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Health Science

CONSUMPTION OF ULTRA-PROCESSED FOODS AMONG WORKING AND NON-WORKING ADULTS : A COMPARATIVE STUDY

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ABSTRACT

Aim: To compare the consumption of ultra-processed foods among working and non-working adults.
Methodology: A total of 100 adults (50 working and 50 non-working), males and females aged between 21 – 40 years were enrolled for the study. A detailed questionnaire was developed specifically for this study and data was gathered regarding general information frequency of consumption of ultra-processed foods, cooking practices, buying practices etc.
Results and conclusion: Data revealed the consumption of UPF was higher among the working adults in comparison to the non-working adults. The main reasons reported to buy these products were ease to prepare them with reduced effort and less time in preparation among the working adults; better taste and influence of media and advertisements among the non-working adults

INTRODUCTION

Ultra-processed foods are formulations of ingredients, mostly of exclusive industrial use, that result from a series of industrial processes (hence 'ultra-processed'), first classified according to their degree of processing in 2010 using the NOVA system, updated in 2016 (1). During the past two decades, availability and consumption of ultra-processed foods, characterised by food products with a low nutritional quality and high energy density, has increased markedly in many countries (2,3). Between 1990 and 2010 the consumption of ultra-processed foods almost tripled (from 11% to 32% of daily energy intake) (4) parallel with increases in added sugar content. These are industrial formulations made mostly or entirely from substances derived from foods and additives, with little, if any, intact food (5). These food products are convenient (durable, ready to eat, or heatable), hyper-palatable (extremely tasty), highly profitable (low cost ingredients), and designed to replace all other food groups with the aid of attractive packaging and intensive marketing (6).

India has been experiencing significant demographic, economic and epidemiological transition during the past two decades. With rapid urbanization and industrialization, there has been a lot of movement of people from villages in search of employment. Also there has been remarkable growth in the percentage of working adults specially women in the last few years. All these have led high speed and time constrained lifestyle leading to increase in the consumption of ultra-processed foods. They are convenient to consume and takes less time in preparation becoming as an easy alternative for the individuals. However, not much quantitative data is available on consumption pattern of ultra-processed food products in India. Therefore this study was planned to compare the consumption pattern and determine the various factors that might influence the consumption of ultra-processed food products among young working and non working adults.

MATERIAL AND METHODS:

Locale : The present cross sectional observational study was conducted among working and non-working adults randomly selected and recruited from various zones of Delhi i.e. East, West, North, South zone. The study protocol was approved by Ethical clearance was obtained from the institutional Ethical Committee of Institute of Home Economics, Delhi university, prior to any data collection of the study.

Participants: The study was conducted among 100 adults (50 working and 50 non-working adults) who were willing to participate in the study and were between the age group of

21- 40 years. A detailed information sheet was formulated and given to the subjects providing information regarding the purpose and procedure to be followed during the study. Further, consent of the subjects was taken using a consent form before recruiting them for the present study.

METHODS

A suitable questionnaire was designed to determine the extent of awareness, usage and consumption pattern of ultra-processed foods. It included questions on the general profile of the subjects, family profile, eating pattern of the respondents, frequency of consumption of ultra-processed foods, cooking practices, buying practices etc. The questionnaire were pretested on the 5 subjects randomly who were not included in the study and based on their responses the questionnaires were suitably modified. The questionnaire was administered at a mutually convenient time at the residence of the respondents. For working adults questionnaire were filled up on holidays.

Statistics

The data was entered into the excel sheet and a code sheet was for formulated from the data for coding and then exported into the master coding sheet. The data were then subjected to quantitative analysis using suitable statistical formulae. The frequency and percentages were calculated for general profile, and consumption pattern among the subjects. SPSS (Statistical package for social science) 22.0 was used for the data analysis.

RESULTS

Socio-economic features of the subjects are given in Table 1. Data revealed that 80% of the working adults and 46% non-working adults were married. A higher percentage of subjects in both the groups lived in nuclear family. Also the working group had more qualified subjects in comparison to the non-working group (Table 1).

