

Stress And Hypertension

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Abstract- It is usually tells that stress is a common factor for developing hypertension and cardiac problem among adult population. Researchers have hypothesized that psychological stress is an important factor for essential hypertension and there is some evidence from prospective studies on an association between psychological stress, especially stress experienced at work place and hypertension. Stress and anxiety results when we experience daily pressures or adverse situations that feel greater than our recourse allow us to cope with or satisfy.

Keywords- Stress, hypertension, prevalence, cardio vascular diseases, stress reduction, relaxation technique, meditation and aerobic exercises.

I. INTRODUCTION

Prehypertension (blood pressure 120-139/80-89 mmHg) affects 25-50% worldwide, and increases the risk of incidents of hypertension. The relative risk of incidents of hypertension declines by 20% with intensive life style intervention, and by 34-66% with single antihypertensive medications. The relative risk of incident cardiovascular disease is greater with “stage2” (130-139/85-89mmHg) than “stage I” (120-129/80-84) pre hypertension; only stage 2 pre hypertension increases cardio vascular mortality.

India is experiencing a rapid health transition with arising burden of non-communicable diseases. It results in significant morbidity and mortality both in urban and rural population with considerable loss in potentially productive years of life. Non communicable diseases are estimated to account about 53% of all deaths. Many studies have revealed that there is marked increase in prevalence of pre hypertension and hypertension two decades with no improvement in management. Recent studies have reported that hypertension is present in 25-30% in urban and 20-25% in rural areas in India. There is low awareness, treatment and control status of hypertension in India. Many studies show a significant reduction of blood pressure in hypertensive and hypertensive patients through stress reduction by relaxation technique as meditation, yoga, laugh therapy and also through aerobic exercises.

II. DEFINITION

Stress is an internal state of mind which can be caused by physical demands on the body or by mental drives or urges or by environmental and social situations which are evaluated as potentially harmful, uncontrollable and exceeding our resources for coping.

Stress is any external or internal situations that has harmful effects on the mind and body.

III. TYPES OF STRESS

- 1) *Marginal stress*: it is a state of insignificant stress
- 2) *Eu stress*: is positive and productive. It motivates people to act and achieve goals.
- 3) *Optimal stress*: it is a state of stress where individual remains active and delivers his best.
- 4) *Stressed state*: it is beyond the optimal stress and feels burdened.
- 5) *Distress*: highest level of stress is known as distress. In this state person feels completely outwitted and in secured, it may lead to mental breakdown.

IV. OTHER CLASSIFICATION

1. **Acute Stress**-It is a short-term stress and as a result, does not have enough time to do the damage that long term stress causes.
2. **Chronic stress**- Unlike acute stress It is a long running stress if it continues for a longer period it may cause very bad adverse effect on general health. This kind of stress may cause memory loss.

V. LEVELS OF STRESS

- **Stress level-1**: is insufficient stress or marginal stress where performance level is just 40%.
- **Stress level-2**: indicates eu-stress where performance level is 70%.
- **Stress level-3**: is the optimum level stress where performance level is 100%. (stress level 2& 3 are positive

stress, which motivate individual to deliver his best performance).

- **Stress level-4:** indicates stressed state where performance level declined to 50% with tensed mind.
- **Stress level-5:** is a distress phase where an individual feel helpless and outwitted to unable to do his best and his performance levels declines drastically which leads to fatal consequence.

VI. CAUSES OF STRESS

1. **Physical-** it includes extreme temperature, humidity, noise, lack of oxygen, natural calamities etc.
2. **Physiological-** it includes fatigue, hunger, pain, acute and chronic diseases.
3. **Psychological:** it includes death of a family member, conflicts between the family member, loss of confidence, inferiority complex, emotional disturbances etc.
4. **Occupational:** it includes lack of skill, excessive workload, unhealthy work environment, poor inter-personal relationship etc.

VII. SYMPTOMS OF STRESS

1. Physical symptoms of stress:

- Low energy
- Head ache
- Stomach upset such as diarrhea, constipation and nausea.
- Body pain and tense muscle
- Chest pain and rapid heart beat
- Insomnia or sleeping disorder
- Causes psychosomatic pain
- Nervousness and shaking.
- Dry mouth and difficulty in swallowing.
- Reduces immunity

2. Psychological symptoms

- Causes anger, irritability and anxiety
- Causes confusion, loss of concentration and judgment power
- Causes to create negative and wasteful thoughts lead to mental pollution
- Creates a sense of insecurity, fear and frustration.
- Reduce memory power

3. Effects of stress on behavior

- Causes eating disorder and leads to obesity

- Causes behavioral changes
- Causes professional incompetency and low job satisfaction
- Get trapped in the vicious circles of negativity
- Leads to addiction and bad habits such as alcoholism, smoking, drug abuse

