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## Jobelyn® reverses memory impairment induced by unpredictable chronic mild stress in mice

Solomon Umukoro

Afebabalola University, Nigeria

The deleterious effects of stress on memory have been recognized for many centuries, but drugs which could be used to L mitigate stress-related cognitive decline are yet to be discovered. This study was designed to evaluate the effect of Jobelyn® (JB); a potent antioxidant food supplement, with stress relieving property, on memory impairment induced by unpredictable mild stress (UCMS) in mice. Male Swiss mice were subjected to UCMS 30 min after oral treatment with distilled water (10 ml/kg), JB (5, 10, 25 and 50 mg/kg) or DP (1 mg/kg) daily for 14 days. Thereafter, the test for memory was done using Y-maze apparatus. Acetylcholinesterase activity, malondialdehyde (MDA) levels and concentrations of glutathione (GSH) in the homogenate of brain tissues of mice exposed to UCMS were determined spectrophotometerically. The serum corticosterone levels were determined using ELISA. Histology of the brain tissues were carried out after staining with Haematoxylin and Eosin using a light microscope and the number of surviving neurons were counted. JB (5-50 mg/kg, p.o) significantly ( $p < 10^{-10}$ 0.05) improved memory performance in mice exposed to UCMS when compared with stress-control group suggesting positive effect on cognition. There was a significant (p < 0.05) increase in MDA concentrations accompanied by depletion of GSH in the brains of mice subjected to UCMS, which indicate increased oxidative stress. However, JB (5-50 mg/kg) significantly ( $p < 10^{-5}$ 0.05) suppressed MDA concentrations and elevated GSH levels in the brain of mice exposed to chronic stress. Moreover, JB significantly (p < 0.05) inhibited increased acetylcholinesterase activity induced by UCMS in mice brain. Histological study revealed that JB reduced UCMS-induced hippocampal injury and increased the number of surviving neuronal cells suggesting neuroprotection. The antioxidant, anti-cholinesterase and neuroprotective activities demonstrated by Jobelyn<sup>®</sup> may be playing a significant role on its positive effect on memory in mice exposed to chronic stress. The finding that Jobelyn\* suppressed the levels of corticosterone, a major biomarker of stress response, in mice subjected to UCMS further supports its use as energizer, and in conditions associated with stress-related disorders.

umusolo@yahoo.com

## A study to assess consequences of domestic abuse and stress on health and well-being of women

## Srishti Agarwal

University of Toledo Medical Centre, USA

Violence or Domestic abuse against women is one of the persistent public health and human rights problem in the world and has been a part of society since ages. It contributes directly and indirectly towards the global burden of ill health in terms of female morbidity and mortality. As per "The World Development Report of the World Bank: Investing in health, the global health burden from violence against women in reproductive age group is about 9.5 million disability adjusted life years (DALYs)".

The mental health consequences of domestic violence are depression and anxiety, eating and sleeping disorders, feelings of shame and guilt, phobias and panic disorders, poor self-esteem, post-traumatic stress disorder, suicidal behaviour etc besides various physical health consequences viz. low nutritional status, anaemia etc. Unfortunately, such acts go un-reported because of fear, shame, religious values and social attitudes. The ripples caused by such violence are far reaching especially on the health of women which reflects the health of the nation.

A cross-sectional study was conducted to assess the consequences of violence on the mental and physical health amongst 150 women in the age group of 15 to 49 years selected on the basis of history of domestic abuse. These women were interviewed based on the questionnaire adapted from National Family Health Survey (NFHS-III).

We noted that 36% of the abusers were alcoholic and 70% of them had addictions. 82% women faced physical abuse and 18% were sexually abused. Post traumatic stress disorder was noted in 68% females, anxiety in 60%, depression in 50% and anaemia in 33%.

Thus, there is a clear cut relation of domestic abuse and stress on the health of women. Such events leave a long lasting effect and often cause depression and stress disorders.