A STUDY ON HEALTH ISSUES RELATED WITH PROCESSED FOOD PRODUCTS IN TIRUPPUR

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ABSTRACT

Consumption of processed food products to major health issues like obesity, Diabetics, heart disease, strokes, cancer and other. For this reason, processed foods often are pointed to as playing a significant role in public health problems. The present study examines the relationship between consumption pattern of processed food and health risks. For that, this study took 100 samples in and around Tirupur city, during the time period 2018-19. Descriptive research design was adopted and random sampling method was followed for data collection. Simple percentage method, Pearson Correlation method and ANOVA have been used for data analysis. The result derived from the data suggested that gender and education qualification of respondents have statistically significant with health factor, and income is one of the main factor that has positively related with health issues, high income leads higher expenditure for treatment specially the consumption of processed food. An also results suggests that Increase our consumption of whole foods and Visit our local farmers market and buy fresh vegetables and fruits, Educate yourself on which foods at the grocery stores and restaurants or processed and make the effort to avoid them.

KEY WORDS: *consumption pattern, expenditure, health issues, processed food, treatment.*

INTRODUCTION

Today, the majority of people in most of the developed world *get more than half their calories from processed, fast, and fake foods.* Processed food is a food item that has had a series of mechanical or chemical operations performed on it to change or preserve it. Processed foods are those that typically come in a box or bag and contain more than one item on the list of ingredients. For most of us, it's not realistic to avoid *all* processed foods. Processed foods have a bad reputation. The term often brings to mind things like chemicals, additives, and strange cooking methods, saturated fat and excess sugar or sodium. For this reason, processed foods often are pointed to as playing a significant role in public health problems such as obesity, high blood pressure, and diabetes.

HEALTH ISSUES RELATED PROCESSED FOODS

As the name suggests, processed food is food which has undergone some form of processing to turn raw ingredients into a food product. According to the FDA (the U.S. Food and Drug Administration), "processed foods" refers to any food that has been subjected to cooking, canning, dehydrating, freezing, or milling. Some of the many additives included in processed foods are thought to have the ability to compromise the body's structure and function and are suggested to be related to the development of skin, pulmonary and psycho-behavioral conditions. Butylated hydroxytoluene (BHT) and butylated hydroxyanisole (BHA) are currently being investigated for their potential to damage genetic material and therefore promote cancer. Sulfites have been found to aggravate asthma (hypertext) in certain children and adults. Artificial colorings have been noted to cause hypersensitivity reactions in sensitive persons promoting conditions such as ADHD (attention-deficit-hyperactivity disorder), asthma and skin conditions such as urticaria and atopic dermatitis. Therefore, avoiding foods that contain these and other chemical additives may greatly contribute to health.

NEED FOR THE STUDY

Processed foods are usually loaded with added sugar, high fructose corn syrup, contains artificial ingredients like preservatives, colorants, flavor and high in refined carbohydrates, low in nutrients, low in fiber , high in unhealthy fats in nature. A recent study shows that consumption of these products to major health issues like obesity, Diabetics, heart disease, strokes, cancer and other. Further studies are needed to better understand the relative effect of the various dimensions of processing in these associations. This present study explained in manor in which the linkage between intake of processed foods and health risk.

OBJECTIVES OF THE STUDY

- To analyze consumer preference towards processed foods.

- To study the impact of processed foods on health factors.
- To study the relationship between age and health issues.
- To study the relationship between gender and health issues.
- To examine the relationship between consumers income and consumption pattern of processed foods.
- To analyze impact of education on consumption of processed foods.
- To examine relationship between expenditure for treatment and health issues due to the consumption of processed foods.

HYPOTHESIS

1. H0: There is no relationship between gender and health issues

   H1: There is a relationship between gender and health issues

2. H0: There is no relationship between consumer income and consumption pattern

   H1: There is a relationship between consumer income and consumption pattern

3. H0: There is no relationship between education and consumption of processed

   foods

   H1: There is a relationship between education and consumption of processed foods

4. H0: There is no relationship between Income and Expenditure for treatment.

   H1: There is a relationship between Income and Expenditure for treatment.

