

LIFESTYLE DISORDERS IN CHILDREN: AN OVERVIEW

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ABSTRACT

Lifestyle diseases are defined as diseases linked with the way people live their life. They are not transmitted by any vector, environment and also from person to person. These diseases are the result of alcohol, drugs and smoking abuse as well as lack of physical activity and unhealthy eating. This had been a common finding among adults for a long time now. However, we must now wake up to the sad reality that children are suffering from lifestyle diseases as well.

Ayurveda, the ancient life science, describes ways to prevent and manage lifestyle disorders in the forms of proper dietary management, lifestyle advises like *Dincharya*, *Ritucharya*, *Sadvritta*, *Achararasayana*; *Panchakarma* like detoxification and bio-purification procedures, and *Rasayana* therapies. The holistic approach of *Ayurveda*, treating the patient as a whole, meaning intervention targeted toward complete physical, psychological, and spiritual well-being makes this science a wonderful option in lifestyle disorders.

Keywords Lifestyle, Ayurveda, Panchakarma, Rasayana, Lifestyle diseases.

INTRODUCTION: Lifestyle is the interests, opinions, behaviours, and behavioural orientations of an individual, group or culture. The term is introduced by Austrian psychologist Alfred Adler for “a person’s basic character as established early in childhood;” in broader sense “way or style of living.” Lifestyle is expressed in both work and leisure behaviour patterns and (on an individual basis) in activities, attitudes, interests, opinions, values and allocation of income. It also reflects people’s self-image or self-concept; the way they see themselves and believe they are seen by others. Lifestyle is a composite of motivations, needs and wants and is influenced by factors such as culture, family, reference groups and social class. But now a day, the most common ailments – both physical and psychological – are a result of leading a wrong lifestyle. Diseases such as Diabetes, High blood pressure, Depression, Obesity, Heart diseases, Anxiety disorders are all outcomes of poor lifestyle habits.

The disease which is not transmitted by any vector, environment and also not

transmitted from person to person is called non communicable disease or life style disease in simple language. It is caused by person behaviour, conduct and how we live life.

WHO states the top 10 lifestyle diseases in the world affecting health are-

- Alzheimer’s Disease,
- Arteriosclerosis,
- Cancer,
- Chronic Liver Disease/Cirrhosis,
- Chronic Obstructive Pulmonary Disease (COPD),
- Diabetes,
- Heart Disease,
- Nephritis/CRF,
- Stroke,
- Obesity.

These lifestyle disorders are common in adults. However, we must now wake up to the sad reality that children are suffering from lifestyle diseases as well. Childhood is a critical period when dietary and lifestyle patterns are initiated which have long-term implications for non-communicable diseases like Obesity, Diabetes mellitus, Hypertension, Coronary artery disease, stroke in adults.

Causes of lifestyle disorders

The causes of lifestyle disorders can be divided into two main categories:

- A. Modifiable behavioural risk factors
- B. Non-modifiable risk factors

Modifiable behavioural risk factors:

- **Wrong food habits:** Eating when not hungry, overeating, eating at odd hours, eating unhealthy food and skipping food. Excessive use of sodium in the diet causes 4.1 million deaths per year as per the WHO report.
- **Addiction:** Alcoholism, smoking and tobacco. According to the WHO, the mortality rate due to the use of tobacco is more than 7 million per year and alcohol consumption leads to around 1.65 million deaths.
- **Wrong physical activity:** Sitting for long hours, wrong body posture and remaining indoors. The modern occupational settings (desk jobs) and the stress related to work/study is a strong risk factor for LDs. A simple lack of physical activity has been claiming 1.6 million lives annually.
- **Disturbed biological clock:** Sleeping late, waking up late, not sleeping, and oversleeping. Disturbed biological clock increases the likelihood of LDs.

Non-modifiable risk factors: Risk factors that cannot be controlled or modified by intervention are called non-modifiable risk factors. These are age, race, gender and genetics.

