

Health Conditions among the Tribal Areas in Andhra Pradesh

Y. ANIL KUMAR

Research scholar

Department of Economics, Andhra University
Andhra Pradesh, India

CH. CHIRANJEVI

Research scholar

Department of Economics, Andhra University
Andhra Pradesh, India

Dr. CH. SUBHA KUMAR

Post Doctoral Fellow

Department of Economics, Andhra University
Visakhapatnam, and Andhra Pradesh, India

Abstract:

The health and educational background of tribes in India show in a pathetic condition. It is multi-dimensional phenomenon encompassing the inability to satisfy basic needs, lack of control over resource, lack of education and skills, poor health and malnutrition, lack of shelter, poor access to water and sanitation, vulnerability to shocks, violence and crime, and lack of political freedom and voice. The challenges facing the poorest of the poor and in overcoming poverty are therefore varied and complex. The UNDP Human Development Index (HDI) comprises three components i.e. health, education and income generating capacity. Health is a function, not only of medical care, but also of the overall integrated development of society - cultural, economic, educational, social and political. The health status of a society is intimately related to its value system, philosophical and cultural traditions, and social, economic and political organization. Each of these aspects has a deep influence on

health, which in turn influences all these aspects. Hence, it is not possible to raise the health status and quality of life of people unless such efforts are integrated with the wider effort to bring about overall transformation of a society.

Key words: Cultural, Influence, Medical care, Pathetic.

I. Introduction:

The present study was health status in selected tribal areas of Andhra Pradesh. The central and state government had implemented a number of programmes for the success of tribals but the lack of awareness of education and health facilities the tribals were not benefited from them many efforts made by Government, academicians and researchers to identify the problem of the tribal health and education. These studies have contributed for better understanding of the socio economic conditions of tribals and they lay out the main features of the tribal health and education like, its awareness, environmental conditions, social status, exploitation, hierarchy in tribal society, income and occupational patterns.

An exhaustive study in the nature of socio-economic conditions, area specific intensive studies on living conditions related to health and educational status have not been attempted. Another important aspect which of crucial concern yet not studied is comparative economic position of hill tribe and plain tribes. The study of inter-tribal relations has assumed grate importance of the student of economic dynamic in the post independent India. This study provides a basis for enriching the existing theories of inter tribal and intra-tribal pattern of life and economic conditions. No study has hither to dealt in detail with the inter tribe relations between the different tribes of Andhra Pradesh.

India is a home to almost more than half of the world's tribal population. Over 100 million people belonging to 698 communities are identified as members of scheduled tribes,

constituting 10.0% of the total Indian population and are larger than that of any other country in the world (Census-2011). Through a constitutional mandate, formulated in 1950, scheduled tribes have been formally recognized as a distinct community in India. Consequently, there exist clear governmental policies for affirmative actions targeted towards scheduled tribes, and their members are routinely enumerated in national surveys and censuses. The proportion of scheduled tribes' population in the total Indian population has increased from 5.3% (1951) to 10.0% (2011). The Central and State Governments try to help the tribals with various policies and programmes. Some of the food security schemes are Grain Purchase Scheme, Grain Bank Scheme, etc. A government also gives funds for various purposes. They get support from Panchayat Samities, Anganwadi, which help the tribals to get education as well as nutritious food and required medicines. The development of health facilities for scheduled tribe got impetus through successive plans. The Primary Health Center (PHC) Health Sub-Center (HSC) and ICDS project established in tribal areas are indicators of extension of medical services to the tribals. The medical facilities though not adequate are hardly used by tribals living in isolated villages.

II. Objectives of the study:

1. To study the awareness of the tribals on educational programmes implemented in the study area.
2. To Analysis the economic status of the sample households
3. To examine the relationship between Economic status and Health status.

