

Indira Gandhi
National Open University
School of Social Sciences

Block

3

PRACTICING ANTHROPOLOGY AND HEALTH

UNIT 1

Health and Culture **5**

UNIT 2

**The Pragmatics and Politics in Practicing
Anthropology of Health** **21**

UNIT 3

Epidemiology **41**

UNIT 4

Applied Aspects and Public Health **56**

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BLOCK 3 PRACTICING ANTHROPOLOGY AND HEALTH

Introduction

Practicing Anthropology and Health brings into focus a branch of anthropology namely medical anthropology whose roots also lie deep within other disciplines, especially, epidemiology and the social sciences. Basically medical anthropology deals with 'culturological' construction of illnesses in a cross-cultural setting and the curative practices of the 'native' people. One significant contribution of the discipline lies in making a differentiation of disease, illness and sickness. The earlier concerns of medical anthropology have now been expanded into all other areas relevant to human health and diseases. Accordingly application of medical anthropology is found mostly in the areas of prevention, intervention, analyses socio-economic factors that contribute to policy issues, differential roles and statuses that influence access to care in varied health situations.

Health is a multi-dimensional condition which can be broken down not just into physical, mental and social domains, but also into further subdivisions within each of these. Anthropology, as an integrated discipline, studies different aspects related to social, cultural, biological and historical, is undoubtedly the all-encompassing and the best equipped academic discipline to make comprehensive studies of these different dimensions involved in our understanding of health. Anthropological researches all around the world have over a period of time generated tremendous accounts of cultural knowledge pertaining to different varieties of societies and cultures and the application of this cultural knowledge to resolve health problems is the strong forte of medical anthropology.

Of late, anthropology has entered a new phase of advanced engagement at local, national, and international levels. Practicing anthropologists were active in bringing to light long-standing issues of health disparities and global health-related human rights violations, as well as in providing recommendations for national and community-level policy initiatives. The numerous advantages for appropriate interventions that anthropology might accord public health and the research opportunities that public health offer anthropology makes the union of the two invaluable. As new challenges emerge practicing anthropologists are often required to work in teams with other professionals and are called on to offer the anthropological perspective – a view of humanity grounded in a tradition of cross-cultural scholarship and action, in matters related to health and disease. In this context the pragmatics and politics in practicing anthropology of health become relevant.

It may also be noted that in course of time medical anthropology has developed different perspectives of studying health such as the functionalist perspective, the ecological perspective, the bio-cultural approach (also known as medical ecology) and the critical perspective or critical medical anthropology, that are helpful in making our policies meaningful. New research methods in medical anthropology have been developed to meet the challenges of both international and local health problems and many of these take the form of qualitative techniques though they are often now combined with more quantitative techniques. Qualitative research methods include open-ended questionnaires,

rapid assessment procedures, focus group interviews, free listing, pile sorting, narrative analysis, video tapes, audio-tapes and photographs, genealogies and genograms, social network analysis, mapping and modeling, projective techniques, ethnography and computer analysis, etc.

All these ideas are taken up in the four units in this block. They range from what health and culture is, to different methods practiced in studying health to understanding relevant topics like epidemiology and public health in practicing anthropology.



UNIT 1 HEALTH AND CULTURE

Contents

- 1.1 Introduction
- 1.2 Concept of Health and Culture
- 1.3 Health and Cultural Differences
- 1.4 Syndromes of Culture
 - 1.4.1 Culture-bound Syndromes
- 1.5 Mental Aspects of Health
- 1.6 Cultural Differences and Physical Health
 - 1.6.1 Genetically Determined Diseases
 - 1.6.2 Acquired Diseases
 - 1.6.3 Nutrition, Culture and Health
 - 1.6.4 Traditional Healing: Its Relation to Diseases and Cultural Understandings of the Human Body
- 1.7 Culture and Treatment
 - 1.7.1 Traditional Medicine
 - 1.7.2 Plurality in Therapeutic and Health Seeking Behaviour
- 1.8 Culture and Health Services
- 1.9 Global Health
- 1.10 Summary
 - References
 - Suggested Reading
 - Sample Questions

Learning Objectives



After going through this unit, you will be able to:

- define the concept of health and culture;
- understand the interplay between culture and health and principal mechanisms of culture's effects on health;
- indicate the importance underlying medical anthropology's major applications in addressing culture's impacts on health; and
- indicate how this cross- cultural knowledge of health and culture can play a significant role in assisting practicing anthropologists for research and action around the globe.

1.1 INTRODUCTION

Now, what exactly comes to your mind when you think of the terms 'health and culture'? Unless we understand each of these interrelated concepts it would be difficult to proceed with our presentation of this most important aspect related to practicing anthropology. So after acquainting ourselves with these terms we shall try and understand the importance underlying medical anthropology's major applications has been in addressing the impact of culture on health and how the

interplay of cross- cultural knowledge of health and culture can play a vital role in assisting a practicing anthropologist for research and action around the globe. Applied and practicing anthropologists while respecting cultural differences due to the existence of varied socio-religious factors makes every attempt to provide a clear understanding of policy or research for the laymen. Due to this fact they have often been referred to as persons who build bridges between cultural worlds. This, combined with interdisciplinary research methods can definitely enhance the process of proper implementation of various policies, programmes and plans for the betterment of human health across the globe.

When we go to the doctor for treatment we at times feel that the medical practitioner could not understand our problem well or the treatment was not relevant to our health problem. This feeling of not being understood by a doctor subsequently resulting in failure to provide relief or remedy has been a common experience among many patients. Interactions between physicians and their patients who come from varied cultural backgrounds often create cross- cultural misunderstandings. We need to understand here that in matters regarding patient and providers' perception of health conditions and appropriate treatments, culture plays a vital role. The various aspects related to health like methods of diagnosis, causative factors of disease and the treatment options are all affected by culture resulting in variance of health behaviour among different communities and societies. The impact of culture on health is therefore an important area of study for all the health professionals.

So now it is clear that the interrelationship between culture and health is truly complex and needs an understanding of a kaleidoscope of causes, experiences, expressions and treatments for a plethora of human ailments. But it must always be kept in mind that conducting studies on cultural variations related to varied aspects of health can also undermine equally fundamental economic, political and social differences between peoples. This is an important aspect in practicing anthropology. In the light of the aforesaid facts we shall try and understand about health and culture for practicing anthropology.

1.2 CONCEPT OF HEALTH AND CULTURE

Before acquainting ourselves with the concept of health and culture it is pertinent to note that scholars working across the world in an array of medical, health and healing settings are engaged in using different methodological procedures for presenting different theoretical perspectives on health and in the process has resulted in medical anthropology being regarded as one of the fastest growing sub-fields of anthropology. Applied or practicing anthropologists make ample use of these theories, methods and ethnographic findings for formulating policies and programmes for solving problems related to human health.

It has already been mentioned that health practices are not independent of culture in any society and the socio-religious beliefs and practices have various health implications in human societies. Now what do you understand by the term 'health'? World Health Organisation (WHO) defines health as 'A state of complete physical, mental and social well-being and not merely absence of disease or infirmity' (1948). From this definition it is clear that in matters of a person's well- being there exists an interrelationship and interaction of the psychological, physiological and social factors. We must therefore remember that 'health' in the broad sense is "quality of life" rather than only the absence of disease and as

a complex dynamic equilibrium stems from the entire socio-economic condition. Health is often regarded as an expression of development because studies conducted on health of a particular community will take into consideration the interrelationship between the whole social system and health. Here we also need to reiterate the fact that in every culture there exists the native concepts or perceptions of health, the causative and diagnostic factors of diseases and the subsequent curative measures adopted – all these factors give us a complete picture of the ‘health culture’ of a particular community.

While we talk of health we often tend to refer to the terms disease, sickness and illness. So before going into further details it is pertinent to understand the meaning of the terms disease, illness and sickness and their differentiation: Disease refers to pathological states of the organism, whether or not they are culturally or psychologically recognized, whereas illness refers to culturally or socially defined or conditioned perceptions and experiences of ill health, including some states which could be defined as diseases and others which are not classifiable in terms of medical definitions of pathological states. Accordingly, disease is now universally referred to as a western bio-medical term while illness is culturally defined and identified with the local indigenous knowledge (Fabrega, Jr., 1972:167). Sickness is a general global term which refers to all events involving ill health.

As discussed earlier culture which is nothing but learned and shared human behaviour encompassing health behaviour deeply influences the understanding of health and medicine. In other words culture is a principle determinant of personal health behaviours and professional practices of medicine. The concept of culture is therefore fundamental to comprehend the health conditions of human populations thereby enabling us to cope and protect ourselves from diseases or infirmities by adopting preventive and curative methods as a means of adjusting to the interplay of varied physical and social environments. The multidimensional aspects of health viz. perception of disease causation, its diagnosis and subsequent treatment combined with the use and selection of available resources as a preventive and protective measure for eradication of diseases have all been determined and influenced by culture.

Reflection

The word culture refers to the notion of cultivating – as in cultivating a crop – a relationship, not just with the gods, but also with other members of the community. Evidently the ideas inherent in the words ‘culture’ and ‘community’ are intricately woven together in an ancient fabric of etymology. Of equal relatedness – and perhaps surprisingly to our ‘modern’ thinking – is the ancient understanding of health. Health was seen as an index of how useful or ‘appropriate’ a person was to their community. It was believed that if an individual’s behaviour was out of ‘balance’ with the requirements of the community, then ill-health and suffering would result. Interestingly, according to this belief system, the individual who caused the imbalance was not necessarily the one who suffered. Instead another person, or group of people, could suffer because of the inappropriate behaviour of an individual. In ancient societies health was a very public concern. How individuals relate to each other can therefore be seen to be a common element in ancient notions of culture, community and health. (MacLachlan 2006:23)

1.3 HEALTH AND CULTURAL DIFFERENCES

Every individual is born in a particular cultural setting which eventually shapes his behavioural pattern and in matters of health behaviour the role played by culture cannot be denied. This is due to the fact that right from the birth of a person through the attainment of maturity and until he ceases to be a living being he is exposed to the interplay of varied cultures which has different implications on his behaviour. In the context of this discussion we need to understand that the role played by acculturation in the shaping of a particular or distinct mode of health behaviour among different communities and groups of people. By acculturation we mean the process by which individuals encounter more than one culture and respond to the interplay between them in various ways. But we must always keep in mind that the acculturative experiences of people tend to vary. In the event of facing a health problem for example, an individual born and brought up in a particular cultural setting may not react in the same manner as another individual from a different cultural background. A particular health behaviour considered bizarre in a particular society may be regarded as a completely normal mode of behaviour in the perspective of another society. We are all aware of the religious restrictions regarding the consumption of beef and pork among the followers of Hinduism and Islam respectively. Violation or in a few cases just the thought of violating this religiously determined food behaviour often has a psychological or physical effect on health. But it is pertinent to note here that the adoption of food habit in accordance with religious sanctions will not exhibit any detrimental health affects albeit when consumed moderately. The clarity with which each community defines deviations in health behaviour will thus create a sense of uncertainty and confusion among the individuals with repercussions on the physical, psychological and social aspects of health. At this point an understanding of the interaction between collective and individual identity is of prime importance more particularly for practicing anthropologists undertaking health studies and therefore the need for recognising the 'insider's view' regarding disease and illness arises.

The study of 'illness behaviour' will focus on issues like the perceptions regarding the illness (e.g., patient's feelings and notions, family members' responses and reactions, etc.), or like how a society's perception or culture plays a determining role in matters related to the type of medical or culture-specific attitude exhibited in the selection of health interventions at different stages of an illness episode (i.e, the time period during which the illness lasts).

By now it is clear that while undertaking health studies of different cultural communities emphasis must be laid upon the impinging factors responsible for health and illness.

We need to remember that in studies related to health we will often interact with people from different cultures and at this point culture will be the medium of communication a medium through which we will try to understand the variations in health behaviour. Any systematic analysis of health and disease would include investigations into native systems of disease classification, nomenclature, and the related domains. In such cross cultural encounters there is often the tendency to impose one's own structure and present prejudiced and stereotypical notions about health and disease of other cultures. Awareness, acknowledgement and recognition of the fact that culture is the foundation which plays a defining role in the health behaviour of an individual or community is extremely essential.

Reflection

Ever since the emergence of man on this earth illness and disease have become perennial problems for him. Each society in this respect is found to develop some kind of value system within its own ethno-science for the 'concept and treatment' of diseases. The concepts regarding diseases depend mostly on the society's evaluative standards. A given behaviour may be normal in one society, disapproved but not seen as pathological in second, and labelled 'sick' in a third (cited in Burman, 1986: 185). Health professionals need to adopt a more pluralistic approach to health practice. Availability of improved medical facilities will definitely elevate the health care system as they explore their treatment options within the expanding health care arenas. Polgar, while referring to health and illness has pointed out that:

"A common fallacy among 'scientific' health professionals and one that anthropologists have stressed continuously, may be describe by altering a little the Biblical parable of the old wine and the new. The vessels in this instance are the clients of health action and one cannot exchange them for new ones. Medical workers who wish to pour the new wine of scientific ideas into these vessels often forget that they are not empty. Popular health culture is the wine that fills them and ignoring this often results in spilling the new wine on the ground. Thus, one may refer to the fallacy of the empty vessels. So anthropologists can definitely play an indispensable role in the health care system" (Scotch, 1963 : 50).

1.4 SYNDROMES OF CULTURE

A syndrome refers to a group of symptoms consistently occurring together and in the context of culture. The idea of 'culture-bound syndromes' has been popular for many years. There are some universal perceptions of health and disease where all the human societies possess some common considerations, and at the same time there are also some social perceptions unique to a particular society (Dash, 1986: 209). Cultural contexts influence how suffering is caused, experienced and expressed—this fact is clear from the preceding discussion. From a practicing anthropological perspective it is important to recognise that as one moves along the chain – cause–experience–expression– consequence – at each step culture makes a progressively greater contribution to the person's suffering. This sequence helps to comprehend the interrelationship between culture and suffering.

Let us take into consideration the health culture among the Garos (a matrilineal tribe inhabiting the North-eastern part of India). In Garo perception an illness involves a change in the state of being (e.g., feelings, thoughts, self-definition) which is seen and labelled as discontinuous with routine everyday affairs and believed to be caused by socio–culturally defined agents or circumstances. The Garos particularly inhabiting the rural areas are of the opinion that the concept of 'well-being' stands for a state of being healthy, happy, and prosperous. A healthy physique or beautiful features, or muscular power may not be a criterion for good health. In their opinion, the ability or capacity to do manual work, carrying out of normal day's routine, and having a clear eye–sight and memory

is the sign of being healthy. If on the other hand, a person is unable to carry out the normal routine and if subsequently the amount of food intake falls to almost a possible nil, then the person may be considered to be ill or sick, or to be unhealthy.

We can now understand that beliefs and practices of the people help us to understand the various aspects of health and these traits are deeply rooted in their socio-cultural matrix. The concepts or ideas regarding disease and illness are basically biological, but these are loosely connected with socio-cultural circumstances. Therefore, the patterns of behaviour and belief of the people relating to health and disease are to be accounted for in the study of health. Syndromes of culture which also includes certain culture bound syndromes (see sub-section 1.4.1) can thereby facilitate in the understanding of the dynamics of the diffusion of the health practices and the rationale behind their acceptance.

1.4.1 Culture-bound Syndromes

‘Culture-bound syndromes’ as the name implies are symptoms unique to a particular cultural group or community. As students of anthropology and as an initial step for understanding the health situation of other cultures, we must shed our cultural biasness or the assumption that our own culture is superior (referred to as ethnocentrism). Only when we accept our own culture as one among the many other cultures that exist in human societies across the world we will be able to conduct a proper health study. Once free of these limitations we will be able to present the true picture of the different nuances of health and diseases of varied cultures or communities.

Let us take into consideration a few examples which reveal the presence of culture-bound syndromes in human societies across the globe and these have been dealt exhaustively by MacLachlan in his book ‘*Culture and Health A Critical Perspective Towards Global Health*’ published in 2006. *Koro* is a condition where people believe that their sexual organs are shrinking. It is believed to be a fatal condition with a neurophysiological basis shaped by different cultural contexts and occurs mostly in southern China and south-east; *Latah* another syndrome found in Malaysia and Indonesia is characterised by an exaggerated startle response to a surprising event and it may develop into a life-long condition regardless of whether its onset is abrupt or gradual. It is not a neurophysiological condition but the result of the social function within a culture; *Bebainan* is a culture bound syndrome found in Bali. It is a condition where a person may suddenly break into tears and attempt to run away from their present situation and finally collapse under exhaustion. Subsequently the person with these symptoms is unable to recall any of these events. *Tabacazo* a syndrome found in Chile is characterised by agitation, despair, and aggression in association with a loss of consciousness.

