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Health Status of Tribal Women in India

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The paper discusses the health status of the tribal women in relation to sex ratio, age at marriage, fertility, mortality, life expectancy, nutritional status, maternal and child health care practices, sexually transmitted diseases, genetic disorders, etc. the health status of tribal women is found to be lower than that of the Indian women in general on most of these aspects. Gaps in knowledge regarding the health of tribal women have been identified and a plan of action has been suggested for improving their health.

Preamble

The tribal population groups form 7.95 percent of the total population of India. About 67.76 million persons have been enumerated in the country (excluding Jammu & Kashmir) as members of the Scheduled Tribes (1991 census). These tribal groups inhabit widely varying ecological and geo-climatic conditions (hilly, forest, tarai, desert, coastal regions etc.) in different concentrations throughout the country and are distinct biological isolates with characteristic cultural and socio-economic background. Tribal groups are homogeneous, culturally firm, have developed strong magico-religious health care system and they wish to survive and live in their own style.

There have been a number of studies on the tribes, their culture and the impact of acculturation on the tribal society. There have also been studies on the status of women relating to their socio-cultural problems, their economic rights, their participation in management, their access to employment, food, health, etc. But these issues have not been properly focussed in relation to the tribal women. There are only a few studies on the status of tribal women in India (K. Mann, 1987; J.P. Singh, N.N. Vyas and R.S. Mann, 1988; A. Chauhan, 1990). Thus the study of tribal women cannot be ignored. It becomes important because the problems of tribal women differ from a particular area to another area owing to their geographical location, historical background and the processes of social change (A. Chauhan, 1990). For this, there is a need for proper understanding of their problems specific to time and place so that relevant development

programmes can be made and implemented. There is a greater need for undertaking a region-specific study of the status and role of tribal women which alone can throw up data that will make planning for their welfare more meaningful and effective (K.S.Singh, 1988).

The status of women in a society is a significant reflection of the level of social justice in that society. Women's status is often described in terms of their level of income, employment, education, health and fertility as well as the roles they play within the family, the community and society (Ghosh, 1987).

A tribal woman occupies an important place in the socio-economic structure of her society. The Dhebar Commission Report (1961) mentions that the tribal woman is not drudge or a beast of burden, she is found to be exercising a relatively free and firm hand in all aspects related to her social life unlike in non-tribal societies. The tribal women in general and in comparison with castes, enjoy more freedom in various walks of life. Traditional and customary tribal norms are comparatively more liberal to women.

The status of tribal women in matrilineal societies has been observed to be somewhat better than that of women in a patrilineal society, e.g., their legal status is much higher than that of their counterparts in patrilineal societies and they have a significant role in the tribal economy.

However, after a comparative analysis of the various indicators (political organisation, religion, ritual practices etc.) among the different tribes of India, it has been observed that the status of tribal women is comparatively lower than that of tribal men. Moreover, the status of tribal women has gone from bad to worse as a result of the impact of social change which has affected the social structure of tribal society (Chauhan, 1990).

In the present paper an attempt has been made to review the available literature on health and its correlates among tribal women, to indicate their existing health status, to identify the gaps of knowledge and to suggest a possible plan of action besides pointing out the debatable issues.

1. Health and its correlates

Health is a function, not only of medical care but of the overall integrated development of society-cultural, economic, education, social and political. 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 the overall transformation of a society. Good health and good society go together (Basu, 1992). This is possible only when supportive services such as nutrition, environment and education reach a higher level.

The common beliefs, customs and practices connected with health and disease have been found to be intimately related to the treatment of disease. It is necessary to make a holistic view of all the cultural dimensions of the health of a community. In most of the tribal communities, there is a wealth of folklore related to health. Documentation of this folklore available in different socio-cultural systems may be very rewarding and could provide a model for appropriate health and sanitary practices in a given eco-system. Maternal and child care is an important aspect of health seeking behaviour which is largely neglected among the tribal groups (Basu et al., 1990).

Health and treatment are closely interrelated with the environment, particularly the forest ecology. Many tribal groups use different parts of a plant not only for the treatment of diseases, but for population control as well (Chaudhari, 1990). There exists a definite nexus between forests and nutrition. It has been noted by many that tribals living in remote areas have a better overall status and eat a more balanced diet than tribals living in less remote, forest free areas. The mode of utilisation of available natural resources often determines the long term impact on health.

2.0 Health status of tribal women

Efforts have been made to collect available literature on the health studies among different tribal women in the light of several parameters i.e. sex ratio, female literacy, marriage practices, age at marriage, fertility, mortality, life expectancy at birth, nutritional status and health, child bearing and maternal mortality, maternal and child health care practices, family welfare programme, sexually transmitted diseases and genetic disorders. It may, however, be mentioned that health-related information is limited, most of the available populations are limited, and most of the available studies are fragmentary in nature without an

adequate sample size and standard methodology. The present author has carried out comprehensive health related studies among different tribal groups namely Muria, Maria, Bhattra, Halba of Bastar district, Madhya Pradesh, Jaunsaris of Jaunsar Bawar, Dehradun district, Uttar Pradesh, Kutia-kondhs of Phulbani district, Orissa, Santals of Mayurbhanj district, Orissa and Dudh Kharies of Sundergarh district, Orissa and Dudh Kharis of Sundergarh district, Orissa. The research findings of all the available studies are discussed in the context of the following parameters:

2.1 Sex ratio

Sex ratio (females per thousand males) measure the balance between males and females in human population. Large imbalances in this aspect affect the social, economic and community life in many ways. In a population closed to migration, the sex ratio is an indicator of the sex differential in mortality. A higher or lower sex ratio reflect the status of the socio-cultural, maternal and child health care programmes existing in the population.

