

A Critical Review on the Scope of Management of Academic Stress in Adolescents with *Sattvavajaya Chikitsa* (Ayurved Psychotherapy)

Research Article

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Abstract

The adolescent stage of life is unique having various physical and psychological changes occurring in the body and in the brain. Academic stress (AS) is largely responsible for adolescents developing mental illnesses. A competitive environment, the pursuit of high scores in marks, peer comparisons, and parental expectations are the most common stressors for an adolescent to develop AS. Early identification of the stressed person, his sensitivity toward stress, and appropriate stress coping can help a person to develop the strength for coping with various stressful situations. Reports and articles published online from the year 1995 to 2022 were taken into account among them 95 articles were identified of which 25 articles had abstracts only were excluded and 70 articles including textbook references were reviewed and discussed. Ayurveda has the unique concept of *Prakriti* (~somatic constitution) helps a person to recognize himself and to realize his strengths and weaknesses, through which one can ignore or manage stressful situations. This stress coping can be more emphasized with the practice of *Sattvavajaya Chikitsa* (~Ayurvedic psychotherapy). *Sattvavajaya Chikitsa* works based on *Manonigraha* (control of the mind), *Sadvritta* (~code of conduct for mental health), *Swasthavritta* (~measure to uplift general health), *Achar Rasayana* (~Ayurved code of conduct), *Yoga*, *Surya Namaskar* (~sun salutation), and meditation are different ways to practice mindfulness. Proper practice of *Manonigraha* (~control of mind) creates a connection between the mind, psyche, and body. The long-term practice of *Manonigraha* helps an academically stressed individual to better cope with stress and has finer mental and physical health.

Key Words: Adolescent, Academic Stress, *Sattvavajaya Chikitsa*, *Achar Rasayana*, *Manonigraha*, *Prakriti*.

Introduction

Adolescence is a unique stage of life having the maturation of physical and mental characteristics. WHO defines an Adolescent as an individual between the ages of 10 and 19 years. (1) Around 1.2 billion people in the world are in this age group. (2) In the southeast Asia region in which India lies, this population accounts for around 360 million comprising 20% of the population. (1) This period of age is particularly associated with high levels of stress due to academic-related activities. (3) Peer competition and parental expectations are the most common reasons for academic stress (AS) to develop. (3) To get admission to professional courses and colleges in the Indian education system, the highest merit scoring is made as the basis. (2) Scoring higher marks than acquiring knowledge and developing skills create a stressful competitive environment among

adolescents, and lack of proper performance can lead to cutoff and loneliness from society.

It can affect their physical, mental, social, emotional, and psychological well-being. (3) Routine exposure to this type of environment can lead teens to develop deviant behavior and lead him to indulge in deceptive activities and substance abuse. (2) Non-correction to this will lead to the development of various mental illnesses like anxiety and depression and its expansion will result in suicidal tendencies. It has been seen that those adolescents who had AS are 2.4 times more prone to develop depression than those who have not. (4) WHO reports about common public health issues of adolescents, which can lead to various levels of morbidity and mortality. (1) Self-harm (suicide) and disability due to this are the commonest public health issues among adolescents at this age level. (1)

Adolescents comprise 16% of the total world's population and cannot be ignored for their mental and physical health. (5) AS is the most common situation among them and can be easily handled with the behavioral correction techniques of Ayurveda. Ayurveda is also known as the science of life, practiced for many centuries. Non-pharmacological treatment techniques of this science are practiced for the cure and upliftment of mental health. *Sattvavajaya Chikitsa* having

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Manonigrah accomplished by practicing *Achar Rasayana*, *Sadvritta*, *Swasthavritta*, and other techniques like *Yoga*, *Yama* (~moral discipline), *Niyama*(observances), *Asana* (physical posture), *Dharna*(concentration), *Dhyana*(meditation), and *Samadhi* (enlightenment or bliss) proved efficacious in dealing mental ailments. (6,7)

Objective

The objective of this review of literature is to identify the adverse effect of AS on adolescents' mental and physical health, and its relation to the concepts of Ayurveda and management through techniques of *Sattvavajaya Chikitsa*.

