

A comparative study on different cooking methods used among working and non working women

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ABSTRACT

Women are first and fastest solution to reduce poverty and hungry, a study was conducted on food habits and cooking methods used by working and non-working women. A cohort size of 50 women (n=25 working and non working women each), residing in Modinagar both (urban and rural area) were taken with following aims and objectives – to study about the different cooking methods used by working and non-working women, to study nutritional status of the respondents, to aware the respondents about advantages and disadvantages and nutrient losses by different cooking method used for cooking, to provide booklet as a source of knowledge to the respondents, questionnaire methods was used, questions regarding food habits, methods of cooking used by women, to assess the health status of the women through anthropometric measurement.

Key words : Cooking methods, Nutritional status

Cooking is important in food processing. Starch containing foods such as potato, corn, beans and lentil are made more digestible by cooking. The nutritive value of the protein in legumes such as soybean and lentil is also improved by cooking. Cooking of foods destroys substances that would otherwise interfere with the digestibility of the protein. Adequate cooking of the foods is particularly important when they comprise the main source of protein. Other substance is soybean, kidney bean and lentil can produce toxic effects unless cooked prior to eating.

METHODOLOGY

Dry heat cooking methods:

- Grilling or boiling
- Roasting or parboiling
- Baking

Fat/oil cooking methods:

- Deep frying
- Shallow frying
- Sautéing

Wet cooking methods:

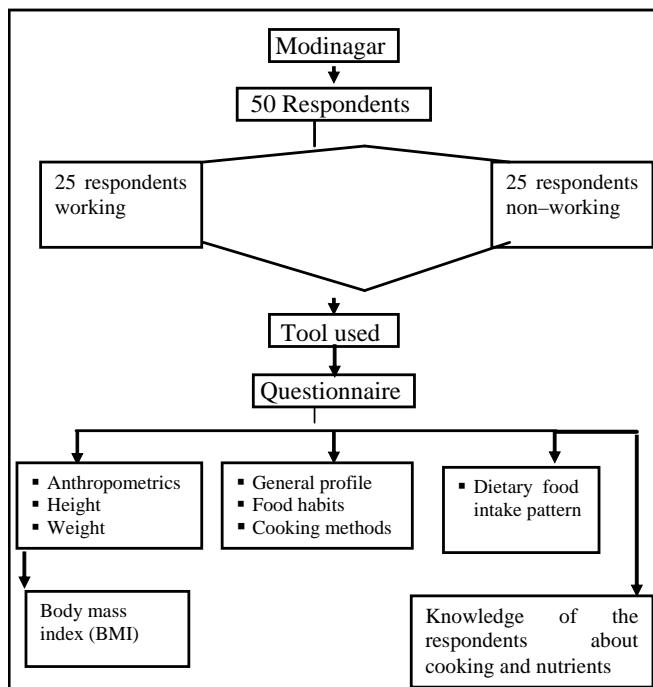
- Boiling
- Steaming - Direct/indirect
- Stewing
- Parboiling
- Pressure cooking

Combination of cooking methods:

- Braising
- Microwave cooking
- Solar cooking

Non-working women spent just over 70 minutes per day in preparing foods, where as women who work a part-time spend 53-55 minutes per day and full time working women spend 38-46 minutes per day in preparing food.

As no systematic study had been done and no reports



were available for the general well being of the women, the present study was undertaken with the aim to make a systematic approach to find out the different cooking methods to be spent on cooking food and knowledge of women in both the groups working and non working women.

The objectives and aims of the study were :

To study about the different cooking methods used by working and non working women, to study the nutritional status of the respondents, to aware the respondents about advantages and disadvantages and nutrient losses by different cooking method used for cooking and to provide booklet as a source of knowledge of the respondents.

RESULTS AND DISCUSSION

Above Table 1 reveals that in group I 40% of the respondents preferred boiling and microwave cooking methods respectively followed by 12% preferred frying and rest *i.e.* 8% preferred steaming as the cooking method where as in group II 40% preferred frying followed by preferring 28% preferred boiling cooking method, 20% preferring steaming and rest *i.e.* 12% preferring microwave cooking method for cooking their food.

Parameters	Category	Group I (N=25)		Group II (N=25)	
		No.	%age	No.	%age
Cooking method preference	Boiling	10	40	7	28
	Frying	3	12	10	40
	Steaming	2	8	5	20
	Microwave	10	40	3	12

Cooking methods such as boiling and steaming represent better way in preserving nutritional content of vegetables than frying.

In 2008 AFL-C10 alaska working women survey reported that microwave appliances are a boon especially for working women who have responsibilities both at office and home and therefore cannot afford to spend hours in the kitchen.

Table 2 reveals that majority of the respondents in both the groups *i.e.* 72% in group I and 68% in group II preferred to have some food *i.e.* which was liked by all the family members and rest *i.e.* 32% in group II and 28% in group I did not prefer the same type of food daily, they liked to have different food items with different food choices.

