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A Study on Oragbic Food vs Conventional Food with Special Reference to Coimbatore City

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A B S T R A C T

In this current century choosing our daily intake of food based upon a number of factors. The purpose of this study is to compare and contrast eating Organic foods and Conventional foods. The two main points of discussion are flavor and health benefits. While the flavor of Organic and Conventional foods is not significantly different when cooked, the health benefits of Organic foods is greater than Conventional foods. Conventional food requires less energy from our body for digestion, meaning that it could lead to slowing down of our metabolism. Recent human epidemiological studies associated consumption of organic foods with lower risks of allergies, whereas findings of human intervention studies were still ambiguous. The hypothesis might be that organic food increases the capacity of living organisms towards resilience. To confirm this, effect studies on Organic food for health are necessary.

Keywords: Organic Food, Health benefits, Conventional food.

1. Introduction

Food is a basic need of human and animals. We are live in a world where the variety of food is immense. The term organic is rooted in bio from Greek bios meaning life or way of living. The consumption of organic food has grown rapidly over the past two decades. On the demand side, consumers are willing to pay a premium price for organic food, which typically cost 10% to several times more than conventional food. Hence in this study it is focused on the usage of organic and conventional foods and how it is useful to health condition and also how the peoples are facing the problem related to usage of organic and conventional foods.

1.1. Objective of the study

- To know how people are aware of it.
- To know the level of satisfaction.
- To study problems faced by the customer.
- To study usage level of the customer.

1.2 Statement of the problem

One of the major disease-causing agents is food or the deficiency of it. Hence in this study it is focused on the usage of organic and conventional foods and how it is useful to health condition and also how the peoples are facing the problem related to usage of organic and conventional foods. Conventional food requires less energy from our body for digestion, meaning that it could lead to slowing down of our metabolism. Combined with the densely packed calorie content within the conventional food, this means a higher calorie count than we may require. The food, being chemically treated and genetically modified may lead to gastronomical, endocrinal, and other health issues when consumed regularly over a long period.

1.3 Scope of the study

The study aims to know the comparability of fresh foods and packed foods. To find which one is healthier for our daily life and to know about the disadvantages of conventional foods. And the most important this research focus on consumers to make them prefer the food which is healthy. It will help the people to live a happy and long life and creating awareness on choosing organic and conventional foods. So that people can aware of it to reach the healthy and happy life.

1.4 Research Methodology

Research methodology is a way to systematically solving a research problem. Research methodology deals with the research design used and

methods used to present the study. This study is intended to analyze consumer's preference on choosing foods for their daily needs. The methodology of the study includes,

- ➢ Area of the study
- ➢ Source of data
- ➢ Sample size
- ➢ Statistical tools

1.4.1 Area of the study

The area of the study is confined to Coimbatore City.

1.4.2 Source of data

The study uses only primary data confined questionnaire have been prepared and collected from various consumers. Primary research is done to gather original data required for the research. The research is focused on both qualitative and quantitative issues. Secondary data are collected from websites, books, journals etc.

1.4.3 Smaple Size

150 questionnaires were collected from the different consumers. Convenient sampling method is applied.

1.4.4 Stastitical Tools

Tools used for the study were following:
- ➢ Percentage Analysis
- ➢ Ranking Analysis
- ➢ Chi-Square Analysis

1.5 Limitation of the study

- ✓ Time and resource constraint.
- ✓ Respondent may fail to express their opinions and beliefs.
- ✓ There may be a bias in collecting the data.
- ✓ The sample respondents are from Coimbatore city and so it doesn't applicable for other cities.

2. Review of literature

1.(Dr. Ritu Singhvi (2018) "Consumer perception and behaviour towards organic food "in this study have reported that the purpose of the research was to determine the consumers perception regarding organic food in India. Understanding consumer's behaviour and decision making towards organically grown products and conventional foods. It has been found out that health, safe, taste and environmental concerns were the most important factor deciding consumer's attitude. Reviewing of study and provides vital information that there will be more demand of the organically grown food products in coming future, so the author declared the conclusion it's high time for producer, traders, consumer and government itself to focus over the organic food.

2.(M Sumathy 2018), "a study on marketing strategies and awareness on organic products in Coimbatore" in this study she has reported that this research aims to explain the importance of marketing strategies and awareness about organic and conventional foods in Coimbatore. In recent days organic foods consider more healthier than the conventional foods. The study emphasis on consumer understanding and identifying the organic food products. This study will help organic marketers to review their marketing strategies and researchers to identify gaps for in depth study in future.

3.(Madhvi Sally 2018) "a study on consumption pattern of organic foods" in this study the consumption pattern of organic food in India mainly focuses on the demand of the Indian organic food product which is constantly increasing worldwide. India exported organic products worth $515 million in the financial year 2017 and 2018. Oilseed, sugar, fruit juice concentrate, tea products are exported to USA European Union member countries and Canada, which are the biggest buyers of organic products. In addition to this, other countries like Israel and Mexico are also taking a keen interest.

