



SOCIO-ECONOMIC ANALYSIS OF FOOD

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ABSTRACT

In India, there is a paucity of reliable data on the nature and magnitude of the impact of socio-economic change on food choice. This study explores some of the determinants of food choice in rural and urban area particularly in Villupuram District in tamilnadu, south India.

Objectives: -To find out and analyse the socio-economic factors that influence the food choice in the study area

Methodology:-The sample is N=300 out of which 150 from each rural and urban.it is comparative study of rural and urban. The survey period is 2016. The factor analysis has been used to find out more important relevant variables from complex one. Some of the distinct factors are analyzed under social- economic variables.

Statistical Tools: The Factor analysis, MLRM, ANOVA have been used. It is direct interview method of data collection by the researcher. The Interview schedule has framed by the researcher for appropriation of data.

Results:-In factor analysis, the Rotated component matrix splited (selected) the socio-economic variables. Under sociological variables, few determinants such as the age, sex, religion, community and educational status have selected. And in economic variables, the determinants such as formal and informal occupation, income, savings, movable and immovable investment, assets, daily and monthly expenditure and the selection of food choice based on its price have been examined. In this study the variable that influenced are different from what we think and imagine. The income, education, occupation, price, expenditure and investments are not at all influenced in both rural and urban areas.

KEYWORDS: Food Choice, Indian economy, socio-economic variables, income, savings, investment, age, sex, assets, occupation, religion, education, community.

INTRODUCTION

Food is vital for health and well beings of an individual. Life cannot exist without food and it is for this reason every living organism striving more to obtain the food requirements. It is not only satisfies the hungry, but also provide nutrients to our body viz., proteins, carbohydrates, fats, vitamins, minerals and water, thereby helps to growth, and maintenance, repair of tissues, reproduction work and protection against diseases. A large variety of food materials are available to us whom include in our daily diet for taste. In order to ensure our body all the essential nutrient should be in sufficient quantity for which, adequate diet should be selected.

BACK GROUND OF THE STUDY

The Indian economy shows a picture of growth and prospects on many fronts: a tremendous increase in the output of what, in official circles are revealed as development goods; considerable expansion in the communication, transportation, and irrigation infrastructures; a steep rise in agricultural and industrial production; a high volume of foreign trade, buffer stocks and bank deposits, a steady growth rate in investment and savings. These are all achievements that exceeded far for the best dream of our early planners. This has impacted dramatically on the life styles of the people due to many factors including increased disposable income, increased commuting and working times and changes to family structures. The impact of these changes on the health behaviors of the Indian population poorly defined. In particular, there is a paucity of reliable data on the nature and magnitude of the impact of socio-economic change on food determinants.

METHODOLOGY:-

The sample is N=300 out of which 150 from each rural and urban. It is comparative study of rural and urban. The survey period is 2016. There are 22 blocks in Villupuram district; two blocks have been selected for this study. The two blocks are Koliyanur block and Vanur block. Under the Koliyanur block the Villupuram municipal corporation comes. To see the outcome of differences in rural and urban environment and its' inheritance of some social, economical, the Villupuram municipal area considered as a urban and Vanur area considered as a rural area in this study It is direct interview method of data collection by the researcher. The Interview schedule has been administered by the researcher for appropriation of data collection. Some scoring procedure framed for dependent variables based on concerned literatures.

Types of food choice classified as:

- Type – 1 Vegetable (T1)
- Type – 2 T1 + green + pulses (T2)
- Type – 3 T2+ fruits (T3)
- Type – 4 T3 eggs + chicken (T4)
- Type – 5 T4+mutton (T5)
- Type – 6 T5+sea food and all (T6)

Gender

Many studies Paul R. Ward, et al., 2012, Martin et al 2007, Byrness et al., 1999, AdiKochavi, 2008 have concentrated on respondents sex. This study too has taken gender as one of the important variable governing the food choice. Sex-wise respondents have been classified into two categories. The scoring procedure is:

| Category | Score value |
|----------|-------------|
| Male | 1 |
| Female | 2 |

