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ORIGINAL RESEARCH ARTICLE

ROLE OF DIETARY AND LIFESTYLE FACTORS IN THE PATHOGENESIS OF SHOSHA (PULMONARY TUBERCULOSIS): AN OBSERVATIONAL STUDY

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Abstract:

Background: From Stone Age to space age the food pattern and life style habits are changing very fast, this change of course is having direct impact over the health. Due to over exertion, suppressing of the natural urges, irregular dieting and depletion of the tissue elements, there is manifestation of ekadasha rupa of shosha. In modern era, shosha can be correlated to tuberculosis. It is a major public health problem in India due to the environmental changes, changes in behavioral dietetic habits, poor quality of life, population explosion, under nutrition, and lack of awareness about cause of disease and modern life style. **Aims and objectives:** To evaluate the role of dietary and lifestyle factors in the pathogenesis of shosha. **Methods and materials:** An observational study was conducted on 30 patients selected from T.B. Section of Civil Hospital, Bijapur., irrespective of sex, religion, etc., who had presented with the clinical symptoms of tuberculosis. Information on demography, dietary intake and lifestyle factors was collected by standard questionnaire. **Results:** Over exertion was found in 40% of patients while, depletion of the tissue elements was found in 60% of patients, suppressing of the natural urges was found in 26.66% of patients. Nearly 30% of the patients were taking dry food stuffs. **Conclusion:** According to the obtained results the sequential pattern of etiology as it was given in classics has changed the sequence in now a days as over exertion, suppressing of the natural urges, irregular dieting and depletion of the tissue elements. It is because of the changing life style and habits of individual. Trirupa (3 symptoms) and shad rupa (6 symptoms) are found in earlier stage of the tuberculosis and ekadasha rupa (11 symptoms) in chronic condition of tuberculosis.

Key words: Pulmonary tuberculosis, shosha, diet, life style.

Introduction:

Shosha/rajayakshma is a group of diseases manifests by indulging in excessive stress and strain, suppressing the natural urges, diminishing of tissue elements, consuming opposite to dietary regimen[1]. Thus there is the manifestation of ekadasha rupa which involves tridosha and sapta dhatu[2]. In this research work the diagnosed cases of tuberculosis were taken because shosha is a disease can better correlated with pulmonary tuberculosis in this era. Maximum no. of patients suffering in between 40-55 years of age group and males as compared with females because of their life style. Main causes for the disease are improper diet, habits, stress, not following dietary regimen, etc.[3], incompatible food,

unwholesome food, stale food, spicy irritant food, oily foods, bakery products, some fast foods, wine, cigarette smoking and chemical medicines during meal, habit to take pan, tobacco and tea or coffee frequently. It may be due to periodic or chronic intoxication detrimental to the individual and society produced by repeated intake of habit forming drugs. Chronic diet-related diseases are on rise around the world due to new lifestyles and eating habits[4]. Overcrowding is health problem in human may promote the spread of tuberculosis. It is considered mainly the disease of the poor; the majority of it are migrant laborers[5]. The prevalence of tuberculosis (T.B.) diminishes as social and economic conditions improve. Illiteracy may increase the prevalence rate, may be lack of awareness regarding the spreading of disease[6]. Due to the modern life style the causes and symptoms are changed in their pattern. The aim of this study was to evaluate the role of diet and lifestyle factors in the etiopathogenesis of tuberculosis.