The sex composition of the population in India is found to be favorable to males. Female disadvantage in mortality attributed as the cause for the low sex ratio (F/M over the last 30 year i.e. 941 (1961), 930 (1971), 935 (1981), 927 (1991).

As compared to the general population, there appears to be a more even distribution of males and females among the Scheduled Tribes i.e. 987 (1961), 982 (1971), 983 (1981), 972 (1991). This suggest that the females in the tribal society are not neglected; the social and cultural values protected their interest. However, it may he pointed out that their sex ratio (972) in 1991 census shows a definite decline when compared to the 1981 census figure of 983.

The sex ratio for the Scheduled Tribes in various States and Union Territories is listed in Table 1. (Table 1 is missing).

It is observed from Table 1 that the sex ratio of the Scheduled Tribes varied within the country i.e. among the States it was highest in Orissa (1002) and lowest in Uttar Pradesh/Sikkim (914); among the Union Territories, it was highest in Dadra and nagar Haveli (1022) and lowest in Daman and Diu (931).

The sex ratio of the Scheduled Tribes in India was found to be near even in Arunachal Pradesh (998), Meghalaya (997), and Kerala (996). While conducting health related studies among the individual tribal population groups, the sex-ratio was found to exhibit a variable picture. Kutia Kondhs, a primitive tribal group of Phulbani district, Orissa, had a low sex ratio of 920 females per thousand males as compared to the Scheduled Tribes of India (972) (Basu, 1990). This indicated a preponderance of female deaths among the Kutia Kondhs. One of the ascribed social reasons for this sex difference was the utter neglect and apathy towards proper rearing of the female children among them. A still lower sex ratio, i.e. 103 females per thousand males, was observed (Basu et al., 1993) among the Jaunsaries Bawar, Chakrata tehsil, Dehradun district, Uttar Pradesh. It seemed quite logical as the Jaunsaries were known to be a polyandrous tribal group. Higher sex ratio indicating a comparatively better health status among the tribal women of Dhudh Kharies of Sundergarh district, Orissa (1098 females/1000 males) and Santals of Mayurbhanj district, Orissa (1019 females per 1000 males) were found during investigations. (Basu, et al., 1993). These sex ratio were much higher compared to the India's general population (927/1000) and the Scheduled Tribes (972/1000) in 1991. Datta (1990) while conducting demographic investigations among the Kora tribal the sex ratio to be 882 females per 1000 males which was quite low compared to the all India Scheduled Tribal figure of 972.

2.2 Female literacy

Literacy is universally recognised as a powerful instrument of social change. The level of literacy is undoubtedly one of the most important indicators of social, cultural and health development among the tribal communities. Literacy is important for the young girl; it had correlations with the survival of her children. Infant mortality is found to decrease significantly when the mother is educated upto the primary level and above. The Indian tribes have been exposed to literacy only recently (Moonis Raza, et al., 1990). By and large, their response to programmes of literacy and of formal education varied significantly between tribes and from region. These responses depended on their socio-cultural, economic and demographic characteristics and on the magnitude and direction of the forces of modernisation, such as urbanisation and industrialisation (Bose, 1970). The influence of Christianity in some tribal areas had also played a significant role (Madan, 1951).

The census recognised an individual as literate if one could both read and write with understanding in any of the languages. According to the 1991 census data, excluding Assam, Jammu and Kashmir, the literacy rate among the general

population aged 7 years and above was found to be 52.19 (64.20 for males and 39.19 for females). Literacy among the tribals was found to be very low i.e. 25.9 percent and especially so among the tribal females (14.5 percent) (NSSO, 1991).

Most of the literates among the Scheduled Tribes were literate only upto the primary level. Within the country, the level of literacy among the tribals varied widely.

At one end were tribal communities like the Malapan daram, Suhang etc. in the South with hardly any literates among them, whereas on the other end, there were communities like Lushai in North-East Himalaya with more than 40 percent literacy (Vidyarthi, 1983).

The lowest level of literacy among the tribals was recorded in Andhra Pradesh [14.5 percent] and the highest in Mizoram [80.0 percent]. The lowest level of literacy among the females was found in Rajasthan [4.1 percent]. Among the territories. The highest literacy among tribals was observed in Lakshadweep [79.1 percent] (Table 2). (Table 2 is missing).

Studies on some individual tribes revealed the following trends of literacy :-

Low literacy rate [3.3 percent] was observed among the primitive Abhujmaria tribe of Bastar district, Madhya Pradesh (RMRC, 1992). The educational status among the Santal tribe of Mayurbhanj district, Orissa showed marked sexual differentials. 51.6 percent males were found to be literate against 19.4 percent females. A similar literacy trend was observed among the polyandrous Jaunsaris of JAUNSAIR Bawar, Dehradun, i.e. 45.79 percent literate among the males and 15.26 percent literate among females. Kora females of Midnapur district, West Bengal had a very low literacy level [2.66 percent] (Datta, 1990).

The female literacy rate among the Dudh Khana tribal group of Sundargarh district, Orissa was found to be much higher, i.e., 41 percent as compared to that of the Scheduled Tribe females (14.5 percent) (Basu, et al., 1993).

Literacy among the tribals of the North-Eastern region could be due to the influence of Christianity. Literacy among tribals in general had improved slightly over time. Marked improvement over 1981 was noticed in some of the States of North-Eastern, Western and island regions. In other, specially in the Eastern and Central regions and in some of the States of other regions, improvement in literacy level was still lagging behind (Sinha, 1990).