Age

The studies like Paul Rward et al 2012, Deanna Pucciarelli et al. 2011 mm Bissonnette and Cmteato 2001 etc. considered age is one of the significant variables for food choice. This study too age wise respondents have taking role of it and have been classified into three ways and its scoring procedure are:

| Category | Score value |
|---------------|-------------|
| Upto 20 years | 1 |
| 20 – 30 years | 2 |
| 31 – 40 years | 3 |
| 41 – 50 years | 4 |
| 51 and above | 5 |

Community

What people eat is formed and constrained by circumstances that are essentially social and cultural. Many studies class with regard the food choice (Devine et al., 2003, Rajula Devi, 2001, Feunekes et al, 1998). This study is also considered the respondents social status. The respondent's social status classified and scoring values are given in the following manner.

| Category | Score value |
|----------|-------------|
| OC | 1 |
| BC | 2 |
| MBC | 3 |
| SC/ST | 4 |

Education

Studies like Kearney et al., 2000, L. Ricciuto et al., 2006, Deanna Pucciarelli 2011, France Bellisle 2005 etc considered education as a major force to determine the food choice. The study made by Ricciuto et al. 2006, Men's education has been found to be more influence on food choice than women's education. The present study also considered education is a essential and significant factor to determine the food choice. The scoring procedure is as follows.

| Category | Score value |
|------------------|-------------|
| Illiterate | 1 |
| Primary | 2 |
| Secondary | 3 |
| Higher Secondary | 4 |
| Degree and Above | 5 |

Occupational Status

Multiple times throughout the day people are making the decision of what to eat for their next meal. This kind of decision is based on the occupational status of the people because of their food choice depends upon the work nature and income (Rajuladevi, 2001, Biener et al., 1999, Jabs & Divine, 2006). The occupational status can be classified into two broadly categories.

| Category | Score value |
|----------|------------------|
| Formal | Top Level – 1 |
| | Middle Level – 2 |
| | Low Level – 3 |
| Informal | Coolie – 1 |
| | Business – 2 |
| | Agriculture – 3 |

Income

Matthieu Maillot et al., 2007, Abusaleh and Ananta E. Malick, 1999. France Bellisle, 2005 and many studies focused that economic factors such as income sources of income savings, investment asset and expenditure etc are the important determine of food choice. This study too considered these factors are the major determinants of food choice.

| (Per month) | |
|-----------------------------|-------------|
| Category of Income (in Rs.) | Score value |
| Up to 10,000 | 1 |
| 10,001 – 20,000 | 2 |
| 20,001 – 30,000 | 3 |
| 30,001 – 40,000 | 4 |
| Above 40,000 | 5 |

Savings

| (Per month) | |
|------------------------------|-------------|
| Category of Savings (in Rs.) | Score value |
| Up to 5000 | 1 |
| 5001 – 10,000 | 2 |
| 10,001 – 15,000 | 3 |
| 15,001 – 20,000 | 4 |
| Above 20,000 | 5 |

Investment (in Rs)

| Movable | | | Immovable | | |
|----------------------|---|---|----------------------|---|---|
| Up to 50000 | - | 1 | Up to 50000 | - | 1 |
| 50,001 to 1,50,000 | - | 2 | 50,001 to 1,50,000 | - | 2 |
| 1,50,001 to 3,00,000 | - | 3 | 1,50,001 to 3,00,000 | - | 3 |
| Above 3,00,000 | - | 4 | Above 3,00,000 | - | 4 |

Expenditure (in Rs)

| Daily | | | (Per month) | | |
|----------------|---|---|-----------------------|---|---|
| Monthly | | | | | |
| Up to 100 | - | 1 | Up to 5000 years | - | 1 |
| 101 – 150 | - | 2 | 5001 – 10,000 years | - | 2 |
| 151 – 200 | - | 3 | 10,001 – 15,000 years | - | 3 |
| 201 – 250 | - | 4 | 15,001 – 20,000 years | - | 4 |
| 251 – 300 | - | 5 | Above 20,000 | - | 5 |

