CHAPTER-II

Understanding Medical Anthropology from Bio-cultural Perspective
Although medical anthropology is a branch of social and cultural anthropology, it's roots also lie deep within medicine and other natural sciences, for it is concerned with a wide range of biological phenomenon, especially in relation to health and disease. As a subject it therefore lies sometimes uncomfortably in the overlap between the social and natural sciences, and draws its in lights from both sets of disciplines. In Foster and Anderson's (1978) definition it is: "A bio-cultural discipline concerned with both the biological and sociocultural aspects of human behaviour, and particularly with the ways in which the two interacted throughout human history to influence health and disease."

At the biological end of the spectrum, medical anthropology draws on the technical and findings of medical science and its various subfields including microbiology, biochemistry, genetics, parasitology, pathology, nutrition and epidemiology. In many cases it is possible to link biological changes found by these techniques to social and cultural factors in a particular society. For instance, a hereditary disease transmitted by a recessive gene may occur at a higher frequency in a particular population due to that group's cultural preference for endogamy – that is, for marrying only within one's own family or local kin group. To unravel this problem, one needs a number of perspectives.

- **Clinical medicine**, to identify the clinical manifestation of the disease.
- **Pathology**, to confirm the disease on the cellular or bio-chemical levels.
- **Genetics**, to identify and predict the hereditary basis of the disease and its linkage to a recessive gene.
- **Epidemiology**, to show its high incidence in a particular population in relation to "pooling" of recessive genes and certain marriage customs.
- **Social or cultural anthropology**, to explain the marriage pattern of that society and to identify who may marry whom within it.

Medical anthropology tries to solve this type of clinical problem by utilizing not only anthropological findings but also those of the biological sciences – by being, in other words, a "bio-cultural discipline".
One important aspect of medical anthropology is the study of the human life cycle, and of all the stages from birth to death. The term age-grade is used in anthropology for the category of persons who happen to fall within a particular culturally defined age range (such as child, adult or elder). Each of these age-grades is not just a universal biological stage of life, its beginning and end are also defined by the culture, as are the events expected within it.

However, for too long, anthropology has been associated the public mind with the peripheral, the exotic, and the bizarre. It's time that anthropologists become more visible and that the full range of their expertise be brought to the fore. In addition, anthropologists have much to offer to the world of bio-medical research. It's good to see more medical anthropologists studying infectious diseases and chronic illness and a whole range of conditions we have neglected for far too long (Browner, 1999). From infectious disease to genetics and biological aspects of different diseases anthropologists have extended their arena of research.

Over the past 40 years, anthropologists and human geneticists have been testing the hypothesis that specific genotypes may confer immunity or resistance to infection. Such hypothesis have also been suggested to help explain relating common genetic conditions that may be adoption in one context and maladaptive in another. Allison (1954) was the first to suggest that the heterozygous condition known as sickle cell trait (i.e. inheritance of the gene for the common from of hemoglobin from one parent and the sickling hemoglobin S from the others) appeared with greater frequency in regions of Africa where life threatening *Plasmodium falciparum* malaria was present. This association led Allison to hypothesize that hemoglobin, when present in the heterozygous state, conferred resistance to death from malaria. Although this hypothesis has been a prominent textbook example for two decades, the statistical correlation between malaria prevalences and sickle-cell gene frequencies in West Africa has only recently been systematically confirmed (Durham, 1983). Moreover, while there is significantly higher malaria mortality among children who are heterozygous sicklers than among haemoglobin normals difference in parasite densities among
individuals of the two genotype groups have not been determined (Livingstone, 1971).