Materials and Methods

Study design and patient selection

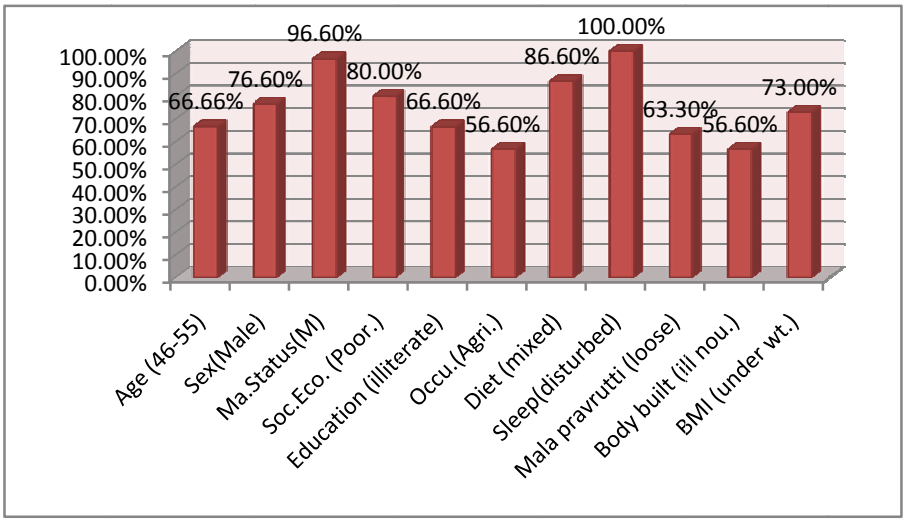
The present study was an observational study conducted on 30 patients, irrespective of sex, religion etc., who had presented with the clinical symptoms of tuberculosis. The patients were selected from T.B. Section of Civil government Hospital Bijapur, between September 2009 and December 2009. A detailed proforma was specially designed for the purpose of incorporating all aspects of the demography, dietary intake, lifestyle factors, and disease on Ayurvedic parlance. Informed consent was taken from the patients before including them in the study**.**

Methodology

Patients were eligible for the study if they were between 35-55years devoid of any other systemic disorders like viral infection, HIV, cancer etc. Shosha is a disease which can better correlated with pulmonary tuberculosis in this era. Because of the clinical picture of both is quite similar viz. Jwara (fever), kasa (cough), pratishyaya (cold), arochaka (anorexia) and rajayaksma (loss of weight), kapha nishthivana (sputum production) and rakta nishthivana (haemoptysis) in adults having cavitatory disease[7]. Once again the diagnosis has been conformed through Ayurvedic fundamentals like examination of dosha and dhatu involved in the manifestation of shosha. Patients were subjected for thorough history taking by using specially prepared case proforma with special concentration on etiology and symptoms involved in the disease manifestation.

Results and Observations:

Figure no.1 - Showing demographic data of 30 patients of tuberculosis.



Among 30 patients, 66.66% patients were in between 45-55yrs. 76.67% were male. Most of the patients i.e. 96.66% of patients were married. 80% of the patients had poor economic status. Out of 30 patient 20 patients (66.66%) were illiterates. Among 30 patients, 21 patients (70%) are having under weight, 8 patients (26.66%) are having normal weight and 1 patient (3.33%) is having over weight. (Figure - 1)

Table no. 1 - Sahasaja nidana found in 30 patients of tuberculosis.

Sl.No.	Sahasaja Nidana[8]	No. of pts.	%
1	Weak person fight with strong person	03	10.00
2	Hardworking with exertion	28	93.33
3	Excessive talkative/speaks too much	11	36.66
4	Carries heavy weight	27	90.00
5	Swims in water for long distance	03	10.00
6	Forceful massage	05	16.66
7	Application of pressure by feet	12	40.00
8	Runs fast to cover a long distance	10	33.33
9	Studying for long duration	00	00.00
10	Fasting	24	80.00
11	Injury if any	13	43.33
12	Heavy vehicle raiding	15	50.00

Out of 30 patients, 28 patients (93.33%) are doing hard work with exertion, 27 patients (90%) are carries heavy weight, 24 patients (80%) are during fasting regularly once or twice in a week, 15 patients (50%) are riding heavy vehicles, 13 patients (43.33%) had injury in their past history, 12 patients (40%) are applying pressure over feet, 11 patients (36.6%) are talking excessively, 5 patients (16.66) are undergoing forceful massage and 3 patients (10%) each are use to swims in water for long distance and fight with strong person respectively. Out of 30 patients, 29 patients (96.66%) each are doing fasting and use to take dry food regularly (Table - 1).

