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Frequent Consumption of Non-Vegetarian Food and Its Impact on Adult Health

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Abstract

Introduction

Dietary choices significantly influence our health and well-being. Non-vegetarian diets, which include meat and poultry, have both advantages and disadvantages. While these foods provide essential nutrients such as protein, iron, B-vitamins, zinc, and omega-3 fatty acids, many non-vegetarian options are high in saturated fats and cholesterol, which can increase the risk of heart disease. This study aims to evaluate the association between the frequency of non-vegetarian consumption and its potential health effects.

Methodology

This descriptive study was conducted through an online survey. The sample size consisted of 73 randomly chosen individuals from Telangana, aged between 20 and 50 years. The collected data were analyzed by calculating frequencies, percentages, and applying the Chi-Square Test.

Results

The study found that majority of participants were female (63%) while male participants comprised 37%. Most participants were aged between 20 and 30 years and identified as students (68%). Regarding consumption frequency, 50% of subjects reported eating non-vegetarian food once a week, 23% twice, and 18% three times a week. In terms of health status, 51% of subjects were not prone to any disorders, while 32% experienced gastric problems, categorized as general disorders. Heart disease was proven to be significant (P-Value: 0.001529) through the Chi-Square Test. As for management strategies, 42% of individuals preferred physical activity, while 40% opted for a balanced diet.

Conclusion

This study found a significant association between the frequency of non-vegetarian consumption and the incidence of heart disease. Regarding management strategies, subjects preferred physical activity and balanced diets for health maintenance.

Keywords: Non-Vegetarian foods, non-vegetarian consumption frequency, health disorders, heart disease, balanced diet, physical activity.

Introduction

Individuals have different food preferences. Most people aim to eat healthily, and for non-vegetarians, the frequency of non-vegetarian food consumption can significantly impact health. Moderately consuming non-vegetarian foods can maintain good health, but excessive intake may lead to various health problems.

The Indian Council of Medical Research (ICMR) provides recommended dietary allowances (RDA) to help individuals meet their dietary needs and maintain health. However, many people today consume non-vegetarian foods more frequently than recommended, leading to numerous health disorders. Thus, it is essential to monitor consumption and encourage a balanced diet and lifestyle for better health. Achieving this often requires guidance from a dietitian or health professional.

Ongoing research indicates that long-term high non-vegetarian consumption may be linked to an increased risk of diseases. Studies have shown that incorporating non-vegetarian food into the diet can trigger various health issues. High consumption of non-vegetarian foods, particularly red and processed meats, may lead to elevated blood pressure and a greater risk of heart disease. Cholesterol present in red meat disrupts cardiovascular function, which can lead to heart attacks. Regular non-vegetarian consumption is also a significant cause of various stomach and gastrointestinal issues (Vezlay Foods et al., 2023)

Aim and Objectives

This study aims to evaluate the impact of frequent non-vegetarian food consumption on adult health. The objectives include identifying potential health disorders associated with regular non-vegetarian consumption and exploring approaches to manage those disorders, either through dietary balance or physical activity.

Methodology

1. **Research Design:** Non-experimental
2. **Research Approach:** Descriptive survey
3. **Research Area:** Randomly selected individuals from Telangana state
4. **Sample Size:** The study was conducted among 73 individuals aged between 20 and 50.
5. **Sampling Design:** Purposive and quota sampling techniques were used to collect the data.

Inclusion Criteria

This study includes only adults aged between 20 and 50. It only includes individuals who consume non-vegetarian food.

Exclusion Criteria

This study excludes children and teenagers up to the age of 19. It also excludes people over 50 years of age and individuals who do not consume non-vegetarian food.

Sampling Tools and Techniques

A self-administered, structured questionnaire was used to collect data for the study. The questionnaire was designed with the study's objectives in mind and included both open-ended and closed-ended questions, as well as multiple-choice questions. Respondents were given "yes" or "no" options for selected questions and were asked to justify their answers. The survey was conducted through Google Forms.