Table 1:Sociodemographic profile

Sociodemographic characteristics	Working n=50	Non working n=50	Total n=100
Gender			
Male	32(64)	12(24)	44(44)
Female	18(36)	38(76)	56(56)
Marital status			
Married	40 (80)	23 (46)	62 (62)
Unmarried	9 (18)	27 (54)	37 (37)
Divorced	1(2)	0 (0)	1(1)

Family type			
Joint	11 (22)	17 (34)	28 (28)
Nuclear	39 (78)	33 (66)	72 (72)
Native			
Delhi	45 (90)	39 (78)	84 (84)
Outside Delhi	5 (10)	11 (22)	16 (16)
Educational qualification			
Secondary	0 (0)	8 (16)	8 (8)
Graduate	25 (50)	28 (56)	53 (53)
Post graduate	23 (46)	4(8)	27 (27)
Diploma course	2(4)	10(20)	12 (12)
Occupation	Total n=50		
Self business	4 (8)		
Government sector	18 (36)		
Private sector	28 (56)		
Monthly family income per month			
Less than 20,000	0(0)	0(0)	0(0)
Between 20,000/-40,000/-	6(12)	7 (14)	13(13)
Between 40,000/- 60,000/-	14(28)	25 (50)	39(39)
More than 60,000/-	30 (60)	18(38)	48(48)
Number of earning members in the family per month			
1 member	19(38)	8(16)	27 (27)
2 members	27(54)	20(40)	47(47)
More than 2 members	4(8)	22 (44)	26 (26)
Expenditure on food per month			
2000 – 4000/-	2(4)	4(8)	6(6)
4001- 6000/-	17(34)	12(24)	29(29)
6001- 8000/-	8(16)	22(44)	30(30)
8001- 10,000/-	18(26)	12(24)	30(30)
Above 10,000/-	5(10)	0(0)	5(5)

Reasons to purchase UPF products			
Cheap	3(6)	7(14)	10(10)
Tastes better	13(26)	22(44)	35(35)
Easy and long storage	4(8)	2(4)	6(6)
Easy to prepare	30(60)	19(38)	49(49)
Influence of media, advertisements etc	6 (12)	31 (62)	37(74)
Increases variety	11(22)	39(78)	50(50)
Does UPF tastes better than fresh foods			
Yes	32(64)	39(78)	71(71)
No	18(36)	11(22)	29(29)
What influenced your interest in UPF products			
News articles/television	5(10)	8(16)	31(31)
Family members	11(22)	24(48)	35(35)
Internet	5(10)	3(6)	8(8)
Random selection in shop	13(26)	17(34)	26(26)
Labels explaining ease in preparation	35(70)	12(24)	47(47)
Barriers in purchasing UPF products			
Poor availability	0(0)	0(0)	0(0)
Expensive	7(14)	12(24)	19(19)
Unhealthy	30(60)	25(25)	55(55)
Unfamiliar	2(4)	11(22)	13(13)
No barriers perceived	12(24)	3(6)	15(15)
How often do you consume UPF			
Daily	6(12)	2(4)	15(15)
Weekly	28(56)	11(22)	39(39)
Monthly	13(26)	20(40)	33(33)
Rarely	3(6)	15(30)	18(18)

Figures in parentheses denote percentages

Among the subjects, 60% of working adults and 38% of non-working adults family income was reported to be more than Rs 60,000/-. The numbers of earning members were significantly more in non-working adults as 44% had more than 2 working family members. The expenditure on food was comparatively higher among the working group with 23 individuals spending more than Rs 8000/- in comparison to 12 in the non-working group.