The prevalence of life style diseases is increasing day by day in children and adolescents due to wrong choices of lifestyles including wrong dietary habits, excessive uses of packed and junk foods, not taking proper sleep, tension of studies, depression related to career, unhealthy competition, alcohol and drug abuse etc. Following are the common lifestyle disorders observed in children now a day:

• *Childhood Obesity*

Obesity is typically defined as having an excess of body weight caused by a chronic caloric imbalance with more calories being consumed than expended each day. Environmental factors, lifestyle preferences, and cultural environment play pivotal roles in the rising prevalence of obesity worldwide. Worldwide, approximately 43 million preschool-aged children have been estimated to be overweight and obese, and 92 million are considered to be at risk of overweight. In India, somewhere between 5.74 % and 8.82 % of schoolchildren are obese. Due to the rising prevalence of obesity in children and its many adverse health effects it is being recognized as a serious public health concern. Unhealthy dietary habits and reduced physical activity are the key determinants of childhood obesity. Childhood obesity also has long-term health effects as obese children are less likely to lose weight leading to diseases when they grow up. Thus, they are more at risk for adult health problems such as heart disease, type 2 diabetes, stroke, several types of cancer, and osteoarthritis.

• *Type II Diabetes Mellitus*

Studies have shown that Type II diabetes has increased dramatically in children and adolescents throughout the world in recent years. In Type II DM, hyperglycemia is the consequence of insulin resistance and beta-cell dysfunction. Type II diabetes has a multi-factorial aetiology, including genetic, physiologic, and lifestyle-related obesity, with hypercaloric dietary intake, low rates of physical activity, and increased sedentary behaviour. The most common comorbidity of Type II diabetes in youth is obesity. Type II diabetes in youth is characterized by having insulin resistance, and other features of metabolic syndrome, including hypertension, hyperlipidemia, acanthosis nigricans, fatty liver disease, and polycystic ovary disease.

• *Computer Vision Syndrome*

Children and technology are practically inseparable these days. Whether for

educational purposes or just fun, children are spending a good portion of their day on "screen time" - staring at the LED screens of computers, tablets, smartphones and other digital devices. This can result in less physical activity as well as vision related problems in children. Computer vision syndrome, also called digital eye strain, is a condition that is caused by visual stress from extended screen time. CVS has a combination of symptoms, including: fluctuating vision, tired eyes, dry eyes, headache and fatigue along with other non-visual symptoms like neck, back and shoulder pain. Spending more time on digital screens also make the child devoid of adequate physical activity, interaction with people around them, sleep disturbances etc. which have negative impact on both physical and psychological development of the child.

- **Disturbed Mental Health**

Whilst adolescence and young adulthood is often thought of as a period of relative good health, burden of disease studies indicate that this age group remain at substantial risk of morbidity and mortality. Burden of disease in this age group is not driven by physical illness, but by mental illness, self-harm and suicide. Meanwhile, the leading risk factors contributing to this burden of disease in young people include risky alcohol use, illicit drug use and unprotected sex. These risk factors are not only associated with poor outcomes for youth in the short-term, such as obesity and mental health problems, anxiety, depression but are also associated with morbidity and mortality experienced later in life. Evidence has consistently shown that these risk behaviours are linked to the development of later chronic non-communicable conditions, such as heart disease, cancer and Type II diabetes, which cause considerable disease burden amongst older adults.

Causes of lifestyle disorder according to Ayurveda

A particular lifestyle of a person is a cumulative product of his/her physical

capacity co-ordinated with psychological functioning, displayed in the form of habits, behaviour, dietary and living pattern based on his own training sought from childhood, and mimics he gained from his immediate companions including parents, siblings, peers, etc. Thus, it involves proper control and coordination of body and mind to maintain a healthy lifestyle. When this control and coordination over body and mind are disturbed, it leads to the derangement of lifestyle and results in any lifestyle disorders.

In Ayurveda '*Prajnaparadha*' (intellectual blasphemy) is described as one of the three basic causes of any disease. This term comprises of two words i.e. "*Prajnya*" meaning intellect and "*apradh*" meaning crime thus giving the whole term the meaning of doing wrong things in spite of knowing about their negative side effects or consequences that will lead to disease. In today's era of rapid economic development and increasing westernization of lifestyle people are accustomed to unhealthy diets, sedentary lifestyle, lack of physical activity, stress, anxiety, addiction etc. which in turn leads to lifestyle disorders.