4.(Marco Trevisan 2019) "organic and conventional food comparison and future research" in this study reported that to show there is a lack of strong scientific evidences that organic food is significantly different from the conventional regarding nutritional properties, environmental and human health

impacts. For that the author research and collecting details about difference between organic and conventional food, properties, impacts & consumer perception. In general, organic foods often have more beneficial nutrients than the conventional foods. So, the author reported that consumers generally perceive organic food as more valuable even though higher prices and poor availability of organic products.

5.(Shiksha Kushwah 2019) "study on awareness of organic products" in this study Shiksha Kushwah have reported that during the last few decades interest in organically produced food has steadily risen around the world. He reviewed 89 empirical studies for their research and found the consumer's motives and barriers of organic food consumption. The author used two popular theoretical frameworks, namely the theory, were used to categorize the identified motives and barriers.

6.(Vanessa vigar 2019) "a systematic review of organic vs conventional food consumption" in this study reported that the review aims to systematically assess the evidence related to human health outcomes when an organic diet is consumed in comparison to its conventional foods. The relevant database was searched in 2019. Thirty-Five papers met the criteria for inclusion in the review, the significant positive outcomes were seen in long-term studies the organic intake was associated with reduced birth defects, allergic sensitisation. But the current evidence base does not allow a definitive statement on the health benefits of organic foods. So, the clinical research should focus on using whole diet substitution with certified organic interventions as this helps to determine whether or not true measurable health benefits exists.

7.(Nethra 2019) "Consumer attitude towards organic food products in Coimbatore city" in the study brought out the fact that the people were well aware of images and availability, but not loyal entirely to organic products. It is essential to support the local farmers to produce more organic food than the conventional and it should be sold in the local market where the small farmers can earn reasonable profit instead of exporting them to various countries.

8.(Dr. M. Gopanasamy 2019) in this study reported that the Organic foods are produced by methods that comply with the standards to organic farming Standards vary worldwide. However, organic farming in general, features practices that strive to foster cycling of resources, promote ecological balance, and conserve biodiversity. Organizations regulating organic products may choose to restrict the use of certain pesticides and fertilizer in farming. In general, organic foods are also usually not processed using irradiation industrial solvents or synthetic food addictive.

9.(R Initha Rina 2019) "Consumer awareness and perception towards organic products with special ref to Coimbatore" in this study reported that the consumption behavior of children started to change because of urbanization, increases in nuclear families, increases in the proportion of women in workforce, as well as changing lifestyle and eating patterns. The researcher has taken 755 respondents as the sample size and empirical research design was adopted. This study can help in providing direction to the fast-food outlets to target the consumers more effectively and formulate marketing strategies to increase the customer delight.

10.(Mr. M. Mohanraj 2019) "A study on customer preference towards online shopping of organic products in Coimbatore" in this study was about in major cities of India organic food products are available and awareness of organic food products in the towns and villages has been increasing. The consumers are affected by consuming conventional products that are grown with chemicals, fertilizers and pesticides which affect the health of the human. Based on this, consumer is started to purchase organic food products by considering the factors like safety, freshness, environment friendly, health etc. The study concluded that health, safety and environmental concern are playing the key factor for the purchase of organic food products.

3. Overview of the study

Organic farming is one such method wherein the crops are grown without the use of chemical fertilizers and pesticides with an eco friendly and socially responsible approach. Consumption of organic food nowadays is having a huge reputation among elite and upper middle-class consumers particularly in growing cosmopolite cities like Coimbatore City.

3.1 Organic Food:

3.1.1 Health Consiciousness

Today's life is getting very competitive and demanding. Consumer has hardly time for physical activities but highly exposed to the diseases like Covid 19. Consumers are very much concern about their health and their food choice to stay healthy during Covid 19 pandemic. Health concern is the important factor that has influence over consumer attitude toward organic food products.

3.2 Conventional Food:

3.2.1 Materials or methods not allowed in organic farming include:

- Artificial (synthetic) fertilizers to add nutrients to the soil
- Sewage sludge as fertilizer
- Most synthetic pesticides for pest control
- Using radiation (irradiation) to preserve food or to get rid of disease or pests
- Using genetic technology to change the genetic makeup (genetic engineering) of crops, which can improve disease or pest resistance, or to improve crop harvests
- Antibiotics or growth hormones for farm animals (livestock)

4. Analysis and Interpretation

4.1 Introduction

Analysis of data is a process of inspecting, cleansing, transforming and modelling data with the goal of discovering useful information, informing conclusion and supporting decision-making. Data analysis is a process for obtaining raw data and converting it into information useful for decision making by users. Data are collected and analysed to answer question, test hypotheses or disprove theories.