Questionnaire: The questionnaire was organized into sections to gather information on general demographics, dietary preferences, health status, and physical activity levels.

1. **General Information:** This section collected basic information from respondents, such as name, age, profession, and gender.
2. **Dietary Preferences:** This section asked respondents about their dietary habits, including their preferred types of meat, and how many times per week and per day they consume meat.
3. **Health Status:** Respondents answered questions regarding their health status, indicating any health conditions they associate with non-vegetarian food, whether chronic or general.
4. **Approach:** This section examined how respondents manage their health conditions and the physical activities they engage in to maintain a balanced lifestyle.

Techniques

The data collected through the questionnaire was compiled into a Microsoft Excel sheet via Google Forms for analysis. Percentages and frequencies were calculated, and statistical analysis was performed using the chi-square test.

Chi-Square Test

The chi-square test was applied to determine the level of significance in the study.

chi-square test: $X^2 = (\text{observed value} - \text{expected value})^2 / \text{expected value}$

Where:

X^2 = chi-square value

Oi = observed value

Ei = expected value

A p-value of ≤ 0.05 was considered significant.

Literature Review

1. **Susanna C. Larsson et al. (2013**) reported that high consumption of red meat, processed meat may increase all- cause mortality.
2. **Spruti Pattar et al. (2023)** found that a vegetarian diet maintained over a long duration can help in achieving a healthy weight and preventing central obesity, which may be lacking in non-vegetarian diets.
3. **Dana Ivancovsky-Wajcman et al. (2022)** noted that high consumption of red and processed meats was associated with increased risk of fibrosis.

Results and Discussion

5.1 Demographic Data

The data collected revealed that the majority of subjects were female, comprising 63% of the sample, while males accounted for 37%. Most participants were aged between 20-30 years, representing 87% of the total subjects. This age group was significantly larger than those in the other age categories, with 5% aged 31-40, and 8% aged 41-50. Additionally, most of the respondents identified as students, making up 68% of the sample. Corporate workers were the second largest group at 12%, followed by business professionals at 8%, farmers at 7%, and teachers at 5%.

Table 5.1.1: Demographic Data

General information	Frequency(n=73)	Percentage (100%)
Gender		
Male	27	37%
female	46	63%
Age		
20-30	63	87%
31-40	6	5%
41-50	4	8%
Profession		
Corporate worker	9	12%
Business	6	8%
Teaching	4	5%
Farming	5	7%
Others(students)	49	68%

5.2 Dietary Information

As shown in Table 5.2.1, the dietary information collected from the subjects reveals the following trends: 60% of participants do not associate their dietary choices with cultural influences, while 40% do. Additionally, it was observed that profession impacts dietary habits, with 48% of subjects indicating that their work life affects their diet.

In terms of meat preference, it is encouraging that a majority, 92%, prefer white meat over red meat, which only 8% choose. Regarding meal preferences, most individuals favor non-vegetarian options during lunch, with 72% opting for non-veg meals, while 25% choose non-veg for dinner, and only 3% do so at breakfast.

Table 5.2.1: Dietary Information

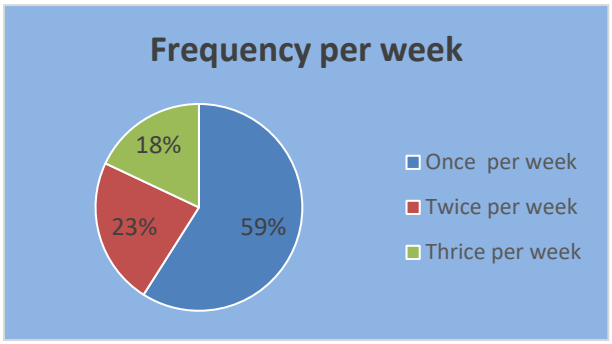
Dietary information	Frequency(n=73)	Percentage (100%)
Cultural/regional background		
Yes	29	40%
No	44	60%
Profession impact on diet		
Yes	35	48%
No	38	52%
Preference		
White meat(chicken/turkey/duck)	67	92%
Red meat(mutton/pork/beef)	6	8%
Preferred meal time		
Break fast	2	3%
Lunch	53	72%
dinner	18	25%
Quantity		