An approach through Ayurveda

The basic principles of Ayurveda are *Swasthyasya Swasthya Rakshanam*" and "*Aaturasya Vikara Prashamanam*", means to maintain the health of the healthy and to cure the disease of the diseased individual. But the former is the first main objective of Ayurveda rather than second one. Ayurveda always emphasizes on maintaining the health and prevent the disease by following proper lifestyle and diet. Following are the regimens which can be exercised to manage lifestyle disorders:

- *Achararasayan*
- *Dincharya*
- *Ritucharya*
- *Sadvritta*
- *Aahar*
- *Nidra*
- *Panchakarma*

- *Rasayana*

Achararasayana: Acharya Charak introduced the concepts of *Achararasayana*. It is the right code of socio-behavioural conduct. It teaches us a preferred lifestyle with defined do's and don'ts rules and regulations. Some of them are:

- Serving elderly peoples
- Speaking the truth
- Free from anger
- Devoid of alcohol and sex indulgence
- *Ahimsa*(nonviolence)
- Sweet speech
- *Dhira* (stable)
- *Dayanityam tapasvinam* (regularly practice charity and tapa)
- *Devgo brahmacharya gururdharcane ratnam*(regularly offer prayer to god, cows , brahmana, teachers and old peoples)
- Period of awakening and sleep should be regular.
- Take ghee and milk daily.

According to *Ayurveda* imbalance of *doshas* in the body causes diseases. Following bad conduct and improper lifestyle lead to deranged *doshas*. Hence by following *Achararasayana* person can preserve and restore the balance of *doshas* in the body and live a healthy life.

Dincharya: Normal circadian rhythms are very important in day to day life to maintain biological clock. In this context '*Dincharya*' mentioned in our *Ayurvedic* classics should be of utmost importance for maintaining a healthy life. An ideal *dincharya* has been described as follows:

- *Brahmuhurta -jagarana* (just wake up before sunrise)
- *Malotsarga* (defecation and urination)
- *Achamana* (washing of hands)
- *Danta dhavana* (tooth brushing)
- *Jihwa nirlekhana* (tongue cleaning)
- *Sneha gandush dharana* (retain oil in mouth)
- *Mukha netra prakshalana* (Washing of face and eye)

- *Sugandhita dravya dharana* and *tambula sevana* (use of mouth freshener and betel leaves)

- *Anjana* (use of collyrium)
- *Nasya* (application of oily nasal drops)
- *Dhumpana* (inhalation of medicated smoke)
- *Vyayama* (physical exercise)
- *Kshaura karma* (regular cutting of hair and nail)
- *Abhyanga* (body massage)
- *Sharira parimarjana* (body cleaning)
- *Snana* (bathing)
- *Vastra dharana* (clothing)
- *Anulepana* (face pack)

Dinacharya regimens are looking very small and worthless but play an important role in maintenance of health and thus prevention of life style disorder and communicable disorder as well.

Ritucharya: *Ayurveda* has depicted various rules and regimens (*Charya*), regarding diet and lifestyle to acclimatize seasonal enforcement easily without altering body homeostasis. The prime objective of *Ayurvedic* system of medicine is preventive aspect, which can be achieved by the modification in diet and lifestyle in response to change in climatic condition. *Ritucharya* represents a very important aspect of preventive measure for various illnesses including lifestyle disorders as mentioned in *Ayurvedic* texts. It is the only system of medicine which proposes the need of regular purification of the human biological system, in the form of *Panchakarma*, to render it suitable for self-recovery and therapeutic responsiveness.

Sadvritta: *Sadvritta* means code of conduct for keeping good condition of body and mind. it explains rules for maintaining a healthy state of body and mind .some of the code of conducts of *sad vritta* are:

- Do not harm anyone.
- Always speak truth
- Try to control your passion
- Don't lose self-control

- Speak softly; speak politely with teacher and elder.
- Do good deed that protects individual as well as masses.
- It included personal hygiene, respect, proper clothing and care of sense organs

Obeying the rules and regulation mentioned in *sadvritta* play a vital role to achieve long and healthy life in terms of physical, psychological and social aspect.

