

Evidence Based Review on Shirodhara and Its Role in the Management of Stress

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Abstract—Stress is not a disease but a condition that acts on the whole body on all the physiological functions and thereby embarks its pathological effects leading to various disorders and it has become one of the leading health problems due to its severe impact on all age groups. Due to the modified lifestyle and improper dietary habits, the current generation is under too much of stress and unable to cope up, as a result it is causing many health disorders. Though there are many therapeutic procedures that help in the reduction of stress, Shirodhara is one such kind of Ayurvedic intervention, a non-pharmacological treatment procedure that is very effective in the management of stress. The present study evaluates the role of Shirodhara, a magical treatment for relieving the stress.

Index Terms—Shirodhara, Stress, Ayurveda, Charaka, Sushruta

I. INTRODUCTION

Any form of change that creates emotional, psychological, or physical strain is referred to as stress. It is a commonly occurring reaction that occurs when people feel challenged or intimidated. Humphrey defines stress as a factor that makes people feel like it is difficult to adapt to and maintain homeostasis with their surroundings, both internally and externally. Every person encounters stress in life, and it affects both the brain and body. Fear, concern, difficulty in relaxing, rapid heartbeat, breathing difficulty, disturbed sleep patterns, altered food habits, and increased drug usage are all symptoms of stress. Increased stress, depression and anxiety are the features of modern lifestyle. [1] Due to the adverse effects of drugs in the treatment of anxiety and depression, and in some cases their lack of

effectiveness, researchers seek nonpharmacological and non-invasive treatment for these disorders.[2]

In the face of a transforming world, the maintenance of life is critically dependent on keeping our inner environment constant called “homeostasis” and which threatens the homeostasis termed as stress [3]. Prolonged or inadequate response to stressors can impair the growth and development of the human body resulting in endocrine, metabolic, autoimmune, and psychological disorders [4]. Both psychologically and biologically, men and women tend to respond differently to stress [5]. But upon stress, women had greater subjective and behavioural emotional arousal [6], some conditions, such as depression and anxiety, are more prevalent in women [7]. We are dealing not only with physical challenges but with emotional stressors too. Financial pressure, the demands of the workplace, hectic schedules all of these can contribute to increasing our stress levels. All kinds of worries can trigger body flight and fight response. Stress is a profound risk factor for almost all non –communicable diseases, including cardiovascular diseases, cancer, diabetes, neurological disease.

According to Ayurveda, there is a close connection between our body and our mind [8]. Charaka defined Chinta (stress)-atichintan (overthinking) are the causative factors of the vitiation of Rasavaha Srotas-a body channel [9] that may cause many diseases in the human body. Chinta aggravates Vata [10], the vitiated Vata adversely affects the heart and destabilize the buddhi and smriti [11] According to Ayurveda physiology, Tridosha (functional units of the body) regulates the normal physiology of the human body; they maintain or destroy the body by equilibrium or disequilibrium [12]. Hence the present study was

planned to evaluate Shirodhara treatment that balance the tridoshas and help in the management of stress.

Shirodhara is a classical and a well-established ayurvedic procedure of slowly and steadily dripping medicated oil on the center of the forehead of the patient, resting quietly on a comfortable bed. Other liquids like coconut water, buttermilk, milk, etc. are also used depending on the individual need of the patient. The etymology of Shirodhara is from shira head and Dhara a steady flow. This procedure induces a relaxed state of awareness, which results in a dynamic psycho-somatic balance. A total feeling of wellness, mental clarity, and comprehension is experienced in this process. It is quite recently that Japanese investigators have initiated state-of-the art studies on Shirodhara for its effects on psychoneuroimmunology. [13]

Shirodhara is a unique non-invasive technique of Ayurveda. Its non-invasive approach has been shown good or even better for the treatment of insomnia, anxiety, stress, headache, hypertension [14]. Shiro means head and Dhara means dripping. Shirodhara is the procedure in which oil or any liquid dripping on the forehead in a steady stream or flow for 36 min to 1 h 12 min [15]. Total treatment duration in terms of days is not specified in classical texts, based on various practices in India Shirodhara is done for 3, 7, 14, or 28 days [16,17]. Many studies showed that Shirodhara significantly decreased levels of state of anxiety [18,19]. Studies published by Japanese researchers showed plasma levels of noradrenaline decreased significantly in the Shirodhara treatment [20]. Shirodhara may also be useful for restraining the disruption of manasbhava and anxiety disorder [21].

