeks of treatment. The results revealed that the dietary soy supplementation and hormone therapy found significant difference on menopausal symptoms where as 50 gms of soy considered as a safe and natural therapy for reducing somatic and urogenital symptoms of menopause. It was statistically significant at (p<0.001).

**Prediger, et al., (2011)** conducted a meta analysis on the effectiveness of soy isoflavones on menopausal women lipid profile. Thirteen randomized control trials were included. The main data base used in the study was Pubmed, Cochrane library, Medline, lilacs and web science. The results revealed that 50 gms of soy significantly decreased the total serum cholesterol by 5.34 mg/dl, p <0.03. It was concluded that 50 gms soy decreased total cholesterol by 6.56 mg/dl (95% CI -12.35 to – 0.39, p<0.04). Soy
supplementation had a significant effect on total serum cholesterol among menopausal women.

Scheiber, et al., (2011) did a study on dietary inclusion of soy foods result in significant reductions in clinical risk factors for osteoporosis and cardiovascular disease among normal post menopausal women. The objectives were to determine the effects of dietary soy foods on clinical markers for cardiovascular and osteoporosis. Forty two normal post menopausal women consumed three daily servings for twelve weeks of 60 gms of soy foods contains 55 mgs of isoflavone. The results revealed that, serum and urine levels of individual and total isoflavones increases significantly P<0.001 from baseline. A significant increase (9.3%, P<0.05) in the mean lag time of low density lipoprotein cholesterol oxidation was seen and was positively correlated with serum phytoestrogens P<0.005. Significant level of increase was found in mean level of high density lipoprotein cholesterol (3.7%, P<0.05) and serum osteocalcin (10.2%, P<0.025). Significant level of decrease was observed in total cholesterol, HDL ratio (5.5%, P<0.006) and mean urinary N-telepeptide excretion (13.9%, P<0.02).

Hanachi (2010) conducted a study on the assessment of soy phytoestrogens and exercise on lipid profile and menopause symptoms in menopausal women. The result shows that soy milk supplementation, soy milk and moderate exercise significantly p<0.05 improved Total Active Cholesterol (TAC) level. Vasomotor symptoms were improved p<0.05 in soy milk consumption with
moderate exercise, Compared with control group. Vaginal problem, sexual symptoms and vasomotor symptoms significantly reduced p<0.05 after soy milk conception. This study suggests that soymilk containing 45 mg of isoflavones with moderate level of exercise for three months treatment may be safe and effective alternative therapy for menopausal symptoms and may offer a benefit to enhance antioxidant status to improve women health and Quality of Life.

**Hooper, et al., (2010)** evaluated a meta analysis on the Effects of soy protein and isoflavones on circulating hormone concentrations in pre- and post-menopausal women. The aim of the study was, systematically, assess the effects of soy and isoflavones on circulating estrogen and other hormones among the pre and the postmenopausal women. Forty-seven studies (11 of pre-, 35 of post- and 1 of perimenopausal women) were included. In premenopausal women, meta-analysis suggested that soy or isoflavone consumption did not affect primary outcomes of estradiol, estrone or SHBG concentrations, but significantly reduced secondary outcomes of FSH and LH [by approximately 20% using standardized mean difference (SMD), P = 0.01 and 0.05, respectively]. Menstrual cycle length was increased by 1.05 days (95% CI 0.13, 1.97, 10 studies).

**Taku, et al., (2010)** conducted a meta analysis on the effect of soy supplementation of bone turn over markers among the menopausal women. A total 3740 studies were included for the
analysis. The findings showed that 50 gms of soy for three to six weeks significantly decrease the deoxypyridoline by 14.1% (95% CI: 26.8% to 1.5%, p<0.03). The overall effect of soy isoflavones on deoxypyridoline compared with placebo was a significant decrease of 18.0% (95% CI: 28.4% to 7.7%, p<0.007). It was concluded that 50 gms of soy containing 45 mg of isoflavone supplementations moderately decrease the bone resorption markers among menopausal women.

**Upmails, et al., (2010)** conducted a multicentric, double blind study on efficacy of soy isoflavone on vasomotor symptoms among postmenopausal women. The main objectives were to determine the safety and efficacy of 45 mg of soy isoflavone for relief of menopausal hot flushes. The results revealed that the decreased level in the severity of hot flushes occurred as soon as two weeks in the soy group, whereas the placebo group experienced no relief for the first four weeks. Over six weeks, Difference between the groups were statistically significant at p<0.03, over twelve weeks interval, between group differences were significant at p<0.08. And it was concluded that soy isoflavones was effective in reducing the frequency and severity of hot flushes and did not stimulate the endometrium.

