



Rehabilitation of pulmonary tuberculosis patient with Kharjuradi Ghrita and Pranayama: A study

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Abstract:

Background: Pulmonary Tuberculosis is a dreaded disease in the developing countries of the world. It is caused by a bacterial infection and it can lead to severe, debilitating disease. Its management includes a variety of Anti-TB Drugs which have various threatening side effects. The use of Kharjuradi Ghrita and Pranayama can not only decrease the complications arising out of the management of TB but also improve the standard of living in a post TB treatment patient. **Materials & Methods:** This was a randomized control trial. Sixty patients were divided into two groups of thirty each. Group A (n=30), received Kharjuradi Ghrita, 20 ml rasayankale and Group B (n=30) received both Kharjuradi Ghrita and Prayanama once a day. Patients who had completed treatment for pulmonary tuberculosis were only selected and studied over a month. Parameters observed were weight gain, appetite, weakness and incidence of respiratory Infection. **Results:** Both groups showed significant improvement at the end of one month. ($p < 0.05$). However the group that received both Kharjuradi Ghrita and Pranayama showed better effects on appetite, strength and weight gain. The recovery was better and complications were minimal.

Key words: Kharjuradi Ghrita; Prayanama; Rehabilitation; Pulmonary TB

Introduction

Tuberculosis is the most common infectious disease in the world. Annual rates of TB patients are highest amongst non Indian subcontinent. It is caused by Mycobacterium tuberculosis and the commonly involved sites are lungs, lymph nodes, skin and skeleton. With the increase in technology and

research, early diagnosis and treatment facilities, the disease is completely curable.

In these days incidence of TB is continuously increasing due to increased population, lack of access to health care and social deprivation. HIV infection and multi drug resistance are adding to the difficulty in its management [5]. The drugs used

as Anti-Tuberculosis Treatment have various side effects including hepatotoxicity, indigestion, loss of appetite and weight loss. Also it is proved by various studies that TB can cause chronic impairment of lung function leading to recurrent respiratory tract infections, airflow obstruction etc.

As an answer to these complications of management, the world demands some solution from Ayurveda which will negate the adverse effect of anti TB drugs and additionally be helpful to improve the life of the patient. According to Ayurveda, Tuberculosis can be correlated with Rajayakshma vyadhi. There are many yogas mentioned in ayurvedic texts that can be used with anti-TB treatment to tackle the symptoms and complications of the disease for rehabilitation of the patient, among them is "Kharjuradi Ghrita" mentioned for the treatment of Rajayakshma which is selected for this study. This composition contains immuno-respiratory system modulating drugs which are easily available, cost effective and palatable [2].

"RAJAYAKSHMA" - It is a debilitating disease in which dhatwagni mandya and dhatu kshaya takes place.

"Anek roganugato bahurog purogamah Rajayakshma kshayah shosho rograditi cha smritha"

- Ashtang Hhridyam nidan sthanam [5]

It is preceded and followed by group of diseases which affect the general health as well as respiratory system of the patient so that the treatment includes agnidipan and bala vridhhi by various yogas.

Material and Methods

Kharjuradi ghrita was prepared according to the standard method of ghrita preparation as mentioned in Sharangdhar Samhita.

Dose:

- Group A: Kharjuradi ghrita 20ml rasayankale
- Group B: Kharjuradi ghrita 20ml rasayankale and Pranayama exercise daily once.

Duration: 3months

Follow up: Every 15 days for upto 3 months.

Parameters:

- Weight gain (Grade 0: No weight gain, Grade 1: < 2 kg wt gain, Grade 2: > than 2 kg)

- Appetite (Grade 0: No improvement, Grade 1: mild improvement, Grade 2: moderate improvement)
- Generalised weakness (Grade 0: difficulty in doing daily activities, Grade 1: can walk few steps, Grade 2: no weakness)
- Incidence of respiratory tract infection (Grade 0: Yes, Grade 1: No)

Results:

Majority of the population studied were of economically productive age group (40-60 yrs), residing in semi-urban and urban areas and belonging to upper middle socio economic class. A quarter of the population studied were illiterate. Both the groups were matched for age, gender and socio-economic class.