More recently, other hemoglobin abnormalities have been identified that appear to confer resistance to malaria, including glucose-6-phosphate dehydrogenase (G6PD) deficiency, thalassemia, and hemoglobins HbC, HbE, and HbF similarly, it has been arranged that the Duffy blood group negative genotype, characteristic of most African and US blacks, provides a high level of protection from *Plasmodium vivax* a more benign strain of malaria (Martin et al., 1979). In an examination of fava bean consumption and its relation to malaria in the G6PD-deficiency-endemic, ricum-mediterranean area, Katz and Schall (1979) have suggested that the combination of non-expressed gene and consumption of fava beans (the "gene-bean interaction") may protect heterozygous female from malaria death. This may be viewed as an excellent example of the "coevolution" of genes and cultural traits, which, in combination, offer substantial protection from disease although in this case, G6PD-deficient males may suffer potentially fatal hemolytic crises of favism (Brown, 1990). Other studies tentatively linking infectious diseases to genetic traits and cultural factors have recently emerged. For instance, Blangero (1982) studied the relationship among helminthic zoonoses, the P2 allele of the P blood group system (which is hypothesized to confer resistance to these zoonoses), and subsistence practices involving animal husbandry. He has shown that high frequencies of the p2 allele occur in populations manifesting heavy dependence on and contact with domesticated livestock. In a different context, Meind (1987) has hypothesized that for European populations with a long history of pulmonary tuberculosis and high frequencies of cystic fibrosis, carriers of the recessive gene cystic fibrosis may have increased resistance to tuberculosis (Inhorn and Brown, 1990).

Conversely, anthropologists helped to demonstrate that the hepatitis B surface antigen (HBs Ag) was not part of the genetic endowment transmitted from parents to offspring. Rather, the clustering of the antigen observed in families was due to both horizontal (i.e. person to person) and vertical (i.e. mother to infant) infectious transmission (Blumberg, 1982), a finding made, in part,
through participant observation of family life in New Hebrides (Dickie, 1979; Dickie and Knight, 1982).

Besides these gene related aspects of different diseases, anthropologists have studied relation of race with different diseases. Damon (1969) argues that there are clear association between race and disease. Bucher et al. (1976) examine racial differences in the incidence of ABO hemolytic disease and find it to be significantly higher in blacks than in whites. Kuller and Tonascia (1971) observed racial differences in factors associated with mortality caved by cardio- and cerebro-vascular diseases. Shilon and Selavan (1974) present a collection of studies on black health patterns highlighting genetic and stress factor in relation to morbidity patterns, and consider problems of health care delivery for blacks.

Sievar (1966) has a more recent review of disease patterns of South Western Indians. While he finds duodenal ulcers rare, gall bladder disease is excessive and hepatic disease is also high and esophageal varies are the major cause of gastrointestinal tract hemorrhage. Other major problems are enteric infections and respiratory diseases, including coccidioidomycosis, a spore-caused disease borne in the dust of the wind swept southwestern desert. Blindness is a major problem, but not the open-angle glaucoma, which is probably the major cause of blindness in whites. Blood cholesterol levels are lower than among whites, despite high usage of saturated fat. The health patterns described by Siever are still among the major health problems today (Siever, 1966).

Studies on blood groups and other characteristics have done by Alfred et al. (1970; 1972a, 1972b). Bowen and associates (1971) have examined serum protection polymorphism in Algonkian, Athabascan, and Siokan (linguistic groups). Research by a growing number of anthropologists provides provocative models, for instance, Allan Young's work on post-traumatic stress syndrome (1955), Nancy Press's on breast cancer (Press et al. 1977) and Thomas Mc Dade's on benign prostate disorder (1996) to name a few. Each of these studies provides detailed documentation of biological aspect of medical conditions.
The study of disease from the perspective of physical anthropology has a long and significant tradition. In large part, the involvement of biological anthropology from its inception with study of disease is the due to the interest of many early researchers in the relationship between anatomical form and function, particularly its corollary, the relationship between variation in forms and abnormalities in function (Johnston and Low, 1984).

