

A Review on Mental Stress and its Physiological Effects with Special Reference to Yoga and Physical Exercise

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Abstract - In biological activity, stress is a condition or feeling of body characterized by frustrated, angry or nervous due to physical or mental tension. Stress is of acute and chronic type or short and long term of periods effecting respectively whereas chronic stress can accelerate more physical and mental problems including headache, rapid breathing, heartburn, increased depression, insomnia etc. Yoga is an important method linked with mind and body provides relaxation as well as reduced stress, it can reduce pulse rate respiratory rate, blood pressure and maintain the normal activity of autonomic nervous system specially the parasympathetic nervous system whereas exercise is movement of body parts in static and dynamic state which has ability to change in different system like increase size of heart, number of capillaries, value of vital capacity (VC), tidal volume (TV), activity of respiratory muscles and exercise can maintain blood pressure, blood level of cholesterol, glucose etc. There are numerous physiological changes occurs in chronic stress condition, that changes may be suppress by regular physical exercise and yoga, finding out the different causes, symptoms, and recovery points in the article.

Index Terms - Stress, Yoga, Exercise.

INTRODUCTION

Physiology or science of life is a way of biology; it deals with structural, functional, and behavioral activity of living system of an individual. The normal physiology of human includes normal range of different parameters such as blood pressure, heart rate, pulse rate, respiratory rate, blood glucose, protein lipids etc. level. In different chronic or severe condition of individual, the normal parameters are in

abnormal include increase or decrease level than normal. The stress is an important abnormal condition; it is emotional feel of nervous. The stress may be long durable or chronic stress and short durable or acute stress, if short durable may be cure but while it is long durable is harmful of body that initiate different disease. There is a large list of effect of stress e.g., high sugar, high pressure, coronary heart disease or CHD, obesity, depression etc. (Medline plus, 2020). The physical exercise or movement of body parts may be at static or dynamic state can accelerates the changes in different system of body, there are so many changes in cause of regular exercise, cardiovascular system, respiratory system, muscular system, nervous system etc., these changes are increase size of heart, cardiac output, vital capacity, tidal volume, number of blood capillaries etc. on the other hand the decrease of respiratory rate, blood sugar level, cholesterol level etc. These changes may be again come to past condition through stop the exercise. The exercise is more helpful for mental stress. The stress is also not dangerous, it tries to release danger by alert or fight or fight response through autonomic nervous system, this positive response while is not occurs when the stress continuo to chronic then it will more dangerous. The numerous symptoms are noted are dizziness, headache, indigestion, restless, tiredness, diarrhea, etc. The exercise is more helpful for mental stress (Cleveland clinic, 2020). The urban areas peoples of India suffering with mental stress due to low economical condition. In a statistical record, the patients of mental stress of the age between 30 - 49 year or over the age 60year (R. Srinivasa Murthy, 2017). Due to cause of pandemic situation by n-corona

virus affect the socio-economical, educational system that hampered the get job, low economics, bad teaching learning process etc. The large numbers of job are losing by seal of producing system or factory or company, numerous peoples are lost their job, suffering with the bad economic in pandemic year 2020 in different countries of world include India. The mental stress is developed by the pandemic situation, but the situation may be developed by after long days with the helps through awareness and donation of different necessary products of human live via GOVT, NGO, other units. The health awareness also suppressants the mental stress that may be more prominent through meditation or yoga. There is an evidence the working people are little suffered with stress specially women are more benefited involving with job (Lilian Wiegner et al, 2019). Survey report in 2017 shows that 197.3 million Indian people suffering with mental disorders, out of the data 45.7 million depressive disorders and 44.9 million anxiety disorders patients (WHO, 2017). The regular physical exercise can improve yourself fitness and also helps for prevention of different diseases. The cause of exercise endorphin is release that is good neurotransmitter initiate good feeling in brain. Exercise also helpful for reduce the stress, increase the confidence, mood, relax, sleep etc., and decrease the stress, depression, and anxiety (Mayo clinic staff, 2020). The physical exercise also helpful for the physical development and release of mental stress full life through increasing the blood supply as well as nutrients, glucose to exercising parts of body and release of neurotransmitter endorphins respectively, there are large effects of exercise e.g. increase capillary numbers with more gaseous or nutrients exchange, increase vital capacity (VC), tidal volume (TV), prevent the pulmonary edema, blood sugar and cholesterol level etc. which are also related with stress less (Robin Madell, 2020). The evidence recorded the regular exercise has positive effects for the treatment of anxiety, depression, long -term mental health acts as medication (ADAA, 2020).

