



# A Study on Impact of Urban Lifestyle Patterns on Food And Health : An Inter- generational analysis of nutrition transition among women in Chennai city.

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Urbanisation is a process of changing the social and environmental landscape( WHO 2010) the growth of urban environment has a profound effect on cultural change. The predominant cultural change is witnessed in the food habits of the people. Modern society is highly associated with a diet pattern where consumption of high processed foods, genetically modified food and foods that contain high amount of saturated fats leaving to a corresponding increase in degenerative diseases. These diseases are interrelated with lifestyles and especially with diets. Changes in diet, pattern of work and leisure is often referred to as the nutrition transition. Nutrition transition includes both qualitative and quantitative changes in the diet.

The world we live in is becoming urbanized at an unprecedented pace. In 2008, for the first time in history, more than half of the world's population, 3.3 billion, were living in towns and cities. By 2030 this number will swell to almost 5 billion. This shift toward urbanization is occurring at a much faster rate in the developing countries of the world. Urban growth has been exponential in India over the last few decades. (UNFPA 2010) . The world is rapidly urbanizing with significant changes in our living standards, lifestyles, social behaviour and health . While urban living continues to offer many opportunities, including potential access to better health care, today's urban environments can concentrate health risks and introduce new hazards. Health challenges is particularly evident in cities relate to water, environment, violence and injury, noncommunicable diseases (cardiovascular diseases, cancers, diabetes and chronic respiratory diseases), unhealthy diets and physical inactivity, harmful use of alcohol as well as the risks associated with disease outbreaks. City living and its increased pressures of mass marketing, availability of unhealthy food choices and accessibility to automation and transport all have an effect on lifestyle that directly affect health. (WHO,Bulletin)

## **Nutrition transition**

Nutrition transition is the shift in dietary consumption and energy expenditure that coincides with economic, demographic, and epidemiological changes. Specifically the term is used for the transition of developing countries from traditional diets high in cereal and fibre to more Western pattern diets high in sugars, fat, and animal-source food.

Diets are changing with rising incomes and urbanization, people are consuming more animal-source foods, sugar, fats and oils, refined grains, and processed foods. This “nutrition transition” is leading to an increase in overweight and obesity and diet-related diseases such as diabetes , heart disease ,reproductive problems, hormonal problems etc . Urban residents are making the nutrition transition faster. Urban food environments with supermarkets, food vendors, and restaurants facilitate access to unhealthy diets, although they can also improve access to nutritious foods for people who can afford them. For the urban poor, the most easily available and affordable diets are often unhealthy. The impact of this transition affects women's health which is leading to different types of life threatening health deformities like diabetes, CHD, infertility, cancer, etc .This Study is intended to analyse the social cultural factors leading to the nutrition transition among women in the urban city of Chennai

The World Health Report 2002 introduced the term 'Risk Transition' to describe the changes in consumption of tobacco, alcohol, nutrition and other lifestyles that promote the development of non-communicable diseases (NCDs). Five patterns of the nutrition transition have generally been described: that of collecting food, a pattern of recurrent famine, receding famine, a phase of degenerative disease and a phase of behavioural change.

The phase of degenerative disease is associated with a shift in dietary patterns to more 'Western' diets rich in saturated fat, refined foods and sugar and low in fibre and leads to an increase in NCDs. The degenerative phase of the nutrition transition, characterised in its early phases by an increased prevalence of obesity, has been described in several developing countries across continents. What has become increasingly clear is that this phase of the nutrition transition does not necessarily affect an entire population but rather segments of it, based on, for instance, the environment (e.g. rural v. urban) or socioeconomic circumstances. This paper reflects urban life style patterns and on the nature of the degenerative phase of nutrition among women in urban area.

## **RESEARCH METHODOLOGY**

### **Research Problem**

In the contemporary India there is a high increase of urban cities which is influenced by western culture. This process of urbanisation have a profound effect on cultural change leading to the changes in food habits which helps to develop various non-communicable diseases. Women who leads in the process of procreation and contribute to develop the society are becoming an important recipient of these disease .various studies prove that the traditional food pattern and lifestyle of women showed a better status of health. Whereas the increase of western diet pattern and sedentary life which is highly influenced by urbanisation due to which women are more prone to obesity ,anaemia, diabetes, CHD, PCOD ,infertility etc. There is a pressing need to study women's health which is very important because she plays various roles like daughter ,wife ,mother and working women take an additional role in their organisation. These social role leads to role conflict which the women have to face the consequences of role conflict. This becomes a great challenge for a women to manage her health and pattern of life. Women generally compromise their diet for fulfilling the function of their roles, Nutrition plays a vital role to sustain her health therefore imbalance of nutrition and consumption of easily available processed food leads to develop various health deformities. This study intends to analyse the diet pattern among women due to urbanisation and explores the social factors of nutrition transition and health problems faced by women in Chennai.