In a series of papers published between 1973 and 1980, Greene has described his intensive research on endemic goiter in the Andean region of Ecuador. He has characterized the central issue underlying his works as “the extent to which long or short-term environment factors can affect the phenotypic expression of the genetic potential in specific biological systems” (Greene, 1973). Furthermore, his work examined the consequences of such a situation, including socio-cultural adaptations. Greene's work was conducted in two Ecuadorian communities located between 2,700 and 3,100m above mean sea level with a prevalence of goiter, at the time of the study, of 52.8 per cent and 69.7 per cent (Greene, 1974). A broad range of data was obtained on community members with and without goiter, including measures of morphology, growth, neurological maturation, diet and taste sensitivity to PTC (Phenylthiocarhadamibe). In addition, Greene collected ethnographic and environmental data, allowing him to analyze his observations within the context of a model employing interactions among three components of the ecosystem: (1) biological, (2) sociocultural, and (3) environmental (Greene, 1977).

A number of conclusions have emerged from Greene's work. Neurological deficits, which occurred at higher than expected levels, ranged from the frankly retarded cretins through a continuum of expression to the normal. Sensitivities to PTC was correlated with visual-motor maturation among individuals who had not received iodine supplementation. This was viewed by Greene as an oral mechanism "for avoidance of bitter testing naturally occurring goitrogens" (Greene, 1974).

Cultural factors were seen as interwoven throughout the network of interrelations between biologic factors and the environment. Protein energy
malnutrition, detected both from measurements of physical growth and analyses of diets, was exacerbated in some children who were weaned at a relatively early age to a low protein diet.

Of particular interest from bio-cultural and methodological points of view was that a quantitative measures of socioeconomic status developed by Greene was not nearly so highly correlated with neurological maturation as was a six-stage subjective evaluation given by his native informants. Greene noted that the "subjective" evolution was not only diachronic, and hence more stable over time; it is also incorporated "educational and behavioral judgment", which were probably important (Greene, 1980).

Greene found a number of other cultural correlates of endemic goiter and it is neurobiological squeal. Historically, highland Ecuadorian social systems are highly stratified and accommodations to the large numbers of behaviorally limited individuals were noted. Definition of "normal" was lowered considerably, and any individual with more than minimal language and hearing capacity was judged to be normal. The fatalism of the Roman Catholic religion of the area, with its acceptance of deaf-mutism as "God's will", may be interpreted as providing and low social position of the indígenas and mestizos (Greene, 1977). Furthermore, the familial nature of the society enhanced the integration of the behaviorally limited in to their family and community.

Finally, Greene writes the greatest societal impact of a large number of neurologically limited individuals is in creating a large pool of cheap labor which benefited the wealthy landowners. The resulting relationship largely exploitative, involved "extreme displays of affection" (Greene, 1977) by the landowner for his workers, fostering a system of mutual interdependence. The biobehavioural consequences of goiter resulted in a unique social structural configuration in which satisfaction was intimately linked to the distribution of the disease in the population.

Greene's study has demonstrated clearly that no one expects of this system—goiter, malnutrition, neurological function, social structure, or cultural values
can be understood fully without consideration of other aspects. The biomedical outcomes, neurological deficits and malnutrition are maintained by an environment in which goiter is endemic and by a social system which fosters social and ethnic stratification and inbreeding, yet which depends upon the existence of neurologically limited individuals for its maintenance. Both biological and cultural adaptations are described, and these adaptations result in the biological and socio-cultural stability of these ecosystem.

The analysis of the ecology of Kuru presents us with another example of biomedical anthropology, in which cultural and biological components have been integrated into holistic framework, focusing upon the disease as the outcome. In addition, this work has provided medicine with the discovery of a new class of viruses. By so doing, it has extended beyond traditional anthropological concerns and demonstrated that the study of the disease of the world's remote societies could contribute significantly to health care in the modern world. It is of great interest to biomedical anthropologists that the noble prize in medicine, awarded jointly to D.C. Gajdusek and B.S. Blumberg in 1978, for their work on neurological viruses and the transmission of hepatitis respectively, was an overt recognition of the role of biomedical anthropological research in providing health care.

