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TREATMENT OF OCCUPATIONAL DISEASES ACCORDING TO AYURVEDA

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Abstract

This communication emphasizes on occupational diseases and hazards in engineering industry and explains the Ayurvedic treatment, dietary regime, Ayurvedic Dincharya and techniques for increasing general strength of the persons affected by occupational hazards. Panchkarma therapies are also described for treatment and management of these diseases. The most commonly occurring occupational disease i.e. Asthma can be decreased and treated by Ayurveda effectively. A case study of occupational Asthma is also discussed. There can be many more diseases such as stress, heat stroke, tinnitus, frost bite, dryness of eyes, pains of different types which may occur in industries and offices and can be decreased up to some extent by Ayurvedic medicines and therapies.

I. INTRODUCTION

An occupational disease is one which results from exposure during employment to conditions or substances that are detrimental to health (such as black lung disease contracted by miners). The fact is that it occurs among the group of exposed persons with a higher frequency rate than in the rest of the population, or in other worker populations. The innovations in technology have led to rapid advancement in industrial manufacturing processes with a consequent increase in newer types of dangers to human health (Belanger, 1981). New types of occupational diseases, illnesses and injuries are also emerging without the workers been aware that new technology brings new problems (David, 2006). Eilbert (1996) described occupational health as the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations. Manufacturing industries can be described as the industries that focus on the transformation of raw materials and information into goods for the satisfaction of human needs. Diseases associated with manufacturing industries are also termed as industrial diseases. Occupational health practices otherwise known as health safety practices encompasses all activities geared towards ensuring workers safety and wellbeing in all occupations. In the recent times, the traditional Indian therapy of Ayurveda is gaining popularity both in India and world. Ayurvedic diagnosis is in principles a qualitative diagnosis (Ch. Su. 8.44). It is not in terms of the name of a specific disease but is elaborately descriptive procedure describing the nature of the patient and his disease and its aetiopathogenesis. As the objective of the diagnosis is elaborate, the methodology too has to be elaborate covering comprehensive aetiopathological dimensions in a patient. So the name of diseases may not correlate with the name of occupational hazards but they can be controlled up to certain extent by considering doshas (Vata, Pitta and Kapha).

Hence in this paper, Ayurvedic treatment, increasing general strength of the persons affected by occupational hazards through Ayurveda and Panchkarma therapies are described for certain occupational diseases such as stress, Asthma, pain etc.

II. VARIOUS OCCUPATIONAL DISEASES AND THEIR AYURVEDIC TREATMENT

There could be numerous hazards pertaining to various occupations. The focus here is on Ayurvedic Prakriti, increasing inherent strength of the person i.e. Ojas of the person, Ayurvedic Dincharya and some occupational hazards like Miner's Nytagamus, Noise Induced Hearing Loss, Heat Stroke, Asthma, Stress and Musculoskeletal problems due to continuous work on computer for long hours, etc.

According to Ayurveda there are three main doshas viz. Vata, Pitta and Kapha and their actions in the body are described below in the form of prakriti. The purpose of telling prakriti is to explain about the sensitivity of a person to a particular work environment. Although it is difficult but if the constitution of person is also checked before joining the occupation, then it will be helpful in decreasing the intensity of occupational hazards. If the prakirti is examined before joining an occupation then seasonal cleaning therapy for these specific doshas should be administered to control the respective doshas e.g. basti for vata, purgation i.e. virechan for pita and medicated vomiting i.e. vaman for kafa prakirti. Seven type of constitution occurs due to these doshas.

A. PRAKRITI

Ayurveda believes that there could be seven different body types based on the concentration and predominance of the Doshas. These body types are:

1. Vata Constitution
2. Pitta Constitution
3. Kapha Constitution
4. Vata-Pitta Constitution
5. Vata-Kapha Constitution
6. Pitta-Kapha Constitution
7. Vata-Pitta-Kapha or Tridoshic Constitution.

We need to understand that each and every person will have all the three principal energies or Doshas, but the body constitution

or Prakriti is determined based on the predominant Dosha. For example: A Vata body type will also have Pitta and Kapha Doshas, but Vata is what governs the personality traits, characteristics, behaviour, actions and even diseases for that particular individual since it's his/her predominant Dosha. Likewise for other Prakritis or body types. Let's briefly understand the characteristics or traits of an individual based on the predominant Dosha.

