ADVANCES IN MEDICAL STRATEGIES: CAM IN INSOMNIA, REWARD, HEALTH AND WELLNESS

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Abstract - In this paper I will examine some advances in multistrategies medicines. I will talk about CAM, the complementary and alternative medicines system of care and healing, such as acupuncture, diet (nutrition and fitness), mental training and lifestyle ideas (affective life improvement), particularly applied to an insomnia case. I will explain the reward system functions related to stress and health. And I will underline the role of CAM at reward pathway level. In conclusion I will give some positive tips related to the whole discussion.

Keywords - Reward, CAM, health, wellness, multistrategies, acupuncture, diet, nutrition, fitness, mental training, lifestyle, affective life, prevention, right to health

I. INTRODUCTION

According to World Health Organization "health is a state of complete physical, mental and social well-being" not the absence of disease.
Nowadays both scientific world and people needs are going toward CAM: they are old healing systems (5000 years for Ayurveda and 3000 years for Traditional Chinese Medicine), lots of proved studies are being done (more than 23.000 only for acupuncture), they are a whole way of care, they don't have side effects, and moreover they are able not only to relieve symptoms, but they can improve the global wellness condition of body-mind unity.
So it's important to know more CAM. We can define CAM any alternative approach to drugs administration, and they include complementary disciplines, based on lifestyle improvement.
I will apply those theoretical basis to an insomnia case.
I will also describe reward system so to understand how we can shift from stress to health and wellness.
In conclusion I will focus on the correlations between CAM and reward, so to understand the best approaches in both theory and practice, to get wellness conditions.

II. REWARD MULTISTRATEGIES

2.1. CAM

CAM are both an ancient and modern system of care and healing.
We can think that classic CAM such as Ayurveda and Traditional Chinese Medicine date back to thousands year ago, in opposition to the occidental therapies that in most cases are typical of XX century, so they are less safe proved for sure.

Traditional Chinese Medicine is based on a system having as goal the improvement of lifestyle:

- dietetic ideas
- fitotherapy
- acupuncture
- tui na massage
- qi-gong outdoor fitness at the open air
- zen meditation, based on zazen, koan, sutra, satori

So we see that acupuncture, that is the most diffused between all those approaches, is only a part of a whole.
Chineses have lots of philosophical ideas:

- yin 陰and yang陽, synthesized in the Tao道symbol,  (= the path), the dark and sun side of a hill, cold and warm-hot, feminine and masculine elements
- the 5 elements: natural elements such as wood, fire, earth, metal, water related each one to an organ and a bowel, an emotion and so on
- jing luo, the meridians
- acupoints, 360
- ba gang, 8 diagnostic rules
- 3 treasures: qi, energy; shen, soul(s); jing, essence

Ayuvreda, the India healing systems, means "science of life" and its main goal was longevity. It is also based on some considerations:

- chakra, 7 main centers for the body-mind unity: mulahara, in the perineum, sexuality center; svadhisthana, genitals, relationships; manipura, navel, power; anahta, heart, love and affections; vishuddi, throat, communication and will; ajna, between the eyes, equilibrium and inner guidance; sahasrara, on the top of the head, consciousness and spiritual evolution – they mainly correspond to PNEI and endocrinologic functions and to parasympathetical plexus
- dietetic suggestions as well
- meditation: mantra like Oṁ (devanāgari:ॐ)
- physical exercise: yoga based on asana, the positions to strengthen body and mind

Other CAMs we can consider:

- DIET – the word diet comes from the ancient greek "□□□□□□" that means lifestyle; it is based on both
- …NUTRITION – mediterrenean diet in 2010 has been declared "intangible cultural heritage for humanity" by Unesco; it consists of non refined complex carbohydrates <55% with lower glycemic index, 5 portions of vegetables and fruit per day, white meat, fish (rich in omega-3), fresh cheese and eggs as proteic intake, dry fruit and nuts (omega-6), and some mediterrenean herbs (as basel, parsel, rosemary, chives, sage, thyme), 2 liters of water per day, and reduction of sweet foods
- …PHYSICAL ACTIVITY – more or less 60 minutes per day, medium exercise in part aerobic in part workout too
- MINDFULLNESS AND RELAXATION TECHINQUES – mental training is a system of techniques helping sport persons and all people in finding relaxation mental states, concentration and goal setting; autogenic training is a great strategy to regulate breath rate and find calm and wellness conditions

AFFECTIVE LIFESTYLE IDEAS – emotions, love, sexual and reproductive behaviours are part of us, they permit a daily body-mind health, and are the main basis for our wellness conditions; they assure species continuation. If lacking… a real withdrawal situation takes place: UCLA demonstrated how missing affective life and living social sadness activate same areas as physical pain. The molecules produced and released during the interaction with our partner or in occasion of physical love are a lot, all essential for our well-being and for the couple wellness: hormones, beta-endorfins, dopamine and serotonin, oxytocin, this related to parental behaviours. If they are missing somatizations start, till organic diseases.