The story of Kuru was not unravelled by a single investigator, nor a single research project. However, the work of two investigators stands out. The first is D.C. Gajdusek, who began his work in the mid-1950's, engaging in a comprehensive set of clinical, epidemiological, and experimental studies (e.g. Gajdusek, 1974, 1977; Gajdusek and Gibbs, 1975). The cultural context was provided and elaborated by the ethnographic work of Lindenbaum (1979) in Wanitabe, a settlement of the Fore a people of the eastern highlands of Papua New Guinea.

Kuru (the term is taken from the Fore language and means "trembling" or "fear") is a progressive, fatal neurological disease characterized by cerebellar ataxia and tremor, progressing in about a year from initial symptom to death. It confined to about 160 villages in Papua New Guinea with a total population of some 35,000
people (Gajdusek, 1977). Its highest incidence has been among the South Fore where, between 1957 and 1968, 1,100 Kuru deaths occurred in a population of some 8,000 persons (Lindenbaum, 1979).

While the place of origin of Kuru is controversial, its spread among the Fore villages has been well documented from the earliest case recorded in Kasokana in the early 1920s, to a society-wide distribution by 1942. Western scientists began to study the disease in 1955 and a series of etiologies was suggested, both psychosomatic and genetic. However, Gajdusek was able to establish that Kuru is caused by a virus characterized by an extremely long period of incubation, up to 20 years. The Kuru virus has other unconventional properties. It remains stable for many years, even after freeze drying, and is not inactivated totally after being subjected to a temperature of 85°C for 30 minutes. Neither antibodies have been detected nor are there other evidences of an immunological response. It has been transmitted experimentally to apes and monkeys (but only to primates) (Gajdusek and Gibbs, 1975).

As a biocultural phenomenon, Kuru is of greatest interest because of its transmission via cannibalism. The Fore adopted cannibalism, perhaps in about 1910, a decade or so before the appearance of Kuru. Lindenbaum has concluded that the eating of human flesh was brought about by the progressive removal of the forest and its animal life as a consequence of increased population pressure and the spread of the sweet potatoes as a dietary staple. The loss of the source of protein was compensated by the keeping of domestic pig herds and the act of cannibalism. The cannibalism involved the ingestion of flesh, including the brain (in fact, all but the gall bladder). However the most likely routes by which the virus was introduced in to the host were not by way of the gastrointestinal tract but by means of the skin, through cuts or sores, or from unwashed hands being rubbed on the nose and in the eyes (Gajdusek, 1977). This is of particular significance since the preparation of the corpse was a task carried out by women and children (Lindenbaum, 1979).

The mortality patterns associated with Kuru parallel the cultural practices described above. Death rates have been especially high among adult women. At
its peak incidence, the mortality from Kuru among females was more than four times that of males. It has also been common among children, who may be contaminated not only through their own activities but also from contact with their mother. Because of the sex differential in mortality, some Fore villages have male-to-female ratio of more than 3:1, and for all of the South Fore the ratio is 2:1.

As was the case with Greene's study, Linbenbaum showed that the disease made a major impact upon the socio-cultural system of the society. Among the Fore, cannibalism played a significant part in changing women's roles as well as in generating new ritual behaviour in response to the increase of illness and disease among women concerns with ancestral punishment and the symbolic meaning of Kuru came to dominate the villagers' perceptions of the problem (Lindenbaum, 1979).

With the imposition of western law the incidence of both cannibalism and Kuru have decreased dramatically and the disease is now rare in children under 12 years of age (Gajdusek, 1974). The greatest decline has been among women, who would be affected most by the cessation of cannibalism as a cultural practice.