1. When Vata is predominant

Since Vata is the energy of movement and dynamism, a Vata-predominant individual will be very active, agile and mobile. Vata body types are considered to be quick learners and creative, but could get fickle-minded if their Vata goes out of balance. These will be affected more if affected by musculoskeletal disorders and alongwith that if diet and lifestyle are Vata aggravating. For preventing this, these people should take basti treatment of Ayurveda which are medicated enemas given according to patient and disease. Frequent massage and steam will also help. Vata pacifying diets like sesame oil, black grams, milk, banana and fenugreek etc. will also help.

Skin as adhishtan of Vata: Skin forms the sensory organ (gyananendriya) which has the widest area of direct body contact with the environment and is very vulnerable. This is the reason for many diseases which we can decrease by giving the treatment only on skin (because absorption of medicine occurs through skin) i.e. different types of massage treatment and steam treatment.

2. When Pitta is predominant

Since Pitta is the energy of transformation or Fire, Pitta body types are dynamic and action oriented. They believe in getting things done, and are very ambitious, determined and focused. They are usually very intelligent and can grasp things very easily. With an intense Fire element, they are fiery, aggressive and could get pushy at times. Usually they are fair complexioned. They will be affected more by hot environment of working in comparison to others. They are prone to acidity problems, skin problems, greying of hairs, eyesight problems and many more. These can be controlled by pitta pacifying diets, lifestyle changes, Virechan (Purgation) and some medicines described further under the title of "heat stroke". They will be affected less by occupational hazards related to heat if all the Pitta pacifying measures are followed.

Pitta prakriti people as specified above are more sensitive to heating disorders and if they take hot consistency food (spicy food, junk foods, stale food), these problems will be more aggravated. They should rather take cold foods like Gondkatira, Lemon Juice i.e. Lemon Water, Bottle Gourd, Ridge Gourd, Snake Gourd in their diet.

3. When Kapha is predominant

Kapha being the combination of Earth and Water, individuals of this body type are very grounded, stable and dependable. Since Kapha is the energy of binding, these people are very closely connected to their family and friends, are very realistic in life and are generally loving and caring. When out of balance, the Kapha body types could get obsessive and overly possessive.

These are usually prone to weight gain, water retention, Glandular Enlargement, Asthma, Cough and Cold. Occupations in which Asthma is common hazard and the person is Kapha prakriti, he/she would be affected more. These can be controlled more by seasonal Vamana therapy and other Kapha pacifying diets like BlackPepper, Pipali, Saunth etc. Turmeric is also very good anti-allergic and Kapha pacifying herb. Kapha people are prone to cold infections, usually heavy built. They should take light foods. Sesame seeds, Fish, Baked Tofu, Soyabeans, Walnuts, Eggs, Lentils, Black Beans, Lotus seeds, Ginger and Cinnamon bark are also helpful. Avoid cold and raw foods and icy beverages as the coldness may constrict the Eustachian tubes, causing poor drainage from the inner ears.

4. Vata-Pitta predominance

These body types will have the predominance of both Vata and Pitta Doshas and will exhibit both the Air & Space and Fire qualities.

5. Vata-Kapha predominance

These body types will display the qualities of both Vata and Kapha, i.e. Air & Space and Earth & Water. So both types of treatments and diets will be recommended.

6. Pitta-Kapha predominance

These body types will exhibit the qualities of both Pitta and Kapha, or Fire and Earth & Water qualities. We can give diet pacifying both aggravated doshas.

7. Vata-Pitta-Kapha or Tridoshic body type

This is considered to be the rarest of all body types, where the individual will display all the qualities of all the three Doshas in equal amounts. Ayurveda believes that those with a Tridoshic body type have the strongest immunity and have a strong resistance against diseases.