Table no. 2 - Kshayaja nidana found in 30 patients of tuberculosis.

Sl.No.	Kshayaja Nidana[9]	No. of pts	%
1	Indulging in excessive sex	07	23.33
2	Fasting/Less intake of food due to Lack of nutrition diet / Low economic state / Unhygienic condition	24	80.00
3	Intake of ruksha ahara (dry food)	26	86.66
4	Affliction of heart an individual/excessive grief /worries	28	93.33
5	Anxiety	21	70.00
6	Jealousy	06	20.00
7	Fear	14	46.66
8	Anger	22	73.33

Out of 30 patients, 28 patients (93.33%) are having excessive grief and worries, 22 patients (73.33%) are having anger in excess, 21 patients (70%) are having anxiety, 14 patients (46.66%) are having fear and indulging in sex excessively, 6 patients (20%) are having

jealousy (Table - 2).

Table no. 3 - Vega sandaranaja nidana found in 30 patients of shosha.

Sl.No	Vega sandaranaja nidana[10]	No. of pts	%
1	Suppression of flatus	08	26.66
2	Suppression of urine	09	30.00
3	Suppression of stool	22	73.33
4	Suppression of hunger	11	36.66
5	Suppression of thirst	01	03.33
6	Suppression of semen	03	10.00
7	Suppression of tears	01	03.33

Out of 30 patients, 22 patients (73.33%) had the habit of suppression of stool. 11 patients (36.33%) had the habit of suppression of hunger, 9 patients (30%) had the habit of suppression of urine, 8 patients (26.66%) were doing suppression of flatus, 3 patients (10%) had the habit of suppression of semen and one patient had habit of suppressing the tears and thirst (Table-3).

Table no. 4 - Vishamashana nidana found in 30 patients of shosha

Opposite to Ahara vidhi vishesha ayatana				**Matra**			
1	Prakruti	24	80.00	1	Pravara	00	00.00
2	Karana	22	73.33	2	Madhyama	10	33.33
3	Samyoga	19	63.33	3	Avara	20	66.66
4	Rashi	20	66.66	**Veerya**			
5	Desha	09	30.00	1	Ushna	26	86.66
6	Kala	16	53.33	2	Sheeta	04	13.33
7	Upayoga samstha	26	86.66	**Ahara vidhi vidhana**			
Vishamashana				1	Following	04	13.33
1	Santarpana ahara	09	30.00	2	Not following	26	86.66
2	Apatarpana ahara	16	53.33	**Viruddha ahara**			
3	Madhyama matra	10	33.33	1	Present	27	90.00
4	Avara matra	20	66.66	2	Absent	03	10.00

Out of 30 patients, 26 patients (86.66%) are not following ahara vidhi vishesha ayatana, 28 patients (93.33%) were habituated towards such food., 24 patients (80%) were consuming prakruti viruddahara,, 22 patients (73.33%) were consuming improperly prepared food, 19 patients (63.33%) were consuming samyoga viruddahara, 10 patients (33.33%) were taking madhyama matra ahara, and 20 patients (66.66%) are taking avara matra ahara, 9 patients (30%) consuming desha viruddha ahara, and 16 patients (53.33%) are not having timely food. 26 patients were consuming hot food, 15 patients were consuming hard food stuffs, one patients consuming liquid diet. No patient is consuming pravara matra Ahara (more quantity food), 10 patients (33.33%) are taking madhyama matra ahara (moderate food), and 20 patients (66.66%) are taking avara matra ahara (less food). 26 patients (86.66%) were taking hot potency food stuffs, and 4 patients (13.33%) were taking cold

potency foods. 26 patients were not following dietetic regimen and remaining 4 patients were following dietetic regimen. 27 patients (90%) were consuming incompatible food regularly (Table 4).