VIII. MANAGEMENT OF STRESS

The important points are-

1. Create and maintain a positive attitude.
2. Accept that there are events that we cannot control
3. Be assertive instead of aggressive
4. Learn and practice relaxation technique such as yoga, meditation, aerobic exercises, music, etc.
5. Eat healthy balanced diet
6. Find time for hobbies
7. Try to manage your time more effectively
8. Exercise regularly for 30-45 minutes (5 days per week)
9. Find adequate time for rest and sleep.
10. Try to avoid addiction behaviour
11. Find time for outing once in a week or month
12. Find time for any social activity
13. Plan the work effectively and try to follow it
14. Find time to spend those who trust and love
15. Be optimistic
16. Keep a mind to accept both negative and positive events in life

Eight Tips Of Stress Management

1. Identify the source of stress in your life
2. Practice the 4A “s of stress management- a) avoid, b) Alter, c) adapt and d) Accept
3. Get moving
4. Connect to others
5. Make time for fun and relaxation
6. Manage your time better
7. Maintain balance with a healthy life style
8. Learn to relieve stress in the moment.

OTHER STRESSMANAGEMENT TECHNIQUES ARE

- Meditation
- Mindful meditation
- Rajayoga meditation
- Progressive muscle relaxation
- Aerobic exercise and
- Hatha yoga

- Except aerobic exercise and progressive muscle relaxation all the above-mentioned techniques are having mental relaxation which gives both physical and mental relaxation.

IX. BENEFITS OF RELAXATION TECHNIQUES

1. PHYSICAL

- Improve the stamina and mental health
- Give more energy for both work and play
- Improve better sleep
- Improve ability to handle stress better
- Feel better self confidence
- Improve appetite
- Improve circulation and helps your body use oxygen better.
- Increase energy
- Helps to reduce body fat
- Helps to reach and maintain a normal healthy weight
- Increase endurance
- Burns calories
- Improve body density
- Reduces pain and swelling of arthritis

2. MENTAL BENEFITS

- Increase your confidence
- Increase the emotional stability
- Increase the memory power
- Increase the brain function
- Decrease the symptoms of depression
- Helps to reduce stress, tension, anxiety and depression

3. HEALTH BENEFITS

- It strengthens the heart muscles and heart function
- It strengthens the lung function
- It reduces cholesterol level
- It reduces the risk for hypertension
- It improves the immune function
- It reduces high blood pressure
- It reduces the risk of chronic diseases like heart diseases and kidney diseases
- It reduces the risk of certain cancers (breast, colon)
- Improve the likelihood of surviving a heart attack
- Increase HDL cholesterol
- Decreases blood triglycerides
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- Increase HDL cholesterol
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X. RESEARCH ARTICLES

- The world health report 2002 identified high blood pressure as one of the five important risk factors for non-communicable diseases worldwide. It is estimated that elevated blood pressure alone causes about 50% of cardiovascular diseases worldwide. According to Directorate General of Health Services, Ministry of Health AND Family Welfare Govt. of India the overall hypertension in India by 2020 will be 159.46/1000 population.
- A study conducted by Prasanna Mithra Parthaje in 2016 on prevalence and correlation of pre hypertension among adults in urban south India identified that the prevalence of pre hypertension, among adult population was high with increasing age, male gender, lack of physical activity, obesity, tobacco, and alcohol consumption, and family history of chronic diseases are associated with pre hypertension and hypertension.
- An experimental study was carried out in Medical College, Thiruvananthapuram, Kerala by Shanthakumari. N, Sequeira S, Eldeep R on effect of yoga intervention on hypertensive diabetic patients showed a significant decrease in systolic blood pressure and diastolic blood pressure.
- Another study conducted by Sharma M et al on the effect of yoga training on hypertension revealed that a significant reduction in the systolic blood pressure, diastolic blood and pulse rate ($p > 0.001$) after practicing yoga for four weeks.
- A study conducted by Desai. F, Vyas O.A to determine the effectiveness of yoga, bio-feedback and music therapy in the management of hypertension showed a significantly greater decrease of diastolic pressure compared to other parameters like systolic pressure, respiratory rate and pulse rate ($P > 0.001$).

XI. CONCLUSION

The 21st century is characterized by more civilization, fast moving people, fast developing technology, fast moving information system and the ever growing multimedial influence etc. so the life became more mechanical and stressful. People are running behind of money and they are not getting enough time to share, care and love each other. Such a dry life style resulted many serious health problems like stress, mental illness, hypertension, diabetes mellitus, heart diseases, cancer, thyroid dysfunction etc., among people worldwide. Now this is a serious situation not only for developed country,

but it is a more vulnerable problem to developing and in underdeveloped countries too. Here comes the significant role of relaxation techniques and exercise to control stress and thereby to bring down high BP to normal range so that people can avoid the complications of stress and hypertension. These techniques are very simple, low cost and very effective in the management of stress and hypertension.

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