Based on Price

| Selection of food based on price | | |
|----------------------------------|---|---|
| Yes | - | 1 |
| No | - | 2 |

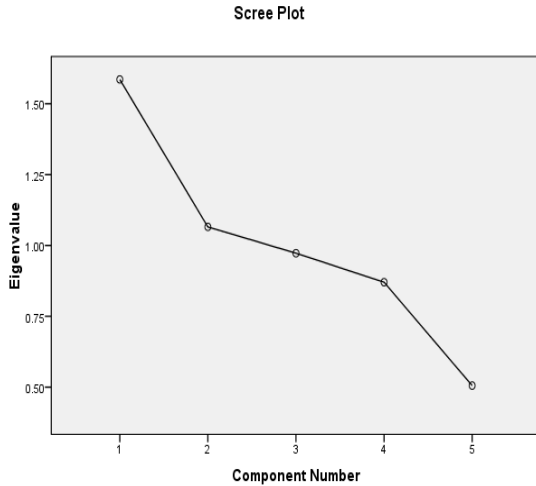
STATISTICAL TECHNIQUES USED

Simple statistical tools like have been used to find out the relationship between the variables and food choice pattern of the respondents. The Factor analysis, MLRM, ANOVA have been used. It is direct interview method of data collection by the researcher. The Interview schedule has framed by the researcher

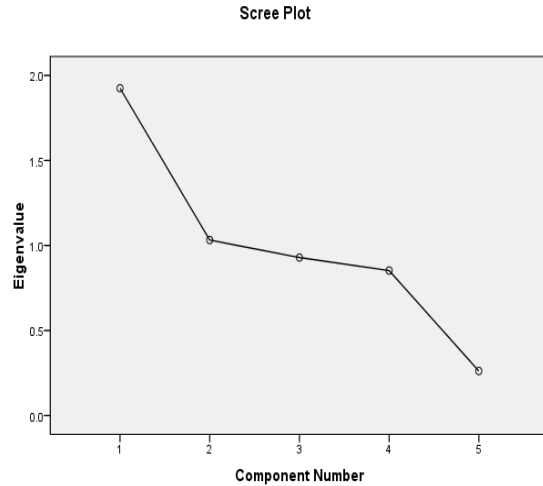
for appropriation of data collection. In order to data reduction from the complexity the factor analysis has been used to find out more important relevant variables.the Rotated component matrix splitted (selected) the socio-economic variables. Such variables are analyzed as socio- economic variables.

ANALYSIS AND INTERPRETATION
Factor Analysis for Social Variable in
Rural and Urban Area

Rural



Urban



Rotated Component Matrix^a

| Particulars | Component | |
|---|-----------|-------|
| | 1 | 2 |
| Age of the Respondents | -.773 | -.073 |
| Sex of the Respondents | .436 | -.024 |
| Religion of the Respondents | .195 | .782 |
| Community of the Respondents | -.300 | .674 |
| Educational Qualification | .804 | -.128 |
| Extraction Method: Principal Component Analysis. | | |
| Rotation Method: Varimax with Kaiser Normalization. | | |
| a. Rotation converged in 3 iterations. | | |

Rotated Component Matrix^a

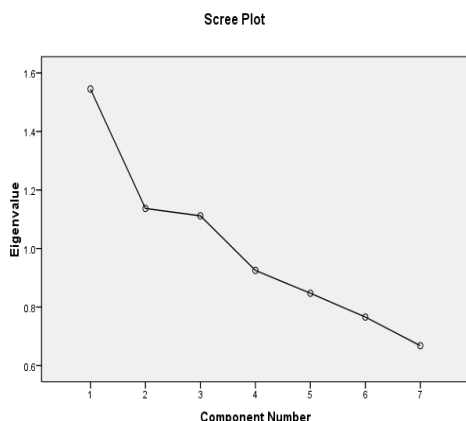
| Particulars | Component | |
|---|-----------|-------|
| | 1 | 2 |
| Age of the Respondents | .800 | -.113 |
| Sex of the Respondents | .261 | -.761 |
| Religion of the Respondents | .256 | .567 |
| Community of the Respondents | .574 | .350 |
| Educational Qualification | -.904 | -.009 |
| Extraction Method: Principal Component Analysis. | | |
| Rotation Method: Varimax with Kaiser Normalization. | | |
| a. Rotation converged in 3 iterations. | | |