**Welty, et al., (2010)** did a randomized cross - over design trail on the association between soy nut consumption and decreased menopausal symptom. Experimental group Samples received 50 gm of soy protein which contains 45 mg of isoflavones
daily. Control group received usual dietary intake. The results revealed that soy nut ingestion was associated with a 45% decreased in hot flashes in women with <4.5 hot flashes per day at baseline p<0.001 than the control group. Also the group consuming soy nuts reported 19% decrease in vasomotor score p<0.004.

*Wong, et al., (2010)* conducted a randomized double blind placebo controlled trial to evaluate the effects of daily dietary soy supplementations on bone mineral density among the postmenopausal women. The findings showed that 50 mg of soy isoflavones had a statistically significant reduction in whole body BMD than placebo at 1 year p<0.03 and 2 year p<0.05 and it was concluded that the daily dietary supplementation of 50 mg of soy isoflavones reduces the whole body bone loss and thus it can prevent fracture risk among the healthy postmenopausal women.

*Radhakrishnan, et al., (2010)* investigated a double blind, placebo controlled trail on evaluation of isoflavones rich soy protein supplementation for post menopausal women problem. The aim of the study was to examine the effects of six months supplementation of isoflavones rich 50 gms of soy protein powder on menopausal symptoms, lipid profiles and bone density in postmenopausal women. The results showed that there is a reduction of hot flashes, joint pains and vaginal dryness on soy treatment p<0.05. The soy supplement was significantly superior to placebo in reducing Kupperman index p<0.05. The soy group showed 7.7% decrease in total cholesterol and 14% decrease in LDL cholesterol (significantly
different from control group p, 0.05) while no effect was seen on high density lipid cholesterol, blood pressure, sex hormones, vaginal cytology, uterine endometrium and bone densitometry. A 25 gm soy supplement containing 45mg of isoflavones may be an effective therapy for menopausal symptoms and may offer a benefit to cardiovascular system by altering lipid profile favorably.

Section C: Reviews Related to Role of Multimodal Interventions on Management of Menopausal Problems

Andreson, et al., (2015) conducted a web-based multimodal intervention on menopausal problems among midlife women. Results revealed that, the psychological problems such as mental exhaustion, anxiety and depression mean score was decreased in posttest than the pretest and it was found to be significant at P <0.001, decreased physical symptoms such as vasomotor P < 0.004 and genitor urinary such as urinary and sexual P <0.001 problems score also reduced after the multimodal intervention at P < 0.001. Further it was observed there was an improvement in quality of life among menopausal women undergoing multimodal intervention than the control group.

Khadigeh (2015) evaluated the effectiveness of multimodal intervention on physical activity and health promotion in midlife women. Findings and showed that adopting multimodal intervention lowers the physical and psychological symptoms of menopause among midlife women P < 0.005. Further it improves the physical activity of the women at P < 0.001.
Tan and Guldal (2014) evaluated the cross-sectional study on the effect of physical activity and body mass index on menopausal symptoms among Turkish women. The menopausal rating scale and international physical activity scale were used to identify the menopausal problems and the level of physical activity. The findings indicated that the subjects physically active had less total score of menopause p<0.001, somato vegetative p<0.004, psychological p<0.002, and urogenital p<0.001 symptoms scores when compare to subjects were less physically active. There was no change identified in vasomotor symptoms with relation to physical activity. Significant differences were found in sleep problems p<0.009 and sexual p<0.043 problems, joint and muscular discomfort p<0.001, depressive mood p<0.009 and vaginal dryness p<0.016. Thus, it was concluded that physical activity may play a vital role in menopausal symptoms.

Smith and Julio (2013) did a follow up study to evaluate the sustainability of multimodal intervention on the influence of self-efficacy and prevention of cardiovascular disease among the midlife women. The main objectives of the study were to evaluate the sustainability of an intervention to reduce the woman’s cardiovascular risk factors, determined the influence of self efficacy, and described women’s current health. The results revealed that the women in the original intervention group continued health behaviors intended to reduce the cardiovascular disease and higher self reported health at a higher rate than the control group,
supporting the feasibility of a targeted intervention built around the
women’s individual goals.