It is pertinent to mention here that certain culture bound syndromes have come into being under the influence of the western culture or people of European origin and these have gradually percolated through acculturation to other parts of the world including India. To name a few, mention must be made of Anorexia Nervosa where sufferers develop a distorted perception of their own body shape and hence starve themselves of food; Type A behaviour characterised by aggressive and competitive behaviour towards others as struggle continues to

achieve goals within the stipulated time period; and obesity a condition where excess weight is gained due to eating beyond the requirements of the bodily functions and thereby results in physical discomfort and depression. All these culture bound syndromes are as mentioned affect the mental health of the sufferer. As we proceed further into the lesson we will be able to identify many other aspects of mental health.

Reflection

The 'exotic' nature of many 'culture-bound syndromes' can deflect a researcher from analysing their social meaning and function. The researcher should avoid discounting apparently bizarre conditions and investigate them in terms of their order and function. It is therefore important to look beyond the client's community and culture. Some theorists see the human body as a symbol that can be moulded by culture into different types of suffering. Other theorists believe that there are some basic and universal bodily experiences and that the extent to which, and manner by which, these experiences are expressed is influenced by culture. The important point to remember is that neither of these accounts diminishes the genuineness of the patient's experience of suffering (MacLachlan 2006:90).

1.5 MENTAL ASPECTS OF HEALTH

When we speak of the aspects of mental health we would like to reiterate the fact that studies related to mental health can be very diverse as it encompasses comparative, ethnic and transitional approaches among others. This means that studies related to mental health are undertaken in cross cultural perspectives, i.e. the areas of research are undertaken in different contexts and settings.

Comparative mental health as the name implies offers a comparative analysis on the nature of mental health and disorder in different cultures. For example, for a comparative study when we select two cultural groups with one of them belonging to a minority group, we tend to include multidimensional aspects like the extent of variation and similarity in the nature of mental health in these cultures, and the interrelation between the two groups.

When we speak of mental health mention of suicide becomes a must. Suicidal behaviour can be designed to protect, to rescue the self from otherwise certain annihilation. Suicide is both individualised and pathologised. Western psychology and psychiatry, by focusing their attention on the individual, have constructed suicide as being the deviant act of a disturbed, dysfunctional or ill mind. However, when multicultural perspectives on suicide are examined, it becomes clear that culture may act either as a protective factor or as one that increases risk in already-vulnerable groups – a facilitating factor (ibid:104). An attempt to understand about the interplay of mental health and suicide necessitates the need to take into consideration the changing 'contemporary' social contexts, as well as different 'traditional' cultural practices coupled with other much broader cultural and social change factors. These factors enable us to understand the reasons for variations in suicide rates among age groups, genders and different cultures and communities.

1.6 CULTURAL DIFFERENCES AND PHYSICAL HEALTH

Here we will need to understand that besides mental aspects of health, the impact of culture on physical health is also an important area of study in health and culture. It is important to mention that cultural differences and its impact on physical health does not imply that cultural variation is the sole cause for occurrence of all types of diseases. This is due to the fact that irrespective of the cultural group to which one belongs we will find the occurrence of some diseases which are either genetically determined or acquired (see sub-section 1.6.1, 1.6.2 and 1.6.3). Some diseases on the other hand are believed to be caused by the influence of the varied socio-cultural factors and they are experienced, expressed and treated as per the accepted mode of health seeking behaviour of that particular cultural setting (see sub-section 1.6.4 and 1.6.5).

1.6.1 Genetically Determined Diseases

One hereditary blood disease, sickle-cell anaemia, is so called because the blood cells contain abnormal haemoglobin and, when the supply of oxygen is low, these cells, rather than being rounded, adopt the quarter moon shape of a sickle. As a consequence the supply of oxygen to vital organs may be reduced or interrupted. This may result in progressive organ failure and brain damage. The sickle-cell gene has a high frequency of occurrence in a number of countries, especially western parts of Africa and southern India. Sickle-cell anaemia may be genetically determined but it is important to note that, although more common in black people, it appears to result not from 'race' but from geographical origin (Williams et al., 1994). In Africa, it is believed to have occurred for hundreds of years along the Nile, and to have an adaptive function – to increase resistance to malaria transmission from the mosquito *Anopheles* species (Giger & Davidhizar, 1999). Sickle-cell anaemia is of course just one of many genetically determined blood diseases that occur with different frequencies across cultural groups. For those involved in diagnosing and treating such diseases, knowledge of these cultural variations is vital (MacLachlan 2006:138-139).

A second example of a genetically determined disease is lactase deficiency, which is caused by a recessive gene with high penetrance. The symptoms of lactase deficiency become apparent when an individual consumes milk-based products. In older children (aged 6–7 years and above) and adults the consumption of milk results in abdominal distension, flatulence, abdominal pain or discomfort, and occasionally diarrhoea. It is a product not of genetics alone, but of an interaction between environmental (actually eco-cultural) factors and genetics. Once again, because of the genetic basis of lactase intolerance, its incidence varies geographically. People of Chinese descent do indeed appear to have one of the highest levels of lactase intolerance (MacLachlan 2006: 139).

1.6.2 Acquired Diseases

Nutritional rickets refers to faulty or inadequate bone growth and it has proved a particular problem among Asian immigrants in Britain. Black (1989) describes a number of factors contributing to rickets in Asian children: inadequate exposure

to sunlight (possibly as a result of the Moslem custom of covering the arms and legs); strict vegetarian diet (especially for Hindus); use of cows' milk for infant feeding (having little vitamin D); maternal deficiency of vitamin D; and a poor uptake of vitamin preparations. The 'Stop Rickets' and 'Asian Mother and Baby' campaigns specifically targeted Asian communities in Britain. These initiatives aimed to create awareness of the role of vitamin D in maintaining good health, with programmes recognising that each cultural group had to be targeted in a manner that acknowledged differences in their dietary customs, religious beliefs and socio-economic conditions. Once again this example of nutritional rickets in immigrant Asian communities illustrates direct links between cultural customs and physical disease. However, these campaigns have also been criticised for problematising the culture of immigrants rather than recognising socio-economic aspects of rickets as a disease of poverty (*ibid*: 139).

1.6.3 Nutrition, Culture and Health

Cultural factors are reflected on the food habits, and its differential distribution to the people. Therefore the study of dietary habits of a group of people is important before undertaking any study on their disease pattern, its treatment and remedial measures. Food and nutrition and health are intimately connected aspects of our life. Food as an integral part of our social existence which defines our health status is also considered as a medium for establishment of social rapport (instances of food served or tabooed at different ceremonies, religious festivals etc.).

Nutrition involves intake of food which is necessary for our life to grow, to keep healthy and to get energy for work and play. Body requires different nutrients for health and growth. The term nutrition and health are synonymous as without good nutrition proper health cannot be ensured. Malnutrition may fail to ensure the tempo of normal growth at a normal rate. In order to promote the highest level of physical and mental health throughout one's life it is necessary to get the essential nutrients in correct amount and proper balance. Good, adequate and optimum are terms applied as prefixes to indicate the quality of nutrition (Shukla et.al.,1990: 404-405).

The study of dietary habits of a group of people is of utmost importance before undertaking any study on their disease pattern, its treatment and remedial measures. Cultural factors are reflected on the food habits, and its differential distribution to the people. Poor economic condition imbalances the diet and also ruins the health of the families. For instance the Garos being basically rice eaters take curry of pulses, vegetables, fish, meat of any animal and egg along with rice. They relish boiled food and rarely fry their items in oil or take spicy food. Both the habits tend to check the ulcer or gastric related problems. The Garos also consume a large quantity of alkali (water extracted from plant-ash) in their diet. This practice most possibly neutralise any acid formation in stomach, and thereby automatically checks any ulcer formation. The low prevalence of the degenerative diseases (e.g., ulcer) among the Garos perhaps could be due to the dietary habits of the people (Hasan, 2008: 170-71).

Table 1.1: Important Sources, Functions and Deficiency Symptoms of Various Nutrients
(adapted from Shukla et.al., 1990:424-426)

Sl. No.	Nutrients	Rich Sources	Essential Functions	Deficiency Symptoms
1	Proteins	Milks, Legumes, Nuts, Cheese, Meat, Fish, Eggs	Repair and growth of body tissues, body defence.	Weak muscles, retarded mental reactions, lower resistance to disease
2	Carbohydrates	Sugar, Rice, Potatoes and other Tubers	Production of heat and energy	Loss of weight
3	Fats	Oils, Fat, Butter, Ghee, Meat Fats	Production of heat and energy	Loss of weight, retarded growth
4	Vitamin A	All vegetables, Yellow fruits, Tomatoes, Fish oil	Growth, health of eyes, skin and mucous membrane	Retarded growth, night blindness, susceptibility to infections
5	Vitamin B ₁	Yeast, Groundnuts, Pulses dry, Chillies	Growth utilisation of carbohydrates, proper functioning of heart, nerves and muscles	Retarded growth, loss of appetite and weakness, palpitations and nerve disorders
6	Vitamin B ₁₂	Milk, Meat, Liver	Formation of blood	Pernicious anaemia
7	Vitamin B ₆	Green vegetables, Liver	Growth, health of skin, proper working of muscles and nerves	Convulsions in children
8	Vitamin C	Citrus fruits, Tomatoes	Growth, tissue repair health of blood vessels	Bleeding gum, poor wound healing
9	Vitamin D	Milk, Liver, Eggs, Fish	Growth, utilisation of calcium and phosphorous, health of bones and teeth.	Rickets, poor development and decay of teeth
10	Folic Acid	Green vegetables, Liver, Pulses	Formation of blood	Anaemia in infants and pregnant women
11	Calcium	Milk, Milk products	Formation of bones and teeth, activities of heart and muscles, clotting of blood, etc.	Poor bone formation, disfunctioning of muscles
12	Iron	Cereals, Pulses, Meat, Vegetables	Formation of blood	Anaemia

From the above table we are able to get an idea about the degree of inter-relationship and inter-connectedness between nutrition, health and disease. Here it is pertinent to note that food habits which differ from group to group reflect the way a culture standardises behavior of individuals in relation to selection of food and pattern of eating. According to a UNESCO publication entitled, *Culture Pattern and Technical Change* 'where food practices reflect cultural structuring and values any change introduced into the society may produce imbalance' (Shukla et.al., 1990: 431-432). The vegetables and the different types of animal meat consumed by the Garos supply all the essential minerals, carbohydrates, and

protein in abundance. Tubers of a number of species which are rich in carbohydrate are abundant in the area. The villagers are very much aware of the fact that protein, mineral, fat, carbohydrate, etc., which are necessary for the growth of the human body can be acquired from the locally available common edibles. It is believed that in some diseases, particular types of food are prescribed to regain the resistance power and restore the balance. However certain other types of food are to be avoided in certain diseases. For example, in case of some ailments like chicken pox, non-vegetarian diets are to be avoided. A person afflicted with skin diseases is to refrain from consuming eggs. The people believe that when a person suffers from diarrhoea, plenty of fluids such as the juice of lemon, coconut, etc. should be given (Hasan, 2008: 172).

1.6.4 Traditional Healing: Its Relation to Disease and Cultural Understandings of the Human Body

We are already aware of side effects of modern medicine. But here it is important to point out that people opting for the indigenous mode of treatment or traditional healing practices also at times suffer from side effects. There are many instances when people seeking remedy under the traditional system of medicine have instead exhibited certain other physiological reactions besides the already existing disease. Such side effects are more common when people opt for spiritual treatment provided by the traditional medical practitioner. The repercussions especially on the mental health of the patient undergoing such treatment are worth mentioning.

‘Coin rubbing’ is a traditional practice common among Vietnamese people, but this can produce lesions on the skin. In some unfortunate cases these marks have been misinterpreted as indications of physical child abuse. Some people of Chinese origin believe that pinching or squeezing either side of the trachea will alleviate persistent coughing. This procedure can produce considerable bruising, which might also be misinterpreted. Nevertheless it is important to recognise each of the above practices in their cultural context (MacLachlan, 2006: 141).

Anthropologists particularly practicing anthropologists undertaking health studies need to remember that such kind of practices are to be explained in the context of the culture where it occurs. Through proper understanding of the side effects resulting from adherence to certain traditional health care practices attempts may be made to create awareness for changing such undesirable practices or adopting a modified, safe and acceptable replacement which thereby hints at the need for culture specific understandings of the human body.

The different perceptions that exist among different cultural groups regarding the functioning of the human body very clearly shows the interrelationship between health and culture. In this context a particular cultural group will provide an explanation of the various physical, psychological, nutritional or spiritual influences which causes diseases and ultimately creates an imbalance of the human body.

1.7 CULTURE AND TREATMENT

Now we need to acknowledge that culture plays an influential role on the multidimensional aspects of health of which treatment is an integral part. A recent development in thinking about culture and treatment is the recognition of the

possible role of culture as treatment. Culture affects the way in which patients and healers receive and define illness and influence the choice and decisions with respect to the treatment of illness. Disease and cure system are universal phenomena. Every society-irrespective of its technological level, over the centuries devised methods of meeting the challenge of disease. The realm of cure, so to speak, concerns itself with 'the physical and mental welfare of individuals in their respective family and social contexts' (Sol Tax, 1976). Medicine appropriateness is evaluated both in terms of illness and patient characteristics. The afflicted's relative strength, age, previous experience with medicine and special disposition (e.g. pregnancy), all influence perceptions of medicine suitability. Health systems within a culture group which includes either or both traditional and modern medical facilities reflect many understandings of health.

1.7.1 Traditional Medicine

Traditional medicine also referred to as folk medicine, ethno medicine or popular medicine is primarily concerned with the study of the various aspects of folk taxonomy of disease, indigenous preventive and curative measures, the role of folk medicine man, and relationship between medicine and socio-cultural setting. Ethno medicinal system has its very root in the cultural settings and thus the whole workings of and the behaviour patterns relating to the healing practices are interwoven in the cultural matrix of the people. The systematic and integrated study of the system of medicine pledge to unfold the total understanding of the socio-psycho-cultural interactions in the sphere of public health and hygiene.

The WHO defined traditional medicine in 1976, at a meeting at Brazzaville, as ... 'the sum total of all knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observations handed down from generation to generation, verbally or in writing' (cited in Medhi et al., 2004). The indigenous patterns of recipes are the result of the close set process of orientation of cultural traditions with the religious sentiments, psychological perspectives, economy, moral ideas, and social values as well as therapeutic process. It is to be noted that this indigenous pattern of medicine is characterised by the age old experience on human body in relation to the surroundings, both natural and supernatural traditional knowledge.

1.7.2 Plurality in Therapeutic and Health Seeking Behaviour

The status, growth and evaluation of co-existing therapy systems are influenced by cultural ideology, ecology, political patronage and changing social institutions. Allopathy, ayurveda, homeopathy and unani are the various components of medical pluralism in the Indian context (Bhasin, 1997: 1 (1) 43). Any health care system especially in rural areas exhibit the presence of various impinging factors which has resulted in the existence of plurality in their therapeutic and health seeking behaviour. In view of the plurality of treatment options, perception of medicine compatibility is based on the expectations of the patients who speculate the time period for achievement of complete cure after consuming the medicine.

Reflection

Patients (or clients) ought not to be the ‘object’ of our activity but the subject of our concern, and we must be concerned with how their experience of the world contributes to the problems which they present. To quote Ackerknecht (1945: 428), ‘there are a great variety of ways of handling the sick person ranging from abandonment and contempt to extreme devotion and care. These attitudes which are extremely revealing as to the general philosophy of a society can be quite competently observed without the acquisition of a diploma from a medical school’.

The existence of both traditional and modern medicine has resulted in plurality of treatment options. The selection of a particular mode of treatment is based on the various socio-cultural dimensions that tend to influence the health seeking behaviour of a particular community or culture group.

1.8 CULTURE AND HEALTH SERVICES

For practising health professionals, it is timely to take pluralism or diversity into account, to re-examine the important role culture plays in how people view and make decisions about their health. We all need periodically to re-examine our own cultural and professional biases, and to be cognisant of the current diversity in the communities we serve (Mensah 1993:39).

Kleinman (1980) has suggested that there are three overlapping sectors of healthcare that constitute the healthcare systems of all societies. His point is that, although the content of these sectors differ across cultures, their structure is the same. Essentially the healthcare system is structured into popular, folk and professional sectors. Each of these sectors offer a particular approach to understanding the cause of, and prescribing treatment for, illness or disorder. The popular sector comprises of lay or non-professional who discusses about the ideas related to health and diseases. Such ideas end in discussion and they are never formulated for planned action in the ‘healthcare system’. Quite in contrast the professional sector comprising of organised health professionals mainly from the scientific medicine background has been successful in terms of setting the health agenda and making the medical profession superior to all other approaches to health care. The third sector i.e. the folk sector comprises of sacred and secular healers. This sector takes into consideration some aspects of popular and professional sectors.