Under Factor analysis, the study has selected social variables for rural and urban categories in the study area. The extraction method in factor analysis is used to understand the most influencing variable among the social variable that are selected for the study. The Rotated component matrix have splitted the social factors in to two factors. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables. Factor

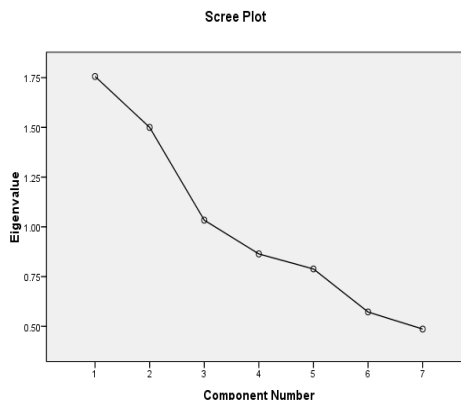
analysis can also be used to generate hypotheses regarding causal mechanisms or to screen variables for subsequent analysis (for example, to identify collinearity prior to performing a linear regression analysis). In rural area, the most influencing factors are educational status as the first component and the religion of the respondent is selected as second component. Likewise, in urban area, age as first component and the religion as second component.

Factor Analysis for Economic Variable in Rural and Urban Area

Rural



Urban



Rotated Component Matrix^a

| Particulars | Component | | |
|---|-----------|-------|-------|
| | 1 | 2 | 3 |
| Occupation | .515 | -.364 | -.195 |
| Income of the respondents (Per month) | .167 | -.553 | .041 |
| Savings of the Respondents | .755 | .161 | .246 |
| Investment profile of the respondents | -.068 | .286 | .682 |
| Assets (Movable and immovable) | -.648 | .107 | .251 |
| Expenditure | .110 | .790 | .046 |
| Based on price | .045 | .291 | -.771 |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations. | | | |

Rotated Component Matrix^a

| Particulars | Component | | |
|---|-----------|-------|-------|
| | 1 | 2 | 3 |
| Occupation | .243 | .599 | .097 |
| Income of the respondents (Per month) | .018 | .680 | -.241 |
| Savings of the Respondents | .757 | .013 | -.102 |
| Investment profile of the respondents | .099 | -.743 | -.103 |
| Assets (Movable and immovable) | -.004 | .040 | .944 |
| Expenditure | -.710 | .224 | -.400 |
| Based on price | .693 | .312 | -.028 |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations. | | | |

Under factor analysis, the study has selected Economic variables for both rural and urban categories. The extraction method in factor analysis is used to understand the most influencing variable among the economic variable for the study. The rotated component matrix have splited the economic factors in to three factors. In Rural area, the most influencing factors are savings as the first component, expenditure on food as the second component and the investment of the respondent is selected as third component. Likewise, In urban area, the Rotated component matrix have splited the economic factors in to three factors. In urban area, the most influencing factors are savings of the respondents as the first component, the income if the respondent is selected as second component and the asset holding of the respondent as third components.