RESEARCH DESIGN

Descriptive research design has been adopted for this study. The information is obtained from primary as well as secondary sources. The sources of secondary data include book, journals and online resources. Area of the study is confined to the Tirupur city for the period 2018-19.

SAMPLING METHOD

Random sampling method was used to collect the data. One hundred samples were identified and data were gathered through questionnaire. As there are many respondents in Tirupur city, it is not possible to meet each and every respondents and conduct a survey because it is a time consuming and tedious a process. Hence this study undergoes for random sampling method.

TOOLS FOR RESEARCH

The selected data was properly tabulated and analyzed. The relevant statistical tool used for present study such as:

1.SIMPLE PERECENTAGE ANALYSIS
2.CORRELATION
3.ANOVA

CORRELATION

Correlation Coefficients are used in statistics to measure how strong a relationship is between two variables. There are several types of correlation coefficient: Pearson's correlation (also called Pearson's R) is a correlation coefficient commonly used in linear regression. A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other. For example, shoe sizes go up in (almost) perfect correlation with foot length. A correlation coefficient of -1 means that for every positive increase in one variable, there is a negative decrease of a fixed proportion in the other. For example, the amount of gas in a tank decreases in (almost) perfect correlation with speed. Zero means that for every increase, there isn't a positive or negative increase. The two just aren't related. **Pearson r correlation:** Pearson *r* correlation is the most widely used correlation statistic to measure the degree of the relationship between linearly related variables.

ANOVA

Analysis of variance, or ANOVA, is strong statistical technique that is used to show difference between two or more means or components through significance tests. It also shows us a way to make multiple comparisons of several population means. The Anova test is performed by comparing two types of variation, the variation between the sample means, as well as the variation within each of the samples.

REVIEW OF EARLIER STUDIES

Number of studies has addressed this issue in different perspectives. Some of the papers related to this subject are reviewed. **Monteiro et.al., (2005)** examined the relationship between the global food system and the worldwide rapid increase of obesity and related diseases, is not yet well understood. A reason is that the full impact of industrialized food processing on dietary patterns, including the environments of eating and drinking, remains overlooked and underestimated. **Nazni.P and Shobana Devi.R (2016)** have an attempt was made in to study the effects of boiling, pressure cooking, roasting and germination on functional, nutritional, anti-nutritional and pasting properties of barnyard millet and foxtail millet. **Mateen Anwar and ZainabHussain (2017)** have focused on longevity and weight gain, diabetes and high blood pressure due to the consumption of processed food. **Sriraman and Radhakrishnan (2008)** have reviewed about Green revolution has transformed India from a land of shortage to a land of surplus and surplus food and changing lifestyle has shifted the consumption pattern, from cereals to more varied and nutritious diet of fruit and vegetables, milk, fish, meat and poultry products. **Rajneesh Mahajan (2015)** examined the study with the main objective is to identify the constraints in growth of the processed food sector (PFS) and propose a strategy for boosting exports of processed food from India. **Lisa Francescutti, RD (2010)** have examined about Processed foods often include food additives such as flavouring's and texture-enhancing agents, which may have little or no nutritive value and sometimes considered unhealthy. Preservatives added or created during processing to extend the 'shelf-life' of products, such as nitrites or sulphites, may cause adverse health effects. **Jean Claude Moubrack (2011)** studied on classification of foods based on the nature, extent, and purpose of industrial food processing was used to assess changes in household food expenditures and dietary energy availability between 1938 and 2011 in Canada. **Jin Hyeung Kim (2016) has focused on** compares consumer characteristics of processed rice and meat products on food related lifestyles. As the social environment changes and household income improves, the trend of diet change and single-person households is diversifying the food consumption patterns of consumers.

