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Food habits, family and health status of tribal women in Jharkhand with tuberculosis

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Abstract
This study was conducted to evaluate the food habits, family and heath status of tribal women with tuberculosis. The researcher has chosen 120 tribal women with tuberculosis from Saraikela-kharsawa district. She found that due to overall socio-economical condition of tribal female with tuberculosis have poor quality of food habit and unable to consume good food which was essential for them especially during the disease tuberculosis.

Keywords: Tuberculosis, socio-economic status, rural women

Introduction
The tribes of Jharkhand consist of 32 scheduled tribes inhabiting the Jharkhand state in India. The Scheduled Tribe (ST) population of Jharkhand State is per the 2011 census 8,645,042 of the total population 32,988,134 of the State. Among all States and UTs, Jharkhand holds 6th and 10th ranks terms of the ST population and the percentage share of the ST population to the total population of the State respectively. The growth of the ST population has been 17.3 percent, which is lower by 6 percentage points if compared with the growth of the State's total population during 1991–2001. The overall literacy rate among the STs has increased from 27.5 percent at 1991 census to 40.7 percent at 2001 census. Despite this improvement, the literacy rate among the tribes is much below in comparison to that of all STs at the national level (47.1 percent). Among the numerically larger tribes, Oraon and Kharia have more than half of the population in the age of seven years and above are literates while Munda have the literacy rate almost equal to that of all STs at the national level. Among the total tribal literates, 33.6 percent are either without any educational level or have attained education below primary level. The proportions of literates who have attained education up to primary level and middle level are 28.6 percent and 17.7 percent respectively. Persons educated up to matric / secondary / higher secondary constitute 16.5 percent. This implies that every 6th tribal literate is matriculate. Graduates and above are 3.5 percent while non-technical and technical diploma holders constitute a negligible 0.1 percent. Out of the total 19.8 lakh tribal children in the age group 5–14 years, only 8.5 lakh children have been attending school constituting 43.1 percent. The study shows poor knowledge about tuberculosis symptoms, causes, modes of transmission and moderate awareness about government tuberculosis services. Correct knowledge about the cause of tuberculosis was negligible: half of the respondents reported local liquor as the cause, 61% considered TB as transmissible and one third considered sharing of food as the mode of transmission. Awareness about the availability of free treatment services at government health facilities was high, but awareness about DOTS was low. Significant gender differences were observed in knowledge and awareness levels.

Tuberculosis is a major threat to the mankind. It is an infectious disease that causes illness and death worldwide. It is generally called TB, and caused by Mycobacterium tuberculosis, which most commonly affects the lungs, but can also damage other parts of the body. It was declared a public health emergency by WHO in 2005. Globally 8.4 million people are estimated to develop TB each year, new infections occur at about 1 per second and nearly 2 million deaths results from the disease (WHO, 2010) [12]. Overall one third of the world's population is currently infected with the tuberculosis bacillus, over 90per cent of them is in developing countries only.

India is one of the TB burden countries in the world and accounts for nearly 20 per cent of global burden of tuberculosis. The tubercle bacterium affects the body depending upon its immunity power in two ways- latent and active. In Latent TB the bacteria remain inactive in the body showing no symptoms at all. This type of tuberculosis infection is not contagious in nature although the risk of becoming active is very high. While in active TB the bacteria increase rapidly in the body and the body starts showing symptoms of TB infection and if the infection is in the lungs the chances of spreading of the infection becomes high. The common sign and symptoms of Tuberculosis disease are persistent cough (sometimes with blood in sputum) for three weeks or more than that, fever with cold, night sweats, loss of appetite and sudden weight loss. It was found that the disease is more virulent in warm and humid climate than in the cold and the hot. The cold and hot climate both hinders the growth of the bacteria and provides a suitable environment for the treatment of this disease. There are horst of factors which affects tuberculosis occurrence and its transmission like age and sex, heredity, under-nutrition and various environmental factors like poverty, poor housing facilities, over- crowding, ill-ventilated house etc. and social factors like illiteracy, unawareness, improper utilization of health facilities, large family sizes and gender discrimination etc. But one of those under- rated factors is the impact of poverty on tuberculosis incidence and transmission. It is generally found that poverty has a prominent and sharp influence on health and well-being of humans.

An adequate diet (with all essential macro- and micronutrients), is mandatory for the health and well-being TB patients and also those with TB infection. Poverty and food insecurity can be both cause and consequence of TB. Hence, these have to be recognized and addressed by those involved in the management of TB patients.