**Toral, et al., (2013)** conducted a Meta analysis on the
multimodal interventions among perimenopausal and post
menopausal women. Studies were selected, if they included
educational programme on menopause, and promotion of exercise
behaviour and cognitive behavioral techniques adopted as a
multimodal approach among peri and post menopausal women. A
total of 33 of reports and three reviews published between 1987 and
2013 were included. The findings of this review are interesting and
positive; the multimodal approached was targeting the different
aspects of symptoms associated with menopause. After using this
approach there was a significant difference $p<0.03$ observed among
the peri and postmenopausal women in their symptoms level.
Thus, it was encouraged women focused institutions (health care
centers, public organizations and women associations) to offer
multimodal interventions to peri and postmenopausal women
within a comprehensive health care paradigm.

**Hedborg and Carin (2011)** did an internet-based study on
the effectiveness of multi-modal therapy and hand massage in
management of menopausal migraine among the menopausal
women. A total of 58 samples were randomly assigned both in the
control and in the experimental groups. The experimental group
received internet-based multimodal therapy (consumption of
phytoestrogens and aerobic exercise) and control group received
internet - based hand massage for eleven months. The result revealed that fifty percentages or greater reduction in migraine frequency was found in 40 to 42% of the samples in experimental group which was found statistically significant at p<0.001.

Anderson, Mizzari, Kain and Webster (2010) did a study on the effects of a multimodal intervention trial to promote lifestyle factors associated with the prevention of cardiovascular disease in menopausal and postmenopausal Australian women. The purpose of this study was to test the efficacy of a multimodal intervention (Women’s Wellness Program) to improve women’s cardiovascular risk factors. The multimodal intervention consists of self directed health education module on exercise and life style modifications related to menopause. The findings showed that multimodal intervention that significantly reduced the LDL cholesterol p<0.005. It also suggested it is an effective, clinically manageable therapy for women who prefer a multimodal approach to preventing and decreasing cardiovascular risk arising after menopause.

Section D: Reviews Related to Coping Ability of the Midlife Women towards with Menopausal Problems

Lioka and Komatsu (2014) evaluated the effectiveness of stress management program to enhance the perimenopausal women’s ability to cope with stress. A quasi experimental design was adopted in this study. Experimental group received stress management programme (exercise and problem based counseling), and the control group received pamphlets which contains stress
management techniques. The result revealed that the experimental group showed the changes in coping ability and improved physical activity were observed at p<0.05. Happiness was significantly improved at p<0.001. Finally, it was suggested that stress management programme will enhance the perimenopausal women coping ability and improve their psychological well being.

Ramakuela, et al., (2014) conducted a qualitative, explorative study on the perception of menopause and ageing by the rural midlife women. The findings denoted that the midlife women perceived menopause was due to aging process rather than menopausal transition and they seek help from their family members who had already crossed menopause. The women also felt once menstruation was stopped they were regarded as old.

Bosworth, Bastian, Rimer and Siegler (2013) performed a descriptive study on the coping styles and personality domains related to menopausal stress. A total N=170 samples with the mean age of 45 to 55 were enrolled in the study. The data were collected by mailed questionnaire and telephone interview that assessed women’s stress associated with menopause, coping style, personality, menopausal symptoms, depressive symptoms, and use of hormone replacement therapy. The result revealed that menopause is a stressful event and it was associated with higher levels of neuroticism, seeking social support, avoidance, lower levels of agreeableness and unadjusted behaviors. Menopausal symptoms, seeking social support, and neuroticism accounted for 21%. 
Majority 90% of them rated menopause as stressful. And it was concluded that the health care providers treating women going through menopause should be aware about the multifactorial symptoms associate with the menopause and coping style and incorporate the effective intervention to overcome the stress response during menopausal transition.

George and Sara (2013) examined the perceived psycho social problems of post menopausal during the menopausal transition. The findings showed that the majority of the postmenopausal women experienced mild to moderate menopausal problems and adopted both positive and negative coping strategies. A negative relationship was found between the perceived bio-psychosocial problems and coping strategies adopted by the post menopausal women $r=-0.212$, $p<0.05$. Significant association was found between coping and socioeconomic status $X^2=5.99$, $P<0.05$.