The description of the biocultural/environmental ecosystem associated with Kuru is an excellent example of the biomedical anthropological approach. But, the utility of this approach is seen further in the importance of these studies for modern medicine and microbiology. The elucidation of the epidemiology of Kuru has shed much light on a series of related slow viral disorders including Creutzfeld-Jacob disease, scrapie (in sheep), and transmissible mink encephalopathy (in mink), in his presenile dementias, in to Alzheimer's disease and the senile dementias, and perhaps in to other degenerative diseases such as multiple sclerosis, amyotrophic lateral sclerosis, and Parkinsonism. That these conditions show certain specific association with particular populations or environments suggests that "some common etiological factors may underlie the occurrence of all these vary different syndromes" (Gajdusek, 1977).
In 1963, the term "medical anthropology" as a specialized study within the integrated field of anthropology came into existence. Distinction between anthropology of medicine and anthropology in medicine was also drawn (Bhasin and Srivastava, 1991). In order to understand the scope of medical anthropology, it is important to draw a distinction between "illness" and "disease". Following Fabrega Jr. (1972), one discerns two foci in medical anthropology, the ethnomedical and the western bio-medical. In the first, one describes the ways in which a community or group handles the medical problems. Every culture provides cognitive categories that explicate the causes of an illness, the treatments that must be administered to revive health therapies that need to be advised to check the further recurrence of the ailments. Therefore, the term "illness" must be understood from an "emic stand point", and what may be termed as "illness" in one situation may not be so in others.

Medical anthropology is a biocultural discipline concerned with both biological and socio-cultural aspects of human behaviour, particularly with the ways in which the two interact and have interacted throughout human history to influence the conceptions of health and treatments and therapies of disease (Foster and Anderson, 1978). The bio-cultural nature of medical anthropology is clear in a series of reviews (Candill, 1953; Polgar, 1962; Fabrega Jr., 1972; Lieben, 1973; Colson and Selby, 1974; Landy Ed., 1980).

Earlier the data for medical anthropology were collected from three different sources, i.e. biological anthropologists, cultural anthropologists and ethnographers. Biological anthropologists collected data in relation to evolution, adaptation, comparative anatomy, racial types, human genetics and serology genetics and environment and their relation with health and sickness. The culture and personality movement of the late thirties and forties was another source of data for medical anthropology. The data collected by psychiatrists and cultural anthropologists (Hallowell, 1940; 1963; Henry and Henry, 1944) were basically theoretical in nature having less applied value. The ethnographers collected details about primitive medicine, witchcraft, sorcery and magic. These beliefs and practices were dealt with the conceptualization of disease as the
product of indigenous cultural viewpoint and not in the conceptual framework of the modern medicine (Bhasin and Srivastava, 1991).

W.H.R. Rivers (1924) classified some basic concepts, especially the idea that indigenous medical systems are social institutions and they should be studied in the same way as social institutions are studied in general. Further, the local medical practices are "rational" and they should be understood in themselves.

Evans-Pritchard's work in witchcraft was a significant contribution to the native thinking on a phenomenon that was deemed to cause many unfortunate conditions like illness. He (1937) described medical beliefs and practices using a conceptual framework, which was intended for studying other aspects of social structure, such as maintenance of ordered social relations. There were other monographs such as by Turner (1967, 1968) and Spiro (1967) that contained detailed descriptions of medical beliefs and practices. This type of monographs described the social and cultural responses to illness and death as afflictions or misfortunes from the emic stand point.

The earlier anthropologists were pre-eminently involved in understanding societies, in evolutionary or functional terms, which were different from their own. Since the magico-religious system found one of its full expressions in events of sickness, those anthropologists studied sickness to understand native religion and magic. Different events of illness provided empirical material to reach the abstract propositions of magic and religion. They were not concerned with the possible significance of their findings to the health structure of the community they studied and hence, those anthropologists could not be called "medical anthropologists". Therefore, it may not be right to say that medical anthropology evolved from the earlier studies of illness in the context of religion and magic. But when medical anthropology emerged as separate but interdisciplinary field of theoretical and applied anthropology in 1960's, it disciplinarians started introspecting the earlier studies which collected empirical details on the treatment of sickness in so-called primitive societies. Medical anthropologists working in the field of public health have placed these studies under the title "ethnomedicine" (Bhasin and Srivastava, 1991).
Ackernecht (1942a, 1942b, 1943, 1945, 1947, 1971), considered one of the pioneers in the study of ethnomedicine, has reported “primitive medicine is neither a queer collection of errors and superstitions nor is to be explained by simply stating that in the medical field primitives used spells, prayers, blood letting, human fat and spittle.” Further, “what counts are not the forms but the place medicine occupies in the life of a tribe or people, the spirit which provides its practice, the way it merges with other traits from different fields of experience”. While discussing the relationship of primitive medicine with socio-cultural pattern, he identified three aspects.