Marriage Practices and at Marriage

The cultural norms that particularly affect women's health are attitudes towards marriage, marriage practices, age at marriage, values attached to fertility and sex of the child, pattern of family organisation, her status in the society, decision making capability and ideal role demanded of women by social and cultural conventions (Kshatriya, 1992). All these determine her place in the family, her access to medical care, education, nutrition and other health resources.

2.3 Marriage practices

India is characterized by the presence of a large number of endogamous casts, tribes and religious communities with different types of marriage practices. The pattern of marriages in India is largely governed by three important regulations, namely *a*) Endogamy (marrying within the group of birth) *b*) Exogamy (marrying out) and *c*) consanguineous or sapinda marriage. The regulation of consanguineous marriages does not permit marriages between two individuals related through a common male ancestor up to the seventh generation on the father's side and the fifth, there is a greater incidence of consanguineous marriages especially among the population of the southern States, Muslim groups, Parsees and various tribal communities (Basu, 1985).

In many tribal communities, cross-cousin marriages were preferred and practiced. The system of cross cousin marriage had proved to be beneficial to the females in terms of care and treatment at husband's place. It also avoided high bride price/dowry and maintained the property of the household.

Consanguineous marriages may, however, result in an increased probability of abortions, miscarriage, still births, neo-natal deaths, infant and juvenile deaths physical and mental defects susceptibility to infectious diseases etc.

In Himalayan region, some of the tribes like Naga, Lusia etc. practiced polygamy which was for economic reasons to protect the property and get help in agricultural activities. On the other hand, some of the tribes in India practiced polyandry because of less number of women available for marriage. e.g. Jaunsaris of Jaunsar-Bawar, Chakrata tehsil, Dehradun, Todas of Nilgiri hills.

Formerly the Todas practised female infanticide which resulted in less number of girls available for marriage.

2.4 Age at marriage

The age at which the girl was given in marriage depended on social values. Among the tribals, virginity was not very much valued. Many of the tribal societies were lax towards pre-marital sex relations which were considered as a training in the art of love and sex life and often ended in marriage (Vidyarthi and Rai, 1977).

Girls in tribal societies were given in marriage generally after puberty. According to 1971 census at the national level, the age at marriage for tribal women was higher (16.39) than that of the rural women in general (15.39) The mean age at marriage of the tribal females in Assam, Gujarat, Himachal Pradesh, Kerala, Manipur, Meghalaya, Nagaland, Andaman and Nicobar Islands and Arunachal Pradesh was more than 18 years, the highest being in Nagaland (21.33). On the other hand, it was less than 15 years in Rajasthan and Uttar Pradesh, the lowest being in Uttar Pradesh (14.50).

There were a few micro-level studies which dealt with the age at marriage of individual tribes e.g. female age at marriage - Ao Naga (16-20 years), Bbil (16 yrs.), Chenchu after puberty, Khasi (13-18 yrs.), Koli (12-16 yrs.), Bodh (19 yrs.), Gond (18 yrs.), Munda (18 yrs.), Oraon (16 yrs.) (Sinha, 1986). Mean age at marriage of Jaunsads was 12.2 yrs., Dudh Kharias 21.41 yrs., and Santhals 17.87 yrs. (Basu, et al., 1993).

Jaunsaris of Jaunsar-Bawar, Dehradun were a polyandrous tribe and they followed the custom of child marriage as a part of their cultural behaviour which was still prevalent among them (Basu, 1993). Investigation showed that 33.83 percent of the Jaunsari females got married before or at 8 yrs, 29.70 percent in the age group 9-15 yrs, 30.33 percent in the age group 15-20 years and the remaining 5.6 percent got married above the age of 20 yrs.

In the North-Eastern region, the age at marriage was found to be relatively high whereas it was relatively low in the central region because of the influence of Hindu culture (Sinha, 1986). It was further observed from research investigations that the frequency of abortions, miscarriages, and still-births were found to be much higher in younger mothers below the age of 19 years. The major life

threatening complications for very young mothers were pregnancy induced high blood pressure, anaemia and difficulty in delivery due to disproportion between the pelvic-size and the head of the baby.

2.5 Fertility and mortality

Studies on fertility and mortality trends among the tribal population of India have been found to be fragmentary and isolated. Limited studies are available on infant mortality and hardly any study is available on maternal mortality among the tribal population. However, a brief review of the available studies are discussed zonewise.

I. North-East Zone (Arunachal, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura)

A few studies on fertility and mortality of individual tribes besides two studies on tribes in general were available from North-East zone.

On the basis of the census data, Gogoi (1990) found that during 1961-71, the rate of growth of tribal population in North- East India was lower than that of the general population. This was mainly because of a very low natural growth rate of the tribal population in the region.

Pandey [1990] observed high fertility and mortality in Mishmi tribal groups and attributed it to the low level of education and income lack of knowledge of family planning method and importance of small family size poor medical facilities, lack of proper sanitation and drinking water.

Barua [1982] studied 196 ever-pregnant women belonging to the Hajong tribe of West Garo hills district of Meghalaya. High infant mortality [18.2%] and perinatal mortality [3.1 %] were reported among them.

Das et al. [1982] studied two Lepcha village of northern Sikkim namely Lachen and Lachung and found the total fertility rate for Lachung and Lachen to be 4.66 and 3.79 respectively. The results on total fertility rate were more or less similar to the Indian national population.

Differences between the two were possibly due to the socio-cultural factors. The number of surviving children per women in Lachung and Lachen were found to be 3.70 and 2.65 respectively. The net reproductive index was observed to be 3.6 in Lachung and 1.80 in Lachen.

II. Northern Zone (Himalayan belt of Himachal Pradesh, Uttar Pradesh and Darjeeling district of West Bengal)

This zone has been better investigated and about 10 studies on individual tribes were available.