Yucel and Eroglu (2013) did a descriptive study to assess the sexual problems and coping methods adopted by postmenopausal women lives in Ankara, Turkey. A total of 309 samples were enrolled in this study. The result revealed that 80% of them experienced a decrease in frequency of sexual intercourse, 68% felt changes in sexual desire. It was found that 87.4% of the sample experienced problems in their sexual relationships. During sexual intercourse 42.4% of the women experienced vaginal dryness, 30.1% pain, 24.9% burning and 4.5% bleeding problems. Majority of the women did not use any coping method to solve their
problems of vaginal dryness, pain, burning and bleeding. Because of this they often get genital infections and they seek treatment in primary health centre. The study also found that, the health care professionals work in menopause clinics should assess the sexual problems in postmenopausal women. Sex counseling services need to be integrated in to menopausal care programs.

Minjhart (2012) conducted a study to examine the effect of menopausal symptoms on the occupational well being of menopausal women and to analyze to what extent this relationship is influenced by the taboo around the menopause and the coping styles women use to deal with the symptoms. The results revealed that women experiencing severe level of menopausal symptoms had lower level of well being p<0.005. And they were adopted as various level of coping style like distraction, avoidance, social support, solution focused and frustration. This adoptive behaviour increases the relationship between menopausal symptoms and the occupational wellbeing.

Parveen, Parawani and Sidique (2012) conducted an explorative, descriptive and quasi-experimental study to evaluate the knowledge of perception and coping strategies of perimenopausal women P < 0.05. The result revealed that the education level was strongly associated with perception and coping strategies with literate women having better perception and coping strategies in comparison to an illiterate women.
Amosu, et al., (2011) conducted a descriptive cross-sectional study to examine the impact of knowledge and awareness on the ability to cope with menopause among menopausal women in Nigeria. The result revealed that, 78% of the midlife had inadequate knowledge and not adopted any measures to cope with the menopausal problems. So, it was emphasized that the women of perimenopausal, menopausal and post menopausal age need to be enlightened on strategies required for coping with menopausal problems, and that with good, reliable and appropriate information coupled with a lot of reassurance, menopause can be managed.

Nwaiwu (2011) conducted a qualitative study on the black women’s perceptions of menopause and the use of hormone replacement therapy among the midlife women in UK. The results revealed that the participants who had experienced menopausal symptoms managed their symptoms in a range of ways, often using coping methods such as wearing light clothing or having cold showers during hot flushes. It appeared that those who had used HRT had not been given full information on the use of HRT before it was prescribed by the doctors. And it was concluded that the black menopausal ethnic women have different methods of managing and coping with menopausal symptoms and do not necessarily want HRT as their first line treatment. They should be assessed and provided with adequate explanation should be provided before prescribing HRT.
Simpson and Thompson (2011) did a study on the stressful life events, psychological appraisal and coping style among the postmenopausal women. The main objectives of the study were to investigate life event which is stressful and how psychological appraisal of these events, menopausal symptoms and general stress mediated coping style. The sample size was N= 179. The result revealed that all the women were postmenopausal, with the mean age of 50.74 years (SD=4.75). Stressful events were categorized into family problems, menopause symptoms, work problems, daily hassles and other health problems. The most commonly reported coping styles were catharsis 68%, direct action 66%, and seeking social support 63%. Also, the study found that the Socio demographic variables, menopausal symptoms and general stress level were not a predictor of coping style. This information could be used to develop more appropriate information for postmenopausal women.

Catherine (2010) conducted a study on the coping and quality of life among the perimenopause and menopausal women. The purpose of the study was to describe the appraisal of menopause as a stressor and examine the relationship between the stress and coping strategies, and quality of life in perimenopausal and menopausal women. The result revealed that 83% of women in the study appraised menopause as either neutral or a positive challenging event. Further, neither emotion focused coping strategies were inherently adaptive. Five coping strategies were found to be significantly related to quality of life, the three problem
focused strategies of active coping, suppression of use of emotional social support and positive reinterpretation.

**Chin, Chen and Jou (2010)** did a descriptive study regarding the experience of sleep disturbances and coping ability among perimenopausal women in Taiwan. The result showed that the disturbed sleep was identified as the antecedent condition that included subcategories: easy awakening, difficulty in falling asleep, inner worries, physical discomfort and genetic and bodily constitution. And the coping ability used by them were seeking help from doctors 23%, trying alternative therapies 7%, exercising 5%, seeking support from family members 47%, vicious cycling and acceptance of insomnia 3%.

