function. Over time, symptoms include forgetfulness, inability to focus and decreased problem solving skills and may progress to anxiety, depression, dementia and AD. Currently there are no drugs or other treatments specifically approved to treat cognitive impairment or prevent its progression. Vitamin B complex plays an important role in homocysteine synthesis. Low levels of vitamin B1, B2, B6, B9 and B12 result in elevated homocysteine levels linked to brain atrophy, a precursor to cognitive decline leading to dementia and AD. It s postulated that increased homocysteine levels and deficiency of certain B vitamins contribute significantly to the pathophysiology and onset of the disease and its progression. Low level of vitamin B is often noted in patients with dementia and AD and its supplementation has been shown to improve memory and slow the progress of brain atrophy.

**Conclusion:** This knowledge may aid in the use of vitamin B as a preventative measure of severe cognitive decline, and thus reduce the onset of conditions such as, dementia and AD.

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**P134**

## Shattering the mirror

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What do you think of when you hear the word menopause? Old? Over the hill? Crone? Hag?

Society has given us an image of what menopause looks like and it overlays whatever our eyes show us when we look in the mirror. It is not pretty. We see ourselves as worn out, dried up, useless. It robs us of our self-esteem and robs society of our wisdom.

But, what if we've got it wrong? What if menopause actually opens the way for women to claim their highest self?

In this talk, Jeanne Andrus, The Menopause Guru, examines the development of the menopause myth through a series of iconic images, from Sarah of the Bible to the Little Mermaid's Ursula, and then, turns it on its head, asking the question, "What if menopause is really a gift? What if it gives us more than it could ever take?"

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**P135**

## The effects of *Pueraria thomsonii* flower extract on estrogenic activity, osteoblast differentiation and osteoclast formation in vitro

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Pueraria is the predominant source of isoflavones considered to be phytoestrogens that mimic the hormone 17β-estradiol (E2). Due to the risks associated with hormone replacement therapy, there is a growing need for alternative sources of estrogenic formulations for the treatment of menopausal symptoms. Therefore, we examined the effects of *Pueraria thomsonii* flower extract on estrogenic activity using an estrogen-dependent MCF-7 human breast cell proliferation assay and HEK 293 cells co-transfected with human estrogen receptor (ER a and/or b) and ERE-luciferase reporter genes. To investigate the changes in osteoblast differentiation and osteoclast formation by *Pueraria thomsonii* flower extract, human osteoblastic MG-63 cells and rat primary osteoclast cells were measured by Alizarin Red S, ALP and TRAP staining reactions. As a result, we observed that proliferation of MCF-7 cells was increased by *Pueraria thomsonii* flower extract treatment. Furthermore, the estrogenic activities of *Pueraria thomsonii* flower extract, measured by ER dependent luciferase activities, were increased by up to 115 fold in dose dependent manners, preferentially through ER b (b/a = 2.8 fold). Also, treatment of *Pueraria thomsonii* flower extract significantly enhanced ALP enzyme activity and Alizarin Red S stained cells in osteoblastic MG-63 cells. On the other hand, in the osteoclast formation assay using primary osteoclast cells, the formation of tartrate resistant acid phosphatase (TRAP)-positive multi-nucleated cells was dramatically reduced by *Pueraria thomsonii* flower extract treatment. These results suggest that *Pueraria thomsonii* flower extract could provide strong estrogen-like effects in estrogen receptor positive cells and its phytoestrogens could be developed as a dietary supplement against post-menopausal symptoms including hot flush and osteoporosis.

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**P136**

## Intake of *Withania somenifera* enhance the antioxidant property of aged mice

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The brain and neurological system are amongst the greater accumulators of oxidative damage with aging. The reason is a consequence of oxygen consumption, number of mitochondria, abundant nitric acid, rich in PUFA and lower levels of antioxidant enzymes such as GPX, catalase, etc. Associated condition accelerating the process of brain aging include vitamin B group deficiencies, high C-reactive protein and deficiency of antioxidants like acetyl-L carnitine.

**Method:** 30 mice, *Mus musculus*, are divided into 5 groups (6 each). Experimental groups are treated with 100 mg/kgbw and 200 mg/kgbw with *Withania somenifera* extract for 30 days oraly.

**Result and conclusion:** Treated group (supplement with extract) show significantly low LPO at $p \geq 0.01$ than the control one and increase in GSH, CAT value in brain. It is concluded that after supplemented with the *Withania somenifera* mice show enhance value of antioxidant enzymes in treated mice brain than control.

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**P137**

## Critical role of testosterone in both sexes

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The location of androgen receptors and the physiologic effect of testosterone is described.

**Nervous:** Neuroprotective, immunomodulator, improves sleep, dry eyes, hot flashes and depression. Enhances verbal learning,

memory and focus. Regulates β amyloid and dendritic growth. Therapeutic in MS, Parkinson's and Alzheimer's diseases.