B. OJAS

The intensity of Occupational hazards can be decreased by Ayurveda. The immunity and overall strength of a person can be increased by Ayurvedic dietary advice and lifestyle changes. This overall strength is called 'Ojas' according to Ayurveda. It is well known in common life that some people are more affected by same disease while some are less affected. This is due to inherent strength and lifestyle which a person follows. It also assists in minimizing occupational hazards. People who are affected due to occupation should be routinely checked, take proper diet and undergo Panchkarma therapies for cleaning of body. For increasing our inherent strength i.e. Ojas, according to Ayurveda, we should follow Ayurvedic dincharya i.e. daily regimen. Some plants are also mentioned which are called Rasayan, according to Ayurveda, and help in increasing Ojas of our body eg. Ashwagandha, Shatawri, Bala, Punarnwa, Shilajeet, Trifla etc.

When Ojas of our body diminishes then a person fears, worries a lot, discoloration of skin occurs, sense organs are also not in a good state. Joints become loose due to 'Ojokshaya' and a person may be taking treatment of joint pain etc. You may feel low due to Ojokshaya and are unable to do any work. Stiffness in body, heaviness, swelling, discoloration, laziness etc. are all symptoms of Ojokshaya which are commonly found these

days. Fainting, emaciation, delirium etc. are also symptoms of Ojokshaya. Two types of 'Ojas' are described in Ayurveda. One is in heart and the other is in whole body. We should try to preserve 'Ojas' for a good life. We should try to increase this Ojas so that we are least affected by occupational hazards. If we are physically and mentally strong then these things will least affect us. So our emphasis should be also on improving general health of the employees so that they are least affected by occupational hazards.

A. Ayurvedic Dincharya

Ayurvedic dincharya means the daily regimen that should be followed to remain healthy and decrease the intensity of occupational hazards. The good things that should be done daily are a part of Dincharya.

(i) Brahmmuhurat

The first important point of Ayurvedic Dincharya is that we should get up in Brahmmuhurat i.e. early morning and for getting up early in the morning, we should sleep at proper time at night. Some glands start working only when we are sleeping and when it is dark. Due to wrong dincharya (routine), hormonal imbalance occurs. In the language of Ayurveda 'Vata' increases in our body, due to which pains will occur; people who are suffering from musculoskeletal system disorders due to occupation, will be affected more. The Ayurvedic treatments which are helpful in reducing Vata disorders are: Basti, Abhyang (Massage) and Swedan (steam).

For our wellbeing, we should get up early in the morning after realizing that our food is digested because proper sleep is necessary for digestion. If sleep is not proper, indigestion will occur. However if we sleep late at night then we cannot get up early in the morning. Healthy persons should get up early in the morning. This is not necessary for patients.

(ii) Shouch Vidhi

The first thing that we should do after awakening is that we should go to toilet. However, do not exert pressure for defecation. It can aggravate Vata and many other diseases like rectal prolapse.

(iii) Dantdhawan Vidhi

Vijaysar, Ak, Karanj, Kaner, Arjun, Neem etc. can be used for cleaning teeth. After datun, teeth can be cleaned with Kuth, Saunth, Mrich, Pippali, Harar, Bahera, Amla, Ilaychi, Dalchini and Patraj mixed with honey should be rubbed slowly on teeth. Teeth should be rubbed with oil mixed tejowati and saindha namak. Use tongue cleaner. These are helpful for removing stains from teeth which may be due to occupational hazards. These will help to strengthen the teeth.

(iv) Anjan

Apply Sauviranjan daily in eyes and Rasanjan once a week. This will remove dirt and foreign particles from eyes. So, these are good to control occupational hazards which affect eyes.

(v) Nasya

Take Anutail Nasya. By the use of Nasya skin remains clear. Nasya is good for glowing of face, works as antiwrinkle, prevents greying of hairs and blackening of face. So Nasya will be helpful for these symptoms which may occur due to some

occupations. Nasya will lubricate nasal passage. Immunity of respiratory system increases by Nasya. Two drops of Anu tail should be put in each nostril. Everyone can take this without any side effects. People who are affected by aerosols by diseases like Asthma will suffer less because this will create a coating in nasal membrane. So this is very helpful for the people suffering from occupational hazards like Eye diseases, Headache and Respiratory problems.

(vi) Gandush

Keep oil or Ghrit in your mouth. This process is called Gandush. Prevents tearing of lips, dryness, dryness of mouth, teeth problems and damage of voice i.e. Swarbhanga. These may be due to consequences of some occupational hazards in which we have to suck some hazardous liquids in mouth such as sucking of petrol by mouth.