III. Methodology:

The present study aims to study the relationship between the levels of economic and health conditions in tribal areas. The

data was collected both from primary and secondary sources the secondary data collected from various books and journals and abstract. The primary data was collected from two most backward mandals in East Godavari district of Andhra Pradesh state. Within these mandals the beneficiaries would be the below poverty line people, especially the poorest of the poor – scheduled tribes people have no control over or access to productive resources, daily wage labour – especially girl child labour etc. Two mandals were selected for the study out of eight Tribal mandals of entire 59 Mandals in the East Godavari district. These two mandals are 1.Rampachodavaram and 2.Maredumilli. In these two the first is developed Mandal and the second is under development. It is estimated that about 10 thousand households would be living in these two mandals while the study has been conducted among 100 sample respondent households on the base of simple random sampling from two mandals. The statistical tools used for the analysis of data are percentages, Growth rates, Cross tabulation, F-tests and Regression analysis.

IV. Profile of the study area:

Table: 1 Tribal health facilities provided by government in selective areas:

It has noticed that there are only two community health centers which are located at R.C.Varam and Y.Rayavaram Mandal Head Quarters and 18 Public Health Centres in the 11 tribal mandals. This indicates that the medical care among tribal mandals are Found poor.

Total Community Health Centers						2 (R.C.Varam, Y. Ramavaram)
Total PHCs						18 (New 5 + Old 13)
PHC Buildings		Staff Quarters		Subcentres		
Existing	Required	Existing	Required	Existing	Required	
9	9	16	97	27	68	
Total ANM Sub Centers						95
Govt. Hospital (at Addateegala)						1
No.of Medical Officers						Total-38,Filled-16,Vacant-22.
No.of CHWs						608
No.of Mobile Medical Unit						1 (R. C. Varam)
No.of Drug Distribution Centers						164 (Malaria)
No.of Malaria Sections						102
No.of Shandys						22
No.of TB centres						7

V. Relevant reviews:

The commission for SC's and STs^[1] (1979) in its report observed that the position in relation to the primitive groups facing Special health problems needs urgent attention by the highest body in the country. The incidence of tuberculosis, venereal diseases and leprosy in some of the tribal areas is quite high. Amongst a number of tribes, the incidence of Sickle cell anemia is reducing the average expectancy to very low age.

Ali. A (2003)^[2] in his study on the health status of scheduled tribes in India, noted that among most of the tribes, gastro intestinal disorders particularly dysentery and parasitic infestations are very common leading to marked morbidity and mal nutrition. Malnutrition among women and children due to these problems is common even among tribes with adequate nutrient intake. The magnitude and gravity of the health problems of the tribals in India compounded as they are by wide spread poverty, ignorance, lack of health and education

¹ Report of the commission for SCs and STs , Government of India, 1979,New Delhi

² Ali A “Health status of tribals in India” published in *Adak (Ed) Demography and Health profile of the tribals*”, Annol publications, 2003, New Delhi.

are daunting. He suggested that much can be done to improve health standards of the tribal people; if location specific and need based health planning is done. This of course is a big challenge, to meet this challenge in the field of tribal health without the involvement of the tribals themselves, we cannot succeed: with their involvement, we cannot fail.

Dey A.S (2003) [3] in his comprehensive on fertility and contraceptive practice among scheduled tribes of Madhya Pradesh, stressed that a significant proportion being tribe that are character by early age at marriage, high fertility less use of contraception and staying in different and inaccessible terrain, the tribal group as a whole in the state deserve special attention in its fertility regulation programme.

Dey. D (2003)[4] studied the status of reproductive and child health among scheduled tribes population in Madhya Pradesh; based on the NFHS survey. His study shows that reproductive and child health status among scheduled tribe population in Madhya Pradesh is very poor. The population is characterized by high fertility and mortality and less use of family planning methods. Ante-natal and postnatal cares are dismal. National status of women and children are very poor. Reproductive health problems are wide spread in the community. Urgent steps are needed to improve their situation.

Sharma A.N (2003)[5] studied the trends of morbidity among Bharias of patalkot, m.p. he concluded that awareness regarding health and related aspects should be enhanced through different devices, so that health status of Bharias must be uplifted to a certain extent and to fully the natural life. It may be stated that health profile, prevalent diseases and health

³ Dey AS “A comprehensive study of fertility and contraceptive practices among the scheduled tribes of Madhya Pradesh” Published, 2003, New Delhi.