The study reveals a high prevalence of depression among diabetic patients (52.7%) and their caregivers (44.5%). It was interesting to note that the prevalence of depression among caregivers was similar to diabetic patients (p= 0.2). Demographic parameters like age, gender, socioeconomic status and education did not show any significant association with depression in both the groups. (Table 1).

Result

All the patients included in study were analysed clinically at subsequent follow ups for clinical assessment of the improvement in signs & symptoms.

For the assignment of patients the specific criteria was used which has been already discussed and the data was maintained.

- ▶ The data obtained was subjected to different statistical tests to draw the result.
- ▶ Statistical analysis of efficacy of Kharjuradi ghrita by 'Wilcoxon-matched-pairs-signed-ranks test' shown p value <0.001 which is highly significant.

Table (1.1) effects on clinical parameters after follow-up of 3 months in Group B

Sr. No	Parameter	BT	F/u p	Diff.	% of Improvement
1	Weight gain	69	30	39	56.52
2	Appetite	35	16	19	54.28
3	Weakness	35	14	21	60.00
4	Incidence of respiratory infection	41	20	21	51.22

Sr. No	Parameter	BT	F/u p	Diff.	% of Improvement
1	Weight gain	68	45	23	33.82
2	Appetite	36	28	8	22.22
3	Weakness	31	21	10	32.26
4	Incidence of respiratory infection	35	24	11	31.43

Table (1.2) effects on Clinical parameters after follow-up of 3 months in Group A

To evaluate among the two groups which group is better or both the groups have same effect Mann Whitney U test is applied. The result was as follows.

Parameters		U	U ¹	R1	R2	Z	P	Result
WEIGHT GAIN	Bt-At	333	567	1032	798	1.73	<0.05	significant
	Bt-fup	267	633	1098	732	2.70	<0.001	Highly significant
APPETITE	Bt-At	355	545	1010	820	1.40	>0.05	Not significant
	Bt-fup	290	609	1074	755	2.35	<0.001	Highly significant
WEAKNESS	Bt-At	339	561	1026	804	1.64	<0.05	significant
	Bt-fup	315	585	1050	780	1.99	<0.01	Very significant
INCIDENCE OF RESP INFECTION	Bt-At	359	541	1006	824	1.34	<0.05	significant
	Bt-fup	319	581	1086	784	1.93	<0.01	Very significant

In the light of these observations we can definitely state that Kharjuradi ghrita is proved effective in rehabilitation of pulmonary tuberculosis patient and along with Pranayam it add more benefits.

Discussion

Pulmonary tuberculosis (TB) is caused by the bacteria *Mycobacterium tuberculosis* (*M. tuberculosis*). Person's can get TB by breathing in air droplets from a cough or sneeze of an infected person. The resulting lung infection is called primary TB [4].

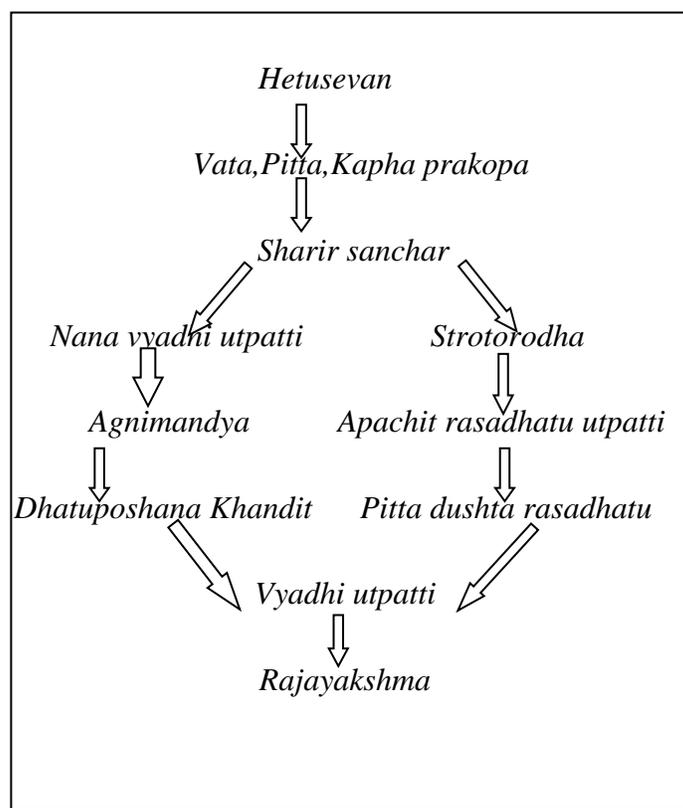
Most people recover from primary TB infection without further evidence of the disease. The infection may stay inactive (dormant) for years. However, in some people it can reactivate.

