

QualPharma

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Learning the roots

**Optimizing Quality
Management System
to ensure compliance**

**Nutraceuticals
Innovative Roles in
Stress Reduction**

**DO YOU FEEL
COMPLETE?**

Know about

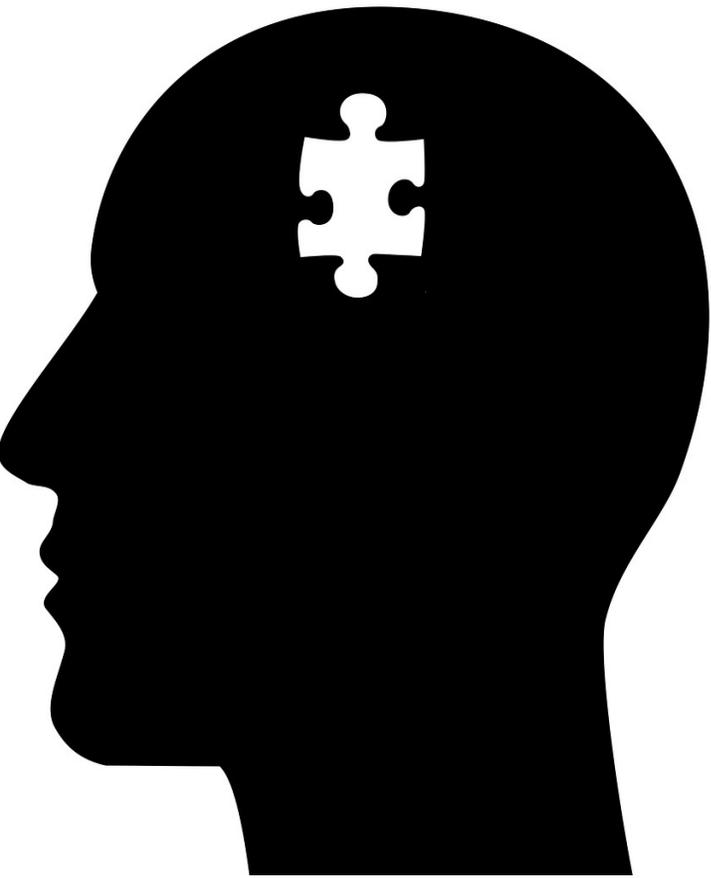
HACCP

TACCP

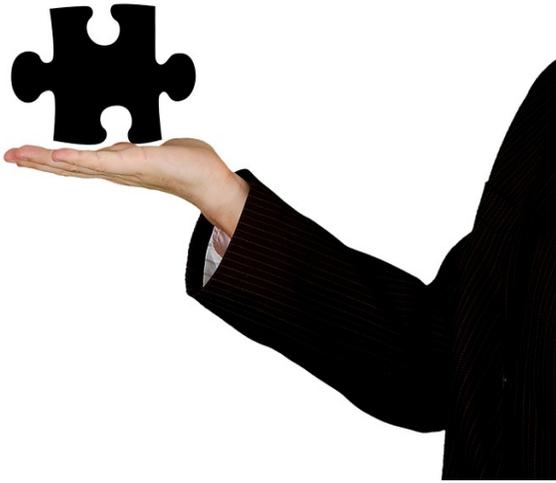
VACCP

Data Integrity

A lot more to learn and understand-2



CLASSIC VIEWS



Nutraceuticals Innovative Roles in Stress Reduction

Any intrinsic or extrinsic stimulus that evokes a biological response is known as stress. The compensatory responses to these stresses are known as stress responses. Based on the type, timing and severity of the applied stimulus, stress can exert various actions on the body ranging from alterations in homeostasis to life-threatening effects and death. In many cases, the pathophysio-

logical complications of disease arise from stress and the subjects exposed to stress, e.g. those that work or live in stressful environments, have a higher likelihood of many disorders. Stress can be either a triggering or aggravating factor for many diseases and pathological conditions. In this study, we have reviewed some of the major effects of stress on the primary physiological sys-

tems of humans.

Stress is a natural physical and mental reaction to life experiences. Everyone expresses stress from time to time. Anything from everyday responsibilities like work and family to serious life events such as a new diagnosis, war, or the death of a loved one can trigger stress.