**Cardiovascular:** Cardiac protective, vasodilator, augments cardiac output, strengthens cardiac muscle, inhibits plaque development, modulates cardiac adaptive hypertrophy, angiogenic, and improves $O_2$ consumption in CHF.

**Breast:** Inhibits proliferation and cancer growth, proapoptotic, reduces ER α, increases ER β and chemotherapy responsiveness.

**Pulmonary:** Bronchorelaxation, pulmonary vasodilation, anti-inflammatory, immunosuppressant, and depresses sensitivity to histamine substances.

**GI tract:** Improves glycemic control, glucose tolerance and insulin sensitivity. Beneficial role in lipid homeostasis, alcohol excretion, steatosis, viral hepatitis, and cirrhosis. Stimulates peristalsis.

**Uterus, vagina, bladder:** Strengthens the bladder, improves incontinence and urgency. Increases vaginal blood flow, strength and lubrication. Prevents proliferation of endometrium.

**Sexual organs:** Stimulates ovulation and follicular development, increases sex drive/libido, erectile function and spermatogenesis. Prostate tumor suppressor and proliferator.

**Muscle, joints:** Increases lean muscle mass and strength. Anti-inflammatory, relieves pain and is effective therapy for arthritis and autoimmune disease.

**Bone, marrow:** Enhances immune function, stimulates erythropoiesis, increases nitric oxide and inhibits platelet aggregation. Reduces bone turnover and increases bone density.

**Fat:** Decreases visceral fat. Aromatizes to estradiol with a secondary effect via the ER.

Testosterone induces clinical effects in every organ system and has a critical role in human development, health, anti-aging and disease prevention.

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**P138**

## Early age at menopause: How should we empower them with health?

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According to the WHO's health statistics for 2015, in India the average female life expectancy in 2015 is 69.9 years and is projected to increase to 73 years by 2021.

Age of menopause is a very important biomarker of not only the loss of fertility but also an increased risk for various midlife diseases and problems leading to decreased quality of life. There is much epidemiological observational, clinical and randomized controlled trial data to support that early menopause accelerates the development of chronic diseases. Hence, the average age of menopause is a vital determinant to develop protocols for preventive health care for women in the community. The earlier age at menopause has several implications for India.

Various studies done to identify the average age at menopause and the age of maximum prevalence of chronic disorders in India. The average age of menopause in the samples studied is 46 years. Chronic diseases (CVD, Osteoporosis, Diabetes, Cerebrovascular incidences and other NCD's) in India present themselves almost a decade earlier than in Caucasians with an increase in overall morbidity and mortality. The findings provided a basis for further research and also help to understand the health status and health needs of women in India and thereby guidelines are formulated for screening and managing Indian Menopausal Women.

This talk aims to highlight various studies done to determine the age at menopause and factors associated with the health at menopause in the urban & rural population of Indian women. There is an urgent need to empower these women with good health at midlife and to develop age-specific preventive measures, such as screening tests, counselling, and health education, especially lifestyle management for healthy and active aging.

The Indian Menopause Society has taken various initiatives aimed at improving awareness and individualized management methods, thereby working towards the slogan 'Fit at 40, Strong at 60, Independent at 80'.

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**P139**

## Improvement of NYHA in multimorbidity patients with heart failure treated with Entresto® (Sacubitril/Valsartan)

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**Objectives:** Heart failure (HF) is a chronic condition with an increasing prevalence in developed countries. In addition, it is typical that it manifests itself in elderly patients with multimorbidity.

Entresto® (Sacubitril/Valsartan) is a new therapy for patients with chronic HF.

The aim of the study is to evaluate the improvement of the clinic and the decrease in hospital admissions after treatment.

**Methods:** Observational study. Patients in follow-up in the Multimorbidity Chronic Unit with diagnosis of HF.

For the analysis of the data, *t*-student was used to determine the differences between two sample means of hospital admissions.

**Results:** Nineteen patients were included in the study (M/W 53/47) with a mean age of 82 years ± 1.3 SD, with a diagnosis of chronic HF with NYHA III-IV. Seventy nine percent of patients had a reduced ejection fraction (HFrEF). Doses of 24/26 mg were indicated in 84% of patients.

At weeks of treatment initiation there was an improvement in NYHA in 78% of cases. After initiation of treatment, patients had a lower incidence of HF decompensation with a significant reduction in admissions (46 vs 9, $t$ 1.94, $p = 0.0004$, 95% CI 1.004–2.89).

As a side effect, 17% had hypotension with doses of 24/26 mg, specifying the suspension of the drug. There were no other side effects or death of any of the patients.

**Conclusions:** In our experience Entresto® (Sacubutril/Valsartan) improves symptomatology and reduces hospital admissions of multimorbidity patients with chronic HF.

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