Prakask and Malik (1990) showed that high altitude Bods had higher fertility than the low altitude Bods. They also had higher mean number of children (4.11 per mother) as compared to the low altitude Bods (3.63 per mother). The altitudinal differences in fertility have been explained in terms of socio-cultural factors such as education, awareness, urban contact, advancement in medical facilities which were higher at low altitude. The differences have also been accorded to a stronger feeling in the altitude population that children were economic assets.

Kumar and Mitra (1975) observed high infant mortality and fertility among 199 Tharu tribal women of Naintal. Despite the availability of modern facilities of treatment, Tharus had their own beliefs and concepts of diseases.

Saxena (1990) in his study conducted among the Tharu and Buksa tribes of Uttar Pradesh reported that the Tharu and Buksa couples displayed a high level of fertility which was well reflected in the tendency to achieve higher order births even at younger ages.

Basu, et al. (1993) while conducting research investigation on 481 households among the Jaunsaris of Jaunsar Bawar, Dehradum found a crude birth rate of 42.67 per thousand population and infant mortality rate of 79.64 per thousand live births. Polyandry and polygamy were found to co-exist in the study sample. A. Basu (1990) found that Lepchas ate fish and a type of tuber viz. *Dioscorea*, while Sherpas did not eat them. It was observed that *Dioscorea* had a fecundity-inhibiting function resulting in lower fertility among Lepchas as against Sherpas though both shared a similar physical environment.

III. Central zone (West-Bengal except Darjeeling district, Bihar, Madhya Pradesh, Eastern Maharashtra, Orissa and some parts of Andhra Pradesh)

This zone has been investigated quite in depth and mortality were available.

Datta (1990) reported from her study that Koras, a Scheduled Tribe of Midnapur, West Bengal had a mean of 3.30 surviving children in their completed age of fertility. She found the crude birth rate and total fertility rate to be 41.81 per 1000 population and 4.42 per 1000 Kora women respectively. These values were relatively higher than the national figures for these measures. However, these values were in agreement with most of the tribal groups in India.

Study among the Toto tribes of West-Bengal conducted by the Demographic Research unit of the Indian Statistical Institute, Calcutta revealed the average number of children born to women married for 20 years and over to be 6.9.

Ray & Roth (1991) studied the fertility pattern of Juangs of Orissa. It was observed that the marital age specific fertility rate was highest (0.336%) among mothers in the 20-24 year age group whereas it was lowest (0.44%) among the 45-49 year age group. The total marital age-specific fertility rate was 1.157 among the Juang mothers. It was also observed that the Index of Overall Fertility and the Index of Marital Fertility among the Juangs were 0.49 and 0.50 respectively.

Basu and Jindal (1990) made an indepth study of a primitive tribal group i.e. Kuttia Kondhs of Tumdibandha block of Phulbani district, Orissa. The average age at menarche among Kuttias was found to be 14.5 years. It was observed that the average number of pregnancies per mother was 5.09 and 3.89 respectively among mothers of completed and incomplete reproductive life cycles.

Infant mortality was found to be very high i.e. 179.75/1000. The fertility record of Kuttia Kondh mothers in various age groups indicated a total fertility of 5.0 estimated from the average fertility of the women in the group 45-49.

Basu and Kshatriya (1992) studied the fertility and mortality trends among the Dudh Kharia of Sunderagarh district Orissa. They reported that the estimated total fertility, crude birth rate, crude death rate and infant mortality rate were 5.39, 38.5, 11.80 and 102.4 respectively. All these demographic figures showed higher values than the Indian national population level according to the 1981 census. These were similar to those of the other Indian tribal populations.

Ch. Satish Kumar (1993) reported that the average pregnancies per mother and infant mortality rate among the Desia Kondhs of Orissa were 3.89 and 151.28 respectively.

Khan (1993) while investigating the Dongria Kondhs of Orissa found average pregnancies per mother and the infant mortality rate as 4.07 and 153.11 respectively.

Choudhary and Kumar (1976) estimated the birth rate as 43.5/1000 among the Bhils of Jhabua district of Madhya Pradesh,

Sharma & Khan (1990) observed that the average fertility rate among Kharwars of Sarguja district (M.P.) was 4.85. The highest reproductive wastage (9.67%) was observed in the age group of 40-44 years and the pre-reproductive mortality was highest (6.84%) among mothers in age group 35-39 years.

Basu and Kshatriya (1988, 1989) reported the fertility and mortality estimates on the basis of demographic analysis of genealogical data collected from 792 households of the four tribal populations, namely Muria, Maria, Bhatras and Halba from Bastar district of Madhya Pradesh. The results of the study indicated that total fertility rates were 5.64, 6.00, 5.95 and 5.89 respectively for the four groups which were higher than the Madhya Pradesh rural non-tribal population and Indian national population and was in accordance with high fertility levels among the tribal. The study groups showed higher mortality among males than females. A very high rate of infant mortality was observed among Bhatras (148.56) followed by Murias (123.25) whereas Marias (85.44) and Halbas (92.78) from the same area displayed lower IMR.

IV. Western zone (Western Maharashtra, Gujarat, Rajasthan, Dadra, Nagar & Haveli, Goa, Daman & Diu)

Very few tribal studies on fertility and mortality aspects were available in this zone. Most studies [4] showed the general trend of fertility and mortality among the tribes.

Parsuraman and Rajan [1990] discussed the estimation of vital rates among the scheduled tribes in Western India. A very high proportion of 0-14 population to the total population indicated a higher level of fertility and not so high mortality.

Parsuraman and Rajan reported that there were significant differences in death rates among the tribal population in different States. It was high in Maharashtra followed by Gujarat.