RESULTS AND DISCUSSION
DEMOGRAPHIC PROFILE OF THE RESPONDENTS

1. Nearly 37% of the respondents are belongs to the age group between 10-18, 52% of the respondents are between 19-28, 6% of the respondents are between 29-38, 5 % of the respondents are above the age of 38.
2. From the total respondents (100), 58% of respondents are male and 47%of respondents are female. These results shows that half of the respondents were male rest of the respondents were female.
3. Only 15% of respondents are married, 85% of respondents are unmarried.
4. Around 16% of the respondents have completed their education up to school level, 64% of the respondents are Diploma/degree holders, 10% of the respondents are post-graduate, 10% of the respondents are Illiterate .
5. Among the total (100), 14% of the respondents were self-employed, 19% of the respondents were professionals, 11% of the respondents were labour category, 17 % of the respondents were unemployed category, and 39% of the respondents are from other category.
6. Around 43% of the respondents are having income are below Rs 5000, 25% of the respondents are coming under Rs 5001 – Rs 1000 category , 13% of the respondents are Rs10001 –Rs 15000 , and only 19 % of the respondents were above the income of Rs 15000.

RESPONDENTS LEVEL OF AWARENESS ABOUT PROCESSED PRODUCTS

- Most of the respondents (78%) are completely aware about processed food product and 22%of respondents are not aware of processed product.
- Out of total sample respondents(100), 40% are buying milk products, 20% of the respondents are buying fast food, 8% of the respondents are buying sugar, 8 % of the respondents are buying soft drinks, 10% of the respondents are buying chocolate,10% of the respondents are buying white rice,4%respondents are buying pizzas.

RESPONDENTS MONTHLY EXPENDITURE FOR PROCESSED FOOD

- A total expenditure for processed food out of their income, 52% of the respondents are spending Rs 1000-Rs1500 , 21% of the respondents are spendingRs 1501– Rs 2000 , 10% of the respondents are Rs2001 –Rs 3000 , 17 % of the respondents are spending above Rs 3000.

EXPENDITURE FOR THE PROCESSED FOOD
### TABLE.1.SPENDING BEHAVIOUR OF THE RESPONDENTS

S.no	Processed Food Product	No of Respondents	Percentage
1	Milk products	40	40%
2	Cake	5	5%
3	Chocolate	9	9%
4	Canned juice	1	1%
5	Sugar	8	8%
6	Pickle	1	1%
7	White rice	20	20%
8	Cooking oil	1	1%
9	Jam	1	1%
10	Pizzas	1	1%
11	Fast food	7	7%
12	Coffee	6	6%
	Total	**100**	**100**

Source: Primary Data

From the above table.1, 40% of the respondents are spending for milk products, 5% of the respondents are spending for cake , 9% of the respondents are spending for chocolate , 1 % of the respondents are spending for canned juice ,8%of the respondents are spending for sugar,1% of the respondents are spending for pickle,20%respondents are spending for white rice,1% of the respondents are spending for cooking oil,1%of the respondents are spending for jam,1%of the respondents are spending for pizzas,7%of the respondents are spending for fast food and 6%of the respondents are spending for coffee.

FIGURE NO: 1.SPENDING BEHAVIOUR OF THE RESPONDENTS
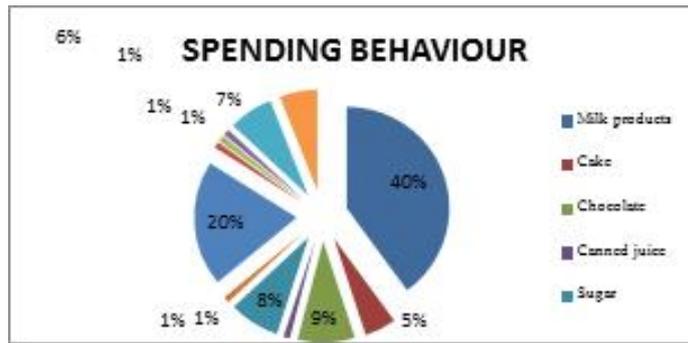
REASONS FOR PURCHASING OF PROCESSED FOOD PRODUCTS