DISCUSSION AND CONCLUSION

Sociological Variables

The sex under sociological variable concerned, the area wise distribution of samples are almost proportionately distributed in both areas whereas, the gender- wise distribution of sample in both areas are not exactly proportionate i.e., 57% of male and 43% of female. And this is supported by the Governments statistics of 2011 census on population of Villupuram district in which the gender wise distribution in Villupuram town is 55% male and 45% female and in rural area 55% male and 45% female. Both the rate are almost same and the sample of the study is coincided with actual district administration data. When the food choice concerned the T5 plays the important role in both area and this T5 is followed by T4 and T3 in rural area in which The T3 Choice has different set-up of gender counts viz., the female counts are more than male but this type of choice is out of non-vegetarian. it means the female are highly constrained by religious bonding. Even though the value is low, the result in regression analysis gives positive impact of religion on food choice (Beta value is .069). The age 21-30 plays strong role in rural whereas in urban, up-to 20, 20-30, and 30-40 age groups are widely play the role particularly in food choice T5. Out of 6 Types of food choice the T5 contributes nearly 50% of the respondents in both the area. The culture and customs might be the background for this kind of choice.

In the age group, the 21-30 age groups contribute more 40 percentage of the respondents in total of 150. And it is more productive age one and in rural, the people are in starting stage for earning income by indulging themselves in to any informal occupation especially agriculture related fields which is hard in working nature thereby they might consume majority of T5 food choice in this age group to get the physical strength. Whereas, in urban the people are highly in sedentary because of out of agriculture field the respondents are working in formal field i.e., white scholar jobs. Besides, well developed transportation thereby they are easily able to move from one place to another one place without physical strength. Hence, the urban food choice is scattered in T5 and followed by The T3. the T3 food choice consists only vegetable, pulses, and fruits. Hence in regression analysis it is shown as negative impact but very less of 26% (Beta=-.262) it implies that there negative relationship between age and food choice which mean when age increases there is no shift in T6 consumption of food choice rather ,they are stable in T5 and T3 and T4.

The variable religion has much influence in both area and the majority of the contribution of hind religion in both areas are 86% in rural and 81% in urban and both have positive impact on food choice. In rural, it is just 7% (Beta=.069) and in urban it is 17% (beta=.175) and the urban is significant at 5% level. Compare with these two areas the urban has less 5 % of the sample but the T5 choice concerned the urban has more of 10%. This is because of the life style and the level of income of the respondents. It is supported by the Governments statistics of 2011 census on population. In which, the Hindu population is 88.11%, Christian 6.07% and the Muslim 5.56%. The distribution in census population about the religion has well established in this study. Likewise, The variable community has much influence in both area and the majority of the contribution of communities B.C and M.B.C in both areas are collectively 80.6% in rural and 80% in urban and both have consuming the T5 food choice majorly. This is because some of the family of B.C community are never migrated from rural to urban and those days the B.C had much of land and the M.B.C will perform their works under them and the S.C/ST will work under the M.B.C. The occupation was highly

agriculture and its allied activities. Hence, the distribution of community of this study has substantiated evidence from the historical origination of communities.

The educational status under sociological variable concerned, 10% in each educational-wise distribution of samples are in illiterate category and under educational-wise it is 90% of the respondents are educated up to degree and above in both areas evenly. Out of which, in area-wise concerned, it is 55 (37%) in rural and 76(51%) respondents are in degree and above category. The different 15% between these two might be the reason of availability educational institution to get education opportunity. And the food choice is concerned majority of these respondents are in T5 choice. Whenever the educational status rises, they never consumed the other nutritious food choice of T3, T2 T1 and even the T6, they are consuming the T5 food choice stably irrespective of their educational status in both area. This reflected in regression analysis in rural the educational status has influenced much but has very less negative impact on food choice i.e., only 2.5(-.246) whereas in urban it doesn't so influence on food choice. This is because of the influence customs, palatability, availability and price.

Economic Variables

The occupational status under economic variable concerned, in total 150 respondents in each area, the 23 % in rural and 43 % in urban respondents are in dependents category. Compare the rural with the urban the rural has much less respondents of dependents, this is because of the respondents are engaging themselves in to any rural area agriculture and its related works to earn income besides the breadwinner's income. In urban, there is limited employment opportunity particularly for well educated persons therefore the unorganized nature of work in urban areas are very meager hence, it has more dependents and the respondents in informal occupation in rural contributes 50% whereas in urban, it is only 28%. It is clear evidence for such distribution of the respondents in earner and dependents wise category. When the food choice is concerned, it shows their life-style. The majority of the rural and urban respondents are in T5 food choice. In rural, the people involving in informal occupation has much majority i.e., 45% out of 70 respondents whereas in urban, the dependents have much more majority i.e., 49% out of 76 respondents and all are in the T5 food choice. And the people involving in formal occupation has much i.e., 32% out of 76 respondents the rest of the respondents are in 20% in informal occupation. This kind of variations are distributed between two areas are due to the educational status, occupation types and the earning of income to eradicate the poverty.