II. DISCUSSION

HPA axis is an important physiological stress pathway. The major part of the stress arbitrates by the Hypothalamic –Pituitary-adrenocortical axis [22]. The secretion of Glucocorticoids affects the HPA limb of the stress system [23]. Activation of HPA responsible for increased secretion of CRH, which stimulates the production of ACTH by the anterior pituitary gland. Further, ACTH acts on adrenal glands to release glucocorticoids [24]. Most GC have their role in stress and they also regulate cardiovascular, metabolic, immune, and behavioural processes [25]. DHEA as well as the cortisol produced in the cortex of the

adrenal gland situated at the top of the kidney [26]. Serum levels of cortisol and DHEA both rise in response to physical and acute psychosocial stress [27,28].

According to Ayurveda Rasvaha shrotodusti may cause many diseases. The affliction of the channels leads to vitiation of tissue element, vitiation of one lead to other and they vitiate srotas and dhatu. Hence to prevent the body from the disease, it is necessary to avoid Srotodushti. As chinta (stress), atichintan (overthinking) are the causative factors of Rasvahasrotodusti hence treating the stress Shirodhara, which is an important healing technique of Ayurveda was intervened.

According to a research study, after the Shirodhara procedure level of both the biomarkers of stress reduced, these results reflect the action of Shirodhara on HPA axis. Kishor et al. stated that their study provides evidence for the antidepressant and effective neuroendocrine modulatory influence of Ayurvedic intervention along with Shirodhara in patients of Vishada (Major Depressive Disorders). In their study cortisol level was decreased after the therapy [29]. Shirodhara has psycho-neuro-immunological effects such as a decrease in noradrenaline level, exhibiting of sympatholytic effect, activation of peripheral skin circulation, and increase level of natural killer cells. Xu et al. speculated the mechanism in their study that the physiologic effect of Shirodhara by dripping sesame oil on the forehead may induce somato-autonomic reflex through thermos sensors or pressure sensor in the skin or hair follicles via the trigeminal cranial nerve. This procedure produced a relaxed state that results in the maintenance of psycho-physiological balance [30] A study has been conducted by Akiko et al. to evaluate the effect of sesame oil Shirodhara (SOS) against warm water Shirodhara (WWS) on improving sleep quality and quality of life (QOL). In their study, it was found that SOS is a safe potential therapy to improve sleep quality and QOL in persons with sleep disorders. However, the Shirodhara reduced daytime sleepiness [31].

Psychosomatic disorders are the ones that affect both the body and mind. In the present-day lifestyle, people are engaged in multi-tasking and thereby facing the psychosomatic disorders due to too much of pressure on the mind. Shirodhara is one stop solution for all the psychosomatic disorders. Shirodhara apart from reducing the stress, helps in the management of

various disorders that involve stress and in also in prevention of the lifestyle disorders.

III. CONCLUSION

Ayurveda stresses on the balance of tridoshas, satva, atma and manah and imbalance of all these leads to diseases. Shirodhara is said to be one of the magical treatments of Ayurvedic science that is very much applicable in the management of stress and in turn the other disorders. Previous studies have shown that Shirodhara reduces the serum biomarkers of stress, with significant reduction in systolic and diastolic blood pressure. It also showed appropriate responsiveness to the stress system with profound effectiveness in the management of stress. Objectives of the present study was to evaluate the role of Shirodhara in the stress management and this has been substantiated. Further studies are needed to be conducted on the larger sample to authenticate the same.

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