Despite many schemes to address under nutrition in India, nutrient gaps are still rampant across the country. The gaps observed in food and nutrient intake reveals that though average diet is adequate in cereals, it lacks adequate and good sources of quality protein such as pulses or dairy products, fat, fat-soluble vitamins A, D and K and micronutrients such as iron, zinc, folic acid and this gap widens as the wealth index of the population decreases. Decreased intake of micronutrients constitutes a major public health problem as it adversely affects the growth, survival and brain development of individuals.

The essential requisites of health would include - achievement of optimal growth and development, maintenance of the structural integrity and functional efficiency of body tissues necessary for an active and productive life and mental wellbeing.

Women and children are considered as vulnerable groups because it is they who often bear the brunt of brutality of the human rights violation. Experience reveals that especially the unaccompanied women, lone female heads of household, and women with tuberculosis. Women with tuberculosis are also subjected to disease or death mainly due to inadequate food, lack of health care and malnutrition.

The knowledge, attitude and practices of women with tuberculosis of Jharkhand concerning their food habits, health services and nutritional status are not systematically investigated in the country even though it is a very important area of research especially in food science and nutrition. A planned, deliberate and systematic study on this vital subject of our times puts the search light on the existing state of affairs and alerts the policy makers, project authorities, settlement officers, activists, community leaders and interested in the welfare of tribal women and children.

There is a growing recognition in our region about the crucial role of government and non-government agencies in the welfare of tribal women with tuberculosis in particular. The food habits, nutrition and health status of tribal women with tuberculosis is less understood due to the lack of comprehensive food and nutrition cantered investigations. A synthesis of the available literature suggests that the current status of tribal women with tuberculosis suffers from series of limitations with special reference to health and nutrition. Therefore, the problem "Food Habits, Nutrition and Health Status of tribal" has been chosen for the present study.

This subject was primarily considered for the present investigation because:

a) Welfare of women with tuberculosis has become an important area of research all over the world.
b) The Tribal women with tuberculosis are considered as vulnerable groups because most of them remain under privileged from development point of view.
c) Large number of Tribal women with tuberculosis are primarily subjected to ill health and malnutrition mainly due to improper food, lack of healthcare and mal-nutrition and allied agonies.
d) A scientific and systematic evaluation of food habits, nutrition and health status of Tribal women with tuberculosis are required.

Therefore, it is essential to have a vision backed up by appropriate research action which would help the health and nutritional status of Tribal women with tuberculosis. In the absence of suitable research support, it would be difficult to achieve this goal. The present study, was therefore, designed to cover all these dimensions and make it a worthy exercise.

Objectives of the Study

With food habits, health and nutritional status of Tribal women with tuberculosis being the thrust area, the research proposes to:

1. Study the socio-economic status of Tribal women with tuberculosis,
2. Examine the food habits and dietary patterns of Tribal women with tuberculosis,
3. Assess the health and nutritional status of Tribal women with tuberculosis; and
4. Suggest appropriate methods for the improvement of food habits, health and nutritional status of Tribal women with tuberculosis.

Analysis

The present cross-sectional study was conducted among rural women with tuberculosis (N=120) residing in Seraikela-Kharsawan district in order to determine the Food Habits, Nutrition and Health Status among these women.

Demographic Characteristics and Food Habits

The classification of women on the basis of profile, social-demographic characteristics, physiological status, size and type of family, educational status, occupational status and food condition of the area are presented in tables 1 to 6.

Table 1: Profile of the rural women with Tuberculosis

Profile	Rural women with Tuberculosis
Age (in years)	30 – 50
Age at marriage (years)	14 – 28
Age at first child birth (years)	16 – 32
Weight (Kg)	32 – 87
Height (cm)	130.5 – 182.5
Waist-circumference (cm)	53 – 126
Hip-circumference (cm)	55 – 133
BMI (Kg/m2)	14.6 – 37.6
Waist-hip ratio (WHR) (cm)	0.69 – 1.21
Waist-height ratio (WHtR) (cm)	0.37 – 0.79