**Section E: Reviews Related to Exercise and Counseling on Management of Menopausal Problems among Midlife Women**

**Soghra and Hamid (2014)** conducted a randomized controlled study on the effect of joint flexibility and muscle strengthening exercise on the quality of life among the postmenopausal women referred to the bone densitometry centers of Iran University of medical sciences. Eighty postmenopausal women who experienced the natural menopause were randomly (exercise group n=40, control group n=40) assigned. Nottingham Health Profile (NHP) was used to assess quality of life in both experimental and control groups before and after eight weeks. The result showed that there was a statistically significant difference in
the exercise group for the Nottingham health profile indicating an improvement in the Quality of Life (P<0.05). And it was concluded that quality of life on postmenopausal women could be improved with a regular and controlled exercise program of eight weeks.

**Tan, Kartal and Guldal (2014)** determined the effect of physical activity and body mass index on menopausal symptoms in Turkish women. A total of 305 women, aged between of 45 and 65 visited the health centre were selected as sample for this cross-sectional study. The result revealed that women who were physically active had lower total menopausal P<0.001, somato vegetative P<0.004, psychological P<0.002, and urogenital P<0.001 symptoms score than women who were less active significant differences were found for most menopausal symptoms, including sleep P<0.009 and sexual P<0.043 problems, joint and muscular discomfort P<0.001 and vaginal dryness P<0.016. The BMI was not associated with total menopausal symptoms and with the subscales, excluding depressive mood P<0.009. A significant level of increasing trend in the rate of depressive mood was observed from normal through overweight to obese participants. And it was concluded that the physical activity may play an important role in alleviating menopausal symptoms. As part of preventive medicine, primary care physicians should also stress lifestyle changes, including physical activity, to manage menopausal symptoms.

**Begum and Muniswamappa (2013)** evaluated the impact of nutrition counseling on the knowledge, attitude and practice of
postmenopausal women. The results indicated that before counseling only 11.4 and 22.4 per cent of the subjects were aware of menopause. But after counseling knowledge gain regarding the same was found to be 74.28 and 65.71 per cent, respectively. After counseling the correlation co-efficient between knowledge and attitude and knowledge and practices showed positive (0.047, 0.023, respectively), correlation among the subjects. As knowledge increased there was improvement in attitude and practices. Hence, counseling improved Knowledge, Attitude and Practice (KAP) regarding menopausal problems. It was concluded that the nutrition counseling based on dietary modifications, lifestyle alterations can be used as the basis of prevention and as a general strategy to overcome the menopausal problems.

Cigdem (2013) conducted a descriptive study on the sexual problems of postmenopausal women and their coping ability. The sample size was 309 postmenopausal women from primary health centre at Ankara, Turkey. The result determined that 80% of the women experiencing decrease in frequency of sexual intercourse; 87.4% of them experienced problems in their sexual life; 42.5% of the women experienced vaginal dryness; 30.1% of them had pain; 24.9% of them had burning in the vagina and 4.5% of them had bleeding problems. Further, it was concluded that the health care professional should identify the sexual problems among the post menopausal women and sex counseling services need to be integrated into menopausal care programme, which focuses on the
Emmanuel, et al., (2013) examined the sweating and thirst perception in premenopausal, perimenopausal and post menopausal women during moderate flexibility exercise. The result showed that the exercise induced a significant change in thirst perception, as in all groups the post menopausal women exhibited the lowest thirst ratings. Although there was no significant difference in sweat volume and sodium concentration between the groups, the perimenopause women showed significantly higher sweat rate $p<0.001$ compared to both premenopause and post menopause groups. A significant positive correlation among between thirst perceptions, sweat rate, sweat volume and sweat sodium concentration values. And it was concluded that there is an increase in sweat rate and volume produces a concomitant increase in thirst perception in women during moderate flexibility exercise, but sodium loss is reduced.

Zeinab, et al., (2013) conducted the cross - sectional study to modeling the relationship between the physical activity and quality of life in menopausal women. The purpose of the study was to assess the relationship between physical activity and the intensity of menopausal symptoms, to investigate the relationship between physical activity and the four domains of health related
quality of life and to assess the relationship between physical activity and chronic diseases. A total of n=273 women, who were middle aged (age range of 40-60 years) were recruited from two of the twenty five urban health centers were selected by cluster random sampling technique. The result showed that there was a positive relationship between psychological, social, and environmental domains of Health Related Quality of Life (HRQoL) with physical activity P<0.001.