The income status of the respondents under economic variable concerned, in total 150 respondents in each area the 75 % in rural and 78% in urban respondents are in 0-10000 category. Compare the rural with the urban both areas have more or less equal distribution of respondents. The 0-10000 income category shows the people involving formal occupation is not government officials rather it organized nature of work opted for educational level. In this income category of 0-10000, the T5 food choice plays majority of the role. And the respondents in 10000-20000 income categories are also majorly in T5 food choice in both areas.(see the table.36) Which implies the income is not at all influence on food choice. This is kind of nature of income level and correspondent food choice might be the reason of customs, culture, palatability and availability of stuffs through marketing either by public distribution system or by producer of stuffs.

The saving status of the respondents under economic variable concerned, in total 150 respondents in each area the 81% in rural and 83% in urban respondents are in up to 0-5000 category. Compare the rural with the urban both areas have more or less equal distribution of respondents (Table 4.35). The 0-5000 savings category of the respondents are earning income level is 0-10000 and this savings has negative impact in rural by 1.75%and positive impact in urban by 16% and it is significant at 5% level. This implies that in rural the consumption of T5 food choice is irrespective of saving level whereas in urban it is based on income and saving levels. Once, the food choice T3 is followed to T5, which implies that the respondents are highly keen in food choice out of their income and saving. They either consume T5 types of food choice or have to consume T3 (vegetarian) types of food choice. The reason behind this rationale might be the influence of education, religion, customs, and price of the food.

The investment status of the respondents includes the movable investment, immovable investment, and none of the investment. Investment is a conscious act of an individual or any entity that involves deployment of money (cash) in securities or assets issued with a view to obtain the target returns over a specified period of time. If it is in movable form it is termed as movable investment for example: Bike or car or vehicle to go to working spot, carrying goods, and the apparatus which used for mansion works, doctor profession etc,. If it is in immovable form which is termed as immovable investment for example: fixed assets, buildings, lands, roads, railways and some of the capital good etc,. In this study out of 150 respondents in each area, 35% of the respondents in rural area and 35% of the respondents in urban area have none of the investment (Table 4.36) and the movable investment contributes 14% in rural and 12% in urban, and immovable investment concerned 34% are in rural area and 32% are in urban area. Comparing the rural with the urban, both areas have more or less equal distribution of respondents. In regression analysis it is influenced on dependent variable of food choice in rural area with less impact of 4% ($\beta = .039$) and the majority of the rural and urban respondents are in T5 food choice. And the different investment categories are scattered in almost evenly in T5 food choice. This shows that the investment influence is very in selection of food in rural area whereas in urban almost it is nothing influence. Apart from these, the particular T5 choice has consumed. The reason would have been the factors of customs, culture, palatability and availability of stuffs through marketing either by public distribution system or by producer of stuffs. And the 35% of the respondents in both area are labours and they fight for just stomach and solving hungry hence, there no particular food style in these groups.