Parameters	Category	Group I (N=25)		Group II (N=25)	
		No.	%age	No.	%age
Preference for the same type of food	Yes	18	72	17	68
	No	7	28	8	32

Parameters	Category	Group I (N=25)		Group II (N=25)	
		No.	%age	No.	%age
Like to eat out side	Yes	13	52	7	28
	No	12	48	18	72
How often you eat outside	Once a week	2	8	2	8
	Twice a week	4	16	3	12
	Any other	7	28	2	8

Table 3 reveals that 72% of the respondents in group II and 48% in group I did not like to eat outside and rest *i.e.* 52% in group I and 28% in group II liked to eat outside.

Table 4 reveals that in group I 28% of the respondents ate outside (thrice a week) followed by 16% ate twice a week and rest *i.e.* 8% ate once a week where as, in group II 12% of the respondents ate twice a week and 8% were ate once a week any others (Thrice a week).

Parameters	Category	Group I (N=25)		Group II (N=25)	
		No.	%age	No.	%age
Cooking oil preference	Desi ghee	6	24	10	40
	Refined oil	12	48	11	44
	Mustard oil	7	28	4	16

Table 4 reveals that the most of the respondents in both the groups *i.e.* 48% in group I and 44% in group II preferred refined oil for cooking followed by 40% in group II and 24% in group I preferred Desi Ghee and rest *i.e.* 28% of the respondents in Group I and 16% in Group II preferring mustard oil for cooking.

According to John woods, 2003-different fats and oil had different health issues, while according to the latest medical journal, the consensus is to limit the intake of saturated fat (the primary fat in butter) to reduce potential health problem.

Table 5 reveals that in group I 64% of the respondents consumed less than three meals in a day and 36% were consuming three meals in the day where as in group II 64% of the respondents were consuming

Table 5 : Meal pattern

Parameters	Category	Group I (N=25)		Group II (N=25)	
		No.	%age	No.	%age
Meal consumption pattern	Less than 3	16	64	2	8
	Three meal	9	36	16	64
	Four meal	-	-	6	24
	Any other	-	-	1	4

three meal in a day followed by 24% of the respondents consuming four meal in a day and 8% of the respondents consumed less than 3 meals in a day and rest *i.e.* 4% of the respondents were consuming any other.

Table 6 reveals that majority of the respondents in both the groups *i.e.* 84% in group II and 72% in group I had knowledge about different cooking method and rest *i.e.* 28% in group I and 16% in group II were not having

Table 6 : Knowledge of the respondents

Parameter	Category	Group I (N=25)		Group II (N=25)	
		No.	%age	No.	%age
Knowledge about cooking methods	Yes	18	72	21	84
	No	7	28	4	16
Presence of nutrient in food	Yes	18	72	14	56
	No	7	28	11	44
Advantages and disadvantages of nutrients	Yes	17	68	10	40
	No	8	32	15	60
More nutrient are lost in which method	Yes	16	64	13	52
	No	9	36	12	48

knowledge about different cooking method they can use for cooking their food.

Table 6 reveals that majority of the respondents in group I *i.e.* 72% I and most *i.e.* 56% in group II had knowledge about presence of nutrients in food and rest *i.e.* 44% in group II and 28% in group I were not having any knowledge about presence of nutrients in food which they consume in group I 68% of the respondents had knowledge about advantages and disadvantage of different nutrients and 32% of the respondents were not having the knowledge, where as in group II 60% of the respondents were not having the knowledge about advantages and disadvantages of nutrients and 40% of the respondents had knowledge about advantages and disadvantages of nutrients the consume through the food they cook and eat. Majority of the respondents in both the groups *i.e.* 64% in group I and 52% in group II had

knowledge that in which cooking method more nutrient are lost where as 48% in group II and 36% group I were not aware and were not having knowledge that in which cooking method more nutrient are lost.

Cate *et al.*, 2001 reported that kitchen facilities and/or cooking knowledge can also a barrier to getting the nutritional value from those foods.

– The mean \pm SD of height of working women and non-working women were 1.54 ± 0.25 and 1.53 ± 1.17 , respectively, This difference was found to be statically

Table 7 : Mean height, weight and BMI

Parameters	Standard value	Mean \pm SD		't' test	Level of sign at 0.05
		Group I	Group II		
Height (mt)	1.546*	1.54 \pm 0.25	1.53 \pm 1.17	0.01	\$
Weight (kg)	50*	54.84 \pm 10.0	60.64 \pm 7.6	2.30	#
BMI (kg/m ²)	22.5*	22.84 \pm 3.36	25.7 \pm 3.28	3.04	#

* ICMR 2005

The sign shows the insignificance level of the value at P>0.05

\$ The sign shows the significance level of the value at P<0.05

significant at 0.05 level.

– The data revealed that the mean \pm SD weight of working women were 54.84 ± 10.0 and of non-working women were 60.64 ± 7.6 . This difference was found to be statically insignificant at 0.05 level.