⁴ Dey D “The status of reproductive and child health among the scheduled tribe population in M.P An observation from NFHS 1992-1998-1999” published 2003, New Delhi.

⁵ Sharma AN “Trends of morbidity among Bharias of patalkot, M.P “published, 2003, New Delhi.

seeking behaviour are vital tools for the socio economic development of this isolated primitive societies.

Rao K.M and et.al (2003)[6] studied the socio demographic and nutritional status of the tribal population in the three ecological zones of M.P. the overall situation of health and nutrition in all the tribal groups is worse. The tribals face uncertainty of food especially during lean seasons such as rainy and summer months. Distribution of subsidized food grains through public distributin system, provision of employment opportunities in lean provides and steps to strengthening of the availability of health care and their utilization may be the immediate need for the upliftment of the tribal groups.

Bhagat R.B. and chattopadhyay Aparajitha (2004)[7] in their study ‘Characteristics and correlates of tribal fertility, a comparative study selected tribes, concluded that the higher fertility in case of non availability of the health facility such as sub centre within the village is impartantg, as the accessibility of the health services in the tribal villages will have a significant impact in reducing fertility levels among tribes that have relatively high fertility.

Prakasa Rao, M.V.S.S (2008)[8] studied the ‘Health care and health services: challenges a head in the tribal areas’. He observed that the tribal people are suffering with many diseases like viral fevers, malaria, and etc. The rural and tribal health services in the country are with shortage of trained manpower. He suggested that there should be proper provisions of preventive and basic curative services for the tribal people, and also for the protected water supply. The government should

⁶ Rao KM et al. Socio, demographic and nutritional status of tribal population of M.P published, 2003, New Delhi.

⁷ Bhagat RB and Chowdary Apprajitha, Characteristics and correlates of tribal fertility: A comparative study of selected tribes, *Demography of India.*, “vol 33, no-2, July-Dec 2004.

⁸ Prakasa Rao MVSS “Health acre and health services” published in Dr. B.S. Vasudeva Rao (ed) “Tribal developmental studies” Associated publishers Ambala cantonment, 2005 Ambala.

subsidize and help general practitioners and doctors, who deliver essential clinical services to the tribal people. Community based schemes should be prepared on the basis of their felt needs, specifically for the isolated, relatively backward and primitive tribal communities. New method of health education should be designed directly related to tribal folklore, and daily way of life of the people. Female education should be given top priority to bring about social and economic changes in the tribal families.

Hema Malini. B (2005)[⁹] studied the sensitivity of disease incidence in the tribal zones of Visakhapatnam District: A.P. her study is based on the physiology, rainfall patterns and deforestation. She concluded that the high incidence of goiter in western hilly tracts is due to the low iodine content in the ground water and soil of the region, which is due to the fact that the high incidence of rainfall on the steeper slopes of upland areas results in higher runoff and washes out of nutrients including iodine. The practice of shifting cultivation by local tribal groups also causes severe erosion of soil resulting in the removal of valuable nutrients. There is no scope for natural replenishment of the iodine or any other nutrients as the soil erosion is a continuances phenomenon due to the due to the existing environmental and physical conditions. This study shows how the geographical phenomena help in undertaking the pepolem of disease prevalence.

⁹ Hema Malini “The sensitivity of disease incidence in the tribal zones of Visakhapatnam District” published, 2005. Ambala.

x. Dr. CH. SUBHA KUMAR and Mr. Ganga Raju, Levels of Literacy and Health Conditions among the Tribal Areas in Andhra Pradesh: A Study on East Godavari District, *International Journal of Social Science Tomorrow Vol. 2 No. 2*, 2013, 2277-6168 ,pp 1-11.

xi. CH. SUBHA KUMAR and k. ravindra, Female Literacy Status of Urban Slums Communities in Andhra Pradesh, European academic research, vol. II(1),2014,pp971-982.