(vii) Vegdharan

When you are feeling the urge to urinate, defecation, hunger and sneezing etc. and stop these urges, it is called Vegdharan. This is very common among all, that when we are involved in some important work, we even stop natural urges which is very harmful for our health and increases stress level. You should listen to your body and should act according to these urges.

After going to toilet in the morning do some yogic exercises. Yoga can prevent breathing problems which may occur due to inhaled chemicals etc. It also improves overall stamina. It should be followed by local massage of body as it is the prime factor for increasing circulation of blood and flexibility of muscles. Thus persons who are suffering from Musculoskeletal disorders due to long usage of computers will be benefited. The frequency of this pain will decrease. Strength of muscles will increase. As the cars need maintenance, in the same way our body needs maintenance. We massage a child, he feels very happy and relaxed. Same way if we do massage, feeling of wellbeing comes. Oil is absorbed through skin and is helpful in pacifying Vata which increases when any pain occurs.

III. TREATMENT OF VARIOUS OCCUPATIONAL DISEASES

A. Miner's nystagmus

The main symptom of this disease is repetitive involuntary movement of the eyes. It is associated with defect of vision, photophobia, and night-blindness. It mostly occurs in those who work in comparative darkness for long periods. It occurs due to excessive light. If it is due to occupation it can be controlled up to certain extent in certain period of time with the use of Saptamrit Lauh and Mahatriladi ghrit. Ayurvedic treatments like Shirodhara, Tarpanam, Nasyam will be beneficial for the eyes in this disease which can be taken in Ayurvedic hospital and are explained below.

(I) Shirodhara

In this treatment, medicated oil is put on forehead preferably from a copper pot or earthen pot from a specific height. It is to be done for about 20 minutes initially and increased gradually up to a time period of 45 minutes. Minimum duration of treatment is seven days and can be extended up to 21 days or more depending

on the severity of the disease. This treatment is also very good for relaxation of brain, falling of hairs, insomnia, depression and eyesight which may be the consequences of some occupational hazards.

(ii) Tarpanam

The eye is an important sense organ of our body that allows us to see our surroundings. Any acute or chronic disorder affecting the eyes can affect the vision. There has been considerable progress in the field of ophthalmology, which has helped patients to obtain relief from the symptoms of eye diseases and prevent deterioration of the vision. However, the neurological and degenerative ophthalmic diseases are resistant to even the advanced ophthalmic treatments. Also, some of these treatments are known to cause adverse effects. Hence, there is a need to find a safe and effective alternative to the modern ophthalmic treatments. Ayurveda, the Indian system of medicine, offers natural treatments such as Akshitarpan to improve the vision and relieve the symptoms of the eye diseases. Akshi-tarpan, also known as Netra-tarpan is an ayurvedic procedure in which medicated ghee is retained over the eyes for a specified duration of time. Once the eyes are covered with the medicated ghee, the patient is asked to open and close the eyes several times before it is removed. The ghee strengthens and nourishes the eyes and improves the vision. The therapy also involves a gentle massage of the structures surrounding the eyes such as the head and the face before the ghee is removed.

This is very helpful in pacifying dryness of eyes which occurs due to excessive use of computers. This is done with Mahatriladighrit and Jeevaniyaghrut. Vata is also controlled by this. It is also helpful in improving eyesight. This should be done regularly to the persons working in such occupations which affect eyes like welding.

(iii) Nasyam

Nasya means the medicine which enters through nose. Nasa hi shirsodwaram' (i.e. any medicine which is put in nose goes in brain). The medicaments administered through the nostrils pervade into the nervous (Brain) and venous systems (Blood circulation) present in and around the nostrils.

Then they evacuate the morbidity present or distributed in nearby area. Thus it relieves the blockage of the channels and the diseases are cured effectively. Medicated oils / juices / powders stimulate the vital centres of brain to overcome specific diseases. Nasya treatment does not cause any serious side effects when performed by an experienced therapist. However, it is recommended not to undergo Nasya After heavy meals or Shirodhara. Get rid of ENT problems with the help of nasya. This has already been explained in Dincharya.