Methodology

Literary databases and web libraries like Google scholar, PubMed, Scopus, Scopemed, and Dhara online were used to search various articles. Reports and articles published from 1995 to 2022 are taken into account. Ancient Ayurved Samhitas (conceptual books) along with published books and online Literature related to this objective are also reviewed. Keywords related to the objective like AS, Adolescent behavior, Stressors, mental health, stress coping mechanism, *Sattvavajaya Chikitsa*, Ayurveda, and Yoga were included to find out various kinds of literature. Articles having stress sources like socioeconomic status, social barriers, caste system, relationship issues in getting an education, management techniques covering pharmacological interventions, drug-based therapeutic measures, *Panchkarma* procedures, and naturopathy procedures were excluded during literature preparation. A total of 95 articles were identified relating to the related objective out of which 52 are from Google Scholar 24 from Pub Med, 6 from J store, 4 from Academia, 5 from Scopemed, and 4 from Dhara online were seen of which 25 articles had abstracts only were excluded and 70 articles including textbook references were reviewed and discussed.

After duly reading the articles on the related subject, the matter related to the mentioned objective of this review article is divided into the following headings and will be discussed in detail.

1. Adolescents, AS, and concepts of Ayurveda
2. Mental health, AS, adolescents, and *Mano-daihihik Vikara* (Psychosomatic illnesses)
3. *Prakriti* (Physical constitution)and stressors
4. Stress coping and *Sattvavajaya Chikitsa*
5. *Sattvavajaya Chikitsa* and mental health

Adolescents, AS, and concepts of Ayurveda

Adolescent age is the most energetic stage that needs a proper direction otherwise gets wasted. (8) Being most energetic is the most fragile stage also wrong decision-making, and improper planning may lead an adolescent to take higher loads of stress and in absence of proper stress coping, it may lead to mental health problems. This statement was supported by the results of a survey conducted on 693 adolescents reflected that 15% were with high scores on a mental health scale (strength and difficulty questionnaire) and

were sensitive toward mental health ailments. (9) Our brain although anatomically develops in early infancy but physiological and psychological functions and their maturation occur especially in teenage life. The prefrontal cortex behind the frontal brain especially matures during the adolescent period. (10) This is related to planning, organizing, and judgment of own thoughts. (10) Areas of the brain related to sight, smell, memory, and language also develop in this period. (11) Scientist related to neurodevelopment says that adolescent who can marshal their thoughts, think precisely (abstractly), and measure their impulses can be able to develop important neuronal connections which last throughout their life. (12) Among all the stresses that an adolescent faces AS is the most evident and has a strong relation to developing mental conditions if not managed properly. (13)

In Ayurveda, Charaka and Sushruta keep this age under the *Bala* (Child/adolescent) term. (14,15) However, some parts of it according to Sushruta come under *Madhyama* (middle age) and are subdivided under the term *Vrudhhi* meaning to Grow and Develop. (15) Kashyapa the sage of Kaumarbhritya keeps some part of this age under *Kumar*(till 16 years) and some under *Yauvan* (after 16 till 19). (16) He tells that at this age their growth of *Dhatu* (body tissue), *Satva* (psyche), *Bala* (strength), *Virya* (potency), and *Parakrama* (power) turns an Adolescent (*Kumar*) into an adult (*Yuva*). (16) Altogether, this age is the mixture of *Kapha* dominance and the early rising of *Pitta* dominance in the body. (17) *Pitta* having characteristics of *Krodha* (rage), *Bhaya*(fear), and *Shaurya* (courage) is the form of speedily occurring growth and a form of energy and at this age, being an adolescent, he should be properly managed. (18)