100gm and above	12	16%
80gm	6	8%
75gm	11	15%
60gm and below	3	43%

5.2.2 Non-Vegetarian Consumption Frequency per Week

As shown in Figure 5.2.2, the majority of people prefer to consume non-vegetarian food once in a week, accounting for 59%. Moderately, 23% of individuals consume it twice in a week, while only 18% eat non-vegetarian food three times in a week, representing the smallest percentage. Based on the graph, it is encouraging that most people are choosing to consume it once a week, which helps them maintain a healthier diet.

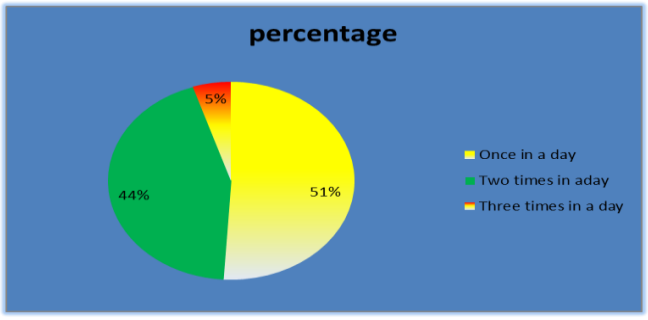
Figure 5.2.2: Non-Vegetarian Consumption Frequency per Week



5.2.3 Frequency per Day

The figure indicates that the majority, 51%, of people consume non-vegetarian food once a day, which is a positive statistic. In comparison, 44% consume it twice a day, and only a small percentage, 5%, consume it three times a day.

Figure 5.2.3: Non-Vegetarian Consumption Frequency per Day



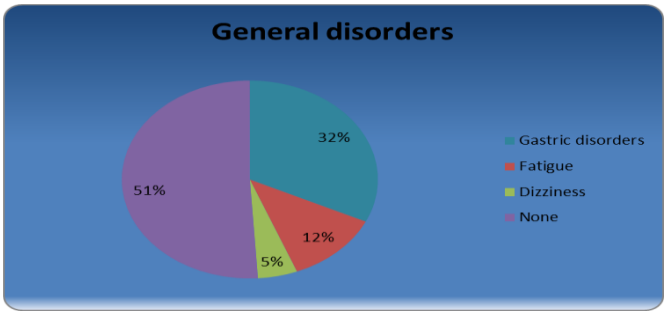
5.3 Health Status

5.3.1 General Disorders

As shown in Figure 5.3.1, it is evident that most subjects, 51%, do not experience any health problems, which is a positive indicator that many individuals are balancing their non-vegetarian diet. The most prevalent general disorder reported is gastric problems, experienced by 32% of participants, followed by

fatigue from consuming non-vegetarian foods at 12%. A very small percentage, 5%, reported experiencing dizziness related to their non-vegetarian diet.

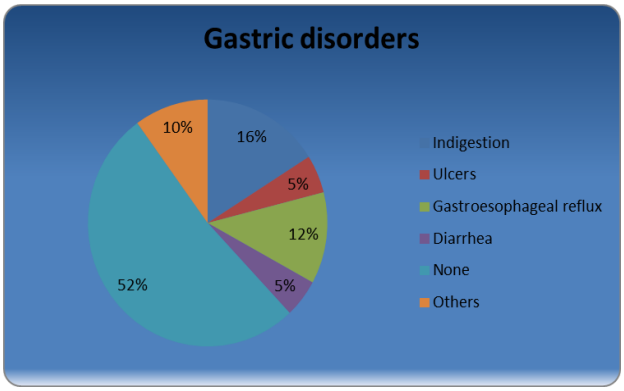
Figure 5.3.1: General Disorders from Consuming Non-Vegetarian Food



5.3.2 Occurrence of Gastric Disorders

According to Figure 5.3.2, a majority of participants, 52%, do not suffer from any gastric disorders, which is a favourable outcome. Following this, 16% experience indigestion, 12% encounter gastroesophageal reflux, and 10% report other health conditions. Finally, 5% of subjects indicated they are concerned with ulcers, and another 5% reported experiencing diarrhea.