B. Noise Induced Hearing loss

This is very common disease among occupation hazards. This can occur due to exposure to excessively loud noise, for eg. in the work place or listening to loud music in concerts or on smart phone or it may be caused by acute high intensity noise such as gun shots or fireworks. This condition can be aggravated by dietary factors, wrong lifestyle. It is to emphasize here that many things other than occupation are responsible for

enhancing its effect. Vata prakriti people are more prone to this type of disease. If Vata prakriti individual takes vatic diet (which increases Vata in our body like cauliflower, broccoli and pea), then the effect of disease will be more. This cannot be cured completely. The sound level needs to be reduced and exposure of ears to high intensity sound should be decreased. Following Ayurvedic Remedies can be used for decreasing the severity of hearing loss:

Karnpooran (filling of ear with medicated oil decreases Vata in ear which improves hearing)

Ashwgandha, Sarivadi vati, Giloyghan vati also can be used.

C. Heat stroke

The main cause of heat stroke is exposure to excessive heat continuously. The intensity of heat stroke can be decreased by applying Aloe Vera gel on whole body. It should be applied again and again on exposed body parts.

But here we are talking about heat stroke due to continuous working in hot environment. So basically we have to prepare our body for such a hot atmosphere. A person working in hot temperatures should take cold diets means which have a cooling effect on body (All the lifestyle advices given for Pitaj type of people). These people should live in cold environment, use Chandan and Aloe Vera for cooling effects.

The diets (Onion, Coconut, water, Coriander, Mango, Tamarind) will help in decreasing heat strokes. So persons working in hot environments should include these in their diet. Some cooling medicines can be given to such persons suffering from heat stroke.

Chandnadi Vati, Giloy, Amlki, Prawal Pishti, Akik Pishti, Jaharmohra Pishti, Kamdudha Ras and Mukta Pishti etc. are cooling medicines according to Ayurveda.

D. Muskuloskeletal problems

These problems occur due to (i) excessive load on the muscles, ligaments, tendons and bone (ii) Insufficient circulation to the musculoskeletal system (iii) Continuous use of fingers of the dominant hand in data entry. These may occur at neck, forearm, wrist, fingers, back and knee.

Ayurveda is very helpful in musculoskeletal problems. People take painkillers without asking doctor, which have a very bad effect on liver and kidney. Many plants are available which are helpful for reducing inflammation and pain. Routine exercise, massage and dietary advice is helpful in reducing pain. Massage with Mahanarayan tail is beneficial when pain is there, and when there is no pain sesame oil is good. Yograj Guggul, Giloyghan vati, Ashwgandha, Godanti, Nirgundi etc. can be used for pain in musculoskeletal disorders.

E. Neurological disorders

The nervous system is often a frequent target of toxins and can cause serious issues if one is exposed to harmful contaminants. Frequent headaches, fatigue and lightheadedness are common symptoms of nerve damage and can also illustrate themselves as numbness and loss of control in the limbs. Stress can also be due to neurological disorders

(<http://ayurvedacollege.com/articles/students/stressManagement>). Withania somnifera can be used in all patients suffering from

occupational hazards because this plant increases adaptability. It decreases stress level which is usually present in every occupation, increases inherent strength of a person because it is a Rasayan according to Ayurveda

(<http://www.sciencedirect.com/science/article/pii/S0091305703001102>).

F. Stress-related injuries

Emotional stress injuries can be difficult to prove, much less win, because one must show that the stress has come from work and not from his or her personal life. Stress can result from many sources, such as being overworked, an abusive boss or dealing with difficult coworkers/employees. Shirodhara as explained earlier is very helpful in treating stress related occupational hazards. Many plants (Brahmi, Shankhpushpi, Giloy, Yasthimadhu) are available in Ayurveda which are very good brain tonics and helpful in stress related disorders without any side effect. Diets like Pumpkin, Desi Ghee etc. are very good for brain. So by doing these minor modifications occupational hazards can be decreased upto some extent.