There are different approaches to ascertain the cultural sensitivity of health services. One approach is to conduct customer satisfaction surveys in order to learn whether the health needs of different cultural groups are fulfilled. The basic health concerns of the people should always be kept in mind in any kind of study on cultural sensitivity. We need to understand the cultural sensitivity of health services of a particular cultural group in relation to other cultural groups i.e. studies should be conducted in cross cultural perspective. Findings from such studies will definitely help planners and policy makers to formulate plans and programmes for development of the health setting.

1.9 GLOBAL HEALTH

Global health highlights the inseparable relationship between health and culture. Global health recognises the inter-connectedness of health problems and health solutions, acknowledges the broader social, political and economic contexts that give rise to many health inequities, and recognises the importance of developing strong and resilient health delivery systems, in contrast to narrowly focusing on individual treatment regimes (MacLachlan 2006:283).

This world is home to so many varied cultural groups and communities. As part of this multicultural world we need to adopt a meaning centred approach and tolerate the widely different understanding of disease and disorder across cultures. Global health emphasis on cooperative actions and solution of health problems. And this can be possible only when attempts are made to understand health problems transcending national boundaries. Here we need to understand the fact that all health problems across cultures and across national boundaries can be best dealt with collectively and attempts are therefore made to facilitate easy accessibility of health services. Global health acknowledges that health will be affected in the same manner by similar factors across cultures and boundaries.

1.10 SUMMARY

A complete and exhaustive study of practicing anthropology necessitates an understanding of health and culture. The interrelationship between health and culture is truly complex and needs an understanding of a kaleidoscope of causes, experiences, expressions and treatments for a plethora of human ailments. Culture which is nothing but learned and shared human behaviour encompassing health behaviour deeply influences the understanding of health and medicine. In other words culture is a principle determinant of personal health behaviours and professional practices of medicine. The concept of culture is therefore fundamental to comprehend the health conditions of human populations thereby enabling us to cope and protect ourselves from diseases or infirmities by adopting preventive and curative methods as a means of adjusting to the interplay of varied physical and social environments. Health practices are therefore not independent of culture in any society and the socio-religious beliefs and practices have various health implications in human societies. 'Culture-bound syndromes' which reveals the presence of symptoms unique to a particular cultural group or community tends to affect the mental health of the sufferer.

Besides mental aspects of health, the impact of culture on physical health is also an important area of study in health and culture. It is important to mention that cultural differences and its impact on physical health does not imply that cultural variation is the sole cause for occurrence of all types of diseases. This is due to the fact that irrespective of the cultural group to which one belongs we will find the occurrence of some diseases which are either genetically determined or acquired. The different perceptions that exist among different cultural groups regarding the functioning of the human body very clearly shows the interrelationship between health and culture. In this context a particular cultural group will provide an explanation of the various physical, psychological, nutritional or spiritual influences which causes diseases and ultimately creates an imbalance of the human body. Health and culture thus plays an influential

role on the multidimensional aspects of health of which treatment is an integral part.

Medical anthropologists have important contributions to make to health service research and health communication. By grounding investigations of resource supply and demand, service accessibility and acceptability in the life worlds of local populations, anthropologists may help their public health colleagues better understand patterns of health care utilisation and expenditure. The role of medical anthropologists in health service research and health communication can be proactive, critical and committed to community based problem solving (Nichter, 1992: 327-328). Global health highlights the inseparable relationship between health and culture. Practicing anthropologists can thus use their knowledge, skills, and facilitate change for the betterment of the health status of communities and peoples across cultural boundaries and the interplay of cross-cultural knowledge can play a vital role in assisting practicing anthropologists for research and action around the globe.

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Sample Questions

- 1) Discuss the importance of an understanding of the multi-dimensional aspects of health and culture in practicing anthropology?
- 2) Discuss the relation between health, culture and nutrition?
- 3) What do you understand by culture bound syndromes. Discuss?

UNIT 2 THE PRAGMATICS AND POLITICS IN PRACTICING ANTHROPOLOGY OF HEALTH

Contents

- 2.1 Introduction
- 2.2 History of Medical Anthropology
- 2.3 Theories of Health and Illness
 - 2.3.1 The Functionalist Perspective
 - 2.3.2 The Ecological Perspective
 - 2.3.3 Bio-cultural Approach
 - 2.3.4 The Critical Perspective
 - 2.3.5 The Cultural Interpretationist Perspective
 - 2.3.6 The Biomedical Perspective
 - 2.3.7 Behavioural Perspective
 - 2.3.8 Communication Perspective
 - 2.3.9 Cognitive Perspective
 - 2.3.10 Self-regulation Perspective
- 2.4 Theories of Illness
 - 2.4.1 Theories of Naturalistic Causation
 - 2.4.2 Theories of Supernatural Causation
 - 2.4.3 Emotionalistic Causation Theory
- 2.5 Methods and Techniques in Health Studies
 - 2.5.1 Participant Observation
 - 2.5.2 Case Study Method
 - 2.5.3 Survey Research
 - 2.5.4 Cross-cultural Comparisons
 - 2.5.5 Documentation
- 2.6 Roles of Practicing Anthropologists and Contributions of Anthropology to Health
- 2.7 Summary
- References
- Suggested Reading
- Sample Questions

Learning Objectives



After going through this unit, you will be able to:

- understand the theoretical approaches to the study of practicing anthropology of health;
- understand the interplay between theories related to health and its practical applications;
- indicate the importance underlying the use of varied methods and techniques in health studies by enhancing community participation in disease prevention;

- understand the social and cultural contexts of an illness; and health-related behaviour of people; and
- indicate how this knowledge of the theoretical perspectives of health can play a vital role in assisting practicing anthropologists to develop policies and programmes to create culturally responsive health programs.

2.1 INTRODUCTION

Medical anthropology is the fastest growing sub-field of anthropology today, with scholars engaged in research from different theoretical perspectives and methods and methodologies, and working across the world in an array of medical, health and healing settings. Medical anthropology studies various facets of how human health is affected by culture. More than a system of health care practices, medical anthropology works to identify customs and procedures that shape how people take care of themselves. A medical anthropological study encompasses diverse areas including primary health care, social medicine and mental health as well as research and strategy to formulate and change policies for the enhancement of human health. For achieving the common goal of good health and ensuring social change across different populations, the role and function of medical anthropology is imperative.

Medical anthropology as a very broad interdisciplinary sub-sector of anthropology concerns itself with the concept of holistic health and medicine in human culture and explores all the intricacies of man as a social animal. The multidimensional aspects of medical anthropology can be clearly understood from the fact that its study deals with evolution of the concept of medicine and health in diverse cultures, alternative forms of medicine, impact of culture and society on health. Furthermore the social peculiarities that affect health care systems and health awareness are also taken into consideration in such studies. In short, it's a field that encompasses the social aspect of medicine and the complications it creates and it also studies the implications of this fact on the health of an individual and also the genesis of medicine or healing practices that emerged in different cultures over the centuries. Such studies are conducted with the motive of achieving the ultimate goal i.e., betterment of health of the society as a whole and the prevention of diseases in all its forms, through various remedial and preventive measures that address deep rooted causes.

We need to remember that pure medicine solves only the immediate causal problems of a pathological condition, considering only the biological evidence that can be gathered through tests, in situ. Whereas, medical anthropology studies and investigates the deeper social causes and combinations of social situations along with behavioural traits that direct to the cause and spread of the disease. It also concerns itself with the distribution of health care services and what influence the structure of a society has on them.

For centuries medical scholars have laid emphasis on the social dimensions of health and illness in their research. In recognition of the presence of certain social and cultural variables as etiological factors in disease, Rudolph Virchow (1848) of Germany declared medicine as a social science in his journal *Applied Medical Anthropology*. Applied medical anthropology is the practical application of the theoretical principles to actual and real data and putting the theories

propounded by it to test in the field. Collection and interpretation of biometric, genetic, social, and medical data of diverse ethnic groups and communities is the main focus or predominant activity in the field of applied medical anthropology. This data enables a medical anthropologist to understand the various aspects of endemic diseases and other locally prevalent diseases and thereby facilitating the process to ascertain the causal connection between certain endemic diseases and other local problems.

Practicing anthropology of health refers to how applied medical anthropology deals with intervention, prevention, and policy issues and analyses the socio-economic forces and power differentials that influence access to care in varied health situations. Applied and practicing anthropologists confront special challenges. They are called on to offer the anthropological perspective – a view of humanity grounded in a tradition of cross-cultural scholarship and action. They may work in teams with other professionals; they must communicate across disciplines. An attempt has been made here to provide an understanding of the pragmatics and politics in practicing anthropology of health. We need to understand here that politics refers to theories related to health and by pragmatics we imply the practical applications in studies related to health. Henceforth we will refer to politics and pragmatics as theories related to health and its practical applications.

2.2 HISTORY OF MEDICAL ANTHROPOLOGY

Before we go into further details of the theories related to health and its practical applications we need to have an understanding of the history of medical anthropology. As described earlier, medical anthropology is a specialised branch of anthropology whose main concern is with the relationship between cultural factors, perceptions, and beliefs on the one hand and health and health disorders on the other. Medical anthropology is considered a branch of applied anthropology, which studies diseases, health care system and theories of disease and curing in pluralistic, socio-cultural perspectives (Scupin and De Corse, 1995). Medical anthropology, in general, grew very rapidly as a specialised field of study in anthropology, particularly since the 1950s and 1960s. The growth of this field is mainly due to the increasing interest of social scientists in general and anthropologists in particular in health and illness, and the increasing awareness of medical professionals and health policy makers about social sciences' role in health issue (Foster and Anderson, 1978). It may be stated that when anthropology arose in 19th century, investigating health and disease issues seemed to be not from among the overriding concerns of cultural anthropologists. However, social scientists in general and anthropologists in particular, began to develop both academic and practical interests in studying health and diseases in socio-cultural contexts. At the root of the emergence and development of medical anthropology also lie the need for studying the world of health and disease from evolutionary and ecological perspectives (Scupin and DeCorse, 1995 Zerihun, 2001:167).

George M. Foster and Barbara Gallatin Anderson (1978) trace the development of medical anthropology to four distinct sources: the interest of early physical anthropologists in human evolution and adaptation, ethnographic interest in primitive medicine, studies of psychiatric phenomena in the culture and personality school, and anthropological work in international health. William H.

R. Rivers (1924), a physician, is considered the first ethnologist of non-western medical practices. Early theoretical work by Forrest E. Clements (1932) and Erwin H. Ackerknecht (1942, 1946) also attempted to systematize primitive medical beliefs and practices. Paralleling theory development were early applications of anthropological principles to health problems. Increasing number of medical anthropologists work in Australia, Latin America, the Philippines, and India (McElroy et. al., 2002: 2).

Medical anthropology is thus by no means limited to questions directly related to the ways in which people deal with disease. Instead, the subject matter includes the aetiology of disease and its treatment, preventative measures, medical pluralism, stress and social support, and eradication of diseases.

Reflection

Prior to the 1950s, the study of medicine by anthropologists was done within the larger context of cultural and social studies (Baer et. at., 1997). Early interest in ethno-medicine was restricted to questions regarding the ways other people dealt with sickness and, generally, enhanced personal health. Currently, medical anthropologists have expanded their interests from the way other people conceptualise health to include wider ranging issues. Stewart and Strathem (1999:3) observe that the field has undergone “... a circular migration: from the jungle to the city, and back again.” This circular migration is a result of researchers asking questions, not only of other cultures and healing practices, but also of their own. It is necessary to understand this circular movement in order to understand the current state of research in medical anthropology.

At this point, however, one must recognise that there exist a number of distinct cleavages in medical anthropological theory. It is possible to clearly identify three distinct theoretical positions. These positions are very different from each other as a result of their different epistemologies (Alexandrakis: 2001(9) 73-74).

2.3 THEORIES OF HEALTH AND ILLNESS

We need to understand here that theories about health and illness deal with the various perceptions and ideas of people regarding the various causative factors of diseases and also the explanation they provide towards health maintenance through health protective and preventive measures. Ideas about illness causation may include such ideas as breach of taboo, soul loss, germs, upset in the hot-cold balance of the body, or a weakening of the body's immune system. It must be kept in mind that while working on data derived from the study of the underlying cognitive orientation of a cultural group the same cultural logic is followed to ascertain the theories of illness causation and therapeutic practice.

Before going into the details of the various theories it is necessary to understand the meaning of the terms disease, illness and sickness and their differentiation: Disease refers to pathological states of the organism, whether or not they are culturally or psychologically recognised, whereas illness refers to culturally or socially defined or conditioned perceptions and experiences of ill health, including some states which could be defined as diseases and others which are not classifiable in terms of medical definitions of pathological states. Accordingly,

disease is now universally referred to as a western bio-medical term while illness is culturally defined and identified with the local indigenous knowledge (Fabrega, Jr., 1972:167). Sickness is a general global term which refers to all events involving ill health.

We must understand that all theories of health and illness serve to create a context of meaning within which the patient can make sense of his or her bodily experience. A meaningful context or understanding for illness usually reflects core cultural values, and allows the patient to bring order to the chaotic world of serious illness and to regain some sense of control in a frightening situation. Medical anthropological theory may thus be understood in two ways: first as a set of anthropological concepts and second as the application of these concepts.

2.3.1 The Functionalist Perspective

This perspective views medicine and the systems of health care as important social institutions; and it focuses on the functions and roles played by the institution in maintaining order and stability in society. The medical institutions whether scientific or traditional and the various practitioners exist to meet the needs of individuals and society (Henslin and Nelson, 1995). The ethno-medical approach attributes the existence of this system to the cultural, or perhaps, ideological tradition of the peoples who use it. So when we come across societies or communities who are exposed to multiple treatment options i.e. a pluralistic system of medicine where people are able to choose between bio-medical treatment and traditional indigenous treatment, the advocates of ethno-medical approach would argue that the health seeking behaviour of the people are primarily influenced by the cultural values of that community or society.

2.3.2 The Ecological Perspective

An ecological approach was first proposed for medical anthropology in the area of biological and cultural evolution, as a unifying, central position between the biological and socio-cultural perspectives (Alland 1970; 1977). Based on evolutionary theory, it looked at health and disease in the context of human ecology. Specifically, this approach attempted to show the biological adaptability, or value, of various culture traits in a given environment which influence disease and resistance to disease organisms (Walker 1998, 13:75).

This perspective focuses on the human biological and behavioural adaptations to diseases in different ecological and environmental contexts. Hence, diseases evolve in line with specific ecological niches, and people's responses to health problems have also evolved in the context of their specific local ecosystems (McElroy and Townsend, 1989). However, this theoretical model has been criticized as the theory's limited focus does not allow for explanations of how or why certain political and economic factors influence the environment, and contribute to disease causation. Critics also consider the theory to be reductionist, focussing too narrowly on ecological variables instead of looking at the dynamic relationship between the environment, biology and culture (Singer 1992). Another controversial point which has been raised is whether culture functions as an adaptive mechanism, or is part of the environment to which people must adapt. Still other critics feel that the theory is unable to satisfactorily explain the problem that culture is not genetic, and hence is not subject to evolutionary laws. In an attempt to respond to these perceived deficiencies, a "bio-cultural" approach emerged, which elaborated the ecological perspective (Walker 1998, 13:76).

2.3.3 Bio-cultural Approach

The bio-cultural approach aims to measure, describe and interpret how constraining factors in the environment affect the body (Wiley 1992). It combines concepts from physical anthropology with those from cultural anthropology to explain “the ability of the individual to adapt to the environment by biological or behavioural means” (Wiley 1992: 222). This approach expands the concept of the environment to include social factors, and while political and economic influences are considered determinants of health, they are not explored as an explicit goal of the theory. Adaptation is considered to be an essential concept which reflects a dynamic relationship between individuals and their environment.

The model follows a Western scientific paradigm, using bio-medical categories and biological indicators (for example, anthropomorphic indices, blood pressure measurements) to assess constraining factors on health. Health is defined in biological terms as an individual’s ability to adapt by biological or behavioural means. For example, people are infected by AIDS because their behaviours expose them to the causative virus. Interventions aimed at prevention would focus on education, using western ideas of causation and prevention aimed at changing behaviour (Walker 1998, 13:76).

Cultural anthropologists have criticised this approach because it relies on a western bio-medical model and is not applicable to the study of non-western situations (Armelagos et al. 1992). As with the ecological approach, critical medical anthropologists object to the fact that a bio-cultural perspective does not emphasise the social, political, and economic factors that underlie and influence health (Singer 1989). Since health is concerned with successful adaptation, disease, then, is a failure to adapt. Lynn Morgan (1993) also points out that Wiley, a researcher involved with genetics, does not discuss the political factors that affect how research is funded and executed, or how the knowledge that is produced might be interpreted by others.