CAUSE OF STRESS

Stress is feeling may be of physical tension and emotional or mental tension, there are numerous causes of stress are including under more pressure, in front of big or large changes, uncontrolled situation,

times of uncertainty etc. (Mind for better mental health, 2017). Stress is a common condition of human life, but it can be harmful for health while proceeds for chorionic periods. There are common causes are working for long time, unhappy in job, more workload, management system poor in workplace, lack of safeties etc. the social cause of stress are divorce, lack of job, loss of job, death of loved person, chronic illness, loveless, lack of love via friends or relatives etc. (WebMD, 2020). There are several types of yoga and exercise that can recover the stress or stressfully lifestyle. There are so many causes of stress in pandemic by COVID – 19 are 1. Feeling of fear, anger, sadness, worry, numbness of frustration, 2. Changes in appetite, energy, desires, interests, 3. Difficulty concentrating and making decision, 4. Difficulty sleeping or nightmares, 5. Physical reactions, such as headaches, body pain, stomach problems, skin rashes, 6. Chronic health problems, 7. Chronic mental health conditions, 8. Increased use of tobacco, alcohol, and other substances (CDC, 2021).

FEECETS OF STRESS ON HUMAN

The stress for long term is more harmful in body. These are physical effects include headache, trouble, sleeping, muscle tension, skin problems, indigestion etc., mental effects are lack of concentration, problems of learning and speech etc., emotional effects are more excitable, anxiety, depression, anger, irritability, problems in relationship etc. and the behavioral changes due to cause of stress are anorexia, drug abuse, accident porn etc. (Fairview, 2019). The stress response or fight response for helpful or recover in our body's activity, but while it is longer then too many hazards are noted include irritability, anxiety, depression, headache insomnia etc. The different systems are suffering with stress and characterized are the endocrine system and nervous system also control the activity of other system of body in normal. Due to stress the hypothalamus releases C-RH which effects anterior pituitary for synthesis and secretion of ACTH. The ACTH travel via blood circulation and its target gland is adrenal gland. The adrenal gland release cortisol which increases the heart rate or activity of heart as well as increase blood circulation into acting organs, muscles etc. that will be helpful for decrease the stress less. The hypothalamus also will be acting until the normal physiological condition. Respiratory

rate, heartburn, acid reflux also is the suppressor of stress. In short-term stress the testosterone level increase but in long term stress condition decrease the testosterone level which is dangerous for normal reproduction. Stress can hamper the reproduction process, it can cause of erectile dysfunction, infertility etc. For long durable stress hampered the immune system of body the flu, infection is common (Timothy J. Legg, 2020). The novel corona virus that causes of pandemic with disease COVID – 19 throughout world include India. The pandemic is suppressed by lockdown in India from March 2020 that suppress the rapid spread the infection in human being on the other hand the death rate is decline but the lockdown effects on socio-economical condition, education etc. and lockdown hampered the mental condition due to cause of loss of job of many peoples, loss of many of daily payable workers, laborer or contract basis workers come to self-home also suffering with money, accommodation and job (Britannica, 2021).

PHYSICAL EXERCISE AND YOGA WITH STRESS

The major five points of physical exercise has recorded which are involved with reduce the stress are chemical epinephrine of brain release during exercise also helpful for decrease the stress. The blood circulation is increase in stressful area of brain during exercise also effective for reduce the stress. The gym session or walking can reduce the irritation or stressful. The regular exercise also for maintain normal body weight, reduce the risk of cancer etc. which are also helpful for reduce the stress. The yoga increases the activity of breathing capability that also helpful for oxygen supply in all living cells as well as increase the metabolic status. The 15 minutes meditation also acting in control of stress and helpful for initiate the cognitive development. The yoga is powerful for decrease the stress, it causes of relaxation and cause of recovery of stress (Sara Clark, 2020). The mental stresses that can initiate harmful disease which are also reduce by relaxation of physiological parameters via exercise and yoga. Negative stress or chronic stress also recovers slowly by large time meditation or yoga, but positive stress quickly recovers which is good effective for life. There is not too much evidence for stress less by yoga and exercise. Breathing and relaxation techniques of yoga also

powerful for decrease the stress. There are some factors also helpful for stress less are intake regularly balanced diet contain fruits, vegetables that maintain immune system in stress life. Time spending without job with friends or family members also helpful for stress less (Stacy Sampson, 2020). There are some types of exercise has identified that are responsible for release of chronic stress are biking, jogging, swimming, playing tennis, dancing, rowing the following exercise types are aerobic as well as oxygen consuming and long durable with slow speed (Robin Madell, 2020). The Harvard medical school has identified the six important techniques of relax stress are Abdominal breathing, body scan, guided imagery, mindfulness meditation, repetitive prayers, and yoga tai chi qigong (Julie Corliss, 2020).

CONCLUSION

Mental stress through neural stimulation in human is effective or not effective sometimes. For the healthy lifestyle exercise regularly with intake of fresh foods maintain the caloric and nutritional values are essential. The good health with or without mental stress exercise with meditation or yoga is more potent or helpful that are not only the factors of decrease mental stress, but they also decreasing factors of different diseases e.g., CHR, occupational disease, diabetes mellitus, obesity, atherosclerosis etc. The release of neurotransmitter endorphins during exercise or yoga is the best for feel good that is latest point of release of mental stress.

DECLARATION

This paper is original and not published anywhere.

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