Sinha [1990] reviewed the fertility of tribal groups of Gujarat, M.P. Maharashtra and Rajasthan and found the General marital fertility rate to be 169.4 births/ 1000 females against 152.9 births/ 1000 females.

V. Southern zone [Andhra Pradesh, Kerala, Karnataka, Tamil Nadu]

The study of demographic and health determinants of infant deaths by Gurumurthy et al [1990] among the Sugali tribal group in the Kalyanadurgam and Beluguppa blocks of Ananthapur district of Andhra Pradesh pointed out that out of 348 infant deaths 45.4 percent were neonatal and 54.6 per cent were post neonatal. About 25 percent infant deaths occurred due to dysentery/diarrhoea and 20 percent due to maternal factors such as prematurity, birth injury, multiple birth, low birth weight, birth asphyxia and so on.

The study of Sirajuddin et al. (1984) among the Chenchu tribal group of Achampet taluk of Andhra Pradesh found that the average number of children for each women. Average number of surviving offspring per married women and mortality in relation to live births were 3.67, 2.96 and 27.5 respectively.

Murty and Ramesh (1978) also found a high fertility and mortality among the Pardhans of Adilabad district.

M.P. Basu (1967) conducted a demographic research work among the Irular of Tamil Nadu and reported the net reproductive index which was also an indication of their fertility as 1.31. It was also reported that mortality according to the age of the child was highest in the first year.

Ghosh (1970) while studying the Kota tribe of Nilgiri hills, Madras found the average number of live births per women aged 40 years or more to be 3.73. Also the frequency or mortality before reproductive age i.e., 15 year was 30.8%. This also revealed a high mortality and fertility among the Kota tribe.

Murty (1987) investigated the Solige tribe in Karnataka in order to find out their fertility behaviour. The Crude Birth Rate (CBR), General Fertility Rate (GFR) and Total Fertility Rate (TFR) among the Soligas were found to be always higher in comparison to the general population of Karnataka. The unusual high fertility rate among the Soligas was influenced by their age at marriage which was ultimately influenced by the age at menarche. The mean age of menarche among the Soligas was 13.2 years and the age of marriage was 14.2 years which was very early. Early age of marriage, and low levels of family planning acceptance seemed to be responsible for the high fertility among the Soligas. The completed family size among the Soligas was 5.64.

VI. Island region (Andaman and Nicobar Islands)

Aggarwal (1967) found that among 45 ever married Onge women of the Andaman Islands, the mean number of children was 1.64 and the mean number of children per women was 1.13. Infant mortality was very high as revealed from the reproductive index which was 0.51.

2.6 Life expectancy

A general indicator of the health of girl and women is their life expectancy. The expectation of life is the average number of years remaining to be lived by those surviving to that age. The expectation of life at birth is the life table function most frequently used as an index of the level. It also represents a summarization of the whole series of mortality rates for all ages combined as weighted by the life table stationary population. In those countries where mortality was higher, and where infant and child mortality in particular were high, the maximum expectation of life was at a more advanced age (4 or sometimes 5 years) and a child of 10 years of age had an expectation of life often close to that of the new born infant (Roland Pressat, 1973). Expectation of life was the index most often used when one wished to summarise the risk of mortality in a country.

Basu and Kshatriya (1989) while studying the Bastar tribal groups of Madhya Pradesh estimated the average life expectancy at birth based on q5 values for Muria (Males 37.56 yrs. Females 40.07) Maria (Males 40.26 years, females 45.30 yrs.) and Halba (Males 38.6 yrs and females 41.46 yrs.) tribes and 41.1 years for all the four tribal groups combined. Although these figure were comparable to the rural non-tribal population of Madhya Pradesh, they were far below the average life expectancy at birth of 58.6 yrs. For the Indian population. Sex specific mortality differentials were observed with males experiencing highest

mortality than females. The differences could only be attributed to the prevailing socio-economic, cultural and health care practices of the four tribal groups.

Chettlapalli et al. (1991) studied indepth a primitive tribal group i.e. Kuttia Kondhs of Tumdibandha block of Phulbani district, Orissa and found the average life expectancy at birth based on q5 values for Kuttia males to be 46.49 years and for Kuttia females to be 41.93 years. Unlike the Bastar tribal group, Kuttia female life expectancy was found to be lower than males. Datta (1990) while conducting demographic investigation among the Kora tribal the expectation of life at birth to be 33.87 years and 29.70 years for males and females respectively. The expectation of life when computed at age 10 for Kora males and females, however, was found to be 38.52 years and 35.13 years respectively. Social scientists ascribed physiological stress while others viewed biological factors as the main cause of the difference in the mortality levels between the two sexes.

Basu and Kshatriya (1993) studied demographic features and health care practices in Dudh Kharia tribal population of Sundergarh district Orissa. Using q5 values to estimate the average life expectancy, it was observed that the kharia females showed a higher life expectancy (52.95 yrs) as compared to the males (51.02 yrs). Sex ratio of Dudh Kharias (1101/1000) lent further support to the above observation. The general life style of Dudh Kharias was found to be relatively better than most of the surrounding tribal groups.

2.7 Nutritional status and mother's health

The health and nutrition problems of the vast tribal population of India were as varied as the tribal groups themselves who presented a bewildering diversity and variety in their socio-economic, socio-cultural and ecological settings. The nutritional problems of different tribal communities located at various stages of development were full of obscurities and very little scientific information on dietary habits and nutrition status was available due to lack of systematic and comprehensive research investigations. Malnutrition was common and greatly affected the ability to resist infection, led to chronic illness and in the post weaning period led to permanent brain impairment.