2.3.4 The Critical Perspective

Critical medical anthropology (CMA) takes a very different approach to looking at questions regarding health. CMA believes that there exists a hegemonic relationship between the ideology of the health care system and that of the dominant ideological and social patterns. CMA views disease as a social as well as a biological construct. Critical medical anthropologists examine issues such as who have the power over certain social institutions, how and in what form is this power delegated, and how this power is expressed (Baer et. al. 1997:33-36).

This theory is also called the “radical political economy”. It is an approach which stresses on the socio-economic inequality in power and wealth which in turn significantly affects the health status and access to health care facilities. Individuals, groups, communities and even nations thus tend to have unbalanced share of health resources; and these often leads to the unequal distribution of morbidity and mortality patterns among a given society; those in power and dominance enjoy better health and the marginalised groups suffer from the burden of diseases (Turner, 1987).

The primary objective of CMA is the transformation of social relations. Critical medical anthropology “emphasizes the importance of political and economic forces, including the exercise of power, in shaping health, disease, illness

experience and health care” (Singer and Baer 1995:5). It looks “toward a more holistic understanding of the causes of sickness, the classist, racist and sexist characteristics of biomedicine as a hegemonic system, the interrelationship of medical systems with political structures, the contested character of provider-patient relations and the localisation of sufferer experience and action within their encompassing political-economic contexts” (Singer and Baer 1995:6). CMA is concerned with the phenomenology of illness and pain, and the social construction of the individual. The body is considered to be a passive, socially constructed organism, whose relationship with the environment is an aspect of social relations. The environment is a social, rather than physical one. Health is also considered to be socially constructed, rather than organic, and is defined as “access to and control over the basic material and non-material resources that sustain and promote life at a high level of satisfaction” (Baer et al. 1986:95). Critics of CMA, the most outspoken of which is Wiley (1992), say it is “unscientific”. It does not consider the biological aspects of disease, confuses genetic diversity with social inequality, is only concerned with the recent historic past, and is perhaps irrelevant in the field because of its focus on macro-level restructuring. Singer responds convincingly to each of these criticisms in his 1993 reply to Wiley. Regarding the criticism that CMA is not concerned with historical aspects, Singer indicates that CMA has concentrated its study on contemporary issues, but does not limit itself to this historical boundary and acknowledges the importance of human biological evolution for the current state of the species (Walker 1998, 13:78).

Therefore, if one wishes to study disease, it is necessary to start by identifying political, economic, social, and environmental conditions within a particular society or group. It is necessary for a researcher in the CMA tradition to understand these and subsequently, understand the local group’s etiology, before it is possible to attempt to understand the medical system.

Let us take into consideration the application of CMA theory described in Paul Farmer’s book *AIDS and Accusations: Haiti and the Geography of Blame* (1992). In this work, Farmer explores political and economic factors, a wide range of historical events, and epidemiology in his analysis of AIDS in Haiti. He looks at the increased susceptibility to AIDS among the poor and common social reactions to HIV/AIDS in Haiti. Farmer’s focus is clearly political-economic; he takes a very heavy neo-Marxist approach in his analysis. As we have seen the focus of this approach is on the healing process itself. Moreover, it studies sickness as a social practice. One of the most common areas of study when dealing with this kind of analysis is the exploration of different constructions of the concept of illness as a function of differing cultural ideologies. In their book *Pain as Human Experience*, Brodwin et. al. (1992) explores the concept of pain and how it differs from culture to culture. From describing pain as “sound” in Japan, to differentiating between headaches and brain aches among North American Latinos, these authors attempt to understand the experience of pain and its treatment in different cultures. Thus, they examine the experience of pain as “... an intimate feature of lived experience of individuals in the context of their local social world and historical epoch” (Brodwin et. al., 1992:2). Interestingly, with this perspective in mind, it is possible to detect differences between groups of people depending on the type of pain, or more generally, the suffering they experience and how they express it. Suffering, in this case, can be attributed to a number of acute social and economic factors.

In line with this thinking, the most promising directions for integrating political economic and adaptability perspectives seem to be the “political economy of health” and the “critical biological anthropology” paths. The former aligns itself with critical medical anthropology, establishing as a starting point for research the social, political, and economic forces affecting health and health systems, rather than the bio-physical environment. Critical biological anthropology is a reflexive and explicitly political-economic perspective, which aims to “expose and analyse the underlying assumptions and ideological dimensions of their work and the socio-political and economic use of ideology in biological anthropology” (Blakey, 1992 in Leatherman et al. 1993:205).

Today, bio-cultural anthropologists are being challenged to abandon the adaptationist perspectives and develop an approach which sees nature and political economy as indivisible (Singer 1996). It remains to be seen whether critical medical anthropologists can gain insight from the bio-cultural approaches, but Singer (1993) sees a nexus between critical biology and critical medical anthropology. Baer (1996) feels that both groups will benefit from the work of political ecologists, as more environmentally induced diseases emerge due to the world’s capitalist, productivist ethic. He sees that both critical medical anthropologists and political ecologists share a “commitment to merge theory and social action” (Baer 1996:453).

2.3.5 The Cultural Interpretationist Perspective

This is also called “the symbolic interactionist” approach. This approach focuses on the social and cultural constructions of health, illness and disease. According to this theory, illnesses and health are not just things that exist “out there”; they are productions of the complex social interactions; and health and illness are highly shaped by the manner in which people as actors give meanings to them and how the actors respond to them in socio-culturally sanctioned ways (Zerihun, 2001:169-170).

2.3.6 The Biomedical Perspective

The bio-medical perspective incorporates the bio-medical theory in which patients are assumed to be passive recipients of doctors’ instructions. Treatment is focussed on the patient’s body as health or disease is traced back to bio-medical causes such as bacteria or viruses. This bio-medical theory has recently been integrated into a larger “bio-psycho-socio-environmental” theory, which incorporates the wider socio-environmental context. However, this theory is not located strictly within the bio-medical approach. But it is pertinent to note here that assuming patients as passive recipients while focussing on bio-medical factors may create certain limitations in the study of medication. This is due to the fact that patients are generally active decision makers and we cannot expect them to merely receive and follow instructions passively or without any qualms.

From whatever has been discussed above it is quite obvious that ignoring factors like patients’ perspective of their own illness, the psycho-social influences, the beliefs regarding acceptance or rejection of curative measures coupled with the impacts of the socio-economic environment on health behaviour has been a fundamental limitation of this theory.

2.3.7 Behavioural Perspective

This perspective incorporates behavioural learning theory (BLT) which is focused on the environment and the teaching of skills to manage adherence. The main focus is to understand how behaviour is influenced by the use of the principles of antecedents and consequences. In simple terms it implies that antecedents which are either internal (thoughts) or external (environmental cues) and consequences which may be punishments or rewards for behaviour are the variables which will affect or influence the probability of a patient following a specific behaviour. BLT has been critiqued for lacking an individualised approach and for not considering less conscious influences on behaviour which are not linked to immediate rewards. These influences include, for example, past behaviour, habits, or lack of acceptance of a diagnosis. The theory also is limited as it focuses on external influences on behaviour. It is therefore necessary for programme planners to consider carefully individuals' perceptions of appropriate rewards before using such theory for implementation.

2.3.8 Communication Perspective

We are all aware that in any kind of patient – practitioner relationship and communication plays a vital role. It is often referred as the cornerstone in such a relationship. The communication perspective is an approach based on the notion that communication needs to be clear and comprehensible to be effective. It implies that patient education and good health care worker communication skills ensures an improved provider – client communication which will further enhance medical adherence. Communication interventions are also typically restricted to provider-client interactions and additional social or financial support may thus be required.

2.3.9 Cognitive Perspective

The cognitive perspective includes theories such as the health belief model (HBM), social-cognitive theory (SCT), the theories of reasoned action (TRA) and planned behaviour (TPB) and the protection motivation theory (PMT). These theories are based on the assumption that attitudes and beliefs as well as expectations of future events and outcomes are major determinants of health related behaviour and therefore they focus on cognitive variables as part of behaviour change. These theories propose that in view of the presence of various alternatives, individuals have a tendency to choose or select the action that will ensure in all probability a positive outcome.

a) Health Belief Model

The HBM views health behaviour change as based on a rational appraisal of the balance between the barriers to and benefits of actions. According to this model, the perceived seriousness of, and susceptibility to a disease, influence individual's perceived threat of disease. Similarly perceived benefits and perceived barriers influence perceptions of the effectiveness of health behaviour (Munro et.al. 2007).

b) The Protection-Motivation Theory

According to this theory, behaviour change may be achieved by appealing to an individual's fears. Three components of fear arousal are postulated: the magnitude of harm of a depicted event; the probability of that event's

occurrence; and the efficacy of the protective response. These components tend to affect the health behaviour of the individual (Munro et.al. 2007).

c) **Social-cognitive Theory**

This theory evolved from social learning theory and may be the most comprehensive theory of behaviour change developed thus far. It posits a multifaceted causal structure in the regulation of human motivation, action and well-being and offers both predictors of adherence and guidelines for its promotion (Munro et.al. 2007).

d) **Theory of Planned Behaviour and the Theory of Reasoned Action**

The theory of reasoned action assumes that most socially relevant behaviours are under volitional control, and that a person's intention to perform a particular behaviour is both the immediate determinant and the single best predictor of that behaviour (Munro et.al. 2007).

e) **Information-Motivation-Behavioural Skills (IMB) Theory**

This theory was developed to promote contraceptive use and prevent HIV transmission. IMB was constructed to be conceptually based. It has since been tailored specifically to designing interventions to promote adherence to. This theory focuses on three components that result in behaviour change: information, motivation and behaviour skills. This theory is said to be moderately effective in promoting behaviour change (Munro et.al. 2007).

Reflection

Cultural understandings of the human body:

It can be difficult to understand the function of a healing practice without also being aware of the rationale upon which the practice rests. Different understandings of how the human body works should, and do, lead logically to different ways of 'fixing it'. It is therefore useful briefly to consider some of the different cultural metaphors for understanding the workings of the human body. Perhaps the most widely held view is that which refers to the notion of balance and imbalance in the body. According to this concept the various systems within a healthy body are seen as being in harmony. Imbalance, causing illness, can result from physical, psychological, nutritional, environmental or spiritual influences that trip this balance.

The humoral theory is an example of a balance metaphor. This theory was developed into a systematic account of disease by Hippocrates and subsequently elaborated upon by Galen in the second century BC, spreading throughout the Roman and Arab world.

2.3.10 Self-regulation Perspectives

Self-regulatory theory is the main theory in this domain. Developed to conceptualise the adherence process in a way that re-focuses on the patient, the theory proposes that it is necessary to examine individuals' subjective experience of health threats to understand the way in which they adapt to these threats. According to this theory, individuals form cognitive representations of health threats (and related emotional responses) that combine new information with past experiences. These representations 'guide' their selection of particular

strategies for coping with health threats, and consequently influence associated outcomes. The theory is based on the assumption that people are motivated to avoid and treat illness threats and that people are active, self-regulating problem solvers (Munro et.al. 2007).

2.4 THEORIES OF ILLNESS

Let us now take into consideration some theories of illness.

2.4.1 Theories of Naturalistic Causation

Theories of naturalistic causation will imply “any theory, scientific or popular which accounts for the impairment of health as a physiological consequence of some experience of the victim in a manner that would not seem unreasonable to modern medical science” Five distinct types of theories which fall into this category are mentioned in the following pages.

Type 1- Infection: defined as invasion of the victim’s body by noxious micro organisms with particular but not exclusive reference to the germ theory of disease deriving from the discoveries of Pasteur and Koch (Murdock et al., 1998 : 248).

Type 2- Stress: defined as exposure of the victim to either physical or non physical strain such as over exertion, prolonged hunger or thirst, debilitating extremes of heat or cold , worry, fear, or the emotional disturbances which constitute the province of modern psychiatry (Murdock et al., 1998 : 249).

Type 3- Organic Deterioration: defined as decline in physical capacities attending the onset of old age, or the earlier failure of particular organs such as the heart or kidneys, or the appearance of serious hereditary defects, often manifest at birth or in childhood (Murdock et al., 1998 : 249).

Type 4- Accident: defined as the suffering of some physical injury under circumstances which appear to exclude both intention on the part of the victim and suspicion of supernatural intervention (Murdock et al., 1998 : 249).

Type 5- Overt Human Aggression: defined as willful infliction of bodily injuries on another human being , as in violent quarrels assault or mayhem, brawls, crimes of violence, warfare, and even attempted suicide (so called ‘aggression turned inward’).

So now we can say that in naturalistic causation, illness is explained in impersonal terms. When the body is in balance with the natural environment, a state of health prevails. However, when that balance is disturbed, illness results. Often, people invoke both types of causation in explaining an episode of illness, and treatment may entail two corresponding types of therapy.

In India, the ancient system of ayurveda is based on naturalistic ideas of illness causation. Therapy in ayurveda includes a vast pharmacopeia of preparations made from herbs and minerals, and dietary advice also forms part of every prescription. Ayurveda is actively practiced in India today and has shaped the way Indians think about their bodies in health and in illness.

2.4.2 Theories of Supernatural Causation

Theories of mystical causation may be defined as any theory which accounts for the impairment of health as the automatic consequence of some act or experience of the victim mediated by some putative impersonal causal relationship rather than by intervention of a human or supernatural being. Four specific types of causation fall into this category. (Murdock et.al.1998:251). They are: Fate or Personified Ill Luck; Ominous Sensations; Contagion; Mystical Retribution; Spirit Aggression; Sorcery and Witchcraft.

Fate is reported as one of the major detriment of illness. Ill luck brings untold miseries, which makes the person to believe that some unseen power or spirits have been controlling his life and bringing ill luck. Ominous sensations refer to experiencing of particularly potent kinds of dreams, sights, sounds or other sensations believed to cause illness. Disease may also be caused if one comes in contact with a polluting object, substance or person – (contagion). A disease caused by mystical retribution implies breaches of appropriate behaviour towards kinsmen, strangers or superiors or towards the supernatural or violation of some taboo. Diseases are often believed to be caused by the malevolent actions of some hostile and aggressive spirits or supernatural beings. Spirit aggression is often reported as the predominant cause of illness in many societies. Besides the above mentioned disease causing factors it is pertinent to note that disease may also be caused due to the covert action of an envious affronted or malicious human being who employs magical means to injure his victims. Such actions to inflict diseases may be performed either through sorcery or witchcraft (Murdock et al., 1998: 251-255).

Supernatural or Personalistic disease causation theory thus attributes illness to causative agents which are considered to be intelligent beings. This theory is particularly common among most non-western societies. Even if a person may know that mosquito bite causes malaria, he or she often thinks and believes the cause of the illness is due to the power and evil work of such agents as evil spirits, sorcerers, witches, ancestor ghosts, curses made by elders, wrath of supernatural beings, etc.

2.4.3 Emotionalistic Causation Theory

Emotionalistic causation theory states that illnesses occur due to some intense negative emotional experiences. A number of ethnographic studies have found out that there are for example mental illnesses that are unique to certain cultural settings (Pilgrims, 2000; Scupin and DeCorse, 1995). Such emotionalistic diseases that result from particular environments and cultural traditions may be termed as culture-bound syndromes (Howard and Dunaif-Hattis, 1992). In some cultures, emotional experiences such as anxiety and fright may cause an illness called *susto*, or what is also called 'soul loss' in anthropological literature. A person who is believed to be caught with this psychological illness may develop symptoms such as lethargy (tiredness or weariness), inactivity, vagueness, distraction (or thought disturbance), etc. In Ethiopia, which is predominantly a traditional society, traditional, non-scientific explanations of diseases are very important in diagnosis, treatment and management of diseases. Belief in the power of various intelligent agents such as ginnies, mitch, seitan, ganel, budda, etc to cause different psychological and physical ailments is very common in most cultures in the country (Zerihun, 2001). People in some cultures do not go

to a modern health care centre to seek help for certain types of diseases (Read 1996).

The views of disease causation people hold thus are very important in determining the people's health care seeking behaviour and type of diagnosis and treatment; that is why it is crucial for health care professionals to be culturally sensitive and to have some basic understanding of socio-cultural anthropological knowledge when dealing with the care of patients from different cultural and religious backgrounds (Hellmann, 1984; Galanti, 1997).

2.5 METHODS AND TECHNIQUES IN HEALTH STUDIES

“Methods” are ways of studying people from an anthropological perspective. They are the various approaches anthropologists take to learn about a given people or culture. They include such general things as “participant observation” (a key method of study in socio-cultural anthropology), as well as including more specific things such as survey research, archival research, and more. Here we need to remember that whatever the area of focus, anthropologists generally use the same research techniques (Lambert et.al.2002).

