

Survey on consumer choices (Housewives) and consumption pattern of edible fats and oils in Varanasi

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ABSTRACT

The fat content of a normal diet is made up mostly of pure fats and oils consumed as such. Fat is necessary for the health of the skin, brain, hair, nails, mucous membranes, digestion, immune system, heart, reproductive function and nervous system. The food items that contain fats are butter, ghee, hydrogenated oils, cooking oils such as groundnut, rapeseed and mustard, soybean, coconut oil and sunflower oil. The main nutrients in fats are: energy, fat and essential fatty acids (EFA). Some fats, especially vegetable oils, provide the EFA - linoleic, linolenic and arachidonic acids - for the body. These EFAs are also important for the structure and function of cells. Like vitamins, the essential fatty acids also play a role in several metabolic reactions. Present study examines the choices or brand preferences and consumption pattern of fats and oils made by housewives. Survey was done on four hundred housewives in urban area of Varanasi. Questionnaire –cum – interview schedule method was used for the documentation of results and conclusion.

INTRODUCTION

Food is the first among the hierarchical needs of a human being and nutrition is coming to the fore as a major modifiable determinant of chronic disease, with scientific evidence increasingly supporting the view that alterations in diet have strong effects, both positive and negative, on health throughout life. In order to assess the risk of a population being exposed to inadequate levels of nutrients and undesirable excessive amount of nutrients in the diet, it is necessary to generate data on pattern of consumption of the population. Food can be broadly divided into major five food groups; one of them is fats and oils.

This study focuses on the consumption of lipids or fats and oils. In recent years it has been suggested that the world is undergoing a nutrition transition by the effect of globalization and characterized by a union on the so-called fast food culture

diet, high in saturated fats, sugar, and processed foods (Popkin, 2003; Lieberman, 2003). Lipids represent an ideal commodity as they are a vital dietary component (through the provision of essential fatty acids). Perhaps in part relating to the changing role of fats and oils in health and nutrition, lipid consumption can also be seen as a means of marking social class, ethnicity and even religious identity in modern society.

Fats and oils are basically esters of glycerol and fatty acids. The fats and oils are the known as dense source of energy as compared to carbohydrates and proteins. Although edible oils have got higher importance in preparation of tasty food, improving texture of food items, increasing palatability of food, flavour of food maintenance and growth of human body though recent media interest has focused on the potential health side-effects of a high-lipid intake, in addition to the health benefits of consuming particular varieties over others. The role of dietary fats and oils in human nutrition is one of the

most complex and controversial areas of investigations. Excessive dietary intake of fats has been directly related to an increased risk of obesity, coronary heart disease and some cancers, with lipids high in saturated fats causing an elevation in blood cholesterol (FAO, 1994).

India is one of the largest producers of oilseeds in the world. India contributes about 6-7 per cent of the world oilseeds production (Louden and Bitta, 2001) At the same time as India is fortunate in having a wide range of oilseeds crops grown in its different agro-climatic zones. Groundnut, mustard/rapeseed, sesame, safflower, linseed, nigerseed /castor are the major traditionally cultivated oilseeds. Soybean and sunflower have also inherent importance in recent years.

India is a vast country and inhabitants of several regions have developed specific preference for certain oils largely depending upon the oils available in the region. For example, people in the South and West prefer groundnut oil while those in the East and North use mustard seed/rapeseed oil. Likewise several pockets in the South have a preference for coconut and sesame oil (Enig and Fallon, 2008). Through technological means such as refining, bleaching and de-odourisation, all oils have been rendered practically colourless, odorless and tasteless and therefore, have become easily interchangeable in the kitchen. Newer oils, which were not known before have entered the kitchen, like those of cottonseed, sunflower, palm oil or its liquid fraction, polyolefin, soybean and rice bran (Gaur and Waheed, 2002). All of them are again essentially bland, processed edible oils. About 60-70 per cent predominantly soybean, groundnut, mustard seeds are used to make non-refined or filtered oils. These are often branded by large manufacturers. The lower quality and generally lower cost filtered oil produced is mainly by the small scale village based processors. The oil is mostly sold loose directly to the consumers. The share of raw oil and refined oil in the total edible oil market is 42.0 per cent and 42.7 per cent, respectively as per the Department of Food and Public Distribution.

Apart from oils use of dairy produced clarified butter (*desi ghee*) and butter is also quite popular, which signifies the variety in the consumption pattern of fats and oils in Indian diet.