Stastician John Tukey defined Data analysis as "Procedure for analysing data, techniques for interpreting the results of such procedures, ways of planning the gathering of data to make its analysis easier, more precise or more accurate, and all the machinery and results of statistics which apply to analysing data".

The following tools were used:

I. Simple percentage method

II. Chi-Square Analysis

III. Rank Analysis

4.1.1 Simple percentage Metrhod

Percentage method refers to the specific kind which is used in making comparison between two or more series of data collected. Percentages are based on descriptive relationship. It compares the relative items. Through the use of percentage, the data are reduced in the form with base equal to 100% which facilitate relative comparison.

FORMULA:

$$\text{PERCENTAGE} = \frac{\text{NO OF RESPONDENTS}}{\text{TOTAL NO. OF RESPONDENTS}} * 100$$

Table 4.1.2:

Table showing the efforts of consumer in buying organic and conventional foods

Effort Level	Frequency	Percentage
Strongly Agree	36	24
Agree	66	44
Neutral	40	26.7
Disagree	6	4
Strongly Agree	2	1.3
Total	150	100

Source : Primary Data

Interpreation:

The above table indicates that 24% of the respondents are strongly agree, 44% of the respondents are agree, 26.7% of the respondents are neutral, 4% of the respondents are Disagree, 1.3% of the respondents are Strongly disagree.

4.1.2: Chart showing the efforts of consumer in buying organic and Conventional food
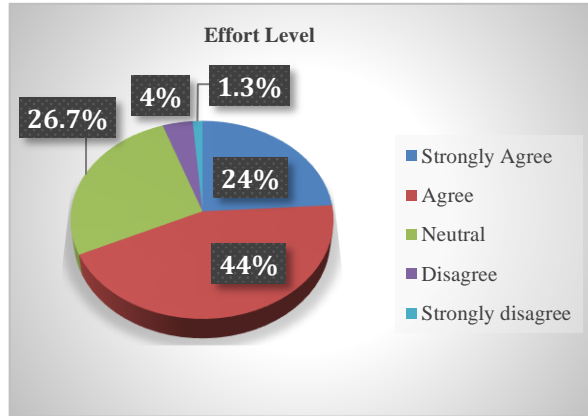

Table 4.1.3:

Table showing the Consumer perspective in Organic food

Source: Primary Data

Consumer perspective	Frequency	Percentage
Chemical Free	40	26.7
More Nutrious	74	49.3
Costly	17	11.3
Eco-Friendly	19	12.7
Total	150	100

Interpretation

The above table indicates that 26.7% of the respondents are perspect Chemical free, 49.3% of the respondents are perspect More nutrious, 11.3% of the respondents are perspect costly, 12.7% of the respondents are perspect Eco-Friendly.

4.1.3 Chart showing the consumer perspective in organic food
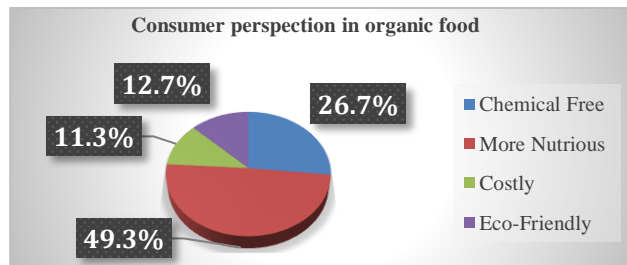
4.2 Chi-Square Analysis

A CHI-SQUARE is a statistical tool commonly used for testing the independence and goodness of fit. Testing independence determines whether two or more observations across two population are dependent on each other. Testing for goodness of fit determines if an observed frequency distribution matches a theoretical distribution.

Formula:

CHI - SQUARE VALUE ($\sum$)= $\dfrac{\text{(OBSERVED VALUE – EXPECTED VALUE)}^2}{\text{EXPECTED VALUE}}$

EXPECTED VALUE = $\dfrac{\text{ROW TOTAL* GRAND TOTAL}}{\text{GRAND TOTAL}}$

DEGREE OF FREEDOM = (ROW – 1) * (COLUMN – 1)

Table 4.2.1

Table showing the relationship between the monthly income and consumer preference in purchase of the respondents

MONTHLY INCOME	CONSUMER PREFERENCE				TOTAL
	Fruits and Vegetables	Meat and sea food	Dairy Products	Processed food	
Below 20000	44	21	12	1	78
20000-40000	23	8	6	2	39
40000-60000	7	8	4	-	19
60000 Above	7	1	5	1	14
TOTAL	81	38	27	4	150