Medical anthropology utilises all methods that are also used in other areas of socio-cultural anthropology, for example, participant observation or different forms of interviews. However, these methods have to be adapted carefully to the specific research topics of medical anthropology. For example there may be general guidelines for the execution of an “expert interview“, but in application there is a big difference whether the expert is a physician, an ayurveda doctor or a self-trained homeopath. Other unique and at times unusually complex problems in medical anthropology research can be the access to healers and patients and the ethical dimensions of research about life and suffering

Applied anthropology methods are eclectic, ranging from qualitative to highly quantitative. Ethnographers have developed rapid assessment techniques to document community health needs during brief field trips. Others trained in public health, epidemiology, nursing, or medicine may do clinical or laboratory procedures or work with vital statistics. In quantitative approaches, rigorous attention is paid to sampling issues and sophisticated statistical analysis, and informed consent procedures are followed. As Carole E. Hill (1991) points out, many medical anthropologists are now working outside academia and combining standard anthropological skills with technical planning and evaluation skills.

2.5.1 Participant Observation

The classical research method in anthropology is participant observation. As defined by Malinowski, the investigator in the field has to integrate him- or herself into an unknown cultural context. Participating in everyday life of other human beings only becomes possible by learning the foreign language. Participant observation thus involves a researcher, or researchers, living within a given culture for an extended period of time, to take part in its daily life in all its richness and diversity. The anthropologist in such an approach tries to experience a culture “from within,” as a person native to that culture might do. Researchers doing participant observation often take part in the daily life of the culture, trying to

exist in the culture as if they were born into it. This is probably the most frequently included, if not necessarily the most heavily utilised, technique. Much depends on the interpretation of the researcher concerned and so emphasis has been laid on the proper orientation of the researchers (Lambert et.al. 2002).

The ideal of anthropological field research is participant observation, where a “disturbance” of the observation situation should be avoided by the researcher. This is particularly valid for research about “medical pluralism”, indigenous perception of and behaviour towards illness and people’s attitudes towards the different therapeutic options.

Reflection

The methodological implications of doing research on a ‘stigmatised’ topic (which may be AIDS as well as any other stigmatised topic), illustrates the risks and benefits of qualitative research. The exploration of stigmatised and tabooed topics has direct implications for the actions and the position of the field researcher himself: the anthropologist becomes the bearer of secrets who is not only restricted by his role as a ‘participant observer’ but who for ethical reasons, cannot make his knowledge public even if the decision to stay silent may lead to new infections and, therefore, to increased suffering. Even before beginning fieldwork it is for these various reasons essential to reflect on the potential ethical dilemmas which may result from doing research on a stigmatised topic.

2.5.2 Case Study Method

Nichter and Nichter (1996) who takes an ethno-medical approach when investigating international health proposes that the best way to approach the subject is to examine a number of individual case studies. They argue that each case study can shed light on specific issues including reproductive health, disease control, health education, and pharmaceutical use, etc. To illustrate their point, they studied women’s reproductive health by examining women’s health practices during pregnancy, fertility related practices, and interpretations of and demand for fertility control (1996: 1). By researching individual cases Nichter and Nichter were able to investigate many diverse factors, both social and biological, that contribute to each of these issues.

By studying about one illness or problem in many different cultures we are able to understand about it from varied perspectives. It is sometimes thought that by taking away the cultural ‘noise’ we can reveal the true nature of the illness or problem outside its cultural context. An alternative view developed here is that the causative factors, experiences, expressions and consequences of physical or mental suffering may vary in different cultures. A complaint makes no sense in a cultural vacuum, because its meaning cannot be accurately communicated. A society’s culture can be likened to an individual’s memory. Health practitioners while acknowledging the presence of certain outstanding personality dimensions across cultures must therefore realise the need for understanding the interaction of collective and individual identity.

2.5.3 Survey Research

Survey research is a method in anthropological research that describes any technique that involves asking respondents questions. The survey in the title can

be an in-depth one-on-one interview or a short questionnaire. Anthropologists who use surveys frequently do so in combination with another method, and much has been written about respondents falsifying answers to questions. Nevertheless the importance of this method in understanding the health situations of various communities cannot be denied (Lambert et.al. 2002).

2.5.4 Cross-cultural Comparisons

Cross-cultural comparisons are just what they sound like, a research technique that compares one culture with another or several others. These comparisons can be comprehensive or focus on a specific element of a culture's practices. These comparisons grew out of an attempt to document the similarities, rather than differences, among cultures and to hypothesize probable causes of human behaviour beyond explanations deemed cultural, ethnic or environmental. Practicing anthropologists can use cross-cultural comparison methodologies to compare field data or case studies from a wide variety of cultural groups in attempts to gain a greater understanding of the health status of humanity as a whole. This method is sometimes called worldwide cross-cultural analysis. Researchers conducting health studies can also instigate a controlled comparison among a set number of cultural groups that have some element in common to try and gain a deeper understanding of that element and the people it impacts (Lambert et.al. 2002).

2.5.5 Documentation

Practicing anthropologists can use this cross-cultural approach in the related techniques of media analysis, archival research and historical analysis. These are all terms that describe applying cross-cultural inquiries to written documents. The documents could be directly from the culture being studied, from documents studying particular cultures or documents created in response to second hand studies of a culture. Presently, these terms go beyond written documents to include digital representations. We can well understand the importance of this method in health studies (Lambert et.al. 2002).

2.6 ROLES OF PRACTICING ANTHROPOLOGISTS AND CONTRIBUTIONS OF ANTHROPOLOGY TO HEALTH

Applied medical anthropology is strongly interdisciplinary in its nature and approach. Medical anthropologists often work with academics in the field of sociology, medicine, psychology, and demography. Applied medical anthropology brings with it anthropology's comparative framework which helps medically trained people avoid a limited one culture perspective, to see how social and environmental factors affect health, and to be aware of alternative ways of understanding and treating disease (Kottak, 2002; Scupin and DeCorse, 1995; Howard and Dunaif-Hattis, 1992; and Brown, 1993).

In general, medical anthropologists play two important roles i.e. they work in collaboration with health and other professionals and researchers, as consultants, advisers and researchers and they are involved in independent research for the advancement of anthropological knowledge (Kottak, 1994; Scupin and DeCorse 1995; Hahn 1999).

Some of the specific applications or contributions of practicing anthropology in the field of health and illness include helping hospitals and health agencies to deliver health care more effectively to the people, helping the national and international health organisations by providing anthropological data on the cultures of peoples of the world and working with epidemiologists in identifying the effects of cultural practices and beliefs on the transmission of disease and assisting health professionals in the area of disease prevention and control. Their contribution in the fields of general health education efforts relating to family planning maternal and child health, improving community sanitation and nutritional counselling has helped immensely in enhancing community participation in disease prevention.

The publication of Philippe Bourgois and Jeff Schonberg's book, *Photo Ethnography, Righteous Dope Fiend*, part of the University of California's Series in Public Anthropology, -makes a case for "critically applied public anthropology" through its focus on the unintended consequences of public policies that inadvertently exacerbate the suffering of street-based drug users in the United States (Brondo, 2010: 112(2):212). The work was on exhibit at the Slought Foundation of Philadelphia from December 3 to 31, 2009, and at the University of Pennsylvania Archaeology and Anthropology Museum from December 5 through May of 2010. The exhibition was designed as a public conversation in conjunction with the Penn Center for Public Health Initiatives' 2009–10 series, *Creative Action: The Arts in Public Health*. Policy recommendations that emerged from their research include the expansion of single-room occupancy hotels with in-house Medical staffs, mobile health clinics, and methadone clinics and better case management for emergency room "frequent flyers (Brondo, 2010).

2.7 SUMMARY

As we have noted, health is a multidimensional state. It can be broken down not just into physical, mental and social domains, but also into further subdivisions within each of these. We can at once be relatively healthy in some aspects of life and relatively unhealthy in other aspects of it. There is no clear line that we cross to move from an unhealthy category into a healthy category. People, and their health, are more complicated than that. In the Alma Ata declaration of 1978, the WHO put greater emphasis on the social dimensions of health by focusing on primary healthcare. This declaration stated that resources were too concentrated in centralised, professionally dominated, high-tech institutions – especially hospitals. Instead it emphasised the importance of community participation in healthcare and the importance of communities having some ownership over their health services. In focusing on the primacy of the community, this declaration allowed for the incorporation of community values. Different communities have different values. These differences often reflect different cultures or subcultures. Thus the movement towards community health also offered a mechanism for integrating cultural values into healthcare. Perhaps the clearest integration of culture into a community-focused definition of health is the following, adopted by Health and Welfare Canada (cited in Kazarian & Evans, 2001:7) "... a resource which gives people the opportunity to manage and even change their surroundings . . . a basic and dynamic force in our lives, influenced by our circumstances, our beliefs, our culture and our social, economic and physical environment". Qualitative methods are now common in research into the social and cultural

dimensions of ill health and health care. Anthropology as an applied science when utilised in health issues is related most commonly to the biological, social and cultural dimensions of health, ill-health and medicine.

In short, applied medical anthropology or practicing anthropology of health requires the combined expertise of a medical professional, a social worker and an anthropologist. Satisfaction in work is immense for practicing anthropologists working in areas related to health as it can contribute to understand and solve health problems and their origins in their totality. Practicing anthropologists are in great demand in the developing countries of Africa and Asia, who can guide their governments in creating a sustainable, holistic and effective health care program.

The breadth and reach of practicing anthropologists in 2009 suggests that anthropology has entered a new phase of advanced engagement at local, national, and international levels. Anthropologists here were active in bringing to light long-standing issues of health disparities and global health-related human rights violations, as well as in providing recommendations for national and community-level policy initiatives in the wake of this renewed public interest (Brondo 2010:208).

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Sample Questions

- 1) Discuss the importance of an understanding of the theoretical aspects of health in the study of practicing anthropology?
- 2) Discuss the different methods and techniques used by practicing anthropologists in health studies?
- 3) What do you understand by critical medical anthropology. Discuss?

UNIT 3 EPIDEMIOLOGY

Contents

- 3.1 Introduction
- 3.2 Definition of Epidemiology
 - 3.2.1 Determinants
 - 3.2.2 Health-related States or Events
 - 3.2.3 Applications
 - 3.2.4 Assessing the Community's Health
- 3.3 Core Epidemiologic Functions
 - 3.3.1 Public Health Surveillance
 - 3.3.2 Surveillance Cycle
 - 3.3.3 Field Investigation
 - 3.3.4 Analytic Studies
 - 3.3.5 Evaluation
 - 3.3.6 Linkages
 - 3.3.7 Policy Development
- 3.4 Descriptive Epidemiology
- 3.5 Analytic Epidemiology
 - 3.5.1 Experimental Studies
 - 3.5.2 Observational Studies
 - 3.5.3 Cohort Study
 - 3.5.4 Case-control Study
 - 3.5.5 Cross-sectional Study
- 3.6 Epidemic Disease Occurrence
- 3.7 Communicable Diseases
 - 3.7.1 Classification of Communicable Diseases
 - 3.7.2 Measures of Disease in Populations
- 3.8 The Epidemiological Transition
 - 3.8.1 Demographic Changes
 - 3.8.2 Changes in Risk Factors
 - 3.8.3 Biological Factors
 - 3.8.4 Environmental Factors
 - 3.8.5 Social, Cultural and Behavioural Factors
 - 3.8.6 Changes in Community Relationships
 - 3.8.7 Changes in Lifestyle
- 3.9 Non-communicable Diseases, their Causes and Risk Factors
- 3.10 Summary
 - References
 - Suggested Reading
 - Sample Questions

Learning Objectives



Students who successfully complete this unit, should be able to correctly:

- describe key features and applications of descriptive and analytic epidemiology;

- calculate and interpret ratios, proportions, incidence rates, and prevalence;
- describe the processes, uses, and evaluation of public health surveillance; and
- describe the steps of an epidemic outbreak investigation.

3.1 INTRODUCTION

Epidemiology and anthropology share a common platform of work. They primarily focus on people living in groups i.e. as a community. Anthropology has four major subfields: cultural anthropology, physical or biological anthropology, pre-historic archaeology, and linguistics. Branching out from these subfields are several sub-disciplines that contribute much to the apprehension of epidemiological objectives. Medical anthropology, which emerged as a rational sub-discipline in 1950s rapidly materialised into one of the largest areas of research and practice within anthropology. Much of the work that concerns epidemiology and hence public health surveillance finds its roots in medical anthropology. The richness of this sub-discipline is obvious in the range of theoretical perspectives covered by it.

Anthropology also made significant contributions to the field of epidemiology. The method of collecting field data and analysis in terms of descriptive, formative and interpretative has been borrowed from ethnographic studies.

The basic unit of study in ecology is the population, as it is in anthropology and epidemiology. The concept of health and disease in ecology is based on three assumptions:

- 1) Disease is the result of an imbalance in the ecosystem.
- 2) Physical, biological and cultural factors and their interactions are interlinked to maintain the subtle balance between health and disease.
- 3) The ecological model offers a scaffold for the study of health in an environmental perspective, but it does not identify the factors that sustain health in a local system.

A parallel practice of principles and methods of biomedicine and those of biological and cultural anthropology can contribute to a better understanding of health and disease as dynamic, adaptive, population-based processes.

Anthropology addresses several questions about the effect of global, political and economic structures and processes on health and disease. It works to extend the findings of medical anthropology by bringing the latter closer to the perspective of epidemiological research, which can contribute to the creation of large-scale health systems that can serve the people (Janes 2009). Anthropologists study health care system at four levels to understand relationship between health and the participants of different population sub groups in a given social structure;

- 1) Individual level-recording experiences of the patients.
- 2) Micro level- studying the relationship between patient and physician.
- 3) Intermediate level-reviewing local hospitals and clinics.
- 4) Macro social-assessing the global political and economical effect on the health care system.

Beliefs that relate infectious diseases to paranormal phenomena, inequalities in the distribution and outcome of infectious diseases such as tuberculosis, AIDS (acquired immunodeficiency syndrome) and malaria, as well as social responses such as quarantine often pose a challenge to anthropologists. Interpretative anthropology is an attempt to correlate individual's experience of disease with the established description of the disease. The most important task of epidemiology is to find the root or origin of a disease and the effect of social factors, local and global inequities that effect the distribution of the same. The onset of a disease or outbreak of an epidemic is the result of several closely related factors one leading to another. A well designed evaluation system that targets these linked processes is needed in this regard.

Anthropological theory and methods have immense to give to the field of epidemiology for effective implementation of suitable measures. Anthropology develops as a subject or draws inference based on extensive field work. This could include passive observation of the flow of events and/or acquiring self-reported data by means of carefully designed questionnaires. This use of systemic, descriptive and qualitative methods to identify the context-specific factors in health and disease can contribute a great deal to the epidemiological research. A number of methodological benefits can be gained from combining anthropological and epidemiological approaches, including:

- Differences across cultures studied by anthropologists can be used to improve the development and measurement of epidemiologic variables.
- Research results can be communicated more effectively to policymakers and to a public audience.
- Best measures of variability in culture and behaviour can be developed.
- Ethnographic and epidemiological information can be used to design health surveillance systems that return data to communities in more comprehensible forms towards health and well-being. (Cengage, 2002).

3.2 DEFINITION OF EPIDEMIOLOGY

The term epidemiology has its roots in Greek, where the word “epi” means among, “demos” means people, and “logos” means doctrine. It originated more than 2000 years ago when Hippocrates observed the influence of environmental factors on the occurrence of disease. Epidemiology is defined as “the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the prevention and control of health problems” (Last, 1988). In the study of communicable and non-communicable diseases, the work of epidemiologists ranges from outbreak investigation to study design, data collection and analysis including the development of statistical models to test hypotheses and the documentation of results. Epidemiologists also study Syndemic (interaction of diseases) condition at population level. A systematic application of biology, geography and social science tools enables epidemiologists to understand the etiology and risk factors of a disease better and to trace the spread of a disease across different geographical areas.

Epidemiologic inferences rely heavily on data. Therefore a systemic and unbiased approach to the collection, analysis and interpretation of the same is an absolute must. This is followed by comparison with valid groups to assess whether what was observed such as the number of cases of disease in a particular area during a particular time period or the frequency of an exposure among persons with disease, differs from what might be expected. In other words epidemiology deals with frequency and pattern of health events in a population. Frequency refers to the number of health events such as the number of cases of tuberculosis or diabetes in a population as well as to the relationship of that number to the size of the population. The resulting rate allows epidemiologists to compare disease occurrence across different populations. Pattern refers to the occurrence of health-related events by time, place, and person.

3.2.1 Determinants

The term “determinants” refers to the factors that influence to develop a disease and other health related events. Several genetic, bio-chemical, environmental and geographical determinants dictate the course of a disease. Analytical epidemiology is the tool of choice in tracing such determinants. Such findings provide data that can be used to prompt public health control and prevention measures.