G. Industrial Asthma

Asthma can occur when workers are exposed to certain airborne toxins during the course of their workday. Often, workers who lay cement or frequent construction sites might be harmed by breathing Potassium Dichromate. This form of Asthma can be extremely serious if the individual continues to breathe this harmful substance on a long-term basis. An occupational disease, on the other hand, is when an employee develops a sickness because of prolonged exposure to something that causes him or her to become ill, which could be something like asbestos fibers or dust that collects in the lungs. Most of the time, the culprit is a type of toxic chemical. These diseases can arise from worker or employer neglect, and many times the dangers were known beforehand but dismissed. Regular Vaman therapy is very good for occupational Asthma. In this vomitings are induced by giving some medicine. Before that some medicated ghee is given. After vomiting a particular diet is followed for a particular period. This can be controlled by some Ayurvedic medicines and dietary changes.

IV. CASE STUDY ON ASTHMA

A case of asthma due to occupational hazard is discussed here.

The study pertains to a female patient aged 50 years. She is a bank employee. She was asthmatic due to long sitting in centralized Air-conditioning of bank. She could not even sleep properly due to breathing problem. She was using inhalers at that time. She was prescribed Ayurvedic medicines and dietary changes. Dietary changes included were not to eat banana, curd, sour things, stale foods and excessive sweet foods.

The reasons for dietary changes are: Banana increases Kapha in our body. So patients who are suffering from Kapha disorders should avoid this. Curd is also harmful because it is heavy to digest and increases Kapha. Sour foods also increase asthma attacks. Stale food decreases immunity. The patient was advised to take turmeric milk because it is scientifically proved that turmeric is very good anti-allergic and antiasthmatic. Turmeric also increases respiratory immunity.

The medicine given to patient in starting was Kapoorkachri

(*Hedychium spicatum*), *Withania somnifera*, *Tinospora cordifolia*, *Sitoplati churan*, *Godanti bhasm*.

Patient was suffering from gluten intolerance so no tablet preparation given.

All the powders were mixed and the patient was asked to take half tsp thrice a day. She took the medicine for one month. No coughing, no breathing problem even in AC, no inhaler is being used by her now. Her immunity improved by these medicines. She continued the medicine for six months to prevent recurrence. So by giving these dietary advice, simple medicines and seasonal Vaman therapy, the intensity of Asthma due to occupation can be decreased.

Asthma has a relationship with gastrointestinal system also. If your digestion is not proper, stomach is not clearing in the morning even then the person working in those occupation would be affected more. Because in one type of Asthma purgation is advised in our text book of Ayurveda i.e. Charak.

'Tamketu Virechnam' i.e. giving Virechan or keeping the bowel clear is helpful in Asthma. So the persons working in such type of atmospheres prone to Asthma attacks should not be constipated. *Ocimum sanctum* can be given to the persons suffering from Asthma due to occupation due to its proven benefits as Bronchodilator, Antiasthmatic, Antitussive, Anticancer, Adaptogenic and Antidiabetic. Turmeric milk is very effective for Asthma. Turmeric is proven antiallergic.

Achyranthus Aspera is also proved to be useful in Asthma. (<https://benthamopen.com/ABSTRACT/TONPJ-1-44>)

The working environment should be improved to prevent occupational hazards. At least general health of the workers should be improved by providing regular checkup, Ayurvedic diet and lifestyle changes, intake of these plant supplements to prevent the loss of work and money spent on treatment of these occupational hazards.

V. CASE STUDY ON WOOLEN INDUSTRY WORKERS

A survey on people working in woolen industry in Ludhiana was conducted recently and it was found that most of the persons were suffering from Blood pressure, ECG changes, and stress etc. The reason of such problems was obvious as while working there, no proper timing was followed for diet and health care. Even sometime they did not go to toilet when they have the urge to go because of work pressure.

Stopping these natural urges of hunger, thirst, defecation and urination is very harmful. Regular checkups, dietary advices and daily regimen explained earlier should be taught to these persons to decrease the hazards caused due to occupation.

VI. CONCLUSIONS

In this paper, we have elaborated the use of Ayurveda for decreasing the intensity of occupational hazards by changing the lifestyle and dietary pattern of the individual involved in different type of occupation. Panchkarma therapies are also explained to control occupational hazards. Although occupational hazards cannot be totally cured because causative factor cannot be completely eliminated but some help can be given to individual suffering from occupational hazard by using these therapies, dietary advice and lifestyle changes. So Ayurveda should be included in offices, industries and other work places to curb the menace of occupational hazards.

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