Table 1 reveals that

1. Minimum age of the tuberculosis women is 30 years and maximum is 5 years
2. Minimum age of marriage of the tuberculosis women is 14 years and maximum is 28 years
3. Minimum age of first child birth of the tuberculosis women is 16 years and maximum is 32 years
4. Minimum weight of the tuberculosis women is 32 kg and maximum is 87 kg
5. Minimum height of the tuberculosis women is 130.5 cm and maximum is 182.5 cm
6. Minimum waist-circumference of the tuberculosis women is 53 cm and maximum is 126 cm
7. Minimum hip-circumference of the tuberculosis women is 55 cm and maximum is 133cm
8. Minimum BMI of the tuberculosis women is 14.6 kg/m^2 and maximum is 37.6 kg/m^2
9. Minimum waist-hip ratio of the tuberculosis women is 0.69 and maximum is 1.21
10. Minimum waist-height ratio of the tuberculosis women is 0.37 and maximum is 0.79

Table 2: Socio-Demographic Characteristics of the Patients (N=120)

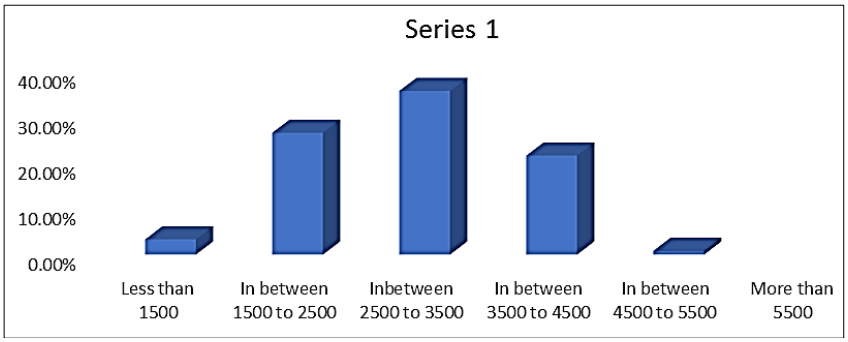
		No. of Patients	Percentage
Age Range	30 to 35	17	14.17
	36 to 40	65	54.17
	41 to 45	26	21.67
	46 to 50	12	10.00
Marital Status	Married	85	70.83
	Widow	27	22.50
	Single	8	6.67
Caste	OBC	17	14.17
	ST	66	55.00
	SC	12	10.00
	Others	25	20.83
Religion	Hindu	26	21.67
	Christian	78	65.00
	Others	16	13.33
Education	Illiterate	38	31.67
	Primary	56	46.67
	Secondary	14	11.67
	Graduation	12	10.00
Type of TB	Pulmonary	98	81.67
	Extra-pulmonary	22	18.33
Socio-economic status	Upper	27	22.5
	Middle	76	63.33
	Lower	17	14.17

Table 2 reveals that

1. Maximum percentage of patients is found 54.17% in the age range between 36 to 40 years and minimum is found 10% in the age range 46 to 50 years.
2. Maximum percentage of patients is found 70.83% who are married but minimum is found 6.67% who are single.
3. Maximum percentage of patients is found 55.00% who are belonged to Schedule tribe but minimum is found 10.00% who are schedule cast.
4. Maximum percentage of patients is found 65.00% who are Christian but minimum is found 13.33% who are other caste.
5. Maximum percentage of patients is found 46.67% who are primary educated but minimum is found 10.00% who are graduate.
6. Maximum percentage of patients is found 81.67% who are having Pulmonary Tuberculosis but minimum is found 18.33% who are having Extra-Pulmonary Tuberculosis.
7. Maximum percentage of patients is found 63.33% who are under middle socio-economic status but minimum is found 14.17% who are under lower socio-economic status.

Table 3: Distribution of Women on the basis of Family Income

Total Monthly Income	No.	Percentage
Less than 1500/	4	3.33
In between 1500 to 2500/	32	26.67
Inbetween2500 to 3500/	43	35.83
In between 3500 to 4500/	26	21.67
In between 4500 to 5500/	1	0.83
More than 5500/	14	11.67