3.2.2 Health Related States or Events

Starting with only communicable diseases, epidemiology ended up encompassing non-communicable diseases also. By mid 20th Century, additional epidemiologic methods were created and applied to chronic diseases, maternal-child health, birth defects, injuries, occupational health, environmental health etc. Epidemiologists can also study genetic markers of disease risk by choosing any variety of technique from the repertoire of molecular biology. The term health related states or events may be seen as anything that affects the well-being of a population. However, many epidemiologists still use the term “disease” to refer to the wide range of health-related states and events that are studied.

3.2.3 Applications

The entire community on the whole is considered as a patient in epidemiology and therefore the conclusions drawn out of an epidemiological survey can be used to suggest suitable, realistic, and adequate public health interventions to control and prevent disease.

3.2.4 Assessing the Community's Health

Epidemiological research is the platform on which decisions on policy development, their implementation and evaluation, are made by health care professionals. The following questions are generally addressed to before developing policies:

- What are the actual and potential health problems in the community?
- Where are they occurring?
- Which populations are at increased risk?
- Which problems have declined over time?
- Which ones are increasing or have the potential to increase?

- How do these patterns relate to the level and distribution of public health services available?

It is surprising to see how epidemiologic information affects every individual's decision affecting health. The statutory warning of lung cancer on all brands of cigarette is a popular example. That cigarette smoke is a serious risk factor for lung cancer is a finding of epidemiological research in early as 1950s. In the mid-1980s, epidemiologists identified the increased risk of HIV infection associated with certain sexual and drug-related behaviors. The prime objective of epidemiology is to identify the factors that influence one's risk of disease so that suitable public health action might be taken.

3.3 CORE EPIDEMIOLOGIC FUNCTIONS

In public health practice the core epidemiological functions are: public health surveillance, field investigation, analytic studies, evaluation, linkages and policy development. These tasks are described below.

3.3.1 Public Health Surveillance

Public health surveillance is the ongoing systematic collection, analysis, and interpretation of data, closely integrated with the timely dissemination of these data to those responsible for preventing and controlling disease and injury (Thacker and Berkelman, 1988). Public health surveillance is a tool to estimate the health status and behaviour of the populations served by ministries of health, ministries of finance, and donors. Because surveillance can directly measure what is going on in the population, it is useful both for measuring the need for interventions and for directly measuring the effects of interventions. The purpose of surveillance is to empower decision makers to lead and manage more effectively by providing timely, useful evidence (Nsubuga et al., 2006)

3.3.1.1 Basic Concepts

- **Indicator:** It is a measurable marker that allows policy makers to estimate the burden of a disease in a community and assess the effectiveness of preventive steps.
- **Active surveillance:** It gathers information on population health on a regular basis with the help of health care professionals.
- **Passive surveillance:** The status of public health is interpreted from the records of hospitals, clinics etc.
- **Routine health information system:** It involves submission of reports on disease status by health care professionals, clinics etc.
- **Health information and management system:** It acquires reports that allow planning of the administrative proceedings of health care system.
- **Categorical surveillance:** Attention is focused on one disease and its corresponding intervention program. For example the HIV program. This can be done either by active or passive surveillance.
- **Integrated surveillance:** Several diseases and their intervention programs are taken into consideration at a single point of time. This can be done either by active or passive surveillance.

- **Syndromic surveillance:** Here information is collected based on symptoms of a disease under question. Consequently, the data collected could include all possible cases that mimic the actual disease condition, which might not be as deleterious as the true disease. This is often the first type of surveillance undertaken in developing countries during an outbreak. However, the data is not specific and needs confirmation by appropriate methods. This can be done either by active or passive surveillance.
- **Behavioural risk factor surveillance system:** This method investigates into the unhealthy practices of the public that render it liable to a disease condition. For example, the number of smokers in a community. This allows the health care professionals to address a disease at its very roots. This method is very effective in eradicating both communicable and non-communicable diseases.

3.3.2 Surveillance Cycle

Morbidity and mortality reports are common sources of surveillance data for local and state health departments. These reports generally are submitted by health-care providers, infection control practitioners, or laboratories that are required to notify the health department of any patient with a reportable disease such as meningococcal meningitis or AIDS. Other sources of health-related data that are used for surveillance include reports from investigations of individual cases and disease clusters, public health program data such as immunisation coverage in a community, disease registries, and health surveys. While public health surveillance traditionally has focused on communicable diseases, surveillance systems now exist that target injuries, chronic diseases, genetic and birth defects, occupational and potentially environmentally-related diseases, and health behaviours.

3.3.3 Field Investigation

Upon receiving information from surveillance the public health department can set to confirm or seek clarity in the report by phone calls or field investigation which requires organised efforts of dozens of people to characterise the extent of an epidemic and to identify its cause. Such enquiry often leads to the identification of additional unreported or unrecognised ill persons who might otherwise continue to spread infection to others. For example, one of the hallmarks of investigations of persons with sexually transmitted disease is the identification of sexual partners or contacts of patients. When interviewed, many of these contacts are found to be infected without knowing it, and are given treatment they did not realise they needed. Identification and treatment of these contacts prevents further spread.

3.3.4 Analytic Studies

Outbreaks of disease are often investigated initially with descriptive epidemiology. This is usually sufficient to identify causes, modes of transmission, and appropriate control and prevention measures. When the association between exposure and disease is reasonably strong, the investigation may stop when descriptive epidemiology is complete and control measures may be implemented immediately. John Snow's 1854 investigation of cholera is an example (Morris, 1978). But sometimes analytic studies employing more meticulous methods are needed in combination with surveillance and field investigations to evaluate the reliability

of the hypothesis. The characteristic of an analytic epidemiologic study is the use of a valid comparison group. Epidemiologists must be skilled in all aspects of such studies, including design, conduct, analysis, interpretation, and communication of findings.

3.3.5 Evaluation

Evaluation is the process of determining, as systematically and objectively as possible, the relevance, effectiveness, efficiency, and impact of activities with respect to established goals.

- **Effectiveness** is the ability of a program to produce the proposed results in the field; effectiveness differs from **efficacy**, which is the ability to produce results under ideal conditions.
- **Efficiency** refers to the ability of the program to produce the intended results with a minimum expenditure of time and resources.

3.3.6 Linkages

Epidemiological field work is a team effort where an epidemiologist can either be the leader or member of the team. The team members are often drawn from diverse disciplines like laboratory technicians, sanitarians, infection control personnel, nurses or other clinical staff, and, increasingly, computer information specialists. When the outbreak under investigation encompasses different geographical areas the co-investigators may be from local or state levels of government, academic institutions, clinical facilities, or the private sector. To promote current and future collaboration, the epidemiologists need to maintain relationships with staff of other agencies and institutions.

3.3.7 Policy Development

The once popular recommendation that epidemiologists should not get involved in policy development has been put to rest now. Certainly, epidemiologists who understand a problem and the population in which it occurs are often in an outstandingly qualified position to recommend appropriate interventions. As a result, epidemiologists working in public health regularly provide input, testimony, and recommendations regarding disease control strategies, reportable disease regulations, and health-care policy.

3.4 DESCRIPTIVE EPIDEMIOLOGY

A descriptive study is often the first step in an epidemiological investigation which involves description of the occurrence of a disease in a population. A simple description of the health status of a community, based on routinely available data or on data obtained in special surveys is often the first step in an epidemiological investigation. The link between exposure and effect is not addressed in these studies. The pattern of death against parameters like age, sex etc in various countries at specific times will be observed.

An example of a descriptive study is shown in the figure 3.1 and 3.2, which chart the burden of COPD in India from 1995 onwards. The data below shows that the number of patients with COPD, which was around 95 lakhs in 1995, is expected to rise to 165 lakhs by the year 2020. Moreover, adhering to the prescribed

treatment strategy could cut down the annual expenditure from 48000 crores to about 566 crores. Such data help health care professionals prioritise and also take necessary steps to minimise the economical burden.

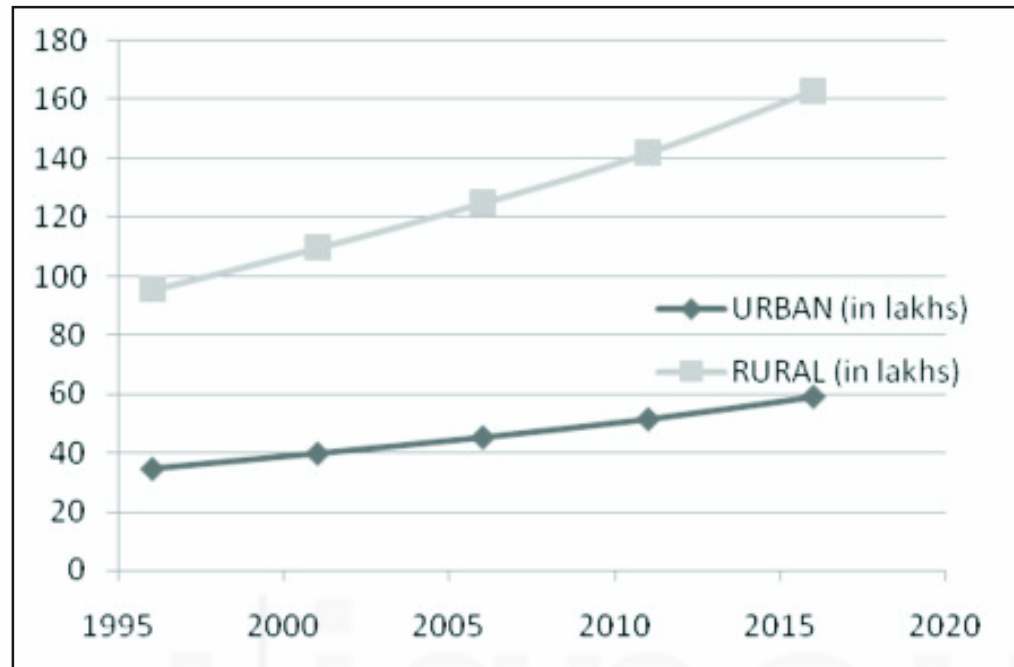


Fig. 3.1: Estimated number of patients (in lakh) with chronic COPD in India (modified from Murthy and Sastry 2005)

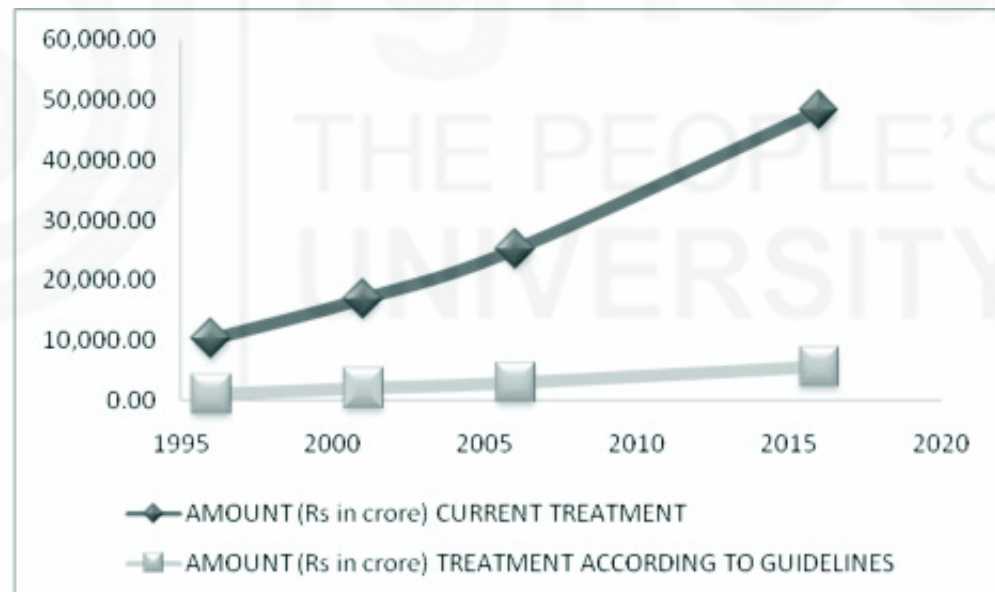


Fig. 3.2: Comparative treatment costs of COPD in India (Rupees in crores) (modified from Murthy and Sastry 2005)

3.5 ANALYTIC EPIDEMIOLOGY

An analytical study evaluates the relationships between health status and other variables. The characteristic feature of analytic epidemiology is a comparative group. An outbreak of Hepatitis A in Pennsylvania in 2003 can be cited as an example. It was discovered that all the people infected had eaten at a certain restaurant 2-6 weeks prior to the onset of the disease. However, the investigators could not attribute this to the contamination of any one particular food item. In

order to investigate into this, the researchers enquired a group of people who had eaten in the same restaurant at the same time but did not get sick. Of 133 items on the restaurant's menu, the most striking difference between the case and control groups was in the proportion that ate salsa (94% of case-patients ate, compared with 39% of controls). Further investigation of the ingredients in the salsa implicated green onions as the source of infection. Shortly thereafter, the Food and Drug Administration issued an advisory to the public about green onions and risk of hepatitis A (MMWR, 2003).

3.5.1 Experimental Studies

Experimental epidemiology involves testing the effect of a change in a variable on group of people. The effect of such an intervention is measured by comparing the outcome in the experimental group with that in a control group. Experimental studies include; For example, in a clinical trial of a new vaccine, the investigator may randomly assign some of the participants to receive the new vaccine, while others receive a placebo shot. The investigator then tracks all participants, observes who gets the disease that the new vaccine is intended to prevent, and compares the two groups (new vaccine vs. placebo) to see whether the vaccine group has a lower rate of disease. Similarly, in a trial to prevent onset of diabetes among high-risk individuals, investigators randomly assigned enrollees to one of three groups — placebo, an anti-diabetes drug, or lifestyle intervention. At the end of the follow-up period, investigators found the lowest incidence of diabetes in the lifestyle intervention group, the next lowest in the anti-diabetic drug group, and the highest in the placebo group.

a) **Randomized Controlled Trials**

Subjects in the study population are randomly assigned to intervention and control groups, and the results are assessed by comparing outcomes.

b) **Field Trials**

Field trials, in contrast to clinical trials, involve people who are healthy but presumed to be at risk. Since the subjects are disease-free and the purpose is to prevent diseases that may occur with relatively low frequency, field trials are often logistically complicated and expensive endeavors (M. Deepa and others, 2011).

c) **Community Trials**

In this form of experiment, the treatment groups are communities rather than individuals. This is particularly appropriate for diseases that are influenced by social conditions, and for which prevention efforts target group behaviour. (Bonita, R, R. Beaglehole and T Kjellstrom, 2006).

3.5.2 Observational Studies

In an observational study, the epidemiologist simply observes the exposure and disease status of each study participant. The common types of observational studies are cohort studies, case-control studies and cross-sectional studies.

3.5.3 Cohort Study

In a cohort study the epidemiologist records whether each study participant is exposed or not, and then tracks the participants over a period of time to see if

they develop the disease of interest. If the disease rate is significantly different in the exposed group compared to the unexposed group, the exposure is said to be associated with illness. These studies are also called **prospective** cohort studies, because participants are followed prospectively after enrollment over time to identify occurrence of the outcomes of interest. In **retrospective** cohort study both exposure and the outcomes have already occurred and the investigator calculates and compares rates of disease in the exposed and unexposed groups. In retrospective cohort studies the enquiry moves back in time.

3.5.4 Case-control Study

Case-control studies provide a relatively simple way to investigate causes of diseases, especially rare diseases. They include people with a disease of interest and a suitable control group of people unaffected by the disease. The study compares the occurrence of the possible cause in cases and in controls.

3.5.5 Cross-sectional Study

In a cross-sectional study the measurements of exposure and effect are made at the same time. Cross-sectional studies measure the prevalence of disease and thus are often called prevalence studies. It is not easy to assess the reasons for associations shown in cross-sectional studies. The key question to be asked is whether the exposure precedes or follows the effect. In sudden outbreaks of disease, a cross-sectional study to measure several exposures can be the most convenient first step in investigating the cause. Data from cross-sectional studies are helpful in assessing the health care needs of populations.

3.6 EPIDEMIC DISEASE OCCURRENCE

The amount of a particular disease that is usually present in a community is referred to as the baseline or **endemic** level of the disease. Some diseases are so rare in a given population that a single case necessitates an epidemiologic investigation (e.g., rabies, plague, polio), other diseases occur more commonly so that only deviations from the norm demand investigation. **Sporadic** refers to a disease that occurs infrequently and irregularly. **Endemic** refers to the constant presence and/or usual prevalence of a disease or infectious agent in a population within a geographic area. **Hyperendemic** refers to persistent, high levels of disease occurrence. Occasionally, the amount of disease in a community rises above the expected level. **Epidemic** refers to an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area. **Outbreak** carries the same definition of epidemic, but is often used for a more limited geographic area. **Pandemic** refers to an epidemic that has spread over several countries or continents, usually affecting a large number of people.

