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Ethnicity, Ethnic Food and Diabetes Mellitus Type II

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Abstract: *The topic of discussion mainly belongs to the field of medical anthropology. Medical anthropology is linked to applied anthropology and involves the study of biological and cultural aspects of human beings for the explanation of the impact of culture on human health and as well as on diseases. The environment had a great impact on human health. There are many environmental factors that can bring changes in the health of a person like pollution as water pollution air pollution and some the lifestyle factors like physical activities due to the excessive use of TV or mobile phones etc. Descriptive methodology has been used for the collection of data including methods of an in-depth interview. It is concluded that bringing good or positive changes in lifestyle and having good and unpolluted environment can bring good changes in health and keep away a person from chronic diseases like diabetes type-II.*

Key Words: Ethnicity, Food, Diabetes Mellitus Type II, Medical Anthropology

Introduction

It is the nature of human beings to get close to a naturally clean and pleasant environment. People want a satisfied and pleasant happy environment in the home and as well outside and it is also better for the health of a person. For health it necessary to keep the environment clean from pollution, stress and there should be a better

lifestyle. Environment and lifestyle are directly linked with each other for health and as well for unhealthy conditions. 'In spite of an increase in population, it has seen that environment and lifestyle changes are bringing a rapid increase in the type 2 diabetes prevalence and incidences from the recent decades'. (Kolb and Martin 2017).

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One of the leading factors in causing health problems is the environment. Person health is very dependent upon a good environment. A good unpolluted, satisfying environment keeps a person healthy. The environment is basically the surroundings of a person which can be its way of living, its outer environment, social environment or the environment in which a person is living. 'The diseases or the chronic diseases can be developed by many environmental factors which include lifestyles, social environment and the environment of an individual before birth in the womb. Genetic and environmental factors are linked to the chronic disorders which are now being discovered' [\(Romao and Roth 2008\)](#).

Health is very much affected by the bad environment. The environment is the surrounding of the person if a person feels problems in their surroundings, then he cannot be live happily and healthy. A person takes the stress of the bad environment which is also an environmental factor that affects health. 'Environmental factors also have a great role in the cause of diabetes. The environmental factors such as pollution, pollution of water and soil, intake of unhealthy food, stress, no more physical activity, vitamin D deficiency are involved in the cause of diabetes' [\(Raman, Environmental factors in causation of Diabetes mellitus 2016\)](#).

For the health of a person, it is compulsory to have a suitable and satisfying environment. Pollution, physical inactivity is the outer environmental issues that can lead towards diabetes type 2. 'Environmental factors can be the cause of Diabetes type 2. That environmental factor includes polluted water, soil, stress, physical inactivity which can damage the immune cells. The polluted water and soil include the involvement of chemicals in the water or in soil. Those chemicals can be gathered from the plastic packaging, beauty products, pesticides and as well the industrial chemicals all of these lead towards diabetes type 2' [\(Raman,](#)

[Environmental factors in causation of diabetes mellitus 2016\)](#).

Disturbance in the environment as well as in the lifestyle directly leads to the cause of diabetes type 2. These factors are considered universally worldwide as a cause of diabetes despite the fact of ethnicity or borders. The changes in the environmental conditions as well as in the lifestyle are also considered as a cause of diabetes type 2 because these things sometimes lead to stress. 'Genetic factors sometimes maybe not only be risk factors, but they are influenced by the environmental and lifestyle factors. When the environmental condition and lifestyle factors become unfavourable they may cause diabetes type 2. If lifestyle and environmental factors have diverse changes then they increased the risk factor of getting diabetes type 2' [\(Romeo, et al. 2015\)](#).

It is seen that due to modernization there is a change in lifestyle which leads to stress that may cause diabetes type 2. It is very difficult to adjust to a diverse or unfavourable lifestyle. 'According to the evolutionary perspective, the lifestyle of the early human-like hominid or of hunters and gatherers is now deleted by the modern lifestyle which has caused many genetic changes. This lifestyle has reduced the energy outputs and increased the energy inputs. This modernization or globalization has now introduced the abundance availability of calorically/dense low-fibre/high-glycemic food and it is because it has forced humans to adopt a sedentary Western lifestyle, which causes obesity in the young or childhood age which leads towards diabetes type 2' [\(Lieberman 2003\)](#).