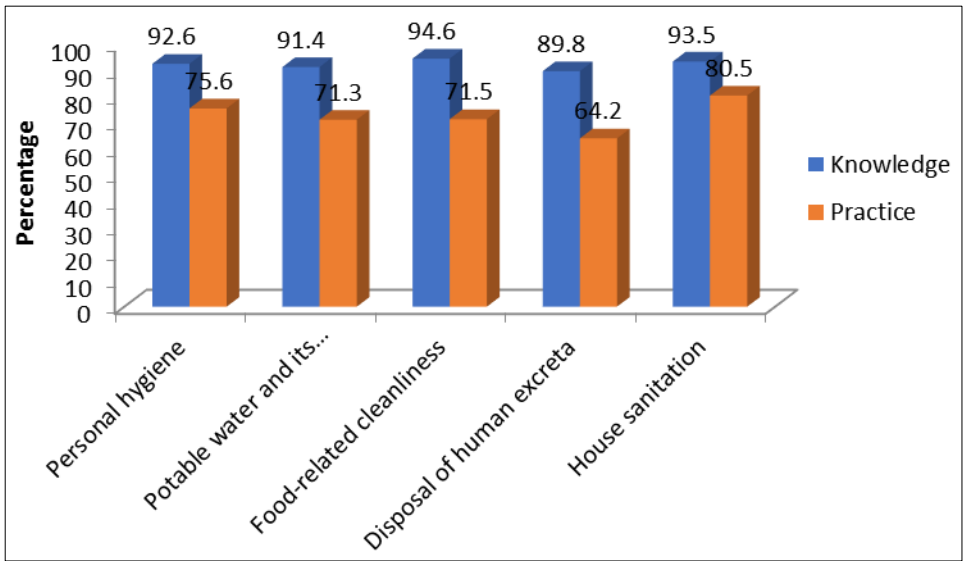
Graph 1: Graphical representation of distribution on the basis of Family Income

Table 4: Other Income supplement to Family Income

Supplement to family income	No.	Percentage
Yes	111	92.5
No	9	7.5
Up to 1 member	2	1.67
Up to 2 members	6	5.00
Up to 3 members	13	10.84
Up to 4 members	37	30.83
Up to 5 members	28	23.33
Up to 6 members	15	12.50
7 or more than7 members	19	15.83

Table 5: Percentage distribution of knowledge and practice level among Tribal (N=60) and Non-tribal (N=60) Tuberculosis patients

Parameters	Tribal in %		Non-tribal in %	
	Knowledge	Practice	Knowledge	Practice
Personal hygiene	92.6	75.6	87.6	63.2
Potable water and its maintenance	91.4	71.3	89.1	53.9
Food-related cleanliness	94.6	71.5	89.1	52.3
Disposal of human excreta	89.8	64.2	87.5	43.5
House sanitation	93.5	80.5	88.1	72.5



Graph 2: Graphical Representation of Percentage distribution of knowledge and practice level among Tribal (N=60) Tuberculosis patients

Food Habits

Cereals

Rice was observed to be the staple food of tribal women. Quantity of rice and rice products taken per day was far more than that of any other foodstuff. This has been observed among the people of all the sections of this tribal population. The rural tribal include more cereals than the urban. They mostly consumed par-boiled rice, which was specially prepared by boiling the paddy twice before milling. At breakfast or first meal of the day some of the women took soaked rice, prepared from the left-over rice cooked in previous night and women who were slightly better off economically took tea with chappati.

Pulses

In comparison to cereals intake pulses intake was quite meagre among tribal. In rural areas, the tribal women are exposed to a wide variety of pulses available in the market, but they do not take it every day. The pulses intake of rural women was very less. Only the well-to-do families took pulses in their diet and that are 'Lentil' and 'Red green dal'. The pulses were consumed in small quantities in place of vegetables when they were not available or couldn't be purchased in the areas, they consumed cheaper varieties of pulses.

Green Leafy Vegetables

Throughout the year green leafy vegetables were consumed by the tribal. As most of rural women were engaged as agricultural labour they could easily get the green leafy vegetables like reddish leaves, cabbage, pumpkin leaves and drumstick leaves from fields and sometimes they also consumed wild varieties of green leafy vegetables. Rural women mostly used the 'leaves^ from creeper plant likes pumpkin, bitter gourd, which they collect from the surrounding areas easily. Rural women also consumed Colocasia leaves when it was available. Tribal of lower income group took a single dish prepared from leafy vegetables with rice, whereas the economically better off tribal stook green leafy vegetables as an additional dish with rice, dal and curry. As compared to other vegetables, leafy vegetables are cheaper so it was frequently included in the diet of Tribal.

Roots, Tubers and other Vegetables

Varieties of roots and tubers and other vegetables are consumed by the tribal. The consumption of Potato was found more in the rural area. Whereas the rural women, used very less amount of potato, onion and sometimes Colocasia. Onion was consumed by the lower-income group tribal women in considerable amount when it was cheap. Depending upon the availability and cost of different types of vegetables in different seasons, the quantity of its consumption varies. Their vegetables consumption also varied from family to family depending upon their economic condition. On the other rural respondents who worked in the agricultural fields eats the vegetables, which are seasonal like Pawar, ladies fingers, kadkhoda when available. They also consumed bamboo tender shoots, and mushrooms whenever available.