Ancient literature opines that the academic period starts from the age of 5 after doing *Upnayan* (holy thread) and *Vedarmbha Sanskar* (study beginning ritual) till the age of 25 after doing *Smavartan Sanskar*(farewell ritual). (19) Learning should be in the form of *Guru Shishya Parampara* (a regimen of study where teacher and student live together) under a disciplined atmosphere with full concentration. (20) Charaka explains the proper teaching methodology in the *Vimana Sthana* of Charak Samhita. He tells about the *Guna* (characteristics) of a disciple, teacher, and teaching method along with the content of the course. (21) Present digital world lacks the classical way of learning and a learner has to face a competitive atmosphere. Loads of expectations from the parents, peer comparison, lack of concentration, lack of learning capacity, bulky syllabus, and poor teaching skills make an adolescent learner develop stress which is differentiated as AS.(20)

Mental health, AS, adolescents, and the *Mano-daihihik Vikara*

Adolescent stage covers 2nd decade of our lives. (5) There is 1.2 billion adolescent worldwide. (5) This stage is of rapid physical and cognitive development.⁵ According to an NMHS survey in a pilot study of 12 states of India, it has been seen that mental morbidity

among adolescents was 7.3% and almost equal in males (7.5%) and females (7.1%) and this morbidity is higher in the population if urban areas than rural. (22) This survey reflects that among mental illnesses anxiety is present in 7.3%, depression in 0.8% and it is very well established that AS is strongly connected to developing depression among adolescents. (4) A survey also connects it with suicidal tendencies which are 1.3%. (4) Our policymakers have to take necessary actions to prevent this community to develop these illnesses and with proper prevention. Mental health has been given the utmost importance in Ayurveda science. Since the beginning, the definition of *Svasthaya* (health) according to Ayurveda includes proper mental fitness, and this definition is widely accepted by various organizations of health worldwide. (23)

Charka from the *Sutra Sthana* itself shows the ways to balance mental health-related *doshas* with the use of *Dhi* (intellect), *Dhriti* (retention), *Smriti* (memory), and *Atmadi gyanam* (knowledge to self) as *Mano Dosh Aushadh Param* (most effective treatment). (24) The existence of *Mansa* (psyche) is from the embryonic stage itself from the fifth month onwards reflecting the bond of *Sharira* (physic) with *Manas*. (25) *Manas* is called *Ubhyatmak* (combined psychomotor entity) connected with both *Jyanendriya* (sensory-related) and *Karmendriya* (motor-related) which is why diseases also reflect *Manodaihika* (both mental and physical symptoms). (26) Diseases related to the psyche are broadly divided into *Sharirika*, *Mansika*, and *Ubhyatmaka*. *Shririka Vikara* is like *Jwar* (fever), *Ajeerna* (indigestion), and *Atisar* (diarrhea) due to *Shoka* (grief) and *Bhaya* (fear). *Mansika Vikara* like *Kam* (lust), *Krodha* (anger), *Lobh* (greed), *Moha* (indulgence), and *Shoka*, and thirdly the *Ubhyatmak* (both the type) *Vikara* like *Unmada*, and *Apasmara*. (26,27) some conditions reflected as *Manas Vikara* like *Chittodvega* (unstable state of mind) and, later they convert into serious conditions like *Ojah Kshaya* due to improper management of prevailing diseases. (26-28) Symptoms of AS are headache, fatigue, depression, anxiety, dissatisfaction, change in sleeping habits, and drastic gain or loss of body weight. (29)

These conditions in Ayurveda relate to *Chittodvega* which is previously reflected as *Manas Vikara* and later adds to serious physical conditions of *Ojah Kshaya* (loss) due to improper management of prevailing ailments. (30) However it occurs due to vitiation of *Sharirika Doshas* (*Vata*, *Pitta* & *Kapha*) together with *Mansika Dosh* (*Rajas* and *Tama*) due to *Prajnaparadha* (unwholesome exercises) and *Asatmendriya Samyoga* (~primarily unusual discernment of senses). (30) *Ojah Kshaya* happens due to untreated *Chittodvega* conditions like *Shoka*, *Dhyana* (worry), and *Kopa* (anger) present substantial indications like *Sandhi Vishlesh* (looseness of the joint), *Gatra Sadana* (weakness of body), *Stabhdh Gurugatrata* (stiffness and feeling of greatness within the body), *Glani*, *Tandra*, *Nidra* (exhaustion, daze, and more rest), *Vibheti* (fearful) indications, and *Abhikshan* (always stressed) are the side effects which are very close to the introduction of stress. (31-32) Stress