METHODS

Sample characteristics:

Cross-sectional survey was carried out in a random sample of housewives population. To study the trends and brand preferences fats and oils, primary data were collected by using a questionnaire due to time and cost constraints only 400 respondents were selected for getting the primary data by direct interview method. The study has been carried out in the urban areas of Varanasi.

Assessment materials:

Consumption data were obtained using a questionnaire

which included, in addition to personal data and indicators of socio-economic level (education, family and household information). The subjects were interviewed at home after obtaining their consent. The eligibility of the subject was verified and then the questionnaire was administered. Cooking oils and fat were classified into the five classes according to the pattern of usage prevalent in Varanasi

Data analysis:

All subsequent statistical analyses were performed using SPSS version 15 (SPSS Inc., Chicago, IL, USA). Whenever appropriate. Student's t-test and f test were performed.

OBSERVATIONS AND ANALYSIS

The data so collected were scrutinized, tabulated, analyzed and finally used for the study purpose. For the calculation and analysis of data simple tools and techniques are used *i.e.* percentile, average and other related tools and techniques and finally used for the study purpose.

Distribution of respondents according to the use of types of brands of various fats and oils:

The combination of fats and oils using pattern is discussed in Tables 1 to 4, information was gathered from respondents related to the various fats and oils product or about the brand pattern followed or selected by the consumers. It was found that none of the respondents was using hydrogenated vegetable oil as it is highly saturated and considered as unhealthy thus total four types of prevalent fats and oils.

Types of vegetable oil used	Frequency	Per cent
Mustard oil	379	94.80
Groundnut/ Coconut oil	-	-
Sesame (Til) oil	-	-
Almost Nil (rare usage of mustard oil)	21	05.20
Total	400	100.00

In Table 1 distribution of respondents according to types of vegetable oils had been shown. It was found that majority of respondents (94.80 per cent) were using pressed mustard seed vegetable oil, 05.20 per cent were not using vegetable oil, regularly though they use it for some specific food items or purposes only. Aneja (2001) reported that mustard oil have high consumption in India. It is used as an important source of oil. About 2.02 million tones of mustard oil supply meets around 22 per cent of total domestic demand for vegetable oils.

Table 2 shows the distribution of respondents according to the of pattern of selection of brands of clarified butter brands

(Ghee). It was found that 12.00 per cent respondents were not using clarified butter while 44.80 per cent preferred handmade / home made, most prevalent and used brand was Amul, which was used by 23.50 per cent respondents. The usage of Anik and Parag was 10.50 and 09.20 per cent, respectively. Amul was popular choice among housewives due to its marketing strategies that is the advertisements which make this brand a familiar name.

Table 2 : Distribution of respondents according to the of types of brands of clarified butter brands (CBB) (Ghee) used

Brands of clarified butter used	Frequency	Per cent
Parag	37	9.20
Amul	94	23.50
Anik	42	10.50
Handmade or homemade	179	44.80
Nil	48	12.00
Total	400	100.00

In Table 3 pattern of using butter had been shown. It was found that 33.00 per cent of the respondents were not using any butter brands while 49.50 per cent preferred Amul butter while 17.50 per cent were using Nutralite, It was found that respondents were using this Nutralite butter because they think it contains less fat while it was found that the printed information on the packet was that it contains less cholesterol, so this information acted as a food-fallacy.

Table 3 : Distribution of respondents according to the of types of butter brands (BB) used

Brands of butter used	Frequency	Per cent
Amul	198	49.50
BB-2	70	17.50
Nil	132	33.00
Total	400	100.00

It can be drawn from Table 4 that all 400 respondents were using refined oil and mainly seven kind of refined oil were popular among them. Out of them, three were sunflower oil and rest were soya or soya bean oil. Maximum numbers of respondents (40.00 per cent) were using refined oil brands like Sundrop, Saffola, Nature Fresh and Dhara. Least used brand was Sweekar. However on the personal questioning, it was found that few other brands were used by 1.50 per cent respondents because the din't show any choice regarding brand preferences ,though it was also asked from respondents that whether they are familiar with local brand of oils, in that response, it was found that many of them were familiar with few most prevalent local brands, although one of them Jhoola was dominantly famous, later when enquired with shop keepers it was found that local brand Jhoola is widely used by local

Table 4 : Distribution of respondents according to the of types of refined oils brands used

Brands of refined oil used	Frequency	Per cent
Fortune (Soya oil)	160	40.00
Sundrop (Sunflower oil)	62	15.50
Saffola (Sunflower oil)	58	14.50
Nature fresh (Soya oil)	55	13.80
Dhara (Soya oil)	49	12.20
Sweekar (Sunflower oil)	10	2.50
Others	6	1.50
Local brand	-	-
Total	400	100.00

restaurants and other catering services of Varanasi. It should be noted that Jhoola's manufacturing unit is also located in Varanasi nearby area. Maximum utilization of Fortune was because its price which is considerably less than other brands, so as the Jhoola. While sunflower oils were higher in price, due to fancy marketing, advertisements and as they were popularly assumed as good for health.