Figure 5.3.2: Occurrence of Gastric Disorders from Consuming Non-Vegetarian Food



5.3.3 Association Between Non-Vegetarian Consumption Frequency and Health Outcomes

Based on Table 5.3.3, the most commonly reported disorder is obesity, affecting 49% (36 out of 73 subjects) according to the data collected. However, application of the Chi-square test indicates that this association is insignificant (0.452911), suggesting that non-vegetarian consumption frequency is not directly linked to obesity. Obesity can arise from various lifestyle choices and dietary preferences, indicating that non-vegetarian consumption may not be the sole contributing factor in this study.

In contrast, **heart disease** is found to have a **significan**t association (0.001529), indicating a higher risk of occurrence related to non-vegetarian consumption frequency. This is supported by the study, where 19% of subjects reported heart diseases, confirming the association. Other health issues such as diabetes (0.719606), hypertension (0.178368), liver disease (0.438356), and kidney disease (0.178368) were found to be insignificant according to the Chi-square analysis.

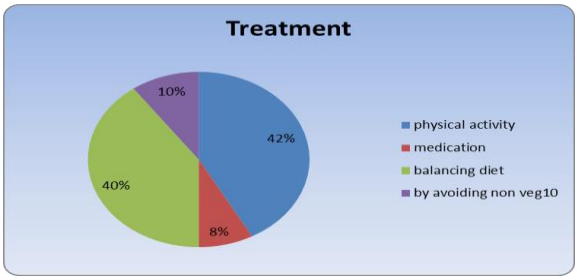
Table 5.3.3 occurrence of chronic disorder

Disease	Consumption Frequency per week			P-Value	Null hypothesis
	once	Twice	Thrice		
Obesity	6	10	20	0.452911	Insignificant
Heart disease	3	5	6	0.001529	**Significant**
Diabetes	1	1	0	0.719606	Insignificant
Hypertension	1	1	1	0.178368	Insignificant
Liver disease	0	1	1	0.438356	Insignificant
Kidney disease	1	1	1	0.178368	Insignificant
None	4	5	4	0.464699	Insignificant

5.4 Approach

As illustrated in Figure 5.4.1, the majority of subjects (42%) prefer engaging in physical activity (exercise). The second most prioritized approach is maintaining a balanced diet, with 40% of subjects focusing on this aspect while consuming non-vegetarian foods. Additionally, 10% of people choose to avoid non-vegetarian options when they find themselves prone to illness, while the least number of individuals (8%) opt for medication as a treatment.

Figure 5.4.1: Treatments for Disorders



Conclusion

The current study concluded that there is an association between the frequent consumption of non-vegetarian foods and adverse health effects, particularly concerning heart diseases. Most subjects reported balancing their diet with physical activity as a strategy to maintain their health.

Limitations

This study has several limitations, including a small sample size, which restricts the generalizability of the findings to the broader population. Additionally, the study focused on a restricted age group of 20 to 50 years. Dietary preferences, health status, and approaches explored in this study were based on self-reported data, which may be subject to biases such as recall bias and social desirability bias. Furthermore, the study relied solely on self-reported data instead of objective medical assessments.

Future Recommendations

To enhance the statistical power and generalizability of the research, increasing the sample size is recommended. Additionally, it would be beneficial to utilize anthropometric measurements and dietary assessments to obtain more accurate results. Future studies should consider overall dietary patterns, such

as fruit and vegetable consumption, rather than focusing solely on non-vegetarian foods.

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