CLASSIC VIEWS

For immediate, short-term situations, stress can be beneficial to health. It can help you cope with potentially serious situations. Your body responds to stress by releasing hormones that increase your heart and breathing rates and ready your muscles to respond.

Yet if your stress response doesn't stop firing, and these stress levels stay elevated far longer than is necessary for survival, it can take a toll on your health. Chronic stress can cause a variety of symptoms and affect overall wellbeing. Symptoms of chronic stress include.

- Irritability
- Anxiety
- Depression
- Headaches
- insomnia

Stress Response Mechanism	Impact on Health
Protein breakdown	Muscle wasting, food seeking behaviour stimulated (to replace lost energy), weight gain
Glucose & fatty acid release	Excessive weight gain, increased insulin response, T2 diabetes, hyperlipidaemia
Cortisol to hippocampus brain area	Desensitisation of hippocampus neurones – impaired memory, confusion, brain fog
Adrenaline, noradrenaline, increased blood pressure	Osteoporosis, arterial blockages
Permanent cortisol release	Inflammation, congestive heart failure or heart attacks

The Role of Adaptogens

Adaptogens are a natural substance that increases the ability of an organism to adapt to environmental factors and to avoid damage from such factors; they cause a non-specific increase in the resistance of an organism to noxious influences. They must be non-toxic and almost free of side-effects. They exert a normalizing and balancing action both for hypo and hyper stress, improve general mental, physical or emotional performance and promote recovery from stressful situations. Some adaptogens which have shown promising research results are outlined below.

Siberian Ginseng:

Its active ingredients are tetracyclic triterpenoid saponins which differ from those in panax ginseng – another adaptogen.



It have been shown to reduce the detrimental effects of stress by conserving vitamin C and diminishing adrenal hypertrophy; however care should be taken as it can also raise testosterone levels, possibly resulting in increased aggression.

Siberian ginseng also helps balance blood sugar levels, another important part of stress management, as well as asserting an anti-coagulant effect. Side effects may include heart palpitations, insomnia and hypertension.

RhodiolaRosea:

Rhodiola is a highly active adaptogen which produces a stimulating effect within 30 minutes of administration that continues for at least 4-6 hours. It has been well researched and produced very interesting results, showing improved attention, cognitive function and mental performance in fatigue and in chronic fatigue syndrome as well as supporting immune function and increasing exam performance. It has not been FDA approved to treat or cure any disease however.

SchisandraChinensis:

A traditional Chinese herb, Schisandra has been very well studied in Russia as an adaptogen and has also been shown to have hepatoprotective properties. In those trials, it was shown to increase endurance and physical efficacy and decrease sickness in factory workers.

Schisandra increases levels of nitric oxide which may explain these effects. It has also been shown in clinical trials to improve concentration, coordination and endurance in healthy males.

Glycyrrhiza Glabra (licorice):

Licorice is a saponin, defined as capable of foaming in water. It is one of the most highly regarded herbs used to treat conditions associated with poor adrenal function. As well as balancing oestrogen and progesterone, it also extends cortisol levels by inhibiting its breakdown, thus aiding low adrenal output. It may cause a slight rise in blood pressure via the increased cortisol in the kidneys and so care should be taken in people with hypertension. Care also should be taken with oestrogen replacements due to its phytoestrogenic properties.

Fish Oils:

Not an adaptogen, fish oils have nevertheless been well studied for their positive effects on adrenal output and the effects of stress. They have been shown to decrease fat mass and salivary cortisol levels and prevent the adrenal response to mental stress in healthy subjects, blunting serum adrenaline, cortisol and fatty acids concentrations.

~**Dr Sanjay Agrawal**



Dr Sanjay Agrawal

Dr Agrawal founded PHARMA CONSULTANTS and INVENTOR to fulfill his passion, capabilities and desire to assist pharmaceutical companies around the globe. He has actively worked in pharmaceutical and related industries for more than 28 years and started this firm in 2005. He is **Editor-in-Chief** of renowned IJM Today and honorable member of the editorial board of **The Antiseptic**.