- “Primitive medicines” are of different types
- The differences between the primitive medicines are much less in elements than differences in the medical pattern which they build up and which is culturally contained
- The degree of integration of different elements of medicine to the whole and of the whole medicine into a culture, which varies surely

Ackernecht reported these different points by comparing the systems of medicine in various cultures, attributing the success of primitive medicine to its psycho-therapeutic qualities. Field (1961) studied the religion and medicine of Ga, a community of West Africa. Among them, the treatment of disease is done by medicine men, as it is believed that the disease is an attack by evil spirits.

Dunn in 1976 has classified medical systems with reference to their geographical and cultural settings. Thus, there are “local medical systems” comprising “primitive” or “folk” medicine; “regional medical systems” such as Ayurveda, Unani, and Chinese medicine and the “cosmopolitan medical systems” often called “western”, “scientific” or “modern”.

In 1978, Press examined health practices in terms of their response to urban socio-economic characters. Such practices appear to serve functions of acculturation, guilt displacement resulting from failure to achieve, and subgroup identity maintenance among others. It is however, not known as to what structural accommodations must be in the traditional environment with the
advent of modern medical practices. Clarifying the concept of “folk” medical system, Press (1978) said that it is at variance with western, scientific medicine, with a codified, formal and literate medical traditions (Western, Ayurvedic, Unani, Chinese, etc.) with the official health practices of a community or nation. Folk medical systems are characterized by a high degree of shared knowledge between public and practitioners and this serves as an effective social control mechanism. Folk illness and medicines are aspects of the same cognitive system, but they are not identical (Bhasin and Srivastava, 1991).

Erasmus (1952) from his study has reported that the folk people of Equador treat their illness with super-natural etiologies by folk specialists, while others illnesses, such as infected wounds, measles, anger sickness and skin infections are treated at home. Blumenhagen (1980, 1981) and Kleinmen (1978) described semantic illness networks while explaining the nature of folk illness. Blumenhagen used semantic illness networks to explain how hypertension is perceived by a population of Americans who suffer from it. Young (1982) gave a schematized classification of medical anthropology and its fields. He classified the sub-discipline in two faces, one biological orientation and the other socio-cultural orientation.
Flow Chart 1: Classification of Medical Anthropology

MEDICAL ANTHROPOLOGY

- Biological Orientation
  - Bio-medicine
  - Anthropology of Diseases (Biological Anthropology)

- Socio-cultural Orientation
  - Empiricist Epistemologies
    - Medical Sociology
    - Empiricist Medical Anthropology
    - Non-empiricist Epistemologies
      - Traditional Anthropological Approaches
      - Anthropology of Illness
      - Anthropology of Sickness

Source: Young (1982)
Lieban (1973) encompasses medical anthropology as a useful paradigm but collaborative researches, transcending any particular discipline, will prove to be of great utility than the atomistic ones. The medical system of the people should be grasped as a whole, rather than in a fragmentary way, dealing with medical choices or the innovation of new medicines to the present situation or sundry others, which acquaint us with one part of reality.

In the Indian sub-continent many scholars have contributed to the field of medical anthropology. Elwin (1939) studied the tribal culture in totality and observed the relation of culture to health and medicine. Khare (1963) studied the general characteristics of folk medicine and the conceptualization of illness among the people of Gopalpur (Uttar Pradesh). He observed a detailed account of the concept of Jamaga (tetanus). It clearly reveals the gradual elaboration and sanskritization of ideas regarding disease as one moves from lower castes to higher castes. The higher caste people think about a disease more with the help of the ideas embodied in the great tradition, while the lower castes largely seek explanation in spirits, impersonal forces and local deities. These later beliefs are mostly local in content. There is also a difference in the elaboration of ideas as we move from lower to higher castes. Hasan (1967) reported two types of social and cultural factors that affect the health of any community (i) factors that directly affect the health of the community because certain customs, practices, beliefs, values and religious taboos, etc. create an environment that helps in the spread or control of certain diseases (ii) factors that indirectly affect the health of the community as they are related to the problem of medical care to the sick and invalid.