indications like feelings of uncontrollability, shortcoming, and mismanaged weight are close to *Vyathitendreeya* (discomfort within the sense organs), *Durbal* (debility or weight loss), *Ruksha* (dryness), and *Durmana* (mental unsettling influence) side effects of *Ojah Kshaya*. (31-32)

Prakriti and stressors

AS develops as a result of a person doing work that exceeds one's capacity. By definition "AS is the product of a combination of academic-related demands that exceed the adaptive resources available to an individual". (33) Due to regular working in this way, the person starts feeling stressed. (3,34-35) The body is fit to deal with these stress factors and the associated stress, temporarily. Continuous exposure to these factors may develop a feeling of anxiety and various other symptoms mentioned earlier. (3,34-35) Failure to manage these symptoms will lead an individual to develop some grave mental diseases like depression and suicidal tendencies. (4,36) One should keep out of the stress conditions or stressors so that they can be prevented at their earliest. But, stressors related to AS conditions are very difficult to be ignored in this present era. (37-39) A competitive environment, high academic performance expectations of parents, and peer comparison are some of the stressors that cannot be ignored. (26,38) In this case, an individual who is facing these stressors should know his capacity, he should understand his temperament and the right behavior and practices he should do to cope with these stressors. (40)

Prakriti means basis, origin, or basic cause. The concept of *Prakriti* in Ayurveda is related to the anatomical, physiological, and psychological constitution of the individual.⁴¹ Ayurveda believes that every individual is made of five eternal elements (*Pancha Mahabhut*) out of which three *Doshas* were derived these are *Vata*, *Pitta*, and *Kapha*. (42-43) The physical constitution of each individual is made up of the different levels of these *Doshas* in our body which is referred to as *Prakriti*. (42-43) This *Prakriti* lies since conception when sperm and ova meet and fertilization occurs; the level of *Doshas* at that time decides the *Prakriti* of an individual which remains intact the whole life. (44) *Prakriti* of an individual also depends on some important factors related to the environment like individuals *Jati* (origin as per social structure), *Kula* (race), *Desha* (place), *Kala* (time), *Vaya* (age), and *Prtyatmniyata* (individual habit and habitat). (45) Seven types of *Prakriti* have been given by the Acharyas of Ayurveda, *Vataja*, *Pittaja*, *Kaphaja*, and *Dvandaja* (three types of mixed traits, having two *Doshas*), and one having all three *Doshas* in proper balance. (46) Knowing their own *Prakriti* reflects the capacity of an individual and his sensitivity towards stress. Previous research reflects that *Vata Pitta Prakriti* was found to have more sensitivity toward developing AS. (47-49) Research on other psychological traits reflects that 51.3% of people having AS were related to the introvert type of personality trait. (3) This reflects that a particular group of people have more sensitivity toward

developing stress. Identification of these sensitive cohorts can help in providing better prevention methods and stress-coping mechanisms to overcome the stress.