Ahara : *Ahara* is considered as *Prana* (basis of life) in *Ayurveda* and is also described as one of the *Trayopastambha* (three subsidiary pillars) of life. Diet is considered as vital for a human body as it provides the basic nutrients and promotes longevity. Use of *Hita-ahara* (wholesome diet) promotes health and longevity and *Ahita-ahara* (unwholesome diet) promotes manifestation of different disorders. Unfortunately in modern era the concept of *Hita ahara* is continuously being ignored leading to the emergence of lifestyle disorders. *Ayurveda* also described eighteen types of dietary incompatibilities (*Viruddha Ahara*), which should be avoided to maintain health and longevity. In this way *Ayurveda* offers different *Pathay-apathyā* (do's & don'ts) regarding diet/dietary supplementations which definitely help in the prevention and management of a wide range of lifestyle disorders.

Nidra *Nidra* (sleep) is one of the three pillars of healthy sustenance of body. Proper sleep habit is essential to maintain health and to live a long life deprived of disease. Improper sleep is one of the risk factor for life style disease like stress, obesity, diabetes. In *Charak Samhita Nidana Sthana*, it is stated that excessive sleep is the causative factor for *prameha*. Prolonged sleep curtailment leads general enhancement of markers for inflammatory activity e.g. C reactive protein. Happiness, nourishment, strength, emaciation, weakness, sterility, life and death all these depending on the proper or improper sleep. Recent research has proved behavioural sleep deprivation result

in alternation in glucose metabolism, increased level of proinflammatory cytokines and low grade inflammation.

Panchakarma: *Panchakarma* is a collective term used to address the five principal procedures or technologies of bio-purification. These procedures are used in order to cleanse the body channels, to eliminate toxins out of the body, brings about the harmony of the *doshas* to obtain long-lasting beneficial effects on health. These five *Panchakarma* procedures include *Vaman* (therapeutic emesis), *Virechan* (therapeutic purgation), *Asthapan Basti* (therapeutic decoction enema), *Anuvasana Basti* (therapeutic oil enema) and *Nasya Karma* (nasal medication), emphasizes more on the preventive aspect rather than curative. It also facilitates the absorption of nutrient and drugs administered thereafter in favour to attain their desired pharmacotherapeutic effects. *Panchakarma* also restore the mental health, reduces the stress and therefore, help in the prevention as well as management of many lifestyle disorders.

Rasayana: This is one of the most effective rejuvenation therapies of *Ayurveda* that keeps the body young and agile and helps to promote health and longevity in the body in addition to the treatment of various ailments. The effect of *rasayana* – considering the *Ayurvedic* concepts of physiology, *rasayana* agent promotes nutrition by direct enrichment of the nutritional quality of *rasa* through improving *agni*. Various studies on *Rasayana* drugs suggest that they can be used as immunomodulator, adaptogenic, antioxidant, nootropic, antistress agents. Therefore, by proper use of *rasayana* a person can get a happy healthy long life.

CONCLUSION: Lifestyle disorders are a result of the way we live, work and go about our everyday lives. The astonishing rate at which the lifestyle diseases are rising in the population has made them diseases of public health concern. Though they are believed to be the diseases affecting the adults, but nowadays

they are also affecting young population including children. But these diseases can be prevented by adopting a healthy lifestyle and *Ayurveda* have a lot to do in this context. Application of concepts of *Ayurveda* in today's lifestyle provides complete health: physical, mental, social and spiritual. *Ayurveda* provides better solution in the forms of *Achararasayana*, *Sadvritta*, *Dinacharya*, *Ritucharya*, *Ahara* etc to achieve healthy and long life without any disease and prevent from all lifestyle disorder which is epidemic in current era.

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Source of support: Nil Conflict of interest: None Declared

Cite this Article as :[Singh Archit et al : A Comparative Clinical Study on the Effect of Inter Ferential Therapy and Agnikarma in Kati Graha w.s.r to Lumbar Spondylosis] www.ijaar.in : IJAAR VOLUME IV ISSUE VII MARCH – APRIL 2020 Page No: 774-779