Now a day due to the advancement of technology in this modern era we have befitted facilities which are seen as useful but actually they are not. Due to the advancement of technology the activity of the human body is stopped. Human beings are not using their bodies for work because the things or machines made by technology are doing those works. Such a kind

of activity leads to obesity which is the root cause of many chronic diseases like diabetes type 2. 'Physical inactivity routine is known as a sedentary lifestyle, excess use of automobiles even to cover the shortest distance, excessive use of TV and mobile phones, sitting for several hours on the office or on the study table, all are the parts of sedentary lifestyles which causes obesity. These all the leading factors for obesity and obesity is one of the major cause of diabetes type 2' (Raman, *Environmental factors in causation of diabetes mellitus* 2016).

Everyone in this era is trying for a better lifestyle for this purpose people are doing struggle. Overwork to earn money is also hazardous to health. As it causes obesity due to continuous sitting and also less sleep. Night sleep for an appropriate hour is necessary for good health. 'People who work on shifts have a hectic lifestyle; they also have to work at night. Those people working on shifts are at high risk of developing type 2. Night shift worker has a higher risk of getting diabetes type 2 because lack of sleep or poor quality of sleep worsens insulin resistance' (Raman 2016).

From this discussion, it is seen that environmental factors have effects on the health of a person. Environmental factor also includes lifestyle and outer environment conditions. Unfavourable conditions of environment and lifestyles cause obesity, stress, pollution, overwork, night shift duties or inappropriate sleep at night and physical inactivity. These all are included in reducing insulin resistance major cause of diabetes type 2.

Diabetes is a disease when the blood has no proper sugar level or amount of glucose to get energy. This amount of glucose is controlled by the hormone name insulin which is secreted by the gland named the pancreas. When this insulin is not supplied to the blood or is not produced by the pancreas then a person gets Diabetes Mellitus. 'The condition in which body lost its ability to use blood sugar to for energy is called Diabetes'

(Nall 2018). It has three types these are type 1, type 2, and gestational diabetes.

Type 2 diabetes is a non-insulin-dependent disease in which the body does not produce enough amount of insulin. 'In type 2 diabetes a pancreas makes insulin but does not fulfil the requirement of blood. It occurs in the adult age. Its symptoms include blurred vision, frequent urination, shivering, hunger very much thirst and no proper healing of cuts and sores. Its causes are body produces insulin but cannot use it effectively, lifestyle, physical inactivity and gaining of weight. Its factors include ethnicity, overweight, an immediate member with type 2, physical inactivity, environmental factors, have an elevated blood sugar level before diabetes' (Obsorn 2017).

Review of Literature

Medical anthropology as a subfield of applied anthropology has interrelated the biological and cultural aspects of human health to explain the impact of culture on health and diseases. "Medical anthropology deals with the collective study of biological and cultural aspects of humans to explain the influence of culture on human health and disease. Cultural factors engage symbols with biology in a minds-body dynamics manifested in traditional healing practices, psychosomatic illness and many other ways by which beliefs affect the health" (Winkelman, 2009).

The topic of the study is "Environmental factors and diabetes type-II". The topic of the study had been purely related to medical anthropology. The topic discusses briefly the concepts of, the domestic sphere and familial issues and their influence on diabetes type 2 in different aspects.

This is a common type of diabetes, that happened when the body does not use insulin properly the control sugar levels in the blood. The body starts resisting insulin. It is majorly caused by stress, lifestyle, food etc. it has no permanent treatment only medicines had been

seen used to control the level of sugar in the blood. 'The disease in which the body does not use enough amount of insulin to control blood sugar is known as type 2 diabetes. It usually starts in adults but can be happened in younger people. Its risk factor includes lifestyle changes, family related risk factors and some environmental factors. It can only be managed by a healthy diet and regular exercise but especially with medication' (Diabetes Australia, 2015).