Good nutrition was a requirement throughout life and was vital to women in terms of their health and work. Nutritional anaemia was a major problem for women in India and more so in the rural and tribal belt. In developing countries,

it was estimated that at least half of the non-pregnant and two thirds of the pregnant women were anaemic (U.N., 1984).

The situation was particularly serious in view of the fact that both rural and tribal women had a heavy work load and anaemia had a profound effect on their psychological and physical health. Anaemia lowered resistance to fatigue, affected working capacity under conditions of stress and increased susceptibility to other diseases.

Maternal malnutrition which was quite common among the tribal women was also a serious health problem, especially for those having many pregnancies too closely spaced, and reflected the complex socio-economic factors that affected their overall situation.

The nutritional status of pregnant women directly influenced their reproductive performance and the birth is crucial to an infant's chances of survival and to its subsequent growth and development. Nutrition also affected location and breast feeding which were key elements in the health of infants and young children and a contributory factor in birth spacing.

Scanning through available data, it was observed that among most of the tribal groups the staple diet was rice or minor millets except the mompas of Assam who consumed wheat also (Basu et al. 1985). Birds, fish and other meat products were also consumed by the tribals occasionally.

Diet of not a single tribal in the different States of India can be said to be sully satisfactory. Tribal diets were generally grossly deficient in Calcium, Vit.A, Vit.C, riboflavin and animal protein. Diets of South Indian tribes in general, and of Kerala in particular, were grossly deficient even in respect of calories and total protein. Studies carried out at the National Institute of Nutrition (1971) and Planning Commission of India (Sixth Five Year Plan, Government of India) reported a high protein calorie malnutrition along the rice-eating belts.

Studies available on the dietary status and health of the Bihar and Maharashtra found deficiencies in calories as well as protein and essential amino acids in their diets though major signs of nutritional deficiencies were not observed (Chitre, 1976). Surveys on the nutritional deficiencies (Gopalan, 1971) among the tribals reported a high incidence of goitre, angular stomatitis among the Mompas of Assam and Vit. A deficiency among the Onges. A high incidence of malnutrition

was observed (Ali 1980, Basu et al., 1990, Mahapatra and Das, 1990) in some primitive tribal groups in Phulbani, Koraput and Sundergarh districts of Orissa and also among Bhils and Garasia of Rajasthan, Padars, Rabris and Charans of Gujarat and Bondas of Orissa (Haque, 1990). Studies of tribal communities in Orissa conducted by Ali (1992) found that an ecological imbalance caused by rapid deforestation had resulted not only in depleting food resources, but in prolonged droughts, adding to hunger and starvation.

Studies carried out by NIHFV among the Gonds (Muria and Madia), Bhatras and Halba tribal groups of Bastar district, Madhya Pradesh showed the following trends (Basu et al., 1989, 1993).

a) The average protein calorie intake was found to be much less in the Gond children as compared to the Bhattra and Halba children.

b) Higher frequencies of Bitot's spot, angular stomatitis and mottling of teeth were found among the Gond children as compared to the Bhattra and Halba children.

c) Muscular wasting was noticed to be higher among the Gond children as compared to the Bhattra children.

Consumption of milk or milk products were taboo in pre-school tribal children due to the fact that milking of cow was a taboo among these tribal groups.

The nutrition and health problems faced by Kannikar tribal women of Trivandrum district, Kerala in normal and physiological conditions like pregnancy and lactation were studied (Prema and Thomas, 1992). Pulses, milk and milk products and other animal foods which were the sources of protein were lacking in their diets. Average calorie consumption was found to be below the recommended level for the normal, pregnant as well as lactating women. Consumption of calcium (in the form of tapioca and fish) was noticed to be highest in normal women whereas it was poorest in the lactating women. Similar deficits of calcium in the diets of pregnant and lactating tribal women of western and central India was reported by Gopaldas (1987). The intake of iron and vitamin A were found to be low. Detailed clinical examination of the Kannikar tribal women showed that anaemia (90 percent), vitamin A deficiency (30 percent) and niacin deficiency (10 percent) were prevalent among them. The morbidity status of the tribal women revealed the prevalence of pyrexia, respiratory complaints, gastro-intestinal diseases and rheumatic diseases.

Among the adult women gynecological complaints and deficiency diseases were common.

2.8 Forest ecology and women's health

The forest based tribal economy in most parts of the world as women-centred (Menon, 1987-1991). Women made provisions for the basic necessities like food, fuel, medicine, housing material etc. from the forest produce. Food was obtained from shifting cultivation and from minor produce (MFP) like flowers and fruits collected from the forest. Extraction from herbs, roots and animals were used for medicine. All these efforts incurred an excessive workload on women. In a study on the Garos of Meghalaya, Kar (1982) calculated the ratio of male or female investment in labour in shifting cultivation to be 100:136 days per year. The contribution of women was more in almost all activities like clearing (169:120), showing (102:60), weeding (272:182) and cotton harvesting (56:6).

Because of the extensive felling of trees by vested interests, the distances between the villages and the forest areas had increased forcing the tribal women to walk longer distances in search of minor forest produce and firewood. In this rapidly changing milieu, tribal women load. A study on the Kondhs revealed (Dasgupta, 1988) that women put in an average of 14 working hours per day as compared to 9 hours put in by men. Given this additional workload, even women in advanced stages of pregnancy were required to work in the agricultural fields or walk great distances to collect fuel and minor forest produce. The over strain on tribal women however, was not adequately compensated due to the non-availability of minor forest produce and decrease in food grain production. A study among the Pauri Bhuniyas of Orissa showed (Ali, 1980) that 52 women as against 17 men in a sample of 268 persons suffered from diseases related to malnutrition. As a result of deforestation, additional distance and less fertile soil, the availability of food for the tribal family was reduced. This had implications particularly for the housewife who was responsible for the provision and distribution of food, in cases of shortage, she even deprived herself of food in order to feed the others. Studies in this connection have shown that tribals in general were undernourished. For example, a study had shown that over 55 percent of Kondhs consumed less than 2000 calories per day (Patel, 1985) and most of them as little as 1700 calories (Sharma, 1979) compared to the ICMR stipulated requirement of 2400 calories.