3.7 COMMUNICABLE DISEASES

Communicable diseases are infectious diseases that can spread from one person to another or from animals to people through a micro organism or its product. These diseases affect people of all ages but more commonly children due to their exposure to environmental conditions that support the spread. Well planned interventions can put a check to the spread of communicable diseases.

3.7.1 Classification of Communicable Disease

Communicable diseases can be classified into different ways as follows:

- 1) Contact diseases e.g. scabies, fungal skin infections, acute bacterial conjunctivitis and sexually transmitted diseases.
- 2) Vector borne diseases e.g. relapsing fever, yellow fever, plague and malaria.
- 3) Diseases caused by Fecal – oral contamination e.g., acute gastro-enteritis, bacillary dysentery, amoebiasis, cholera, enteric fevers and food poisoning etc.
- 4) Helminthic diseases e.g. ascariasis, enterobiasis, trichuriasis and hookworm.
- 5) Airborne diseases; acute respiratory infections, meningitis (bacterial and fungal) tuberculosis and leprosy.
- 6) Zoonotic diseases (diseases of contact with animals or animal products) e.g. anthrax, brucellosis, rabies, hydatidosis, tetanus.

3.7.2 Measures of Disease in Populations

Epidemiologists consider the following factors to measure disease frequency in a population:

- 1) Number of people suffering from the disease.
- 2) Size of the population which harbors the disease.
- 3) Time for which the population has been followed

Disease occurrence is measured and compared using ratio, proportions, and rates. A ratio is the output derived by dividing one number by another number. For example the sex ratio 0.9:1.0 means 900 females for 1000 male ($900/1000=0.9:1.0$)

The numerator of a proportion is always a split of the denominator. For example, the proportion of people belonging to a particular caste “A” is the number of people belonging to caste A divided by the total number of people in a community or predefined geographical area belonging to all castes.

While reporting rate, time is an essential part of the denominator. For example the occurrence of a disease in a country can be reported as 400 cases/100,000 population/ year. Other aspects taken into consideration to check disease occurrence in a population are:

a) Frequency Measures in Populations

Incidence and prevalence are the two basic measures of disease frequency in epidemiology. Incidence is the frequency of a new disease, and prevalence is the frequency of current disease.

b) Cumulative Incidence

It is the proportion of a candidate population that becomes diseased over a specified period of time.

c) **Incidence Rate**

The incidence rate is a measure of the frequency with which a disease occurs in a population over a specified period of time.

d) **Prevalence**

It is the ratio of the number of occurrences of a disease to the number of units at risk in the population during a given time period.

Incidence rates help us to know how fast the disease is spreading, infecting or affecting people. Incidence and prevalence are two distinct measures of disease frequency and hence should be used with caution. Incidence measures the rate of occurrence of new cases in a population whereas prevalence measures of the total number of cases of disease in a population.

3.8 THE EPIDEMIOLOGICAL TRANSITION

The occurrence of a shift from infectious to non-infectious diseases or vice versa is equally likely. In other words, the epidemiological transition need not be unidirectional. In fact it is a continuous transformation process, with some diseases disappearing and others appearing or re-emerging. Several factors like demographic, socio-economic, technological, cultural, environmental and biological changes dictate the course of events.

3.8.1 Demographic Changes

As populations become healthier in response to certain intervention measures, one can see a fall in infant mortality rate. More people will survive to adulthood and will have the disease patterns of adults, with non-communicable diseases like cancer and cardiovascular diseases at the top of list. Thus, even with constant age-specific incidence rates of non-communicable diseases, the absolute number of cases and deaths from these diseases increases substantially with the changes in demographic structure (Wahdan, 1996).

3.8.2 Changes in Risk Factors

The risk factors involved in the epidemiological transition include biological factors (micro-organisms), environmental factors, social, cultural and behavioural factors and the practices of modern medicine (ibid).

3.8.3 Biological Factors

Micro organisms have a tremendous ability to adapt and hence survive. The development of mechanisms that permit survival of the most adaptable micro-organisms is more rapid than the development of defense mechanisms that allow their hosts to combat microbial invaders. This poses a challenge to medicine when antibiotic or drug resistant strains continue to evolve.

3.8.4 Environmental Factors

Cleanliness and hygienic life style is of paramount importance when it comes to keeping communicable and non-communicable diseases at bay. Environmental factors may increase the incidence of infectious diseases if they offer opportunities for transmission of etiological agents from the reservoirs of infection to susceptible

hosts, for example by promoting breeding of vectors of diseases or because of overcrowding. For example diseases such as typhoid can be controlled by ensuring supply of water free from sewage contamination. Discharge of industrial effluents into soil, water or air is the reason behind the increase in some diseases such as various types of cancer and chronic chest conditions, including asthma and chronic bronchitis.

3.8.5 Social, Cultural and Behavioural Factors

Social, cultural and behavioral factors are closely related and interlinked. The shift from an agricultural to an industrial society and its accompanying process of modernisation produce changes that affect people's health (Wahdan, 1996).

3.8.6 Changes in Community Relationships

Modernisation which renders individuals busy from dawn to dusk has erased the family culture where family members could share sorrow and happiness to alleviate stress. An evident example of maladjustment due to urbanisation is the traumatic encounter of rural youth with urban values. This frequently has a serious impact on mental health. Another domain that has been seriously affected is the care for elderly. The elderly are now cared for away from their families in homes for the elderly.

3.8.7 Changes in Lifestyle

This is intimately related to modernisation. Several prospective studies emphasised that the life styles (conditions of life and the way people live and work) have been a cause of many diseases, particularly non-communicable diseases. It is commonly used in a restricted manner to mean specific individual behaviour patterns that are interpreted as risk factors. Thus lifestyle refers to the manner in which the social group translates its situation into a pattern of behaviour that produces what are called behavioural risks. For example, to cope up with the busy schedules people have begun to prefer fast foods over home cooked meals. Mass media (television, radio, newspapers, journals, magazines, books, etc.) is one of the important element in making several behavioural changes in lifestyle, social behaviour and social value systems. Media influence is so powerful that it could be rightfully said that the public is almost completely controlled by the media. Simultaneously mass media's negative influence on health comes from advertisements for commodities that are not necessarily needed by the community, but the latter is made to believe that what is advertised is needed (ibid). A particularly destructive example is tobacco advertising, which was very extensive a few decades ago and helped establish this hazardous habit. Its roots became well fixed in communities, who thought that smoking would make them appear modern and advanced. This has greatly contributed to increase in non-communicable diseases.

3.9 NON-COMMUNICABLE DISEASES, THEIR CAUSES AND RISK FACTORS

A non-communicable disease is non-infectious. They include heart disease, stroke, cancer, chronic kidney disease, diabetes, osteoporosis, Alzheimer's disease, cataracts, asthma etc.

Risk factors include age (e.g. Alzheimer's disease), sex (prostate cancer), genetics (Down's syndrome), exposure to air pollution (Asthma, COPD, lung cancer), and behaviours such as smoking, unhealthy diet and physical inactivity which can lead to hypertension and obesity, in turn leading to increased risk of non-communicable disease like diabetes. The five important risk factors for non-communicable disease identified by WHO's *World Health Report 2002* include raised blood pressure, smoking, alcoholism, raised cholesterol and overweight. Socio-economic conditions also are associated with higher risk of non-communicable disease.

The general statement once prevailed is that non communicable diseases were confined to developed countries and communicable diseases to developing countries. The burden of disease attributed to NCDs has been estimated at 85% in industrialised nations, 70% in middle income nations, and nearly 50% in countries with the lowest national incomes. Recent estimations indicate that NCDs accounted for more than 60% (over 35 million) of the 57 million deaths worldwide. Given the global population distribution, almost 80% of deaths due to chronic NCDs worldwide now occur in low and middle income countries, while only 20% occur in higher income countries. National economies are reportedly suffering significant losses because of premature deaths or inability to work resulting from heart disease, stroke and diabetes.

3.10 SUMMARY

As the basic science of public health, epidemiology includes the study of the frequency, patterns, and causes of health-related states or events in populations, and the application of that study to address public health issues. Practicing anthropologists with a background in public health studies and epidemiology can act as epidemiologists and use a systematic approach to assess the what, who, where, when, and why/how of these health states or events. Two essential concepts of epidemiology are population and comparison. Core epidemiologic tasks of a public health epidemiologist include public health surveillance, field investigation, research, evaluation, and policy development. In carrying out these tasks, the epidemiologist is almost always part of the team dedicated to protecting and promoting the public's health. Epidemiologists look at differences in disease and injury occurrence in different populations to generate hypotheses about risk factors and causes. They generally use cohort or case-control studies to evaluate these hypotheses. Knowledge of basic principles of disease occurrence and spread in a population is essential for implementing effective control and prevention measures.

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Sample Questions

- 1) Define epidemiology and its applications?
- 2) What are the core epidemiological functions?
- 3) Write a note on descriptive epidemiology and analytical epidemiology?
- 4) What are communicable and non-communicable diseases? Describe with suitable examples.

UNIT 4 APPLIED ASPECTS AND PUBLIC HEALTH

Contents

4.1 Introduction

- 4.1.1 Definition and History of Public Health
- 4.1.2 Concept of Community Health
- 4.1.3 Difference between Public Health and Clinical Health Profession
- 4.1.4 Relationship between Anthropology and Public Health
- 4.1.5 Theoretical and Methodological Contributions

4.2 Anthropological Design of Public Health Interventions

- 4.2.1 An Example of Anthropological Intervention
- 4.2.2 Role of Anthropologist as Community Recommends

4.3 Anthropological Evaluations of Public Health Initiatives

- 4.3.1 Qualitative Research Methods
- 4.3.2 Difference between Quantitative and Qualitative Research Approaches
- 4.3.3 Types of Qualitative Data Collection Techniques
- 4.3.4 Example of Qualitative Evaluations of Public Health Initiatives

4.4 Anthropological Critiques of Public Health Policies

4.5 Summary

References

Suggested Reading

Sample Questions

Learning Objectives



By the end of this unit, you should be able to:

- understand the important role of anthropology in public health interventions;
- understand qualitative research methods in anthropology and their applications;
- how anthropologists can do advocacy in formulating public health policies; and
- know about applications of anthropological knowledge and practices, and scope of applied/practicing anthropology.

4.1 INTRODUCTION

The applications of anthropological knowledge cover diverse fields and with this vast knowledge gathered through anthropological research it has the potential for improving the human conditions. Anthropologists are uniquely qualified, because of their ethnographic training, not only to gather information from the communities on the receiving end of government policies of intervention and change but also to act as “cultural brokers” between policy makers and “target populations”, many of whom are traditionally powerless groups that have little access to power centers where such policies are made. Anthropologists are often identified with the study of primitive cultures or remote cultures that seems, at first glance, to have little to do with the problems of contemporary world. But in

reality, anthropologists have always tried to contribute through their anthropological knowledge and fill the vacuum between the policymakers and the target communities. In this lesson we will try to learn in detail how anthropologists provide intellectual support in the domain of public health (Singer et. al., 2007).

4.1.1 Definition and History of Public Health

Public health is “the science and art of preventing disease, prolonging life and promoting health through the organised efforts and informed choices of society, organizations, public and private, communities and individuals” (Winslow, 1920). As such public health focuses on health of the population or community, in which there is no definite number of population covered. It may be a small set of community or a big nation, like in case of a pandemic, depending on the gravity of the problem. Public health, in other words, is the organised endeavor to improve the health of communities rather than individuals. While combating diseases or illnesses, public health professionals do not depend on a set of knowledge, but they handle the problems with a different approach, relying more on the social science/anthropological approach. Such approaches are culturally appropriate, sustainable and acceptable to the communities for improving their health behaviours. There are several factors influencing the community health behavior like, social, cultural, biological and environmental. To understand this dynamic process, the public health practice uses a large body of skills and knowledge for successful interventions. Therefore, the scope of public health is very wide and it undergoes changes according to the changing patterns of diseases in the populations. For, example in India, over the last decade, the focus or priorities have shifted from communicable diseases to non-communicable diseases due to the rising number of incidences and changing lifestyles of communities.

4.1.2 Concept of Community Health

Community Health is a sub-discipline of public health and concerns with the study and betterment of the health characteristics of biological communities. While the term community can be broadly defined, community health tends to focus on geographic areas rather than people with shared characteristics. The aim of medical interventions is to improve health of a community through improving access to medical facilities to campaign of public health communications.

Box 4.1: Community health can be divided into three broad categories:

- a) **Primary health care :** aims at interventions in the individual or family level such as immunisation, family planning, use of condoms, use of mosquito nets, etc.
- b) **Secondary health care:** aims at activities which focus on the surroundings/settings such as water logging in the colony, clearing bushes, spraying insecticides to control vectors like mosquitoes, cleaning drinking water, etc.
- c) **Tertiary health care :** aims at interventions that take place for advanced medical investigation and treatment, such as a tertiary referral hospital. This is a consultative health care process, usually for inpatients and on referral from a primary or secondary health professional.

4.1.3 Difference between Public Health and Clinical Health Profession

Public health as a profession emerged in mid 20th century focusing mainly on community health, whereas clinical health profession deals at individual levels. Clinicians treat the patients for specific diseases which include a wide range of illnesses. But public health professional are more concerned about the prevalence of a particular disease in a community and try to look at the patterns through surveillance or existing data. The public health professionals' approach is more preventive rather than curative which is exactly opposite to clinician's approach. Public health profession has multi-disciplinary approach which includes medical professionals, anthropologists, behavioural scientists, social workers, nursing staff, etc.

Clinical practitioners look at the specific individual problems in a given timeframe exhaustively. But public health professionals look at the problems from a community perspective with a aim of promoting healthy behaviour, knowledge amongst the people so that the community as a whole lead a healthy lifestyle. The public health professionals are concerned about the entire generation or even ahead and they also deal with the issues of human rights, social justice, etc. Whereas clinicians concentrate more on individual patients and their rights at an individual level.

From an educational perspective, clinical practitioners focus on the biomedical model with more emphasis on cure than prevention (although this is shifting now) whereas in public health, importance is more about sociology, epidemiology, cultural anthropology, economics and more.

But in reality, both are complimentary and supplementary to each other. Because the common concern of both the professions are disease and illness. Though there are differences in scales, differences in methods, approaches or ethics, but in the practical aspects these differences do not play much role compared to the common factors.

Box 4.2: Public Health Activities

- Population health assessment
- Prevents epidemic
- Protects the environment, workplaces, housing, food ,and water
- Monitors health status of population/ health surveillance
- Health promotion / health protection
- Disease and injury prevention
- Mobilizes community action
- Respond to disasters
- Assures quality, accessibility, and accountability of medical care
- Reaches out to link high-risk and hard – to – reach people to needed service
- Researches to develop new insights and innovative solutions
- Leads to the development of sound health policy and planning

Source: *For a Healthy Nation: Returns on Investments in Public Health*, Executive Summary 1994, U.S. Department of Health and Human Services, Public Services.

4.1.4 Relationship between Anthropology and Public Health

Public health focuses on interventions to improve community health and quality of life through the prevention and treatment of disease through surveillance of cases and the promotion of healthy behaviours. The primary focus of anthropology is also the study of people in the group or local communities in their socio-cultural context. Therefore, the focus on community is common in both the fields. Community is the foundation where both anthropology and public health can work hand-in-hand. Apart from the four major branches, i.e, cultural anthropology, physical anthropology, pre-historic archeology and linguistic anthropology, medical anthropology emerged as a sub-discipline of anthropology in the 1950s. Medical anthropology studies human health and disease, health care systems, and bio-cultural adaptation and has much to contribute to the areas of public health. Over the years medical anthropology and public health have become complementary to each other and worked together in various cross-cutting areas of public health. Both the disciplines have tried to understand, explain diseases and illnesses at the community levels and attempted to combat against them. The relationship between anthropology and public health is a complex and multifaceted one. Some anthropologists work directly with and for public health projects at the 'macro' level in the arena of international or global health policy and planning; others work at the 'micro' level in a variety of national, regional and local grassroots contexts. (Pool and Geissler, 2005).

4.1.5 Theoretical and Methodological Contributions

Anthropological theory and methods have much to offer public health in the area of translating public health knowledge into effective action. Contributions range from basic issues of cultural sensitivity to enhance the acceptability and effectiveness of proven practices in clinic settings to the development of policy for the provision of complex treatment regimens for emerging epidemics under conditions of inequity in access to health care. (Macqueen, 1999). Moreover, anthropologists are asking questions about the root causes of public health's toughest problems. These problems are not often amenable to study using controlled clinical trials or cross-sectional survey designs. Rather, they are dynamic, systems-level problems that require field-based observation and the use of multiple methods that are both qualitative and quantitative.