– The mean \pm SD of BMI of working women were 22.84 ± 3.36 and to that of non-working women were 25.7 ± 3.28 . This difference was found to be statically insignificant at 0.05 level.

Summary and conclusion

An adequate nutrition is essential for good health and good health is the pre-requisite of good quantity of life.

The findings revealed that majority of the respondents in both the groups 72% in group II and 68% in group I belonged to nuclear families and 76% in group II and 56% in group I were from middle income group.

80% in group I and 100% in group II were vegetarian followed by 16% in group I were eggitarian and 4% were non vegetarian.

For the habits of skipping meals, 96% of the respondents in group I and 32% in group II had the habit of skipping meals and rest *i.e.* 68% of the respondents in group II and 24% in group I did not used to skip their meals. Majority of the respondents in both the groups, were skipping meals due to lack of time and mainly skip used to their breakfast.

Majority of respondents in both the groups *i.e.* 88%

in group II and most in 52% group I kept fast 72% in group II and 48% in group I did not like to eat outside 52% in group I and 28% in group II like to eat outside. Mainly group I respondents like to eat outside as for the take of enjoyment relaxation and due to whole day busy schedule. In group I, 64% of the respondents consumed less than three meals in a day and 36% were consuming three meal in a day whereas in group II 64% of the respondents consumed three meal in a day followed by 24% of the respondents consuming four meal in a day and 8% of the respondent consumed less than 3 meal in a day and rest *i.e.* 4% of the respondents were consuming any other (four and six).

Most of the respondents in both the group *i.e.* 48% in group I and 44% in group II preferred refined oil for cooking followed by 40% in group II and 24% in group I preferring desi ghee and rest *i.e.* 28% of the respondents in group I and 16% group II preferred mustard oil for cooking their food.

For the preference of utensils, 80% of the respondents in both the groups preferred steel utensils, respectively for cooking food.

Majority of the respondents in both the groups *i.e.* 84% in group II and 72% in group I had knowledge about different cooking method rest *i.e.* 28% group I and 16% in group II were not having the knowledge about different cooking method.

For the presence of nutrients in food 72% in group I and 56% in group II had knowledge and rest *i.e.* 44% in group II and 28% in group I were not having knowledge about presence of nutrients in food. For the preference of quality and quantity of food, 60% in group I and 48% in group II preferred quality and quantity of food both where as 52% in group II and 40% in group I were not preferring both quality and quantity of food together *i.e.* some said for quality and some for quantity.

Most of the respondents in both the groups *i.e.* 64% in group I and 52% in group II had the knowledge about how and which nutrient are lost during cooking whereas, 48% in group II and 48% in group I were not having knowledge about loss of the nutrients during cooking.

Majority of the respondents in both the groups of *i.e.* 64% in group I and 52% in group II had knowledge that in which cooking method more nutrients were lost. Whereas, 48% in group II and 36% in group I were not having knowledge that in which cooking method more nutrients are lost.

For the preference of cooking method in group I 40% of the respondents preferred boiling and microwave cooking methods, respectively followed of 12% preferred frying and rest *i.e.* 8% preferred steaming as the cooking

method where as in group II 40% preferred frying, followed by 28% preferring boiling method, 20% preferring steaming and rest *i.e.* 12% preferring microwave method as to be use for cooking food.

Anthropometric data indicated that mean height, weight and BMI were in group I 1.54 ± 0.25 , 54.84 ± 10.0 and 22.84 ± 3.36 , respectively, and in group II 1.53 ± 1.17 , 60.64 ± 7.6 and 25.7 ± 3.28 . The 't' test value of the level of 0.05 showed that the height was significant where as mean weight and BMI were insignificant.

Thus, on the basis of results, it can be concluded that cooking is necessary for living healthy life style, it is the basic need for life. Some nutritional changes (increase or decrease) during cooking. These change can improve health status and may cause disease but these problems can be minimized by using good method of cooking. As respondents were not aware about which method is good for a cooking, so there is much need to provide them the knowledge about it.

Recommendation:

Some recommendation for different cooking method used for cooking food:-

- Fermented foods should be consumed more as they are easily digestible and nutrient dense.
- Boiling process in cooking method should be preferred more than frying or deep frying cooking methods.
- Steaming method is the best method because in this methods no nutrient losses are there and food is digestible.
- Baking powder should not preferred as it destroys B-group vitamins.
- Germinated foods should be consumed more as they are easily digestible and nutrient dense.
- Microwave cooking is not good because every microwave leaks electromagnetic radiations, and converts substances cooked in it to dangerous organs toxic and carcinogenic product, as working women preferred them more.
- Increase leaching out of food should be avoided.
- Iron utensils should be preferred because they enhance iron content in food.
- Freshly prepared foods should be consumed.
- Variety of oils should be used.
- Overcooking should be avoided because food overcooked food formed acrylamide which is a cancer causing in animal.

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