It had been seen that environmental factors like pollution, ecology and lifestyle had a great effect on health. A good environment which includes no pollution a good lifestyle is necessary for good health. 'It had been hypothesized that type 2 diabetes results from the interaction of environmental, biological and behavioural risk factors. It had been thought that healthy lifestyles are nothing in the absence of that environment which supports them and also the behavioural and educational interactions had seen as more or less ineffective in this non-enabling environment' (Dendup, Feng and Clingan, et al. 2018).

It had been observed that migration from one area to another bring changes in lifestyle which also changes the environment. It had been seen that everyone is trying to have a sedentary or so-called western lifestyle, in which there is no physical activity and this brings an increase in weight which also results in type 2 diabetes. 'It had been seen that studies related to rural-urban and migrants, showed that the lifestyles are now changing towards westernized lifestyles which had bring a prominent increase in the prevalence rate of type2 diabetes' (Zimmet 1982).

Having no or less physical activity and also no more exercise, excessive intake of unhealthy food creates obesity and obesity had been seen as one of the leading causes of type 2 diabetes. 'It had been seen that some sedentary lifestyle factors lead towards insulin resistance, which is the common cause of diabetes type 2. The type of lifestyle which increases the risk for the

development of diabetes type 2 includes no physical activity or exercise and having food with high fats and no fibre leads towards obesity. Being overweight causes the risk of insulin resistance in the body' (Fischl and Leontis 2018).

Materials and Method

The researcher has provided the detail of locale and methodology and methods which are on the basis of the anthropological research method. The researcher used descriptive techniques for the research. Detail of key informants and rapport establishment also provided by the researcher. The tools used for the study were in-depth interview, socioeconomic survey and life histories; their detail is also mentioned by the researcher.

It had been seen through any research that methodology has been considered as a particular procedure or a set of procedures that involves the methods rules and postulates which can be applied by a discipline. In an anthropological field, it has been considered the analysis of the principles or procedures of inquiry in an anthropological field. In this study, the methodology used by the researcher was the descriptive methodology

The descriptive methodology had been seen as the statistical study that can be used to identify the patterns or trends of a particular situation but does not involve the casual linkages between its different elements. 'Descriptive research design can be defined as a scientific method that consists of observation and which describes the behaviour of its subject without any influence. This method has been used by anthropologists, psychologists and many other social scientists which observe their subject without affecting its nature' (Shuttleworth, 2019).

In this research, the researcher has used purposive sampling. It is the type of non-probability sampling which is 'the technique in which all the individuals do not have an equal chance of being selected' (Explorable, 2009).

'Purposive sampling is also known as judgmental, selective or subjective. It is a type of non-probability. This is a technique in which the sample from the population has to be chosen on the basis of the researcher's own judgment. In this technique, the researcher has complete knowledge about the purpose of study' (Foley, 2019). In this study, the researcher first select the diabetic patient in the field who have type 2 diabetes than those who were above 35 years of age. It had been seen that because of two fields of research. The researcher has selected 50 type 2 diabetes patients of age above 35 years from each field by this technique.

Results and Discussions

It has been seen that it is the nature of human beings to get satisfaction in nature and a clean and clear environment. Clear air and a pollutant-free environment impart a good effect on health. But now it has been seen that living in urban areas it is very difficult to find a clean and clear or healthy environment, no doubt rural areas are also developed in this era but still, they have less pollution than that urban areas. Rural areas have lush green fields, fewer vehicles smoke, in winters there is very less smog and everything is fresh and pure. One can feel healthy in such a healthy and pure environment.

The bad environment seems to be very harmful to the health and it can become the cause of many metabolic and chronic diseases like kidney failure, lungs problems like asthma and diabetes type 2. 'A great possibility has seemed between the environmental exposure and metabolic disease and this can be exemplified by the persistent organic pollutants and use of toxins, they become the cause of insulin resistant and then diabetes type 2. Different kinds of research have shown that the toxin named 2, 3, 7; 8-tetrachlorodibenzo-*p*-dioxin and other organic pollutants increase the risk of diabetes type 2. In some areas like Asia, Latin America and Africa air pollution have a significant role in

causing metabolic diseases due to an extraordinarily high concentration of pollutants in the air, higher density of population and pervasive nature of pollution' (Brook and Rajagopalan 2012).