Medical anthropology draws upon many different theoretical approaches as medical anthropologists study the health of individuals in the background of larger social formations, and how environment affects humans and other species. They also study cultural norms, social institutions, politics and globalisation. The theoretical approaches to understanding human health are : (a) epidemiological, or ecological, approach – this approach examines the way culture and the natural environment interacts to create patterns of health or disease; (b) interpretive approach – this approach looks at the way cultures use symbolic meaning to describe and understand health and diseases; (c) critical medical anthropology – this approach focuses on how economics and politics affect human health (Hill [ed], 1995).

Anthropology has made important methodological contributions to public health, especially with regard to the use of ethnography for the systematic collection of field data; qualitative methods for the collection and analysis of descriptive, interpretative, and formative data; and the integration of qualitative and quantitative approaches. The ability to translate scientific knowledge into effective

practice at the community level is a third area where anthropological approaches have much to offer public health. The development of rapid assessment technique is a prime example of anthropological contributions to the public health methodological tool-kit. As described by J. Beebe (1995) this is a multidisciplinary team-based approach designed to generate reasonably valid, reliable, and qualitative results within a short time frame. Rapid assessments can provide the contextual information needed to design in-depth community-level and community-based public health research and to guide decisions about implementing programs in local settings (Mishler et. al., (1981).

4.2 ANTHROPOLOGICAL DESIGN OF PUBLIC HEALTH INTERVENTIONS

On the basis of the above discussion it is well evident that anthropological knowledge and understandings are essential for any public health interventions. Public health is an applied field characterised by a population-based approach to health, and statistical methods are considered to be the appropriate underlying method for the field. It is viewed as a science that seeks to intervene, control, and prevent large-scale processes that negatively affect the public's health. By these criteria, there is a strong logical parallel with anthropological principles and practices within public health. The applied tradition of anthropology mainly focuses on studying illness beliefs with the aim to contributing to health interventions. The cognitive approach is interested in revealing and describing the underlying cultural codes as schemas that structure people's interpretations of illness (Hahn, 1999).

4.2.1 An Example of Anthropological Intervention

Despite the call for universal access to skilled birth attendance (SBA) during pregnancy and childbirth, especially in the context of achieving UN MDG 4 (United Nations Millennium Development Goals 4) (reduce child mortality rates); and MDG 5 (improve maternal health), this ideal target has not been achieved by some countries of the South East Asia region like India, Bangladesh and Nepal. While efforts to develop SBA in all countries must continue, it may be deemed necessary for other health workforce based in the community to attend to mothers and newborns. Among the community-based attendants, almost all countries have a long history and custom of having traditional birth attendants (TBAs) who are popularly known as '*dais*' in India. TBAs are independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the post-natal period. TBAs not only play vital role before, during and after the childbirth, but also have socially/historically defined crucial roles in a particular society which may differ from community to community.

WHO has recently become aware about a debate in India which seeks to re-visit the role of TBAs in maternal and child health under the National Rural Health Mission. It seems that while government is committed to improving skilled birth attendance, phase out the TBAs role during childbirth and encourage institutional deliveries as a medium-to-long term goal, the need to explore alternatives in the interim has been articulated. Since the TBAs are accessible and experience indicates that the community is utilising their services, the challenge before us is to determine what effective role they can play in India's efforts to achieve MDG 4 and 5. To do this, a deeper understanding of the interplay of the sociological

4.2.2 Role of Anthropologists as Community Advocates

From the above example one can very well infer the role of an anthropologist in advocating for the TBAs and their crucial socio-cultural roles in a particular community which are deep rooted. At the same time, it is also their responsibility to support government policy for achieving the national goal. At this point of time an anthropologist, through an action research, can examine role of TBAs with a holistic approach in their socio-cultural milieu. It is reasonable to hypothesize that a meaningful and effective intervention model can be developed to modify both supply and demand side determinants only if the social and anthropological dimensions are factored in to the model. It has been realised by the Government and other UN agencies that only with the help of an anthropological study the desired goals could be realised in gradually phasing out TBAs. An anthropologist can play the role of a cultural broker and help in bridging the gap between policy-makers and the community (Winch et al, 2000).

Similarly, there are various sensitive public health problems where the anthropological interventions are crucial in solving them. Sensitive issues like HIV/AIDS, psychiatric problems, tobacco and alcohol related problems could be easily resolved through the interventions of anthropological understandings. Every society has its own cultural beliefs, cultural practices and myths, which could be handled in their own cultural context. Public health interventions should be designed keeping in mind of the grass-root realities and community perceptions. Anthropologists always advocate for bottom-up approach rather than top-down. Therefore, it is very important for the public health professionals to work hand-in-hand with the anthropologists for any successful public health intervention. The health programmes are meant for communities and community acceptance is of utmost importance to reduce the gap between planning and implementation of the programmes.

Box 4.3

Action research: Action research is a systematic form of inquiry that is collective, collaborative, self-reflective, critical, and undertaken by the participants of the inquiry. Action implies that the researcher will be acting as the collector of data, the analyst, and the interpreter of results to utilise the results for policy change.

Advocacy in public health: Advocacy is a process by which an individual or a large group aims to influence public-policy and resource allocation decisions within political, economic, and social systems and institutions. Advocacy in public health encompasses direct service to the individual or family as well as activities that promote health and access to health care in communities and the larger public.

4.3 ANTHROPOLOGICAL EVALUATIONS OF PUBLIC HEALTH INITIATIVES

By now we have come to realise the importance of anthropological methods and principles in public health interventions. Health advocacy is a major purpose of

applied anthropology. Anthropologists also work as evaluators, examining the activities of public health initiatives and the successes and failures of public health programs.

4.3.1 Qualitative Research Methods

One of the greatest strength and uniqueness of anthropological evaluation is the use of qualitative research methods like, focus group discussions, in-depth interviews, and participant observations to evaluate the problems and for the planning and successful implementation of health programmes. The strengths of qualitative research methods are that they are exploratory and flexible. The results of a quantitative survey, using closed-ended questions, provide public health planners and programmes with information about characteristics of the population on a set of predetermined questions. Qualitative methods allow the researcher to ask questions to different people in different ways, and to modify the questions and data collection methods to explore topics that were not initially deemed important. Qualitative research is a type of formative research that includes specialised techniques for obtaining in-depth responses about what people think and how they feel. It is seen as the research that seeks answer to the questions in the real world. Qualitative researchers gather what they see, hear, read from people and places, from events and activities, with the purpose to learn about the community and to generate new understanding that can be used by the social world. Qualitative research has often been conducted to answer the question “why” rather than “what” and the purpose of qualitative research is the construction of new understanding (Mack et. al., 2005).

4.3.2 Difference between Quantitative and Qualitative Research Approaches

	Quantitative	Qualitative
General framework	• Seek to confirm hypotheses about phenomena • Instruments use more rigid style of eliciting and categorising responses to questions • Use highly structured methods such as questionnaires, surveys, and structured observation	• Seek to explore phenomena • Instruments use more flexible, interactive style of eliciting and categorizing responses to questions • Use semi-structured methods such as in-depth interviews, focus groups, and participant observation
Analytical objectives	• To quantify variation • To predict causal relationships • To describe characteristics of a population	• To describe variation • To describe and explain relationships • To describe individual experiences • To describe group norm
Question format	• Closed-ended	• Open-ended
Data format	• Numerical (obtained by assigning numerical values to responses)	• Textual (obtained from audiotapes, video tapes, and field notes)
Flexibility in study design	• Study design is stable from beginning to end • Participant responses do not influence or determine how and which questions researchers ask next • Study design is subject to statistical assumptions and conditions	• Some aspects of the study are flexible (for example, the addition, exclusion, or wording of particular interview questions) • Participant responses affect how and which questions researchers ask next • Study design is iterative, that is, data collection and research questions are adjusted according to what is learned (Winch et. al., 2000)

4.3.3 Types of Qualitative Data Collection Techniques

Focus Group Discussion (FGD): In this method the researcher brings together a small number of subjects to discuss the topic of interest. Since it is a small group the members do not feel intimidated but can express opinions freely. Normally the discussion is tape-recorded, then transcribed and analysed.

In-depth interview (IDI): In-depth interviews use the same principle as a focus group, but subjects are interviewed individually, ideally in the patient's own home. Interviews in qualitative research are usually wide ranging, probing issues in detail.

Observations: Data can be collected through external observations, referred to as a non-participant observer. In this type of study the researcher aims to become part of the population being studied, so that they can develop a detailed understanding of the values and beliefs held by members of the community.

Case-study: This is an in-depth study of just one person, group or event. This technique is simply a description of individuals.

Diary methods: The researcher keeps a personal account of daily events, feelings, discussions, interactions etc.

Role-play and simulation: Participants may be asked to play a role, or may be asked to observe role-play, after which they are asked to rate behaviour, report feelings, and predict further events. (Winch et. al., 2000)

4.3.4 Example of Qualitative Evaluations of Public Health Initiatives

As discussed earlier, anthropologists play important roles as evaluators, examining the activities of public health institutions and the successes and failures of public health programs. There are numerous examples across the globe as well as in India where a particular health program has been successfully implemented due to anthropological evaluations.

Example 1: Tobacco use is a major public health menace due to which about 1 million Indians die from tobacco-related diseases each year in India. There are almost 275 million tobacco users in India. More than one-third of adults (age 15+) use some form of tobacco, including almost half of men (48 percent) and 20 per cent of women. Recognising the gravity of this problem, Government of India has implemented a comprehensive tobacco control law to curb the tobacco related disease and deaths. There are a number of policies and tobacco cessation centers set-up to help the tobacco users in quitting tobacco. But in various parts of India, especially in North East India, among the tribal communities, use of smokeless (chewing) tobacco is a socio-cultural practice and a gesture of hospitality when they receive a guest. It is well evident that in North East India the prevalence of oral cancer is very high due to tobacco chewing. But knowing the facts does not solve the problems as it is a deep-rooted cultural practice. It is only through the anthropological evaluations and interventions awareness could be generated amongst the people and gradually implement the tobacco control laws taking into consideration of the cultural context. The policy makers, the health care professionals or the implementing agencies must consider and handle this problem sensitively (Tobacco Control Report, 2004)

Example 2: *Bidi* consumption and *bidi* production both have major public health implications. It has been recognised as a hazardous occupation as it affects the user as well as the *bidi* rollers. 800 million *bidis* are sold in India each year. *Bidi* industry in India is a highly unorganised sector and 98% of *bidis* are handmade. The industry employs mostly women (76%) and children (15-25%). There are about 5 million *bidi* rollers in India. Children and women *bidi* rollers suffer from various kinds of exploitations from the employers due to being unorganised and disguised employment. There is no direct contact between the employers i.e. the factory owners and the workers. The middlemen play an important role in the lives of *bidi* rollers on a day-to-day basis. Despite the legislation against child labour in India, children in the *bidi* industry seem to have no justice. Majority of the *bidi* rolling children are girls, as young as 5 years, who are made to stay at home and are forced to work for long hours (more than ten hours) to augment the family income. There are a number of reports, articles and studies which echo the plight of women in the *bidi* industry. It is a well-known and evidence based fact that there are gross violations of human rights in the process of *bidi* production. Indian government has passed several legislations and policy measures aiming at improving working conditions and providing social security benefits for the welfare of *bidi* workers. However, in reality these policies and legislations have done very little to protect the interests of *bidi* workers who are among the most marginalised sections of society. The low wages received by *bidi*-workers push them to further poverty without any alternatives and thus putting them into a vulnerable bracket.

Despite the government's efforts in rehabilitating the *bidi* workers by providing them with safer, better and alternative livelihoods, still home-based *bidi* production is going on increasing. Through an anthropological evaluation/study, it was found out that there are socio-cultural and religious reasons behind carrying on with this age old occupation which is going on for generation after generation. Government is not taking culturally appropriate measure to rehabilitate these vulnerable women and children who are suffering from tremendous health consequences (Voluntary Health Association of India, 2008).

4.4 ANTHROPOLOGICAL CRITIQUES OF PUBLIC HEALTH POLICIES

Anthropology has undergone significant theoretical and pragmatic changes over the past half-century. As a discipline, anthropology has been criticised for its role in imperial conquest. During colonial times, anthropologists often accompanied colonial explorers and military in order to facilitate their work and this is often referred to as 'the handmaiden era' in the history of anthropology. However, during the past half-century social-cultural anthropology has turned towards a more critical, reflexive and holistic approach. With its new critical and reflexive perspective, anthropology has a lot to contribute to the development of health policy. The field of public health, and more generally, policy development requires research contributions from a multitude of disciplines. (Campbell, 2010)

At times, contribution of anthropology to public health is less commonly recognised and it seems that despite anthropology's great potential for informing health policy, its actual contribution is quite small. The reason for anthropology's minimised role in health policy development could be found in its primary

methodological approach: ethnography. Many involved in the process of policymaking have argued that the data generated by anthropological research is less valuable because it does not lend itself to broad 'scientific' extrapolation, as does epidemiological data. Ethnographic research involves observing and conducting interviews with a small group of people. With such small numbers, it is possible to argue that these individuals could easily be unrepresentative of the general population (ibid).

According to Hann (1999), anthropologists try to look at the world through some fundamental principles of anthropological research. Cultural relativity is the basic principle through which anthropologists try to view the world which is precisely opposite of ethnocentrism. Cultural relativity means a particular culture evolves within its cultural context with a set of norms and values, and no culture is "superior" or "inferior", and culture is not something absolute, but is relative. The importance of a particular cultural idea varies from one society to another, and the ethical and moral standards are relative to what a particular society or culture believes to be good/bad, right/wrong. On the other hand, ethnocentrism looks at one's own culture as more superior to any other culture. Cultural relativism was principle in anthropological research initiated by Franz Boas in the beginning of the 20th century. The objective of anthropological research is to understand a culture in its own context, which is influenced by the environment, for a successful socio-cultural intervention. Anthropologists also believe that the human nature is also influenced by culture and environment.

The anthropological theories and their analysis are especially useful in the areas of public health for various reasons. According to the ecological/evolutionary theory, the primary determinants of sickness and healing are the human adaptations to their physical surroundings. But the cultural theory views the cultural norms, values, traditions as the determining factor in health. These theories are useful in the public health settings which help in explaining circumstances, for example, the health conditions and problems of a particular community for which a program is being planned. Moreover, these theories can also suggest in framing effective project designs taking into consideration of the community behaviour.

Anthropologists in public health sector always face criticisms despite their contributions. But it is essential to continue the collaborative work. In order to influence any policy decision in public health, anthropological enquiry has the potential to generate rich and useful information. Anthropology can influence public health policy in ways that epidemiology or other methods cannot, i.e., (a) the ability to see culture in its proper context in the social world and how culture affects all research; (b) The ability to pick up on minute and seemingly irrelevant details; (c) Independence from biomedical goals and hegemony allows medical anthropologists to add a critical voice to the public health discourse; and (d) Provision of objective, qualitative data in an otherwise quantitative field.

4.5 SUMMARY

To sum-up, it is not appropriate for the medical community to doubt the contributions of anthropology towards public health understanding. Many people in the fields of pure medicine and public health do not understand the potential role that anthropology could play in the development of public health policy. The distinctive characteristics of anthropology, i.e., holistic perspectives,

qualitative methods, critical analysis of incorporating every aspect of the culture makes it similar to the public health policy. For an effective translation of public health knowledge into action anthropological theory and methods are crucial. To deal with the modern global health issues, integrating anthropologists along with anthropological theories and methods is extremely important. Because, as the simple problems are solved, complex problems will come up. Public health alone cannot offer solutions to complex problems without a broader approach of anthropology. To attain the desired universal public health goals which are locally accepted and also sustainable, anthropological interventions are indispensable.

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Activities

- 1) Visit an OPD in your nearby PHC or any health centre and take in-depth interviews of three patients who have been affected by tobacco use. You must prepare the interview guide/questionnaire for these interviews by yourself and then analyse the data to prepare a one-page write-up which can be used as an advocacy document for public health intervention in controlling the menace of tobacco use.
- 2) Visit your nearest village or a slum to conduct a focus group discussion (FGD) with 6-7 women (preferably pregnant women) to find out about their perception and attitude about the health care services they are receiving during the pre-natal, post-natal stages and pregnancy. Find out about their views/opinions in order to improve the facilities and prepare a short essay on “development of appropriate reproductive health care services in the given community.”

Sample Questions

- 1) What are the relationships between anthropology and public health?
- 2) What is the strength and uniqueness of anthropological evaluation? How does it contribute to public health interventions?
- 3) Develop a qualitative research design to collect information of a current public health issue in your city.
- 4) How do you think a practicing anthropologist can contribute to the field of public health?
- 5) Critically examine the role of anthropology in public health.