Fruits

The tribal women consumed a few varieties of fruits that are available in the local market. In rural areas fruits like ripe tomato, mango and papaya were consumed. Besides, the tribal also ate seasonal fruits like jackfruits black berry, mulberry etc. which are cheaper.

Milk and Milk Products

Milk is a luxurious and expensive item for the tribal. Only when somebody is a patient or an infant in the family milk was given to her. Some tribal women drank tea in which they used very small quantity of milk.

Meat, Fish and Egg (Fleshy Foods)

Both males and females consumed non-vegetarian dishes, which include cooked meat of goat, pig, rabbit, rat, chicken, pigeon, snake, snail, fish, and white ants and eggs of red ants from the trees. Out of 120 families only 18 families of the rural areas reported that they took non-vegetarian food during the last 24 hours. Thus, the frequency of non-vegetarian food consumption was very low, not even once in a week. Because of the economic reason, the tribal did not go for non-vegetarian food consisting of meat, fish, egg frequently. But in rural areas, they include small fish, which they collect from river and agricultural fields. Except on ceremonial occasions, they generally did not kill domestic animals and birds.

Oil and fats

Tribal women consume varieties of edible oils. These include mustard oil groundnut oil and til oil. However, the rural women consumed the low-cost oil available in their local market. Butter and ghee were almost never consumed except during ceremonial occasions. They used groundnut and mustard oil. The quantity of consumption of oil was however, quite less. Only a few drops of oil were used for preparation of one dish.

Sugar and Jaggery

Consumption of sugar was very low among the rural tribal. It was mainly used in the preparation of tea, whereas jaggery was used by the rural women for preparation of mango chutney and other items.

Drinks

Most of the tribal women whether married or unmarried drank rice beer almost every day in the evening. In urban areas few also drink during daytime before the major meal of the day. In winter, the fermented juice from the date-palm tree was also consumed. Though not a single women admit that they took the drinks. But it was observed from the secondary source that in the areas some of them took the drinks regularly.

Conclusion and Suggestion

The food habit and consumption in a tribal family depends upon many factors like- size of family, their economic condition, physical fitness, age, education level, family status, marital status, and many more. The status of women, which reflects the type of society and culture they live in, is measured in terms of the level of their health, education, income, employment, rights as well as the role played by them in the family, community and in the society. The health status of the women, which includes their physical, mental and social well-being in addition to their biological and physiological problems, is affected by the prevailing norms and attitude of society (Park and Park, 1991). Women

occupy an important position in society. The wheel of development and future of the society depends upon the progress and development of women. She contributes a lot for the welfare of the society but unfortunately, she is the most discriminated one. The discrimination against women starts right from her birth and continues to her last breath. Over the past decades, a fundamental change seems to have occurred in the orientation of tribal research studies to generate baseline information on demographic, geographic, cultural, agricultural and socio-economic characteristic which help to shed some light on the constrains to the development of the tribal communities.

Suggestion

To improve their health and nutritional status the following measures are suggested.

1. Some awareness generating programmes should be started in this area to provide nutritional education to the women for proper selection, combinations and consumption of varieties of low-cost foodstuff.
2. Tribal people should be encouraged to cultivate green leafy vegetables like Papaya and citrus fruits in their backyards.
3. Production and consumption of pulses and oil/Seeds should be encouraged by providing facilities, proper incentives and technology.
4. Maintenance of fresh water fishponds should be encouraged for the tribal, which helps in improving their nutrition status and socio-economic condition.
5. Small poultry units on subsidy basis may be encouraged for each family so that they get protein food, to supplement their normal diet.
6. Vegetables seeds may be supplied on subsidy basis to each family so as to raise backyard vegetables gardens.
7. Mass nutrition education camps may be conducted in all the villages in order to bring awareness among the people about nutritional deficiency diseases.
8. Improve cooking and food-processing techniques should be taught to these women to minimize the nutrient losses during cooking and processing of food.
9. Intensive health education campaign should be encouraged for the prevention of the non-nutritional diseases.
10. Tribal should be persuaded to abstain from drinking alcohol.
11. They should be made aware of various tribal welfare programmes implemented by the Government and should be helped to make use of the opportunities.

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