There are some of the external and internal environmental factors which can lead towards diabetes type 2. 'These environmental factors may include lifestyle factors, lack of physical activities, pollution, obesity and stress' (Raman 2016). Some of these environmental factors were discussed by the respondents and the results are as follows.

Internal and External Environment of Diabetes Type 2 Patient

Both internal and external environments have good and bad effects on a person's health. Every person needs a clean and clear environment and an environment that has no stress. There are some internal and external environmental factors that can cause metabolic disturbance in the human body which results in chronic or metabolic diseases like diabetes type 2. 'There are many environmental factors that are contributing to the pathogenesis of type 2 diabetes' (Wang, et al. 2012).

It has been seen by the research that most of the patients in a sample have a clean and clear external environment. Mostly the patients who live in the village have lush green fields around them which make them feel pleasant, less vehicle smoke and hence less noise pollution as well. The patients living in urban areas also said that they keep their surroundings clean, some clean their streets by themselves and some said that the sweeper came and clean their streets. But there were some patients who said that their streets have garbage all the time, their neighbour put their garbage on the sides of their door which make them stressed. Some patients were irritated by the pollution of the smoke, traffic and rush due to overpopulation in their area.

Most of the patients said that they were satisfied with their home environment, they have no stress environment at home and they feel relaxed in their home. Some people said that their home environment is very noisy due to the presence of young children. They sometimes feel very much irritating because of that noisy pollution at home. Some patients said that they have fights all the time at their home their daughter-in-law fight with each or with their mother-in-laws some said that they have a fight with their spouses. These things create stress in their home environment and they do not want to go or stay at their home so went out to some peaceful place.

From the above discussion, it has been concluded that environmental satisfaction and peace is also necessary for health. Good internal and external environments are necessary for good metabolism. Disturbance in both internal and external environment causes disturbance in metabolism which results in chronic diseases like diabetes type 2.

Effect of Neighborhood Environment on Diabetes Type 2

It had been seen through the research that the majority of the patients were satisfied with the behaviour of their neighbours they said that their neighbours do not interfere in their matters and they stand by with them in their hour of need. Some patients said their neighbours gathered with them in their happiness grief and sorrow so they are satisfied with the behaviour of their neighbours.

Some of the patients said that their neighbours are not good behaviour with them. Some said that their neighbours through their garbage at their doorsteps some said that their neighbours fight with them on very small issues. They said that they are very stressed because of the bad behaviour of their neighbours. On contrary, there are some very poor patients who said that their neighbours take care of them when

they have no food to eat their neighbours gave them food to eat; they go for a walk with them. 'Studies have shown that good neighbourhood environment results in social support and access to healthy food were significantly associated with diabetes care and considered as targets for future interventions' [\(Smalls, et al. 2014\)](#).

It has been concluded that the place where individual life has a significant effect on the risk of diabetes type 2. Neighbourhood environment has an influence on diabetes type 2. 'It has been seen that if there is a higher neighbourhood social cohesion there will be 22% less risk of diabetes type 2' [\(Gereab, et al. 2017\)](#).

Lifestyle with Respect to Socioeconomic Status of Diabetes Type 2 Patients

It has been seen that lifestyle and socioeconomic status have a link with each other and they also affect the health of an individual. Socioeconomic status can be categorised into three classes' upper class, middle class and lower class on the basis of income, education and occupation. "Socioeconomic status, whether assessed by income, education or occupation is linked to a wide range of lifestyle and health problems, including diabetes type 2, cancer, hypertension and arthritis. Lower socioeconomic status is associated with health-related issues that mostly occur in middle adulthood (45–65)" [\(Adler and Newman 2002\)](#).

It has been seen through the research that the majority of the patients in the sample belongs to middle-class socioeconomic status having income up to 15000 to 20,000 rupees monthly. Their lifestyle standards were very low. The patient living in villages have their own houses and some of them have their own fields but they were farmers or doing the job of a security guard or shopkeeper in cities. The middle-class patients of urban areas mostly live in rented houses and only one man is earning in their family. They said that they are doing struggle to improve their lifestyle standards, especially for their children.

