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## Consumers preference for edible oil in Patna city, Bihar

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### Abstract

Fats play an important role in both food preparation and nutrition and so as proteins and vitamins our body needs dietary fats as it serves many physiological functions such meeting energy requirements and one of the greatest source of fats is cooking oils. Cooking oils are excellent source of fat soluble vitamins. They provide essential fatty acids which our body is unable to synthesize of its own. Cooking oils form an integral part of Indian diet and so selection of right edible oil is one of the most important things. The edible oils which have good amount of MUFA content can lowers the bad cholesterol level and there by drastically reduce the risk for all heart related disorders. PUFA present in the edible oil have important fatty acids like omega-3&omega-6 which helps in brain functioning and cell growth membrane and if taken in required amount it may also reduce the risk for cardiac conditions. Balance of both MUFA and PUFA can constitute a healthy diet. Cooking oils also increases the palatability of the food. Therefore, selection of right cooking oil becomes one of the most important things to look after our health and living a healthy lifestyle. The purpose of this study is to explore the most preferred oil brand, edible oil variants and also to investigate the awareness level of the consumer regarding healthy cooking oil. The study revealed that majority of the respondents were using mustard oil for cooking purpose followed by Soyabean oil (30%) and Sunflower oil (20%). Nearly half of the consumers were from upper middle class having education level up to graduation still majority of respondents were unaware about the health parameters associated with cooking oils namely Saturated and Unsaturated fat, Low density lipoprotein (LDL), High density lipoprotein (HDL), Monounsaturated fat (MUFA), Polyunsaturated fat (PUFA), Trans fat and Smoke point. Hence, it may be suggested that frequent and impactful awareness campaigning on edible oils will help in raising consumer awareness about healthy lifestyle and wellness.

**Keywords:** brand preference, brand image, purchasing decision, awareness, healthy edible oils.

### Introduction

India represents unique biodiversity profile and people of different regions who passes various eating habits including cooking oils. The diversified culture of India offers different preferences of cooking oils in different regions depending upon the availability of oils in that particular regions. Major traditionally used oils in India includes - Mustard, Ground nut, Coconut, sesame, safflower, along with soya bean, rice brain, cotton seeds, sunflowers, and palm oil. Vanaspati and ghee is also used in cooking by minor group of people in India. Likewise South Indian people mostly prefer coconut and ground nut oils in cooking whereas east and North Indian prefer mustard and vanaspati oils. Oils are composed of three fats namely monounsaturated, polyunsaturated and saturated fats. Cooking oils are considered high in fat; they should not consume excessively. The confirm elimination of cooking oils from diet may help to cut out fat deposition. The consumable oil must contain balanced combination of monounsaturated, polyunsaturated and saturated fats. The saturated fats should be in lesser amount amongst the three on the nutrition value because they are more harmful. Monounsaturated and polyunsaturated fats are belongs from category of unsaturated fats and considered good fats and offers some health beneficial effects like; Improve cholesterol levels, Reduce inflammation, Stabilize heart rhythms. Monounsaturated fats may be found in avocados, almonds, pecans, hazelnuts, pumpkin seeds, olive and peanut. Polyunsaturated fats can be found in oils such as flaxseed, soybean, corn and sunflower.

The importance of edible oil in daily diet is well recognised as a better source of energy as compared to carbohydrates and proteins and so cooking oil plays a vital role in our daily diet consumption. Edible oil has got higher importance in preparation of tasty food,

improving texture of food items along with increasing its palatability and flavour. More over edible oils plays important roles in the growth of human body. Thus edible oil constitutes an important component of food in Indian kitchen.

Keeping in mind the vigorous use of oils, one need to choose it very wisely as to provide good nutrition to our body as they also play major role in fat soluble vitamins. Hence, the present study was planned with following objectives

### Objectives

1. To explore the most preferred oil brand and edible oil variants of the consumer.
2. To investigate the awareness level regarding healthy cooking oil.
3. To isolate the factors influencing the purchasing decision.