### **Research Design- Qualitative Design**

Tool: Data for the study was collected with a self-constructed interview guide consisting of open-ended questions which thereby was distributed among the chosen sample. The interview guide consists of question related to the demographic profile ,factors leading to changes of diet patterns, social factors ,physical factors ,psychological factors ,socio-cultural factors and environmental factors and the health risk faced by the respondents.

### **Sampling Method**

The Sample for the research was selected by stratified random sampling technique among the working women residing in Chennai from different social class.

### **Sample Size**

- 8 Respondents were selected and from which 4 respondents belong to the age group of 20-40 and 4 respondents belong to the age group of 40 -60

### **Source of data collection**

Data was collected from the primary and secondary source. primary data was collected by a case study method from the field by the researcher and secondary data was collected from the books and journals etc.

## Results and Discussion

### How are diets changing as a result of urbanization

Early work on the nutrition transition showed that the shift toward greater availability of fats and sugars and reductions in reliance on starchy carbohydrates as dietary staples was occurring faster in cities than in rural areas. Urban populations tend to consume more calories, yet a lower proportion of these calories comes from cereals or carbohydrates and more comes from fat. (A. Kelles and L. Adair) Urban populations consume more meat and other protein, or consume different animal protein sources than rural counterparts, but less dairy. They also consume more fruits and vegetables overall, though consumption of these food groups differs greatly between richer and poorer urban populations. (Reardon, "The Quiet Revolution in Asia's Rice Value Chains.") and finally, urban dwellers consume more non-basic foods, including sugary snacks among children, food away from home, and processed foods. (J. Vandercasteelen, S. Tamru, B. Minten, and J. Swinnen, 2016)

The research findings reveal that majority of the women belonging to the age group of 20-40 years living in urban areas consuming high saturated food very often due to lack of time for preparing healthy foods. Since all the respondents are working women they try to relax themselves during weekend through which they habituate to consume trans-fat, animal protein and high fat dairy products. The food preparation process also tend to be influenced by processed food supplements like instant coffee, masala etc. Women belonging to the age group of 40-60 living in urban areas prefers home prepared food rather than outside food. Majority of respondent have a dislike for trans-fat and high fat dairy products. These working women were not exposed to processed food when they were young and accessibility to these type of high saturated foods were very difficult, so their diet pattern remain healthy.

The study findings observe that the factor of urbanisation has a prominent influence of diet practise among the women in the present generation due to a predominant practise of western culture.

## IMPACTS OF NUTRITION TRANSITION

### Diet-Related Diseases

Along with dietary changes and an increase in overweight, diet-related diseases are also on the rise in low- and middle-income countries, and are clearly linked with urban residence. A study of 173 countries found that a country's level of urbanization is significantly associated with diabetes prevalence, through the mediator of increased sugar access. (Pingali, "Westernization of Asian Diets and the Transformation of Food Systems"). In China, people who migrate to cities are found to have higher blood pressure. In Benin, city residence is associated with more adverse cholesterol profiles, and in Sri Lanka with diabetes in men and women. Notably, noncommunicable, nutrition-related diseases have emerged in Africa south of the Sahara at a faster age of 36 years. Urbanization and the Nutrition Transition rate is high at a lower economic level than in industrialized countries. Overall, adult overweight, obesity, and raised blood glucose increased in every region of the world between 2010 and 2014, and heart disease is the leading cause of mortality worldwide, with three-quarters of deaths occurring in low- and middle-income countries. (United States Department of Agriculture, 2016)

### Obesity

Large multicountry studies find a particularly strong link between urban residence and overweight among adult women in countries at all levels of economic development; women living in urban areas are more likely—by about 7–12 percentage points—to be overweight than are rural women, even after controlling for education. National-level studies have shown that the problem of overweight among both men and women is overwhelmingly higher in urban than rural areas, and the prevalence of overweight increases in urban areas over time. Weight gain is related not only to diet but also to low levels of physical activity. In 2003, a multicountry analysis showed that one out of five adults around the world was physically inactive, with physical inactivity more prevalent among wealthier and more urbanized countries, and among women and elderly individuals. (Adults living in cities tend to expend less energy at work (more sedentary jobs), in domestic chores (more readily available water and electricity), and in getting around (greater use of motorized transport). With regard to leisure, however, urban areas may offer either more

opportunities for increased physical activity (such as sports and gyms) or fewer (more access to television, computers, and video games). (The Quiet Revolution in Staple Food Value Chains in Asia 2014)