**TABLE NO. 2: REASONS FOR PURCHASING PROCESSED PRODUCTS**

S.No	Reasons for Purchase	No of Respondents	Percentage
1	Convenience	20	20%
2	Availability	24	24%
3	Tasty	41	41%
4	Easy to cook	15	15%
	Total	**100**	**100**

Source: Primary Data

From above of the Table.2, it shows that 20% of the respondents are reasons for purchasing is convenience purchasing of processed goods,24% of the respondents are reasons for purchasing is availability, 41% of the respondents are reasons for purchasing of processed goods is Tasty and 15% of the respondents are reasons for purchasing of processed goods is easy to cook.

**FIGURE NO: 2.REASONS FOR PURCHASE PROCESSED PRODUCTS**
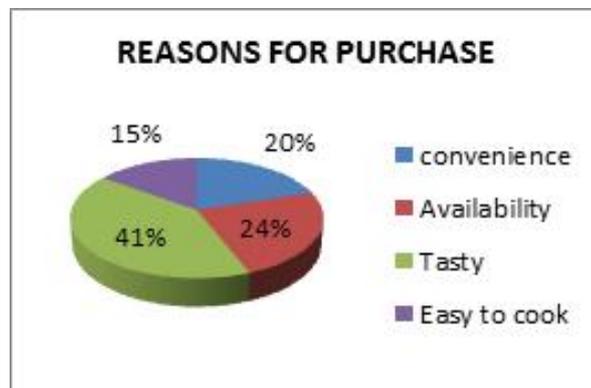
TABLE.3. COMMON HEALTH ISSUES RELATED WITH PROCESSED FOOD PRODUCTS

S.no	Health Issues	No of Respondents	Percentage
1	Cancer	8	8%
2	Diabetics	6	6%
3	Vomiting	6	6%
4	Stomach pain	40	40%
5	Digestive issues	30	30%
6	Brain fog	10	10%
Total			**100**

Source: Primary Data

The above Table.3, shows that among the total respondents, 8% of the respondents were affected by cancer, 6% of the respondents were affected by diabetics, 6% of the respondents are affected by vomiting, 40%of the respondents were answered as stomach pain, 30% of the respondents having digestive issues and 10 % of the respondents are affected by brain fog as common disease.

FIGURE NO: 3. HEALTH ISSUES BY CONSUMING PROCESSED FOOD
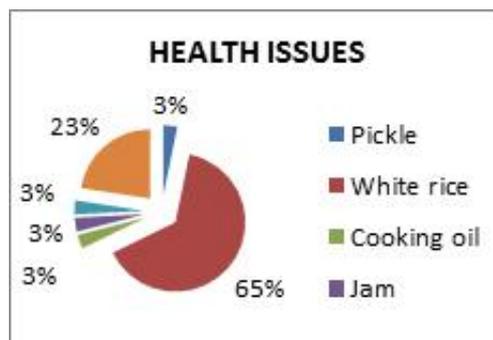
EXPENDITURE FOR TREATMENT PER ANNUM

TABLE 4. EXPENDITURE FOR TREATMENT PER ANNUM

S.no	Expenditure For Treatment	No of Respondents	Percentage
1	Rs 1000-Rs2000	36	36%
2	Rs 2000– Rs 4000	26	26%
3	Rs4000 –Rs 10,000	19	19%
4	Above Rs 10,000	19	19%
Total			**100**

Source: Primary Data

From above of the Table.4, it is clearly shows that expenditure made by respondents for treatment 36% of the respondents are Rs 1000-Rs2000 , 26% of the respondents are Rs 2000– Rs 4000 , 19% of the respondents areRs4,000 –Rs 10,000 , 19 % of the respondents are spending above Rs 10,000 yearly for their treatment. Finally, 77% of respondents thought that processed food processed food should be avoided and 23%of respondents thought that processed should not avoid.