### Review of literature

- Upadhya , Senior Dietician (2020) <sup>[5]</sup> in one of her Blog's posted that in India , people have a bad habit of repeatedly using the frying cooking oil which further damages the components and produce more toxic compounds that are highly harmful to the heart. Reusing the same oil repeatedly has been analyzed and has shown to a high TFA (Tryflouro acetic acid). Hence, For Indian cooking one can use coconut oil, Mustardoil, Ground oil as its smoke point is high. She also added apart from using this oils people can also go for blending oils as a better option.
- Dublin (2020) revealed that the edible oil market in India is projected to grow from around \$21.5 billion in 2019 to \$35.2 income and rising consumer awareness about healthy lifestyle and wellness.
- Mhatre *et al.* (2020) in a research investigation concluded that High Consumption of Mustard oil was associated with Gall Blader Cancer (GBC) risk in both high and low risk regions respectively. An increased risk of GBC was observed with deep frying of fresh fish in mustard oil. A protective association was observed with consumption of leafy vegetables, fruits, onion and garlic. No association was observed between consumption of meat, spicy food, turmeric, pulses or with any other oil as a cooking medium. The effect of high consumption of mustard oil on GBC risk, if confirmed, has implications for the primary prevention of GBC, via a reduced.
- Nofal and Salah (2020) <sup>[10]</sup> revealed that due to increasing demands of good quality of edible oils in the market there is mixing up of good edible oils with the cheap edible oils and chemicals which causes Adulteration and causes several problems that can affect consumer health. Therefore, there is a high need for sensitive, accurate and suitable method to detect the Adulteration in edible oils, with the aim of promoting consumer awareness.
- Sharma (2020) <sup>[11]</sup> indicated that Mustard oil is an extremely popular oil among home cooks in China, Russia, and in South Asia, particularly in the northern Indian state of West Bengal as well as in Bangladesh and Pakistan. Despite mustard oil's popularity in some parts of the world, the sale of it in the United States for edible purposes is prohibited, and bottles of mustard oil must be sold with labels that indicate "For External Use Only." The reason behind this is that it contains a special type of fatty acid called erucic acid, which lies at the centre of the controversy surrounding the oil. Early experimental studies on animals in the 1950s suggested that erucic acid

possibly had a role in the development of heart disease.

- Kaur *et al.* (2019) <sup>[6]</sup> concluded that, in comparison with other edible cooking oils Mustard oil have more health benefits in a way of medicinal utility as it has Anticarcinogenic, Antibacterial, Antifungal properties and also it's good for the health of children as well. Above all it also adds aroma flavour increasing the palatability of food thereby increase the oil economy.
- Kaur (2019) <sup>[6]</sup> revealed that mustard oil is best for consumption purpose particularly due to the presence of low saturated fat, high oleic acid, a balanced ratio of SFA/MUFA/PUFA and antioxidants, and absence of trans-fat.
- Lett (2018) suggested that many studies have proven that it is an economical and acceptable method to provide oil with balanced fatty acid profile, greater stability and also improved content of antioxidant and bioactive compounds.
- Sharma (2018) <sup>[4]</sup> reported that Mustard oil in comparison to refined oils is considered healthy as it is a good source of Omega3 and 6 fatty acids , and it also decreases the cholesterol level .Mustard oil has an antimicrobial ingredient that provides protection from infections and also this oil is low in saturated fats in comparisons with refined oils. But she also added that the consumption of mustard oil should be limited as it also contains erucic acid which can be harmful to our health.
- Jalali *et al.* (2018) at Middleberg Nutrition, listed avocado and olive oil as healthier cooking oil options. Canola and soybean oils, on the other hand, were described as "inferior" because of the type of fat they contain.

### Research Methodology

Research Methodology is the back-bone of the research problem. This chapter is devoted to the methods and procedures adopted in this investigation.

### Locale of the study

Patna city of Bihar State was selected purposively due to convenience of the researcher.

### Sampling procedure

Random sampling procedure was adopted for the study.

### Selection of respondents

From Patna City 200 women consumers of edible oils were selected randomly.

### Variables

#### Independent variables

Socio- economic and personal variables

#### Dependent variable

Level of awareness and consumer preference for edible oil.

### Tools and Techniques of Data Collection

#### Tools of data collection

An interview schedule was prepared and used for primary data collection from the field. While developing the schedule, relevant secondary sources of information were carefully examined and due importance was given to various independent and dependent variables. It was pre-tested on five women consumers in a City, Necessary changes were

incorporate and schedule was finalized and finally used in the field.

**Data analysis and interpretation of Data**

The qualitative data was tabulated and quantified as per the standard procedure and data analysis done as under.

**Frequency and percentage**

Frequencies and percentages were obtained for each aspect of the study to draw inferences as per the objectives.