Discussion:

In this research work the diagnosed cases of tuberculosis are taken because shosha is a disease can better correlated with pulmonary tuberculosis in this era. maximum number of patients found in between 40-55 years of age group. Maximum sufferers are males as compared with females because of their leaving style and also by the habit to take alcohol and smoking. Many patients are having habit to take pan, tobacco and tea or coffee frequently. It may be due to periodic or chronic intoxication detrimental to the individual and society produced by repeated intake of habit forming drugs. Tuberculosis is mainly the disease of the poor, the majority of it are migrant laborers. From middle class and no patient found in higher class. The prevalence of T.B diminishes on social and economic conditions improve, poor housing with associated over or re infection if one of the occupants suffer from infection T.B. Nearly 66% of patients are illiterate it may increase the prevalence rate may be lack of awareness regarding the spreading of disease. No patient is having good appetite due to the involvement of agni in shosha. The patients are having reduced appetite, Hunger is aroused by the physical need of the food, where as appetite is the emotional (Psychic) desire to which may or may not be associated with need of food. Maximum patients are comes under Ill-nourished and moderately nourished because of their living style and economic status. In present study maximum patients are having less strength. Strength is most important factor in adopting treatment of tuberculosis, Even in the presence of all the symptoms but if strength is good then disease is curable, treatment is effective, but if strength is not good then disease is difficult to cure because the patients who are having good strength they can withstand the severity of medicine.

The causative factors of tuberculosis are classified as over exertion, suppressing of the natural urges, irregular dieting and depletion of the tissue elements. For the present study the causative factors as per classics with slight modification has been taken. In present study the over exertional causes were found in 40% patient doing strenuous work beyond their strength increases vata leading to disease manifestation. Depletion of the tissue elements as a cause was found in 60% of patient. Suppressible urges are also mentioned in kshayaja nidana, it shows that the psychological factor also having important role, Due to these factors the vata gets vitiated with tridosha in the manifestation of the tuberculosis.

In Charaka nidanasthana it is mentioned that vata, mutra, purishaadi here the term ‘adi’ refers with these vega we have to consider other non-suppressible urges. As per obtained results the non-suppressible urges was found in 26.66% of patients. Maximum had habit of suppressing stool i.e. 73.33%, flatus 26.66%, urine 30%, hunger 36.66%, 10% found suppressing the semen, 3.33% each found in thirst and tears. Suppression of flatus, urine, stool causes sandaranaj rajayaksma because of vata dosha vitiation. But hunger, semen, thirst and tears are not directly cause the tuberculosis. By suppressing the hunger there will be emaciation, discoloration, body ache, anorexia, giddiness. Suppression of thirst causes tuberculosis of throat and mouth. Suppression of tears causes heart diseases, anorexia and giddiness. By the suppression of semen cause the bodyache, pain, and discomfort in region of heart.

In vishamashanaja rajayaksma nidana, it is mentioned that by taking food opposite to asta vidha visheshyayatana is causing the rajayaksma. It puts a very broad spectrum over the importance of food in the manifestation of disease. Upayokta means the person who is consuming food articles by whom all the remaining seven factors are changed. Dietetic role are interrelated and inseparable and considered as inseparable cause for continuity of life. So food can be considered as dravya

bhuta aushadha and dietetic rules are adravya bhuta aushadha[11]. Maximum numbers of patient were consuming avara matra (less food) and madhyama matra (moderate) food. The quality and quantity of food is having more importance in tuberculosis patients because only food consumed in proper quantity gives strength. Hot potency foods were taken by maximum patients where again hot potency reduces the strength of the patient.

Conclusion:

The results of the observational study suggest that unwholesome diet and irregular dieting, exertion, suppressing of the natural urges and stressful lifestyle play an important role in the manifestation of this disease. Trirupa (3 symptoms) and shad rupa (6 symptoms) are found in earlier stage of the tuberculosis and ekadasha rupa (11 symptoms) in chronic condition of tuberculosis. Even today one can come across the same etiology and symptoms as it is given in the samhitha with the minimal alteration. Today, research in this field is minimal.

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