Most people who develop symptoms of a TB infection first became infected in the past. In some cases, the disease becomes active within weeks after the primary infection.

The treatment involves : Isoniazid: 600mg, Rifampicin: 450mg, Pyrazinamide: 1500mg, Streptomycin: 750mg

For the newly diagnosed Sputum Positive Pulmonary TB patient, AKT lasts for 6 months and for relapse or failure cases 9 months.

1. AYURVEDIC PATHOLOGY OF DISEASE : SAMPRAPTI



2. KHARJURADI GHRITA

*“Ghritam kharjur mrudwika sharkara kshoudra samyutam
Sa pippalikam vaiswarya kasa shwas jwaraapaham”*

- Charak Chikitsa sthanam

Mode of Action - Chikitsa is to destroy or disintegrate samprapti. The desired treatment is to increase agni and to do bala vriddhi.

The ingredients of Kharjuradi ghrita are [1]

- **KHARJURA:** By virtue of madhur,shit and guru gunas it is shamak,hritya,tarpan and brinhan.
- **DRAKSHA:** Madhur rasa,vipaka,kasa,shwas,swarbhedha nashak,snigdha,shita,brinhan.
- **PIPPALI:** Katu rasa,anushna virya,madhur vipaka,agni vardhan,jirna jwara nashan.It is a known drug for kasa,shwasa.
- **MADHU:** With madhur rasa and kashaya anurasa madhu is kaphaghna,lekhana and swarya.Being agnidipan and sukshma marganusari hikka,shwas,kasa nashak.
- **SHARKARA:** It is rochan so useful in aruchi and is hridya.
- **GHRITA:** It is shita,vata-pitta shamak ,shwasa jwara nashak and agni,bala,ayu vriddhikar.

3. PRANAYAMA:

Tasmin sati shwash prashawshyoh gati uchedhah pranayamah //

- Patanjali yogasutra

Prana-life force or vital energy

Ayam-to extend or draw out

It is extension of breath or extension of life force.

Pranayama is the fourth limb of the eight limbs of Ashtang Yog as mentioned by Patanjali in Yoga Sutras.

There are over 50 pranayam techniques.

It is a particular system of breath control with three processes as purak (to take the breath inside), kumbhak (to retain it) and rechak (to discharge it)

Role of Pranayama

1. Enhances the functioning of several organs such as kidneys, pancreas, diaphragm, lungs and heart.
2. Remove toxins from within the body.
3. Improving the blood circulation throughout the body.
4. Getting rid of negative emotions like depression, anger, arrogance etc.

Effect of pranayama on pulmonary function - With pranayam respiratory muscle strength increases resulting in improvement of respiratory function and increase in chest wall expansion [3] and resulting in improvement in lung function.

Conclusion

The present study entitled 'Rehabilitation of pulmonary tuberculosis patient with the help of kharjuradi ghrita and pranayam' established following facts:

- ❖ The Kharjuradi ghrita gives significant results in the period of post tuberculous treatment to increase appetite,to strenthen body and to tackle different diseases like kasa,jwara etc.
- ❖ Pranayam is a body and mind strenthening exercise and helps to recover the damage that took place due to pulmonary tuberculosis.

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