Table 5. RELATIONSHIP BETWEEN GENDER AND HEALTH ISSUES

HYPOTHESIS: 1

H0: There is no relationship between gender and health issues

		gender	Health Issue
Gender	Pearson Correlation	1	.245*
	Sig. (2-tailed)		.014
	N	100	100
Health Issue	Pearson Correlation	.245*	1
	Sig. (2-tailed)	.014	
	N	100	100

*. Correlation is significant at the 0.05 level (2-tailed).

We can see that the Pearson correlation coefficient for gender and health issues is 0.245, which is significant at 0.05 level, based on 100 samples. It is inferred that from above Table.5, there exist a strong positive Relationship between Gender and health issues. Gender also influences the health factors consumption of processed food items. So we concluded that results support our alternative hypothesis.

Table. 6. RELATIONSHIP BETWEEN INCOME AND CONSUMPTION PATTERNS

HYPOTHESIS: 2

H0: There is no relationship between consumer income and consumption pattern

		Monthly Income	Expenditure on different processed food
Monthly Income	Pearson Correlation	1	.953**
	Sig. (2-tailed)		.000
	N	100	100
Consumption Pattern for processed food Products	Pearson Correlation	.953**	1
	Sig. (2-tailed)	.000	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

It is inferred that from above table.6, the Pearson correlation coefficient, d is 0.953, which is statistically significant at 0.01. So we conclude that there exists a strong positive relationship between Income of the respondents and their expenditure pattern on processed food. This results shows that when income increases consumers prefers more processed food items. So we accept alternative hypothesis.

Table.7. RELATIONSHIP BETWEEN EDUCATION AND CONSUMPTION PATTERNS

HYPOTHESIS: 3

H0: There is no relationship between education and consumption of processed foods

Correlations

		Consumption Pattern for processed food	Educational Qualification
Consumption Pattern for processed food	Pearson Correlation	1	.476**
	Sig. (2-tailed)		.000
	N	100	100
Educational Qualification	Pearson Correlation	.476**	1
	Sig. (2-tailed)	.000	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

It is inferred that from above table.7, Pearson value is 0.476 which is statistically significant at the 0.01 level, so we conclude that there exists a strong positive relationship between educational background and their consumption pattern highly educated persons would always preferred more processed food for their consumption.

Table.8. RELATIONSHIP BETWEEN INCOME AND EXPENDITURE FOR TREATMENT

HYPOTHESIS: 4

H0: There is no relationship between Income and Expenditure for treatment.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.956a	.915	.914	.33845

a. Predictors: (Constant), treatment per annum

ANOVA						
	Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	120.134	1	120.134	1.049E3	.000a
	Residual	11.226	98	.115		
	Total	131.360	99			
a. Predictors: (Constant), Treatment per Annum						
b. Dependent Variable: Monthly Income						

This Table.8 shows that there is a statistically significant at 0.01 level differences between income and expenditure for treatment because heath problems occurred due to processed food. We can conclude that we accept the alternative hypothesis that there are significant differences between condition mean and population mean at .000 level of significance.