To add to the malnutrition and additional workload, there was the destruction of traditional herbs through deforestation and the lack of access of the tribals to

modern medicine. This, combined with the increasing ecological imbalance, resulted in diseases such as TB, stomach disorders and malaria (Menon, 1987).

2.9 Childbearing and maternal mortality

Childbearing imposed additional health needs and problems on women, physically, psychologically and socially. The complications of pregnancy and of childbirth and of illegally induced abortions in areas where environmental and health conditions were adverse resulted in large numbers of female deaths (U.N. 1984). In India the maternal mortality was around 500 per 100,00 live births, which was about 50 times that in a developed country or in the better off segments of the India society (UNICEF, 1983). Poor nutritional status with its concomitant problems of poor body weight, poor weight gain during pregnancy, low haemoglobin levels, was one of the primary underlying causes of maternal mortality in India. More maternal deaths occurred in India in one week than in all of Europe in one year. Generally malnourishment, poor medical facilities and unfavourable social conditions were the major underlying causes for high maternal mortality in India. Nutritional anaemia, a serious problem in pregnancy, affected 50 percent of the women of childbearing age in South East Asia. (Shiva, 1992). The situation was all the more aggravated among women in the tribal belt of India because of the prevailing magic-religious and socio-cultural practices.

Maternal mortality was reported to be high among various tribal groups but no exact data could be collected. The main causes of maternal mortality were found to be unhygienic and primitive practices for parturition. For example, it was observed that among the Kutia Kondhs (Basu, et al., 1990), the delivery was conducted by the mother herself in a half squatting position holding a rope tied down from the roof of the hut. This helped her in applying pressure to deliver the child. In complicated labour, obviously it might lead to maternal as well as child mortality. Similar crude births practices were found to exist in other tribal groups like the Kharias, Gonds, Santals, etc.

2.10 Maternal and child health care practices

Maternal and child health care practices were found to be largely neglected in various tribal group (i.e. Baster tribal groups, Kutia Kondhs of Orissa, Santals, Jaunsaris, Kharias etc.) Expectant mothers to a large extent were not inoculated against tetanus. From the inception of pregnancy to its termination, no specific nutritious diet was consumed by women. On the other hand, some pregnant

tribal women (i.e. Dudh Kharias, Santals) reduced their food intake because of the fear of recurrent vomiting and also to ensure that the baby may remain small and the delivery may be easier. The consumption of iron, calcium and vitamins during pregnancy was poor. The habit of taking alcohol during pregnancy was found to be common among the tribal women and almost all of them continued their regular activities including hard labour even during advanced pregnancy. More than 90 percent of the deliveries were conducted at home attended by elderly ladies of the household. No specific precautions were observed at the time of conducting deliveries which resulted in an increased susceptibility to various infections. Services of paramedical staff were secured only in difficult labour cases.

Maternal mortality directly related to pregnancy and childbirth was found to be appreciably high among the tribal population groups of Bastar district. In addition, a lot of females suffered from ill health due to pregnancy and childbirth in the absence of a well defined concept of health consciousness. As far as child-care was concerned, both rural and tribal illiterate mothers were observed to breastfeed their babies. But, most of them adopted harmful practices like discarding of colostrum. Giving prelacteal feeds, delayed introduction of breast feeding and delayed introduction of complementary feeds. Vaccination and immunization of infants and children were inadequate among tribal groups. In addition, extremes of magico- religious beliefs and taboos aggravated the problems.

2.11 Family welfare programme

While evaluating the impact of the family welfare programme on tribal women through a study of 300 tribal women of Tamian development block of Chindwara district of Madhya Pradesh, it was observed (Tekhre, 1989) that tribal women gave more attention to child welfare and child development programmes rather than mother care or family planning programmes. This may be because of their inherent maternal instinct and protectiveness towards their children. They contacted doctors more for antenatal care than postnatal care because of their concern with the welfare of the foetus in the womb and preparing for a safe labour. More than 90 percent of the eligible couples of Jaunsaris and Santals were found to be aware of family planning methods whereas only 16 percent Dudh Kharia couples were aware of family planning methods.

2.12 Sexually transmitted diseases

Infections of the female genital tract were numerous and widespread. They constituted a large part of grade morbidity among women. Contributing to a continuous and physically draining fatigue. These infections were closely related to inappropriate care or poor hygiene in connection with child birth abortion or menstruation. They included the sexually transmitted diseases which were prevalent diseases in the tribal areas. These infections were often untreated as they were difficult to diagnose and would even lead to infertility. VDIR, a very sensitive test to diagnose if a person was suffering from syphilis was found to be positive in 17.12 percent cases (relative in dilution of 1.8 or more) of polyandrous Jaunsaris of Chakrata, Dehradun. Out of 17 percent, 9.92 percent was found among the Santals of Mayurbhanj district, Orissa, 8.90 percent cases (relatively in dilution of 1.8 or more) of VDRL were observed, out of which 4.99 percent were females and 3.91 percent were males. (Basu et al., 1993). The prevalence of STD was also reported to be high in the polyandrous Toda tribal group of Nilgiri hills. While conducting a morbidity study among the Kondha tribe of Phulbani district, Orissa, Swain, et al. (1990) found syphilis (10 percent) in Desia Kondhs (reactive in dilution 1.8 or more) whereas it was not diagnosed among the primitive Kutia Kondh tribal group. The presence of sexually transmitted diseases was also reported from Andamanese, tribal groups of Madhya Pradesh, Rajasthan, Mysore, Laccadive and Minicoy islands.