Analysing the anthropometric data, Majority of the women belonging to the age group of 20-40 years have an increased rate of BMI which is a sign of obesity and their haemoglobin level is lower than normal, which is an indicator of anaemia. The Analysed data of women belonging to the age group of 20-40 years reveals that their present BMI is increased due to post-menopausal factors reflecting on their previous weight data at the age of 20-40 years, majority of the women had normal BMI. This shows that obesity risk factors were low. The haemoglobin level varies for each respondent. The findings explain the existence of obesity among women belonging to the age group of 20-40 years is present due to food consumption factors, the food consumed by the urban women are mostly genetically modified food and non-organic foods for which they could not be responsible for it. In urban societies the GM foods and non-organic foods are commonly available which increase the possibility of being obese. Lack of physical activity due to their hectic schedule of stressful job, their working pattern is basically more of intellectual usage and less amount of physical activity, under these conditions the respondents are more vulnerable to obesity.

Diabetes and hypertension are also prevalent among the respondents belonging to the age group of 40-60 years which has become common among the urban residents which can also be a factor of non-organic food consumptions.

## **DRIVERS OF THE NUTRITION TRANSITION IN CITIES**

### **Income to Purchase Foods**

A combination of drivers is income to purchase the foods, underpinned by the need for cash to access food and changes to “food environments. “Income influences what foods people buy in cash economies, while urban food environments circumscribe how income can be spent on food and shape people’s food preferences, attitudes, and therefore food choices more broadly. (B. Swinburn, I. Caterson, J. Seidell, and W. James 2014).

The findings of the study help us to understand that women have increased their ability to raise their economic conditions to which most of the respondents have a considerable income to purchase online foods and also purchase food through credit card systems. Therefore, people are increasingly pushed toward unhealthy dietary choices as a result of the nexus of urbanization, food prices, and globalized markets.

### **Psychological Factors**

Psychological factors are a common feature of modern life and can modify behaviours that affect health, such as physical activity and food choice (Dr. France Bellisle, 2006)

Women belong to the age group of 20-40 years feel that they are having a hectic work schedule which increases their stress level. Women working in IT spend most of their time in travelling and work more than 10 to 12 hours a day. Few women have a difficulty in child rearing process. Most of the women face the consequence of role conflict. These stress factors could result in increasing the possibility of weight gain due to irregular eating pattern and they are not able to follow a structured food consumption behaviour and also scale down their balanced diet. This may engender to develop non-communicable disease like hypertension, diabetes and cardiovascular disease in the future.

### **Socio-cultural factors**

Food choice is influenced by social and cultural factors, the dietary patterns are affected by the culture which individuals are brought up and social interactions will have a profound effect. (Richard Sheperd 1999) Majority of the women belonging to the age group of 20-40 years live in nuclear families and lack family support, they form nuclear family systems due to migration to urban cities and also due to the influence of western culture hence lack of time and physical support they tend to consume outside food. Women of this age group are socialised and nurtured with westernised ideas and practices, and hence their civilised thoughts towards urban life style give a strong evidence of change in their attitude and belief systems. Most of the women who belong to the age group of 40-60 years, received extended family support and followed traditional consumption patterns. They had less exposure to western culture and this age group of people had a moderate lifestyle.



## Women's health

Dietary patterns and nutrition of women determines the health status of women. A study analysed traditional and modern nutritional food consumption patterns among women and This study found the "traditional-inland" pattern to be the healthiest, while the "purchase" food pattern was the most prevalent. The purchase pattern, in particular, may provide some evidence for early stages of the nutrition transition in Tanzania (Msuya JM, Maass BL, Krawinkel MB.) It is likely that micronutrient deficiencies and overweight/obesity coexist not just within countries, but within households and individuals as well. As described, diets in transitional countries are increasing both obesogenic and micronutrient-poor. Accordingly, a recent multi-country study reports that obese adults and stunted children often live together in the same households (Garrett and Ruel, 2005). As micronutrient malnutrition is a main contributor to childhood stunting (, this research suggests that obesity and micronutrient deficiencies exist under the same roof, and it is likely that the obese adults in these cases are also micronutrient deficient.