The patients who belong to lower socioeconomic classes were labours or day labourers. They have rented houses or belong to some villages and they said that they get food daily that is enough for them. Some of them also send their children to work to earn money. Very less patients were belonging to the upper socioeconomic class. These patients were businessmen or educated people and were employers. Some were having properties and they said that they are satisfied with their lifestyle. They have a good lifestyle.

Physical Activities and Diabetes Mellitus Type 2

Physical activities are necessary for good health. By doing different physical activities like walking, jogging, running, exercise or daily routine work in which some physical activity is involved a person consumes its energy and keep it self-active and healthy. For a diabetic patient, physical activities are necessary to keep the level of blood sugar under control. 'Physical activities reduce the risk of cardiovascular diseases and also help in maintaining glycemic control in diabetes type 2 patients. Although diabetes type 2 patients are physically weak they can add little physical activities in their daily routine in both occupational and leisure time like walking, housework and gardening which the patient can perform without any physical burden' (Hamasaki 2016).

It has been seen in this research that the patient of the sample living in villages has physical activities in their daily routine. They said that have to go to their fields; they have to graze their animals and do many other daily house works which keep them active. The patients of old age from 58 and above said that now they feel tiredness. Although they do not have to work as much as before at their young age they feel tired the whole day.

The patients living in urban areas have different types of routines. The men who were

employers had no or very less physical activities in their daily routine and they said that their routine was very hectic. The patients who were labourers said that their whole day spends in their work and after that, they have no energy to perform any extra physical activity. The female patients who were maids or doing any other job said that their routines are very hectic because they have to work in other houses to earn money and they also have to work in their own house. The female patients who were housewives mostly said that they do not have as much physical work but they feel fatigued from their routine.

Most of the patients which include old age patients and the patients who do not have a job or any hectic routine said that they feel very fatigued and restless. 'Tiredness and fatigue are different, a tired person feels better after having rest and a person having fatigue never feel better even after taking rest or enough sleep. Fatigue is the most common symptom of diabetes type 2. It may be due to high blood sugar level' (Fletcher 2019).

Effect of Exercise and Weight on Diabetes Mellitus Type 2

Exercise is necessary to stay fresh and active for the whole day. A person can maintain weight and can keep self-fit by adding a little exercise to daily life. For diabetic patients maintenance of weight and fitness of the body is necessary to keep the blood glucose level in control. 'There are many benefits of exercise but for a diabetic patient, it helps to control the blood sugar level. People having diabetes type 2 have too much glucose in their blood because of insulin resistance but by doing the exercise the muscles consume all that glucose and keep their glucose level under control. For a diabetic type, 2 patient exercise also reduces risks of cardiovascular diseases and maintain good cholesterol level' (Leontis 2019).

In this research, it has been seen that the patients who belong to the village or live village

do not do any exercise they said that their work is their exercise. The people living in cities who are uneducated also do not do any exercise they said that they do not know how to do it and they also said that they do not find time to have exercise. Some young patients of age 40 to 50 who were educated said that they perform exercise when they find the time or when they remember to do but very less patients do exercise daily or go to the gym.

In this research, it has been seen that patients only check their weight when they came to their physicians for their checkups either after one week or after one or two months or more. Very less patients check their weight on their own selves. Most patients said that their weight has been decreasing after diabetes type 2. Some people said that their weight has a very little increase because of the increase in their tummy

size. The weight of most patients lies between 72- 90 kg and less weight lies between 58 to 70 kg.

Conclusion

The research topic belongs to the field of medical anthropology. Medical anthropology is the branch of anthropology that deals with the study of biological and cultural aspects of human beings. It also explains the impact of culture on human health. It also deals with the treatment of diseases from the cultural perspective and the beliefs which have an effect on human health.

There had been some internal and external environmental factors that increase the risk of diabetes type 2. These environmental factors also include lifestyle factors and some socio-economic factors which increases the risk of diabetes type 2.

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