The term ultra-processed foods is not commonly used among the general population. The data explicated that only 22% of the total subjects knew about them whereas 35% of them suggested that it may contain additives. Kirana markets, office stores and online portals were popular shopping places among working adults whereas kirana stores were the most preferred among non-working adults. The main reasons to buy these products were ease to prepare them with reduced effort and less time in preparation among the working adults as they always had a time crunch. On the other hand better taste and influence of media and advertisements were reported as the main reason to buy among the non-working adults

Table 2: Consumption pattern of ultra-processed foods among the working and non-working adults

	Working n=50	Non working n=50	Total n= 100
Do you know what are ultra processed foods			
Yes	16(32)	6(12)	22(22)
No	34(68)	44(88)	78(78)
UPF contain additives			
Yes	12(24)	23(46)	35(35)
No	38(76)	27(54)	65(65)
Place of purchasing UPF			
Malls	7(14)	14(28)	21(21)
Kirana stores	38(76)	41(82)	79(79)
Super markets	5(10)	16(38)	21(21)
Office stores	34(68)	20(40)	54(54)
Online portals	25(50)	11(22)	36(36)

Figures in parentheses denote percentages

Data shown in table 2 revealed the consumption of UPF was higher among the working adults in comparison to the non-working adults. Over 60% of the working adults reported to consume these products daily or weekly. On the other hand 26% of the non-working adults reported to consume UPF weekly and daily whereas 40% monthly. Both the groups reported that UPF tasted better to them than the fresh foods and were mainly influenced by labels explaining ease in preparation, news articles/ television or reinforcement of the family members to purchase them (Table 2). Only 19% of the working adults reported high cost as the main barriers in purchase of UPF whereas 46 % of non-working adults revealed the high cost and unfamiliarity as the main cause. Both the groups advocated for UPF being unhealthy.

DISCUSSION
The study assessed the consumption pattern of UPF among the working and non working adults. The findings of the study explicitly revealed that long working hours, commutation time to the office and deadlines at office have led to a higher consumption of these products among working adults in comparison to the non-working adults. The other influencing factors behind the same being convenience and ease of preparation with less pre preparation and cooking time involved. Similar results were advocated by Zahari and colleagues, (2015) (7) as they stated that 82 percent of the observed variations of the working women routine of convenience cooking practices. The time factor, economy factor and dietary were found to be significantly and positively influence working women routine of convenience cooking practices. Out of the three factors, time had the most impact on convenience cooking followed economy factor and dietary practices. This result indicates that working time somewhat altered the working women cooking activities during weekdays or their working days and convenience food products either ready cooked food, frozen food are the alternative for them. Devine et. al, (2003) (8) also noted that people eating pattern are altered to a great extent due to time restrictions and most people do not have a lot of free time to cook meals and to prepare foods. Verlegh and Candel, (1999)

(9) believed that time pressure on the working women with regards to meal preparation and convenience food reflects a tendency to minimize the time and effort that is put into the preparation of meals.

On the other hand the UPF foods consumption was lesser among the non-working adults though it seemed quite popular among them too. These products broke the monotony of the same home cooked food among their family members and added variety to the everyday meals. Also the easy access to purchase and continuous propagation of UPF through media, advertisements had also led to increase consumption among them. However, high cost of UPF was reported to be one of the barrier in purchase of these products among non-working adults.

The high-speed and time constrained lifestyle of the working adults has forced to the rise of the convenience food industry and its significant influence on society's food consumption behaviours. Consequently, the food industry in India will face a rising demand for convenience food products (10,11). Although the above stated trends if looking from short term perspectives would not give significant impact but in long term it would affect family dietary practices. Also, increased consumption of ultra-processed foods have been associated with a higher hazard of all-cause mortality (12).

CONCLUSION

The consumption of ultra processed foods was revealed to be higher among working adults in comparison to non working adults due to time constrain and convenience which suited their lifestyle the most. Also the consumption was lesser among the non working adults though it seemed to be quite popular due to variety it added to their every day meals. The easy availability of these food products in the market have reduced the burden of home cooking among the adults today. However, keeping the health hazards related to UPF in mind and its judicious use should be propagated.

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