Stress coping and Sattvavajaya Chikitsa

Stress coping is a method to counteract the stress or the feeling of stress produced by the stressor. The typical stress coping mechanisms are time management, positive thinking, and emotional regulation usually used by an adolescent. (50) Coping mostly occurs in two ways in an adolescent after following these mechanisms, one is Problem-Focused Coping (PFC) and another is Emotion-Focused Coping (EFC). (40) Problem-focused coping is often related to removing or diminishing the stress or the impact due to stress whereas EFC is related to the management of distressing emotions that occurred in oneself due to that threatening event. (40) *Sattvavajaya Chikitsa* works in a similar way focusing on both PFC and EFC. It focuses on making an individual strong enough to manage the impact that occurred due to that stressful situation (PFC) and also helps a person control his emotions when facing a distressing situation (EFC). *Sattvavajaya Chikitsa* works like the model of the “Hanuman complex” it helps a person to realize his full powers to counteract the present situation just like divine *Jamvant Ji* explains the divine Hanuman to know his real powers and face the situation. (50-51) *Prakriti* concept helps a person to know what is his temperament, and his physical constitution and by practicing *Sattvavajaya Chikitsa* he gains the actual power of his *Doshas* which his *Prakriti* is having. He either finds or develops various ways to manage or end the situation (PFC) or he develops the necessary strength to control his emotions to either ignore or overcome the situation (EFC).

Sattvavajaya Chikitsa and mental health

Sattvavajaya mode of treatment help in balancing *Sattva* (good qualities of mind) the *Manasika Doshas*, *Raja* (passionate), and *Tama* (Laziness). (52-53) *Sattva* is considered as *Manas* or thought process and considered as good but this may be overcome by *Raja* and *Tama* separately or jointly and result in an unbalanced thought process and ultimately a mental disease. (54) *Sattvavajaya Chikitsa* is a way to treat a mental disease or disorder non-pharmacologically. *Sattvavajaya* is the way to the *Jaya* (victory) of the *Manas* or *Sattva* which is his *Psychi*. (55) Raised, balanced and strong *Sattva* does not allow *Raja* or *Tamas* to act abnormally, it maintains proper thought processes in normal situations also and allows a person to take a proper decision in a distressed situation.

There are various ways to perform this task, *Achar Rasayana* (the moral code of conduct), *Sadvritta*, *Swastha Britta*, *Yoga* having *Yam*, *Niyama*, *Asana*, *Surya Namaskar*, *Pranayama*, *Dharana*, and *Dhyana*. (56) Regular practice of these modalities regulates our hormones and neurotransmitters and chemical mediators like histamines, and interleukins to maintain a normal situation. (57) Regular practices make a parasympathetic environment in the body which is required for all the functions to act normally. (57)

Sadvritta and *Acharrasayana* are the normal code of conduct to be practiced by a person to live properly in a society. (58) It is detailed in the *Samhitas* of Ayurveda in which *Sadvritta* is focusing on the conduct for proper society living whereas *Achar Rasayana* is for self-moral conduct. (59,60) *Swasthavritta* is detailed in the *Samhitas* as *Dinacharya*, (daily living) and *Ritucharya* (seasonal conduct). (61) *Yoga* is practiced in India since ancient living. *Ashtanga yoga* by Patanjali has several stages to reach *Kaivalya* (absolute freedom) or *Moksha* these are *Yama*, *Niyama*, *Asana*, *Pranayama*, *Pratyahara*, *Dharana*, *Dhyana*, and *Samadhi*. (62) The ultimate goal of *Samadhi* was to obtain *Moksha*. (62) However this *Ashtanga Yoga* should have been practiced in the stage-wise division but often its parts are also practiced separately to stay calm and to maintain body homeostasis. *Surya namaskar* (sun salutation) is a part of *Yoga* among *Asanas* having 12 sets of different *Asanas* practiced 12 times and have to be completed in 12 minutes. (63) It is a complete set of exercises to remain physically fit and mentally stable when practiced regularly.

Discussion

Adolescence age is the stage of life that has maximum sensitivity toward stress. During this stage parts of the brain like the limbic and cortex which are related to thinking, decision making, and rationality get mature and these parts are equivalently more sensitive towards stress as compared to other parts of the brain. (64) In this stage there is a marked shift of the hypothalamic-pituitary-adrenal (HPA) axis which results in increased stress-related hormonal response. (64) *Sattvavajaya Chikitsa* is related to the control of self psyche and is also related to keeping away oneself from the wrong deeds (*Pragyapradh*).