VI. Statistical Applications;

OLS is a technique for estimating the unknown parameters in a linear regression model. This method minimizes the sum of squared distances between the observed responses in a set of data, and the fitted responses from the regression model. The linear least squares computational technique provides simple expressions for the estimated parameters in an OLS analysis, and hence for associated statistical values such as the standard errors of the parameters. OLS can mathematically be shown to be an optimal estimator in certain situations, and is closely related to the generalized least squares (GLS) estimation approach that is optimal in a broader set of situations. OLS can be derived as a maximum likelihood estimator under the assumption that the data is normally distributed, however the method has good statistical properties for a much broader class of distributions.

a) Regression

Regression analysis can be applied when data of the form $\{y_i, x_i\}_{i=1}^n$ on n statistical units are observed. The data for each unit includes a scalar *response* y and a vector of predictors x . In a linear regression model, the conditional mean of the response given the predictors is modeled as a linear function of the predictors

$$E(y|x) = \beta'x,$$

Where, $\beta'x$ is the dot product between the vectors β and x . A concrete statistical model that gives this form of conditional expectation involves adding errors to the conditional mean

$$y_i = x_i'\beta + \varepsilon_i,$$

Where, ε_i is an unobserved scalar random variable with expected value zero given x , representing the errors in the data, and β is a $p \times 1$ vector of unknown parameters. Generally an

"intercept" or "constant term" is included in the set of regressors, for example by setting $x_{i1} = 1$ for all n units.

It is convenient to write this model in matrix notation as

$$y = X\beta + \varepsilon,$$

Where, y and ε are $n \times 1$ vectors, and X is an $n \times p$ matrix called the design matrix.

Two interpretations of this model are possible. In one interpretation, the regressor's x_i are treated as random variables, sampled together with the y_i 's from some population, as in an observational study. This approach is more intuitive when studying asymptotic behavior of the estimators. In the other interpretation, the regressors X are treated as known constants set by a design, and Y is sampled conditionally on the values of X as in an experiment. For practical purposes, this distinction is often unimportant, since estimation and inference is carried out while conditioning on X .

b) Assumptions:

- ❖ The response variables are uncorrelated with each other: $\text{corr}(y_i, y_j) = 0$ whenever $i \neq j$. Since regression analysis is always carried out while conditioning on the predictor variables X , there is no need for the predictor variables to be uncorrelated with each other, or to be representative of a population. When OLS is applied to linear time series data, panel data, cluster samples, hierarchical data, repeated measures data, longitudinal data, and other data with dependencies, correlations between the responses will often exist. Extensions of the OLS approach, including GLS, can be used in these situations.
- ❖ Identifiability: The random variables x_i have second moments, and the matrix $Q_{xx} = E[x_i x_i']$ is non-singular. This assumption is equivalent to saying that the regressors are linearly independent from each other. Note that if the x_i do not have second moments (that is,

the matrix Q_{xx} is infinite), then regular OLS estimators will be not only consistent, but even *superefficient*.

- ❖ The errors have mean zero when conditioned on the regressors: $E[\varepsilon_i | x_i] = 0$.

Homoscedasticity: The errors have finite second moments that are the same for all units i : $E[\varepsilon_i^2 | x_i] = \sigma^2$. Here σ^2 is a nuisance parameter in the model, which generally must also be estimated. Without this assumption, the OLS estimator for β is still consistent, but no longer efficient even within the class of linear unbiased estimators. If the errors do not have second moments (that is if $\sigma^2 = \infty$) then the OLS method lacks desirable asymptotic properties. Some robust estimation techniques have better properties than OLS in such a case.

c) Estimation:

Suppose b is a “candidate” value for an estimate of parameter β . The quantity $y_i - x_i'b$ is called the *residual* for the i -th observation. The sum of squared residuals:

$$S(b) = \sum_{i=1}^n (y_i - x_i'b)^2 = (y - Xb)'(y - Xb)$$

is a measure of how well the line $x'b$ fits the data. We want this sum of squares to be as small as possible.