2.13 Genetic disorders

There were two genetic disorders namely sickle cell anaemia which were found to occur in rather high frequencies in Schedule Tribes and Scheduled Caste populations, both male and female were equally, affected in the case populations. Both males and females were equally affected in the case of sickle cell anemia whereas males were more affected than females in G-6-PD deficiency cases. Both these genetic disorders had profound health implications in terms of morbidity for the affected persons.

Sickle cell disease (HbSS): This disease involved a shortened life span of the red cell leading to severe and often fatal anaemia. The disease was further characterized by enlarged spleen, painful crisis, organ damage, impaired mental functions, and increased susceptibility to infection. The patients tended to have shorter trunk with long legs, chronic leg ulcers and an overall asthenic (weak) built.

The sickle cell disease was found in 72 district of Central, Western and Southern India. There were more than 35 tribal population groups showing a frequency of more than 19 percent. It was estimated that approximately a staggering 50 lakh individuals were carriers (heterozygotes) among the tribals (DST Report, 1990).

Prevalence rate upto 40 percent of heterozygous form (sickle cell trait) was reported in some tribes i.e. Adiyar of Kerala, Irula, Paniyan, Mulukurumbha of Nilgiri hills and Gonds of Rajpur (Basu, 1993).

Glucose-6-Phosphate enzyme deficiency (G-6-PD): This was an important enzyme of the red blood cell and its deficiency was inherited as an X-linked recessive trait. Males were strongly affected but expression in females varied greatly. This enzyme deficiency caused frequent hemolytic episodes by intake of commonly used drugs such as anti-malarials, anti-biotics, analgesics etc, and also by the ingestion of broad bean, "Vicia Fava". About 13 lakhs G-6-PD deficient were present in tribal population (DST, 1990). The prevalence was specially high among the tribes and Scheduled Castes of Madhya Pradesh, Maharashtra, Tamil Nadu, Orissa, Assam, (more than 15 percent) specially in hyperendemic malarial zones.

3.0 Gaps of knowledge

While scanning through the available literature on the health status of the tribal women in India, it was observed that comprehensive area specific health related studies were limited, most of the available studies were isolated, fragmentary and did not cover the various dimensions of health affecting the status of tribal women like

i) sex-ratio, ii) Female literacy, iii) Marriage practices, iv) Age at marriage, v) Age of mother at first conception vi) Life expectancy at birth, etc.

It has been noted that there was paucity of studies on many urgent issues affecting the health status of tribal women. Detailed information were needed on (a) maternal malnutrition, (b) nutritional anaemia, (c) nutritional status of pregnant women and their nature of workload, (d) the distribution of food within the family and its effect on the nutritional status of women, (e) the complications of pregnancy and of childbirth, (f) primitive practices for parturition, (g) maternal mortality, (h) birth weight of children (i) infant and childhood mortality and their sex differentials, (j) nature, of maternal and child

health care practices, (k)attitude towards family planning, (l) prevalence of sexually transmitted diseases and (m) effect of degradation of forest ecology.

4.0 Plan of action

Tribal women in India had specific problems, some of these were built-in problems of these tribal communities and some were imposed upon them which jeopardized their overall development and progress inclusive of their health. Therefore, in order to improve the health status of the tribal women, the health care delivery should be designed for each specific tribal group in such a way to cater to their specific needs and problems by ensuring their personal involvement.

The following strategies may be pursued:

1. Formulation of realistic development health plans based on needs as felt by tribal women of the specific tribal groups.
2. Need for promoting nutritional and health education among working, lactational and pregnant tribal women.
3. Healthy nutrition should be encouraged through local produce and local recipes. Nutritional needs should be solved by the tribal women themselves through a better utilisation of their locally available cheap but nutritious food.
 - Development of poultry and fisheries are to be encouraged.
 - Health education should be imparted by the local tribal women with guidelines provided by health functionaries.
 - The nutritional and health status of pregnant tribal women need to be improved by adequate intake of nutritious diet, including iron and minerals and also by hundred percent immunisation.

- Tribal women in their advanced stage of pregnancy should be advised to reduce their workload and take adequate rest.
- The habit of taking alcohol and drugs during pregnancy should be discouraged.
- The children should be properly immunised, the harmful practices of discarding colostrum, delayed initiation of breastfeeding and complementary feeds should be discarded and health education aspects should be properly explained to tribal women.
- Tribal girls should be properly trained as "dais"/nurses. Specific precautions need to be observed at the time of conducting deliveries at home, aseptic conditions need to be followed for cutting the naval cord.
- Primitive practices of parturition are to be discarded and necessary health education should be imparted by tribal nurses.
- Maintenance of personal hygiene in connection with childbirth, abortion or menstruation should be properly explained by tribal nurses or "dais" in order to prevent the infections of the female genital tract.
- Periodic examination of tribal women by qualified technicians of primary health centres should be carried out to detect the presence of sexually transmitted diseases, if any.
- The staff of the Primary Health Centre should be properly trained to detect the presence of two commonly prevalent genetic disorders i.e. sickle cell and Glucose-6-Phosphate Dehydrogenase Enzyme Deficiency (G-6-PD). Identified tribals (male and female) can be tattooed with dot marks.
- A Genetic Health Card needs to be maintained for each tribal family where vital information like blood group status, haemoglobin level, presence/absence of genetic disorders will be mentioned.

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