2.2. REWARD SYSTEM

Reward system is characterized by two kinds of brain pathways: medial ones, related to wellness condition; lateral ones, taking place in stress situations.
It is common known (even Mayo Clinic wrote that on its site) that the most diffused diseases of nowadays are due to stress – so due to prevalence of lateral pathways: headache, gastrointestinal and cardiac symptoms (called also "dysautonomia"), allergies and autoimmune dysfunctions, the trend to get colds and flus, emotive pattern alterations and sexual function reductions.
Reward pathway explains that. It is composed by dopaminergic and serotoninergic neurons in nuclei and pathways:

- VTA, the midbrain ventral tegmental area, the main center
- thalamus
- amygdala – related to both fear and pleasure
- nucleus accumbens – place of good perceptions
- hypothalamus – with pituitary gland and thanks to hormones it regulates our instincts
- cortical areas: limbic system, place of emotions; pre+frontal areas, place of behaviours elaborations.

When dopamine is at right level parasympathetic is active in all main outflows (X cranial nerve, vagal projections to heart and gastrointestinal system + sacral branch) and we have a wellness condition.
If stressfull stimuli take place, lateral pathways prevale, and dopamine decreasing is converted into cathecolamines by dopa-beta-hydroxilase, with increase of stress axis and the bad consequences that I explained.

2.3. MATERIALS AND METHODS: AN INSOMNIA CASE

I will apply these ideas to an insomnia case that I treated with CAM multistrategies.
A 60 years old woman had a polisymptomatic dysautonomic insomnia: an heart qi-yin xu according to TCM; insomnia during night, elevated heart rate palpitations, hypertension at stressfull moments, weakness, anorexia, loss of memory, negative emotive pattern.
She underwent:

- 10 sessions of acupuncture, 40 minutes each with classical points: ST36, CV4, CV6 (tonification points), SP6 (to tonify yin), HT5, HT6, HT7, CV14, BL15 (to regulate heart and shen); with Huanqiu 0,30x40 mm needles
- diet suggestions: with good proportions of nutrients, increase of water and fiber intake
- physical activity: such as walking or bike riding
- and relaxation mental training techniques

The results were great since she passed from asymptomatic to health conditions, till a global wellness situation.

III. CAM AND REWARD CORRELATIONS

So according to what I explained and to the case that I examined we see how CAM are effective and how reward system is important in health creation.
The concept of health creation, called SALUTOGENESIS, has its basis in 1979, when Antonovsky started talking about the body-mind equilibrium: according to such ideas we are in a dynamic condition, and we have to focus on those lifestyle ways that let prevale wellness perceptions. He explains how a correct diet, fitness and good life are fundamental to live a stable health routine.
Even Maslow talked of similar concepts: he created the "pyramid" according to which we should respect

all our needs corresponding to our instincts (physiological – food, sex, sleep; safety – health; love and belonging – sexual intimacy and family creation; esteem – esteem and respect; and self actualization – morality and creativity).
Acupuncture for example is effective since thanks to opioids it is able to balance reward system:

- Almeida describes how stress can lead to opioids production
- Johnson sees that opioids reduce excessive GABA in midbrain so to restore correct levels of dopamine and serotonin
- dopamine is precursor of endogenous morfine according to Stefano studies, so it reduces pain signals and increase wellness conditions
- Yoshimoto studied how acupuncture increases serotonin in nucleus accumbens.

I recently talked in an article the relationships between food and reward, for a wellness global perception.
Physical activity is know to be able to reduce stress and is always related to better body and mind functions, thanks to opioids (beta-endorfins), to stress reduction, to increase of NO (nitric oxyd) related to organ protection, and even cognitive improvement (BDNF). So acupuncture, physical activity and L-DOPA (this last one according to a study by Chiu 2015) all have neurogenic effect thanks to their role in reward system.
Of course a satisfying affective love life is basis for wellness as well: not only from a material point of view (I before described the molecular needs of lots of hormones and neurotransmitters), but this also derives from the species need to build a family with a partner sharing with us trust and belief.
A recent study by Zang explains how the more reward system is active in a love story, the better the quality and lasting of the love story will be.

CONCLUSIVE PERSPECTIVES

In conclusion I would remember that we all have the right to health that corresponds to the right to wellness as well.
It is important to apply CAM multistrategies in all conditions that need an improvement: at first we should prevent, acting on lifestyle. I remember that according to epigenetic studies environment is nowadays considered to impact on genes health for 80%. Leading an healthy life is important to reach an individual, couple and social wellness conditions, and we should all respect and live this clue.

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