The value of b which minimizes the sum of squared residuals $S(b)$ is called the least squares estimator for β , and is given by the explicit formula ^[proof]:

$$\hat{\beta} = (X'X)^{-1}X'y = \left(\frac{1}{n} \sum_{i=1}^n x_i x_i'\right)^{-1} \cdot \frac{1}{n} \sum_{i=1}^n x_i y_i.$$

This estimator is unbiased ^[proof], and also is linear in the dependent variable y . The Gauss-Markov theorem states that, provided the errors are homoscedastic and uncorrelated with each other, this estimator is best (in the sense of having smallest variance) in the class of all linear unbiased estimators. After we have estimated β , the vector of least squares residuals will be equal to

$$\hat{\epsilon} = y - X\hat{\beta} = (I - X(X'X)^{-1}X')y = My,$$

Where, I is the identity matrix, and M is the projection matrix onto the space orthogonal to X . Using these residuals we can construct the least squares estimator for σ^2 :

$$\hat{\sigma}^2 = \frac{1}{n} \hat{\epsilon}'\hat{\epsilon} = \frac{1}{n} y'My = \frac{1}{n} S(\hat{\beta}).$$

The expected value of this estimate is $(n-p)\sigma^2/n$, so it is negatively biased. The alternative unbiased estimator

$$\frac{1}{n-p} S(\hat{\beta})$$

is also often used.

It is common to assess the goodness-of-fit of the OLS regression by comparing how much the initial variation in the sample can be reduced by regressing onto X . Pearson's coefficient of determination R^2 is defined as a ratio of "explained" variance to the "total" variance of the dependent variable y :

$$R^2 = \frac{y'LPy}{y'Ly} = 1 - \frac{y'My}{y'Ly} = 1 - \frac{\sum(y_i - x_i'\hat{\beta})^2}{\sum(y_i - \bar{y})^2}$$

where $L = I_n - \mathbf{1}\mathbf{1}'/n$, and $\mathbf{1}$ is an n -vector of ones; this projection matrix (or "centering matrix") is equivalent to regression on a constant, it simply subtracts mean from a random variable. Note that in order to be meaningful for R^2 , the regressors X must contain an intercept (constant) term. In such a case, R^2 will be a number between 0 and 1, with values close to 1 indicating a good degree of fit.

Period of study: The study has been carried out during 01.01.2015 to 30.10.2015.

VII. Major findings of the study:

1. Out of the total sample cent percent were responded that they are taking special interest regarding their children education but they are not having good school facilities, still they are literates.
2. More than thirty percent of the children among the sample households are studying at Ashram schools and

more than thirty percent of the children among the sample households are studying at English Medium schools.

3. Most of the respondents agreed that mid-day meal and supply of text books to the students is available in their respective village schools. But around fifty percent of the respondents said that merit scholarships, pre-metric scholarship, physically handicapped scholarships are not reaching the students properly. More than sixty percent of the respondents expressed that supply of 3kg. rice, special grants from centre/state for the student welfare and teacher funds are not being released in their village schools.
4. In recent days the Government has taken much care about the development of education facilities to the tribals in the country. So the school facilities and classroom facilities are improved in almost all the schools in the tribal areas. Still there is some gap in the facilities provided to these schools. According to the study it shows that in some schools there is no drinking water, playground, lavatory, compound wall and electricity facilities. It shows that cent percent of the students in the study area still not attending the schools regularly because of attending agriculture and domestic works with their parents. More than fifty percent of the teachers at schools did not bother about the children for not attending the school, so they never complaint to their parents.
5. More than eighty percent of the parents are happy with their children education and the remaining parents felt that illness among the children and lack of teachers in the schools are the reasons for their children's poor studies.
6. Most of the parents felt that the teachers in their village schools have competency in teaching their children.

More than fifty percent of the parents made complaints against the teachers who are irresponsible about the children in the schools.