It is perceptible from the Table 5 that majority of respondents were following the variety of combinations of different types of fats and oils. It was found that all the respondents were using vegetable oil of mustard seeds, along with the combination of other fats and oils but none of respondents accepted the use of hydrogenated vegetable cooking oil or vanaspati. So far avoiding the confusion, hundred per cent use of vegetable oil and nil usage of hydrogenated cooking oil is omitted from the tables. Maximum (65.20 per cent) were using four types of fats and oils that were refined oil, clarified butter and butter, 22.80 per cent were using three types of combination that was refined oil and clarified butter and only 12.00 per cent were using solely refined oil along with mustard oil. The consumption pattern clearly indicated that combination of all kind of fats and oils was highly prevalent. This is due to blindly following traditional Indian cooking methods which is established in our society. Though acceptance of refined oil has also become popular due to its colour, odour and enriched qualities.

Analyzing the data of Table 6, it was found that maximum number of combinations of fats and oils were used by all three monthly per capita income (MPCI) groups, that was, respectively, 68.80, 55.20 and 90.90 per cent of total respondents .It was also found that combination of three types of fats and oils was used maximum per cent 33.50 by second MPCI group (5000-10000 Rs.) while the other two MPCI were using not as much of this combination. Single refined oil (along with mustard oil)was not used by respondents whose monthly per capita income was more than ten thousand rupees though first (<5000) and second MPCI respondents were using almost in marginally similar manner that is 22.70 and 11.30 per cent, respectively. It

Table 5 : Distribution of respondents according to the utilization pattern of different type of fats and oils

Types of fats and oils	Frequency	Per cent	Cumulative per cent
Refined oil (RO) +Mustard Oil (MO)	48	12.00	12.00
Clarified butter (CB) +RO+MO	91	22.80	34.80
Butter +CB+RO+MO	261	65.20	100.00
Total	400	100.0	100.00

Average type of fats and oils \pm SD = 3.56 ± 0.70 , Range = (2-4)

Table 6 : Monthly per capita income wise distribution of respondents according to the utilization pattern of various types of fats and oils

Variety of fats and oils used	Monthly per capita income (MPCI) (Rs.)							
	< 5000		5000 - 10000		> 10000		Total	
	Frequency	Per cent	Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
Refined oil (RO) +Mustard oil (MO)	22	23.70	26	11.30	0	00.00	48	12.00
Clarified Butter (CB)+RO+MO	7	07.50	77	33.50	7	09.10	11	22.80
Butter +CB+RO+MO	64	68.80	127	55.20	70	90.90	261	65.30
Total	93	100.00	230	100.00	77	100.00	400	100.00
Mean \pm SD	3.45 ± 0.85		3.44 ± 0.69		3.91 ± 0.29		3.53 ± 0.70	

F = 14.76, P < 0.001 , Significant pairs (1 Vs 3) (2 Vs 3)

should be noted that all of the respondents were using pressed vegetable oil of mustard seed. Thus, it can be concluded that all three type of monthly per capita income groups were extensively using all four combination of fats and oils .Here it is suggestive to notify that the refined oil is quite popular cooking medium while it is also evident that use of refined oil, mustard oil and clarified butter and butter is quite popular in all MPCI groups. In first MPCI group merely use of refined oil and mustard oil was quite popular though this trend decreases as the income increased. Use of clarified butter was maximum in second MPCI group in comparison to other two while the use of butter was maximum in third and highest MPCI group due to its readily used feature in breakfast. The F test results shows that results are statistically significant.

Conclusion:

An attempt has been made to study the consumption pattern of fats and oils. It shows that house wives use all major four type of fats and oils for cooking an eatable process, though they were aware about the harmful effect of vanashpati or hydrogenated oil, so they particularly avoid it in their kitchen. Use of pressed mustard seed oil was found by all respondents, however in usage of refined oils, it was found that they were particular about brands. Soybean refined oil was most preferred while sunflower oil due to its cost was less utilised. Clarified butter attains a significant position in kitchen, though hand made or home made were preferred very much. It is important

to document here that respondents explained that there are many factors which affect the consumers fats and oil consumption like price, advertisement, awareness about life-style and disease risk factors.

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