CALCULATION OF X^2

O	E	(O-E)	(O-E)^2
44	42.12	1.88	3.5344
23	21.06	1.94	3.7636
7	10.26	-3.26	10.6276
7	7.56	-0.56	0.3136
21	19.76	1.24	1.5376
8	9.88	-1.88	3.5344
8	4.81	3.19	10.1761
1	3.55	-2.55	6.5025
12	14.04	-2.04	4.1616
6	7.02	-1.02	1.0404
4	3.42	0.58	0.3364
5	2.52	2.48	6.1504
1	2.08	-1.08	1.1664
2	1.04	0.96	0.9216
1	0.37	0.63	0.3969
150	149.49	0.51	54.1635

CHI - SQUARE VALUE ($\sum$) = $\dfrac{\text{(OBSERVED VALUE – EXPECTED VALUE)}^2}{\text{EXPECTED VALUE}}$

=54.1635/149.49

=0.36

DEGREE OF FREEDOM = (ROW – 1) * (COLUMN – 1)

=(4-1) * (4-1)

=9

CALCULATED VALUE X^2 = 0.36

TABLE VALUE = 16.91

Hypothesis:

H0: There is no significant relationship between monthly income and consumer preference of the respondents

H1: There is a significant relationship between monthly income and consumer preference of the respondents.

Level of significance = 5% or 0.05

Degree of freedom   = 9

Chi-square value X^2 = 0.36

Table value   = 16.91

Interpretation:

In the above analysis, the calculated value (0.36) is less than the value (16.91) at the level of 5% significance. Hence, null hypothesis is accepted, thus, there is no significant relationship between monthly income and consumer preference of respondents.

4.3 Rank Analysis

A ranking is a relationship between a set of items such that, for any two items, the first is either 'ranked higher than', 'ranked lower than' or 'ranked equal to' the second. In mathematics, this is known as a weak order or total preorder of objects. It is not necessarily a total order of objects because two different objects can have the same ranking. The rankings themselves are totally ordered. For example, materials are totally preordered by hardness, while degrees of hardness are totally ordered.

4.3.1 Table showing the ranking of consumer preference in conventional food

Factors	5	4	3	2	1	Total	Rank
Quick Service	66	54	23	5	2	627	1
Expensive	35	74	31	9	1	583	4
Taste Good	54	52	35	7	2	599	3
Offers a variety	47	57	29	13	4	580	6
Convenient	46	58	32	9	5	581	5
Easy to cook	62	49	27	8	4	607	2

Interpretation:

The above table shows that R1 is given to Quick Service according to the respondents based on their preference, followed by Easy to cook, taste good, Expensive, Convenient, Offers a variety.

5. Findings, suggestion and conclusion of the study

5.1 Findings

The objective of the study was to know the awareness of customers by using conventional food and to know the usage level of organic food and conventional food and to analyze the satisfaction level of consumers on using Organic food and conventional food and to analyze the problems consumers facing while using the organic food and conventional food and to analyze the comparison between organic food and conventional food for the purpose of health. The study has been analyzed using techniques of percentage analysis, rank analysis, chi- square analysis. The final chapter is an attempt to summarize the findings of the study based on which few suggestions have been made.

5.1.1 Simple Percentage Method:

- 44% of the respondents are agree to make an effort to buy organic and conventional food.
- 49.3% of the respondents are perspecting organic food is more nutrious.

5.1.2 Chi-Square Analysis:

- Monthly income has no significant relationship between the consumer preference.

5.1.3 Rank Analysis:

- ✓ The above table depicts that the consumer preference towards conventional food that the Highest rank towards Quick service, second rank towards Easy to cook, third rank towards Taste good, fourth rank towards Expensive, fifth rank towards convenient and the last rank towards it is offers a variety.

5.2 Suggestion:

- ➢ Consumers should try to select harmless packed foods which are equally available like organic Foods.
- ➢ The awareness of health complications that might occur when consuming packed foods must be clearly known to the consumers.
- ➢ Organic foods are safe, but it is hard to find organic foods in the nearest while the conventional foods are easily available in every store and it creates difficulty in regular consumption of organic foods.
- ➢ Consumers are not entirely aware about organic foods available in the market also, there is a lack of awareness among the consumer and the well-known organic food among consumer is fruits and vegetables.
- ➢ There is a need to be a maximization in the production of organic foods for the better environment and to witness human health. The current situation made us to realize the health is the most important among others, consumer with health consciousness prefer organic foods.

5.3 Conclusion:

From this study we have concluded that the organic foods are healthier than non- organic foods. In this survey the price of organic food is high, but then also the customers prefer that the organic food is better than conventional foods. The study included various aspects through which the awareness of the general public over organic foods and conventional foods are measured. This study evaluated the satisfaction level and reasons for the preference of consumers towards organic and conventional foods. It was found that the satisfaction levels of both organic and conventional foods are more or less similar with different factors. Respondents of this study indicated that they prefer organic food for their health and conventional food for its taste and availability. Organic certified foods are not very much available.

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