FINDINGS

- From the total, majority of the respondents were the age group between 19-28, only 5 % of the respondents are above age of 38.
- More than half of the respondents were male and nearby half of respondents are female,
- More than four-fifth of the respondents were unmarried .
- More than three-fifth of the sample were degree/ diploma holders form the total selected samples.
- Only 11% of the sample's were labour category, rest of the samples are shared other categories.
- From the total respondents, 43% of the respondents incomes are Below Rs 5000, 25% of the respondents are Rs 5001 – Rs 1000, 13% of the respondents are Rs.10001 – Rs 15000, 19 % of the respondents are above Rs 15000.
- Four-fifth of the respondents are aware of processed product.
- Obviously , from the total, two-fifth of the respondents are buying milk products, one-fifth of the respondents are buying fast food , only 4% respondents are buying pizzas.
- Total Expenditure are made by consumer out of total monthly income especially for processed food , half of the respondents are spending Rs 1000-Rs1500 , one-fifth of the respondents are spending Rs 1501– Rs 2000 , only 17 % of the respondents are spending above Rs 3000 from their income.
- Out of total respondents, two-fifth of the respondents are spending milk products, one-fifth of the respondents are spending white rice, and rest of the percentage is shared by all people.
- Only 20% of the respondents are reasons for purchasing of processed food for their convenience, 24% of the respondents are reasons for purchasing of processed food products are availability, 41% of the respondents are shared the reasons for purchase is Tasty and 15%of the respondents are reasons purchase is easy to cook.
- From the overall view, four-fifth of the samples was affected by processed food products.
- Commonly, results shows that 15% of the respondents are affected by cancer, 27% of the respondents are affected by diabetics, 19% of the respondents are affected by blood pressure, 32%%of the respondents are affected by Digestive issues,7% of the respondents are affected by Heart disease.
- Majority of the respondents are spending money for their treatment annually Rs 1000-Rs2000, 26% of the respondents are spending Rs 2000– Rs 4000, 19% of the respondents are spending Rs4,000 –Rs 10,000 , 19 % of the respondents are spending above Rs 10,000.
- More than three fourth of respondents thought that processed food should be avoided and rest one-fourth of respondents answered that processed should not avoid.
- We can see that the Pearson correlation coefficient for gender and health issues, there exist a strong positive Relationship between Gender and health issues. Strongly we infer that Gender influences the health factors consumption of processed food items.
- there exists a strong positive relationship between Income of the respondents and their expenditure pattern on processed food. The results show that when income increases consumers prefers more processed food items than normal goods.
- The evidences shoe that strong positive relationship between educational background and their consumption pattern highly educated persons would always preferred more processed food for their consumption.
- The present study concludes that at higher income level, higher consumption of processed food items will lead high cost for their treatment.

SUGGESTIONS

This study has given the following suggestions to avoid processed food item.

1. Increase our consumption of whole foods, especially vegetables and fruits that they are in season.
2. Eat all the junk food we want as long Cooke it our self.
3. Visit our local farmers market and buy fresh vegetables and fruits.
4. When selecting foods like pastas, cereals, rice always go for whole grain option.
5. Educate yourself on which foods at the grocery stores and restaurants or processed and make the effort to avoid them.
6. Read food and health blogs, or joint forum discussions online to change our self.
7. When it comes to packaged it is important to read labels sum of these foods maybe slightly processed or refined.

CONCLUSION

In conclusion, processing foods has been in our past for a little over one-hundred years and doesn't necessarily have to stop. Processed foods have many chemicals in them, and diseases come about everyday relating to them. Our obesity rate has gone up dramatically and cancer possibilities have risen to an overwhelming high. These diseases are a result to all of the processed food we eat. A solution that may fix this is to fix how we eat. We can all change our habits by only eating processed foods once or twice a month, certainly not every day. We can eat whole, healthy foods that won't cause diseases, but help to fight them. Along with this, we can help spread the word around to the youth about how to change their eating habits and be an example for their parents. This will help rates go down and healthier societies emerge for the future.

POLICY IMPLICATIONS AND SCOPE FOR FURTHER RESEARCH

The findings of the study have many useful in policy implications. This study gives valuable insights into health issues related with much harmful disease due to the consumption of processed food products. Government can enact policies that restrict advertising and sale of unhealthy items or ingredients to particularly vulnerable populations, such as children. Those policies may also change the default food environment by increasing access to healthy foods through farmer's markets and mobile vendors of healthful foods. New efforts are needed to establish more comprehensive and rigorous approaches to evaluating program and policies aimed to improve diet, coupled with feedback to improve the efficiency of implemented policies. The present study can be extended to all states to get overall pictures regarding impact of processed food products.

LIMITATION OF THE STUDY

1. The Secondary data collected from various sources were sometimes not very specific.
2. The researcher has to arrive at findings based on the information given by the respondents, which sometimes may be biased.
3. A given sample may not represent the entire population completely.
4. This study limits its scope by Tirupur and hundred samples only due to time constraint.
5. The present study covers the time period from 2018-19.

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