Carstair's (1955) study in a village of Rajasthan depicted the case of a western trained doctor whose efforts to treat villagers met with some obstacles due to traditional local beliefs. There were misunderstandings on both sides because of different theories of etiology, different techniques of cure, and different conceptions of the role of physician. He has reported that the villages were not likely to change their worldview to confirm with that of the western trained doctor.
Marriot (1955) critically examined the social and cultural problems involved in introducing new techniques of medicine in Kisan Garhi, a village in Aligarh. Rizvi (1986) studied health practices of the Jaunsaris, a tribal group of Jaunsar-Bawar in the hilly region of Uttar Pradesh. He reported that the Jaunsaris use household remedies for a number of ailments; for certain specific diseases, the herbalist is consulted. The people are reluctant to use the insufficient medical facilities of the area. The concept of manifestation of illness due to indirect factors such as supernatural or magical causes cannot scientifically explain illness. Traditional medicines are prepared from common plants and animals found in the region and they do not have to be purchased. Also, he stated that people spent very little money or sometimes none in the treatment since the payment to the priest or herbalist is made in kind rather than in cash.

A number of studies done in India show the presence of multiple medical systems (Bhat, 1986, Nichter, 1978, 1980). In a detailed study in Karnataka, Nichter found the local people practiced what he called masala medicine. He observed that the rich would generally try a remedy for four days and see its effects before switching on to an alternative. Bhat (1986) has described the ethnomedical concepts, beliefs and practices in two villages of Jaintia Hills in Meghalaya. Among others who surveyed the health scenario in rural India include Opler (1963), Hasan (1967), Djurefedt and Lindberg (1975), Bhatnagar (1978), and Zurbeig (1984). Morbidity studies related with beliefs and practices of the people were conducted by Bharara (1951) on small pox, Dhillon and Kerm (1961) on malaria, Banerji (1961) on tuberculosis and Mutatkar (1984) on leprosy.

Some researchers have shown their inclination towards "hospital studies" (Madan, 1969, 1980, Minocha, 1980), ethnomedicine (Bodding, 1925; Bhowmick, 1955; Bhowmick and Chaudhuri, 1966, Kakar, D. N. 1972a, 1972b, 1976, 1977, 1980; Joshi P.C., 1985; Chaudhuri, (ed) 1986; Sahu, 1986), and drug abuse (Shukla, 1987). Some studies are in relation to health, disease and the realm of cure both in the tribal and non-tribal context (Sahu, 1990, Meheta & Lamba,

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1 *Masala medicine* is a mixture of different medical practices.
Bharati (1998) has highlighted ritual healing: metamedical discourse and discursive practices of the Kambalattu Nayakkars in Tamil Nadu. Babu (1998) has discussed about illness and health care in Madugula Mandal of Andhra Pradesh. Dutta (1999) has made some observations on the diseases and traditional medicines of the Singpho tribe of Arunachal Pradesh. Tiwari et al. (2001) have given a picture of health profile among the Lodha and Munda tribal children of Midnapur District, West Bengal. Otten (2000) has thrown some light on different categories of the person and illness among the Desia of Koraput, Orissa. Jain and Agarwal (2002) have studied the magic, religion and worldview vis-à-vis tribal health among the Bhils of Rajasthan. Singh (2002) has reported concepts of disease and healing among the folk cultures of Uttaranachal Himalaya. The above overview of literature clearly reveals that any disease and its treatment can only be properly understood from a bio-cultural perspective. Medical anthropology as a bio-cultural discipline tries to link biological with socio-cultural aspect of human behaviour. Realizing the relevance of bio-cultural prospective in medical anthropology, the present study makes a small attempt in the same direction.