**Jaana, et al., (2012)** did a study on the physical activity and change in quality of life during menopause among Finnish women. The aim of the study was to study the role of menopausal status and physical activity on quality of life. A total of 1,165 Finnish women aged 45-64 years from a national representative population based study were followed up for eight years. The results revealed that peri and post menopausal women increased their physical activity 28% and 27% during the follow up period, than the premenopausal 18% women P=0.070. Menopausal status was not significantly correlated with change of QoL. Most highly educated women QoL was more likely to improve than among less educated (e=1.28, 95% CI 1.08 to 1.51 P=0.02). The women whose physical activity increased or remained stable, had greater chances for improved QoL than women whose physical activity decreased. Women, whose weight remained stable during follow up also improved their QOL compared to women who gained weight (e=1.26, 95% CI 1.07 to 1.50 P>0.01). Women, who had never used HRT,
had 1.26 greater odds for improved QOL (95% CI 1.02 to 1.56 P<0.05). Improvement of global QOL is correlated with stable or increased physical activity, stable weight and high education, but not with change in menopausal status.

Kalabroudi, et al., (2012) investigated the effect of physical activity on severity of menopausal symptoms and the other related factors among the women 40 – 60 years on Kashan, Iran. A total of 700 menopausal women were selected by using cluster random sampling. The result revealed that there was a statistically significant difference had between the severity of menopausal symptoms. Further it identified significant association exits between physical activity and menopausal problems physical p<0.001, psychological p<0.001, and urogenital p<0.04 and working status P<0.017, different educational levels P<0.001, exercise activity P<0.001, exercise frequency P<0.04, and duration of menopause P<0.03. And it was concluded that the employment, higher educational levels, doing physical activity are associated with menopausal symptoms.

Bolton, et al., (2011) did a randomized control trail on the effect of exercise on bone density and risk factor associated with fall among post menopausal women with osteopenia. Thirty nine postmenopausal women were randomly assigned into experimental and control group. Flexibility and muscle strengthening exercise were administered for fifty two weeks. Control group received routine care. All the samples were distributed calcium supplements.
A posttest was conducted after the fifty two weeks. Bone mineral density was measured at the proximal femur and lumbar spine, health related quality of life, and objective measures of balance and strength were assessed. The result showed that the mean difference noticed between the groups was -0.012 g/cm$^2$. 0.5% of improvements were seen among participants in exercise group when compared with 0.9% of loss for control group. Thus the exercise programme shows the modest benefit among the postmenopausal women in relation to osteopenia.

Chinwuba (2011) did a cross-sectional study to assess the knowledge and perception of menopause and climacteric symptoms among the menopausal women at Nigeria. The result denoted that, 33.3% of midlife women took treatment in hospital for the problems caused by menopause. A total of 58.3% of the midlife women did not aware of the symptoms due to menopause and they consider it as a part of aging process. It was concluded that the physician should identify the menopausal population, offer a counseling programme to the women during menopausal transition and help them to adopt in a healthy life style will reduce the cost of wasteful clinical assessment and investigations.

Ircin, et al., (2011) conducted a randomized control perspective study to evaluate the effects of counseling on menopausal symptoms. One group received counseling, the other one received bibliotherapy. The first 3 weeks of baseline measurement of intensity of hot flash symptoms, and the pre
intervention psychological scores were compared with the final 3 weeks measurement of intensity and the post intervention psychological scores. The results revealed that there was a significant reduction in hot flashes intensity $p<0.05$, tension anxiety $p<0.05$, depression $p<0.05$ and confusion $p<0.05$ in counseling group. No significant changes were noted in the group who received bibliotherapy. It was concluded that the counseling enhances the significant reduction in hot flashes intensity and concurrent psychological symptoms of tension, unusual feeling of anxiety and depression.

**Ayranci, et al., (2010)** conducted an epidemiological study to assess the menopausal status among Turkish midlife women. The findings showed that the most common problems transpire during the midlife period was hot flashes accounted for 96.5% of the females and it was found to be severe in 32.9% of the midlife population, moderate in 43.1% and mild in 20.4%. Backache and muscle pain was found to be 95% of the midlife women and out of them 25.9% of them felt in severe level, 46.0% of them felt moderate level and 23.1% in mild level regarding headache 91.7% (21.9% severe, 34.9%, moderate and 34.9% mild) and feeling tired 91.0% (15.3% severe, 38.6% moderate and 37.1% mild).