The expenditure of the respondents in daily and monthly pattern of study area comprises 150 respondents in each area. The majority of the respondents (71.3%) are in monthly expenditure category in rural area whereas in urban area it is 68.7%. The rest of the expenditure of the respondents are very meager in daily expenditure category both in rural and area. i.e., 43 respondents (28.7%) in rural and 47 respondents (31.3%) are in urban area. In daily expenditure, the majority of them are spending 101-150 rupees and 151-200 rupees whereas in urban, majority of them are spending either 100, 101-150, & 301 & above. When the food choice is, concerned The T5 plays the majority of the role. Which contributes 46.7% of the respondents are in rural area in such slabs, 71.3% are in monthly expenditure category and in urban, 50.7 % are in T5 food choice in which, 72.4% are in the same monthly expenditure category. In rural, the T5 food choice is followed by the T4 whereas in urban the same T5 is followed by T3 types of choice. It is notable one since, the amount of income which the respondents earn in rural area is 78% and in urban 75% who are all in 10000 income category per month that is why the majority of them are spending monthly wise within the budget that too apart from saving slabs of 5000 rupees per month. The respondent's differences in between T5 and T3 food choice in urban area might be the influence of education, religion, customs, price of the food and income. There is too high and too low in income levels in urban area only. Comparing both, areas it is concluded that the low income people normally consume high energy consumption of food choice of T5 which ignores the consumption of fruit and vegetable. Thus, this study supported by a European study European Food Information Council (EUFIC) is a non-profit organization which provides science-based information on food) the low-income groups have a greater tendency to consume unbalanced diets and in particular have low intakes of fruit and vegetables (De Irala-Estevéz et al. 2000).

The price is important determinant in selection of food choice in this study. The data about the food choice is based on price of the respondents in this study area is as follow: in the total of 150 respondents in each rural and urban area, the majority of the 56.7% are in selecting their food types based on its price in rural area whereas in urban area it is more conscious 62%. The rest of the 43.3% in rural and 38% are in urban respondents are not selecting their food based on its price (Table 4.40). When we compare the rural and urban the price is influenced more urban area. When the food choice is concerned The T5 plays the majority of the role. Which contributes 46.7% of the respondents in total 150 respondents and are in rural area, in such slabs, 57.1% are in price based food choice category and in urban, the same price based food choice category is 65.8%. In rural, the T5 food choice is followed by the T3 and T4 whereas in urban the same T5 is followed by T3 types of choice and the rest of the categories are very meager representation of the

samples. There would be the backed factors of price which is an obvious influence on food choice. The cost of the food is a much important element in selection of food among the people with low incomes compared with those are better off (Table 4.40). Price has not rated in this study, and just to find out the determinants food choice, it is added one. In this study, the determinants of food choice are typically have responsibility for food selection for the household level hence, may be more aware of budgetary limitations with more spontaneous pattern of food purchases. Another interesting observation is that the dietary restraint has highly influenced by price, cost, income and availability.

CONCLUSION

Given the priority for population and their dietary change, there is a need for a greater understanding of the determinants that affect food choice. The research examines the major variables influence on food choice with a focus on those that are amenable to change. The key driver for eating is of course hunger but what the people choose to eat is not determined solely by physiological or nutritional needs. Everything the people eat becomes biologically part of us-think about the consequences of that stark reality in extreme circumstances. But it goes much further beyond there that look at any food stuff without thinking about social, economic, even political, technological, environment, physical, aspects of food. Socially, food makes all the great bonding of human life, from birth to death, economically the choice made in the market determine how our food is produced and who produce it, politically, the shape of our food and its market price are shaped by government policies far removed from what people might want and environmentally what might genetically modified food really doing to our food and environment. The complexity of food choice is obvious from the above, which is in itself non-exhaustive. Food choice factors also vary according to life stage and the power of one factor will vary from one person to one person or group of people to the next. Thus, one type of intervention to modify food choice behavior will not suit all population groups. Rather, interventions need to be geared towards different groups of the population with consideration to the many factors influencing their decision on food choice.

Presently, no one theory or study sufficiently explains and predicts the full range of food-choice behavior. Despite the number of theories or studies of behavior change. Theories or studies in general should be viewed as a means to understanding the factor influencing individual decisions and behavior. However, the best the theory or study, whether stage-matched dietary interventions out-perform standardized approaches, has yet to be performed. There is large number of studies in this area which exhibit only in the western countries. But these studies are made only in health and nutrition area and not in economics. On the other hand, in India this survey supposed to hope to solve the paucity in such a kind both in social and in economical aspects

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