**Results and Discussion**

**Table 1:** Socio- economic profile of the consumers

(N = 200)

Age	Frequency	Percentage (%)
Below 25	42	21
25 - 40	84	42
Above 40	74	37

Education	Frequency	Percentage (%)
Illiterate	14	7
Middle	48	24
Matric-graduation	80	40
Above graduation	58	29

Income	Frequency	Percentage (%)
Low class	8	4
Lower middle class	38	19
Upper middle class	90	45
High class	64	32

Family type	Frequency	Percentage (%)
Nuclear	152	76
Joint	48	24

Occupation	Frequency	Percentage (%)
Housewife	122	61
Working	78	39

It is depicted from the table 1 that near about half of the respondents i.e. (42%) were in the age group of 25 to 40 years

**Table 4:** Awareness regarding healthy cooking oil

(N=200)

Trans fat	Frequency	Percentage (%)
Yes	40	20
No	160	80
Mufa/Pufa		
Yes	56	28
No	144	72
Cholesterol (HDL/LDL)		
Yes	18	9
No	182	91
Smoke Point		
Yes	28	14
No	172	86
Saturated/ Unsaturated Fats		
Yes	48	24
No	152	76

It is evident from the table 4 that majority of respondents were unaware about the health parameters associated with cooking oils namely Saturated and Unsaturated fat, Low

density lipoprotein (LDL), High density lipoprotein (HDL), Monounsaturated fat (MUFA), Polyunsaturated fat (PUFA), Transfat and Smoke point.

**Table 2:** Classification based on preferred oil brand of the consumers

(N=200)

Preferred oil Brand	Frequency	Percentage (%)
Patanjali	54	27
Nature Fresh	8	4
Dhara	30	15
Kacchigani	8	4
Saffola	20	10
Fortune	42	21
Engine	10	5
Scooter	10	5
Home made	12	6
Sundrop	6	3

Source: Questionnaire

This table shows that Patanjali was the most preferred oil brand by nearly thirty percent of the respondents (27%) followed by Fortune (21%) and Dhara (15%).

This may be because quality assurance provided by that particular brand and also consumer’s faith associated with it.

**Table 3:** Variants of cooking oils used by the consumers

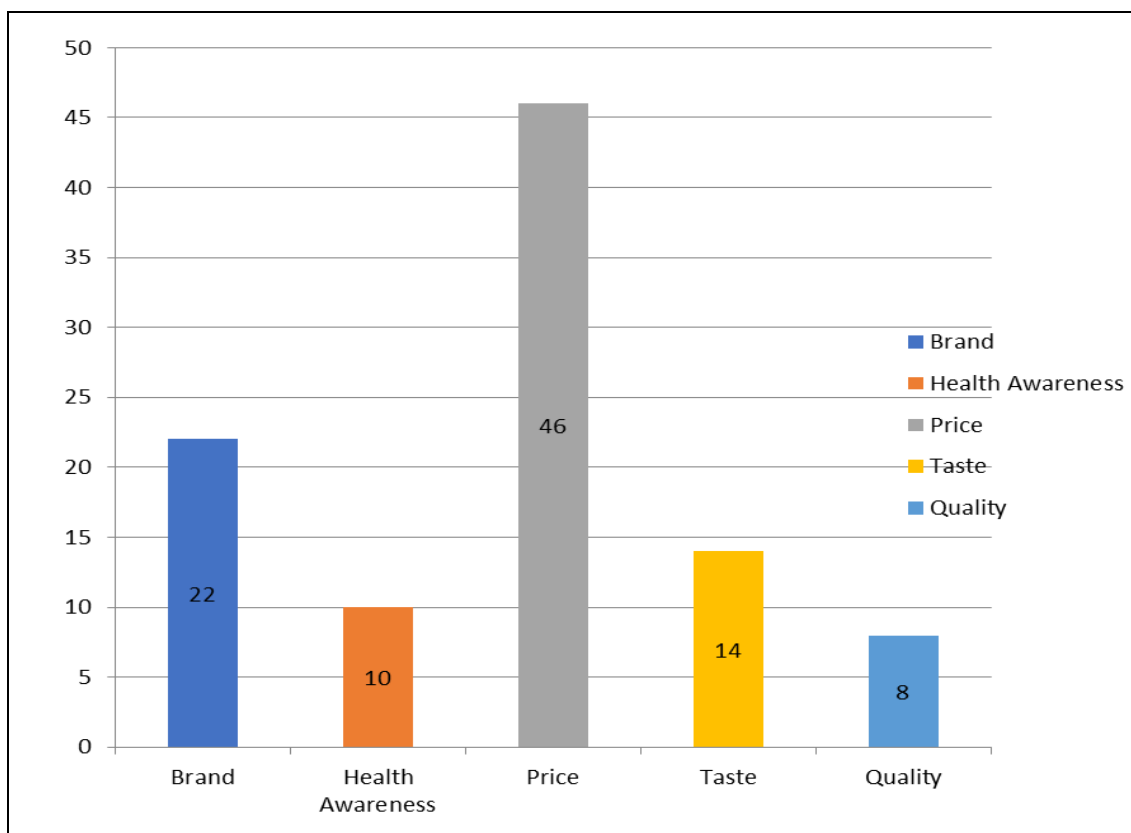
Variants	Frequency	Percentage (%)
Mustard	80	40
Soya	60	30
Olive	10	5
Ghee	8	4
Sunflower	40	20
Coconut	2	1