Two studies show clear evidence of overlapping overweight/obesity and anaemia, an indicator of iron deficiency, within individuals. The first, which used a representative survey from Andhra Pradesh, India, found that, although the prevalence of anaemia was lower in overweight than in underweight and normal weight women, the prevalence of anaemia in the overweight group was still high, at 41% (Bentley and Griffiths, 2003) PCOS patients are not always markedly overweight but PCOS is strongly associated with abdominal obesity and insulin resistance. Effective approaches to nutrition and exercise improve endocrine features, reproductive function and cardiometabolic risk profile – even without marked weight loss (R.L Kennedy 2009). women without a history of infertility for 8 years as they tried to become pregnant or became pregnant. A dietary score based on factors previously related to lower ovulatory disorder infertility (higher consumption of monounsaturated rather than trans fats, vegetable rather than animal protein sources, low glycaemic carbohydrates, high fat dairy, multivitamins, and iron from plants and supplements) and other lifestyle information was prospectively related to the incidence of infertility. ( Chavarro, Jorge E. MD, 2007)

Majority of the women belonging to the age group of 20-40 years face different health problems like PCOD, obesity, infertility, hormonal imbalance (Hair loss, skin problem), anaemia, micro nutrient deficiency. This study evidently correlates the factors of urban life style influence diet transition by impacting the health condition of women. The in- take of high saturated foods lead to these diseases and also reduce the immunity level of women due to the absence of micro nutrients. Obesity and micro-nutrient deficiency will make the women more potential to infertility or they may give birth low health profile babies. Women belonging to the age group 40-60 years have age related health issues like Diabetes, arthritis, Meno-pause oriented health deformities. The traditional food consumption factor has lowered their health risk.

## URBAN ENVIRONMENTS AFFECTING FOOD CHOICE

Food choices are affected not only by affordability and availability of foods but also by other aspects of the food environment, including the desirability and convenience of particular foods. ( Hawkes, et al., "Smart Food Policies for Obesity Prevention.") Marketing significantly influences the desire to purchase certain foods. Companies selling value-added snacks, fast foods, and sugary drinks invest substantially in making their products available as widely as possible, including near schools and other places where people gather. ( A. L. Taylor and M. Jacobson 2015) Arguably, marketing has a stronger influence in urban areas where media outlets and large retail stores are more accessible; urban residence, for example, has been found to be associated with fast-food preferences and consumption (F. S. Khan, I. Lotia-Farrukh 2016) As a result, urban populations have access to different types of food outlets. Modern food retail climbed from around 5 percent of market share in 1990 to 60 percent by the end of that decade in some developing countries with more global market linkages; it has grown in all other regions since the 1990s, though less rapidly. ( Bermudez, Gao, and Valdes, "Nutrition Transition in Panama.")

Most of the women belonging to the age group of 20-40 years are living in well urbanized conditions where they have easy access to high saturated foods. Social media and marketing strategies, significantly influence their desires to consume such food .They were forced to consume non-organic and genetically modified food because organic food are highly expensive and less accessible. Women belonging to the age group of 40-60 years Though these women lived in urbanized sectors their accessibility to such foods was low and they are also forced to consume non-organic and genetically modified food in the current scenario which may lead to health risks.

## MAJOR FINDINGS.

- Urbanization plays a major role in influencing the diet transition among women
- When comparatively analysed the data shows that nutrition transition is evidently present among the age belonging to the group of 20-40 years
- The physical factor analysis explains the women who below to the age group of 20-40 are highly exposed to obesity and anaemia, micro nutrient deficiency, iron deficiency.
- The stress component is high due to high amount of competitive life style.
- The westernization pattern of life style, peer pressure, increased income level are the major factors of diet transition.
- Increased ability to purchase the foods and the modes of purchase has increased the consumption of high saturated food.
- Physical access to food choice and social media, marketing influence the urban women to increase the desire to purchase low quality, high saturated food.

## CONCLUSION

The inter-generational analysis of nutrition transition among women in Chennai city (India) reflects that the condition of women's health is highly influenced by the diet pattern and the food consumption style designed by the elements of urbanization. The social factors contributors like Income, environment, family, marriage is the driving source in nutrition transition. Women belonging to the age group of 20-40 are exposed to various degenerative disease and have a risk of low-quality health status due to lack of nutrients. The risk of getting exposed to other non-communicable diseases are high. The study also witnesses the factor that women residing in urban cities have an increased opportunity to consume non-organic foods and genetically modified food which may become vulnerable to various health deformities. This study reflects that, the increase of Urbanisation and influence in the lifestyle pattern should to be envisioned with a rational modernity rather than inculcating cultural change which is engendering threat to health problems among women.

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