Modalities of *Sattvavajaya Chikitsa* such as *Yoga*, *Pranayam*, and *Asana* in research, when practiced in one arm, showed statistically highly significant (<0.001) results as compared to the drug *Shankhpushpi* which showed significant results (<0.01) when compared on Weschlers memory scale after 2m months of interventions. (65) Similarly, in another experiment serum cortisol level which is a biomarker of stress in the yoga-practicing group with stress showed statistically highly significant (<0.001) low levels as compared to the group which is not practiced yoga and the group without stress. (65) Another experiment having depressive OPD patients without suicidal tendencies was compared with healthy volunteers and asked the group of depressive patients was asked to practice yoga for 3 months and their serum cortisol was evaluated. Three groups were made one with drugs and Yoga, one with drugs only another with the healthy volunteer. Depressives have raised Cortisol before intervention and were lowered after 3 months in the depressive group with drug and yoga statistically highly significant (<0.001) low levels as compared to the control group and with the drug-only group. (66-67)

Associated experiments evaluating Inflammatory markers TNF α and IL6 showed that the group which is practicing yoga showed lower levels of both these

markers at resting level, raise of both levels was found in a group that is doing strenuous exercise which is not present in the yoga group. (68) This experiment concludes that with raise in physical stress the inflammatory marker increase in the body which is not observed in the Yoga group. (68) All this evidence shows that *Sattvavajaya Chikitsa* having a practice of *Manonigraha*, *Yoga*, *Achar Rasayana*, and *Sadvritta* show evidence-based effects in managing different levels of stress which is as beneficial in managing AS as other stress. A systematic review suggests that regular practice of Yoga has positive changes on the hippocampus, amygdala, prefrontal cortex, and cingulated cortex. (69) In a cross-sectional study it is seen that the volume of frontal, temporal, occipital, cerebella and limbic systems of the brain was found greater when seen in MRI in 3-year regular Yoga practitioners as compared to non-yoga ones. (70) All these parts of the brain are the same which are most sensitive towards perceiving stress and practicing *Sattvavajaya Chikitsa* provides a cushion or backup support against these stress conditions and works as a major coping mechanism.

Sattvavajaya Chikitsa practice *Manonigraha* which reflects a type of restraining that is restraining him or self. Restraining modality of treatment is regularly practiced in allopathic science to manage mentally ill patients. Among all types of restraints, Psychological restrain involves the methodology of stopping a patient not to doing what is not beneficial for him. (71) This work is mostly done by their doctor, and involved medical staff, caretakers, or family members but not by him. This type of restraining lowers the self-confidence of patients which makes them regret their own decisions. On the other hand, *Sattvavajaya Chikitsa* (*Manonigraha*) along with knowing his *Prakriti*, makes a person know his physical and mental constitution and work accordingly. Like this *Manonigraha* or restraining himself from what is not good for him, increases his self-confidence and is safe and morale-boosting for the patients. *Prakriti's* concept of Ayurveda shows that every person has different sensitivity toward stress and its related diseases. In research, it has been stated that people dominating *Vata dosha* are very much prone to stress-related diseases. (49) That is why, it is very much important to know one's *Prakriti*, it creates individuality and one should do his work according to his *Prakriti*. *Sattvavajaya Chikitsa* techniques help an adolescent to raise his *Sattva*, control his *Raja*, *Tama doshas*, along with rising *Pitta dosha* during adolescence. *Manonigraha* inspires *Sattva* to help one ignore, cope with or manage the various stresses in their lives.

Conclusions

The adolescence stage is the stage of speedy development and growth. The most common stress in this stage of life is AS. Improper handling of the pressure from various stressors may lead an adolescent to mental illness or even to death. *Prakriti* and *Sattvavajaya Chikitsa* are the unique concepts of Ayurveda. *Prakriti* that knows self and doing work

accordingly along with saving oneself from wrong deeds by practicing *Sattvavajaya Chikitsa* may lead an adolescent to be mentally and physically fit to cope with the AS and perform in a better way.

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