Forty percent of the respondents were using mustard oil for cooking purpose followed by Soyabean oil (30%) and Sunflower oil (20%).

**Table 5:** Factors influencing the purchasing of cooking oils

(N= 200)

Factors	Frequency	Percentage (%)
Brand	44	22
Health Awareness	20	10
Price	92	46
Taste	28	14
Quality	16	8



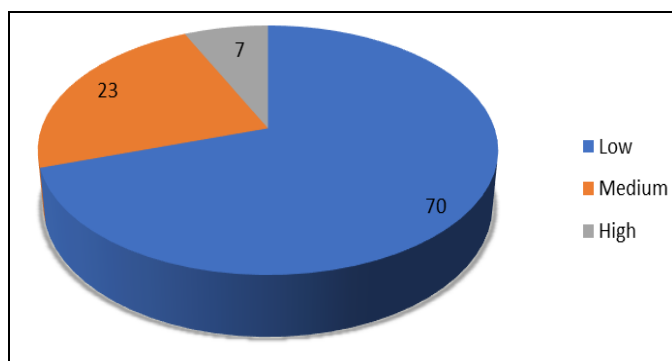
**Fig 1:** Factors in influencing the purchasing of cooking oils (%)

It is depicted from the table 5 that price was the major factor which influenced purchasing decisions by nearly half of the respondents (46%) followed by brand name (22%) taste (14%).

Only ten percent of the respondents were considering the health parameters as an important factor associated with purchasing decisions.

**Table 6:** Level of Awareness regarding healthy cooking oil

Level of Awareness	Frequency	Percentage (%)
Low	140	70
Medium	46	23
High	14	7



**Fig 2:** level of Awareness in Percentage (%)

This table shows the awareness index of the consumers regarding healthy cooking oil. Majority of the respondents had low level of awareness (70%) followed by medium (23%) and only seven percent (7%) had high level of awareness. Nearly half of the consumers were from upper middle class having education level up to graduation still there awareness level regarding healthy cooking oil by majority of them were low.

**Conclusion**

Edible oils play an important role in the causation, treatment, management, and prevention of Coronary Heart Disease (CHD). Cooking oils form an integral part of Indian diets; however, one is confronted with an array of commonly marketed edible oils asserting host of health claims. Therefore, right selection of edible oil is extremely important, especially in the Indian context, where cooking methods are different then in west. Numerous clinical trials and observational/metabolic studies among diverse populations indicate a consistent association between quality/quantity of fat intake and CHD risk.

It is concluded from the study that price was the major factor which influenced the purchasing decision by nearly half of the respondents (46%) followed by brand name (22%),taste (14%),Only ten percent of the respondents were considering the health parameters as an important factor associated with purchasing decisions.

Majority of the respondents had low level of awareness (70%) regarding healthy cooking oil. Hence there is an urgent need to spread awareness regarding health issues associated with cooking oil.

### Recommendations

- Repeated heating of cooking oils has an adverse effect on health; it makes the oil toxic so it should be strictly avoided.
- Before buying any edible oil, we must ensure that its Trans fat is zero as it lowers our good cholesterol and increases the bad cholesterol.
- The edible oils we go for must have high MUFA content and balanced PUFA content as both have positive effects on our body if taken in required amounts.
- We should also ensure that the edible oil we choose it's very low in saturated fats as it also has bad effects on our health.
- The edible oil we choose must have high smoking point so that it can be used for frying without destroying the benefits of oil.
- If possible than we must go for the oils which have some additional health benefits like fortified oils which have-Vitamin-E, Omega-3, Omega-6.
- Olive oil is costly so instead of that one can go for ground nut oil as it has similar health benefits like olive oil and it's feasible also.
- Using canola oil instead of solid fats in recipes could be a better idea as it eliminates the Trans fat.
- Sunflower oil can be used for frying instead of some other normal edible oil as it has got high smoking point.
- Instead of butter one can opt for ghee as it has got more health benefits.

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