7. They fall sick and majority of the respondents are having knowledge on HIV/AIDS and they heard about. They also know about the 108 and 104 health care services and its importance in their areas.
8. A significant number of villages are not having Physical Health Care centres and they have to go more than two kilometers for medical treatment because of unavailability of doctors around 24 hours. Around eighty percent of the respondents aware about Arogya Sree card and more than ninety percent of the respondents positive about the service of Arogya Sree.
9. It shows that more than forty percent of the respondents felt that the facilities in sub Center/PHCs/CHCs of study area are not improved. Therefore, in Gramsabha meetings the health related decisions will be taken by the villagers.
10. Majority group of respondents in the selected areas have awareness about essential health care programmes, development of village health plan and nutritional food awareness. Hence, they maintain village health registers and health information boards, getting death registered at panchayat and managing the Village health funds. Most of the respondents don't know that the Government is providing united fund of Rs. 10,000 for improvement of health and sanitation facilities in the village. Fifty percent of the sample respondents said that there was no Rogi Kalyan Samiti been constituted in the PHC of their area.
11. Most of the villagers are utilizing public taps for drinking water and they felt that it is safe for their health point of view. The public tap points are not far to their residence but around fifty percent of the

respondents opined that they are facing problems in collecting drinking water at tap points.

12. According to the data it found that out of the total 300 sample households 89 persons are suffering from different chronic diseases, where thirty are suffering from HIV, very few are suffering with diabetes, joint pains, asthma etc.,. These patients are suffering from their diseases since less than 5 years and most of them are getting treatment at Government hospitals.

VIII. Conclusions:

India has a total tribal population of 100 Millions approximately which constitutes 10.2 per cent of the total population as per the census of 2011. Madhya Pradesh, Orissa, Chattisgarh, Jharkhand, Gujarat, Maharashtra and Rajasthan account for nearly three-fourth of entire tribal population in the country.

In the graded socio-economic unequal structure of Indian society, the tribals are at the lowest among and being poor, lead a substandard and subsistence living. The traders, money lenders and contractors are sordidly exploiting the tribals as the latter are innocent and illiterate. Tribal's perpetual indebtedness and alienation of lands aggravated their misery and inflicted their peace and happiness. Tribal revolts in the pre and post independent India have their roots in the inhuman exploitation of tribals.

The centre and state Governments recognize the varied issues and challenges in tribal education in view of the heterogeneous structure of tribal population in the country. The issues and challenges in tribal education can be categorized as external, internal, socio-economic and psychological. The external constraints are related to issues at levels of policy, planning and implementation while internal constraints are with respect to school system, content, curriculum, pedagogy, medium of

instruction etc. The third set of problems relates to social economic and cultural background of tribals and psychological aspects of first generation learners. STs are at different levels of socio-economic and educational development. STs in some of the states and those settled in urban and semi-urban areas are comparatively better placed. The problems of education of the ST children vary from area to area and tribe to tribe. Therefore, SSA emphasizes on area specific and tribe specific planning and implementation of interventions, which could meet the learning needs of ST children. The widespread poverty, illiteracy, malnutrition, absence of safe drinking water and sanitary living conditions, poor maternal and child health services and ineffective coverage of national health and nutritional services have been traced out in several studies as possible contributing factors to dismal health conditions prevailing among the tribal population in India. In this article, the author focuses on certain interacting factors like the infant mortality rate, life expectancy, genetic disorders, sexually transmitted diseases, nutritional status, forest ecology, child health and health care practices which are generally responsible for determining the health status and health behavior of tribal communities.

IX. Policy and suggestions other education and health separately

Health:

1. Setting up Primary Health Centers (PHCs) in tribal habitations for controlling diseases as well as provides preventive measures.
2. Improve the conditions of the PHCs in the study area for better health services to the tribals.
3. Available of good medicines in the PHC should be observed by a special team is necessary.

4. Health Camps should be conducted by the Government and Non-Government organizations in the study area.
5. Availability of doctors and assistants in the PHCs for 24 hours.
6. Availability of ambulance for sending of emergency cases to near by towns for better treatment.
7. There should be a sub-center of health for every two or three nearest villages.
8. There is a need of good transport system for medical staff and the villagers to travel at the time if critical health problems.
9. Social sustainability and improvement through better administration.
10. Improved skills to enhance the abilities of the target community to undertake productive investment and increases earning opportunities.
11. Provide better opportunities to improve literacy levels among the target community.
12. Social protection to those who are vulnerable to natural and health related risks.
13. Improved access to secondary education for both boys and girls from poor households, especially the scheduled tribes.