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## Study of consumption pattern of functional foods among middle aged women of urban area of Varanasi

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### Abstract

Menopause is a very crucial part of a woman's life. It is an end of a woman's reproductive stage due to diminished secretion of female hormones, estrogen and progesterone. Women spend one-third of their lifetime under menopause due to increasing life span. It is not a disease but various physiological and psychological changes occur during and after menopause which have detrimental effects on the quality and quantity of life of a woman. To cope up with these changes inclusion of fruits, vegetables and sprouted grains are very crucial. They are good sources of various nutrients and non nutritional factors which prevents the risk of chronic, degenerative diseases and osteoporosis among middle adulthood women. The present study has been carried out on 100 middle aged women between the age group of 50-60 years in urban area of eastern Uttar Pradesh. The respondents were selected randomly for the study. Most of the respondents during study were sedentary workers. Questionnaire cum interview method technique was used during survey for collecting the data. Data regarding consumption of fruits, vegetables and sprouted grains was collected by 24 hr recall method, consecutive for 3 days.

**Keywords:** Diet, estrogen, fruits, menopause, middle aged women, vegetables

### Introduction

After menopause the food choices and food intakes of middle aged women change as they are more prone to various types of non-communicable and degenerative diseases and to some extent deficiency diseases. It has been suggested that functional foods like fruits, vegetables and sprouted grains, the good source of various macro and micro nutrients and non-nutrients should be included in the diet. The nutrients present in them are minerals like potassium, sodium, magnesium, iron, phosphorus, zinc, calcium, etc., vitamins like ascorbic acid, folic acid, niacin, vitamin K, beta carotene etc., complexed carbohydrates like soluble and insoluble fibre, pectin etc. vegetable protein etc. Except nutrients the various non-nutritional factors present in them are flavonoids, phytosterols, phytochemicals, polyphenols, phytosterols etc. which together with some nutrients like ascorbic acid, vitamin K, etc. acts as antioxidants in the body. Due to the presence of the antioxidants and nutrients they have pharmaceutical and nutritional properties and they are vital to the various age groups of the population but more vital to the menopausal women. It has been recommended by various international organizations like World Health Organization and Food and Agriculture of the United Nations that at least five servings of fruits and vegetables excluding starchy vegetables should be included in the diet daily. As the age increases the requirement of antioxidants except other nutrients also increases because during ageing, especially among middle aged women the risk of chronic and degenerative diseases and deficiency diseases also increases. Among middle aged women the menstrual periods cease out and that condition is called as menopause. This is a natural phenomenon faced by every woman after the age of 45-50 years. After menopause the secretion of two vital female hormones called as progesterone and estrogen are ceased out and now women are more susceptible to chronic and some deficiency diseases which can become the reason of morbidity and mortality among women. Both the above two hormones provide protection regarding health to all women against chronic diseases and help in the absorption of calcium and vitamin D which protect the bones from demineralization and further osteoporosis and osteoarthritis. Due to the presence of nutrients and non-nutrients they help in protecting the middle aged women from chronic and degenerative diseases like cardiovascular disease, blood pressure, hypercholesterolemia, diabetes mellitus, various types of cancers like breast cancer, colorectal cancer etc., early ageing, obesity etc. It has been suggested that higher intake of fruit and vegetable also lowers the risk of cognitive decline during ageing and has been proved to be beneficial for mental health. Consumption of fruits

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and vegetables also assist in the management of menopausal symptoms like hot flushes, night sweats, mood swings, insomnia, fatigue, anxiety, depression, heart palpitations and joint pain etc. which occur when secretion of female hormones cease out. Fruits and vegetables not only counteract chronic diseases but also maintain bone health. It has been suggested that fruits and vegetables acts as buffering agents, maintain the acid base balance of the body, inhibits leaching out of alkaline salts from the bones and helps in maintaining the high bone mineral density due to the presence of some minerals like potassium, magnesium etc. Bone health is not only affected by calcium deficient diet but deficiency of other nutrients like magnesium, potassium, zinc, iron, phosphorus, fiber, vitamins like ascorbic acid, niacin, folate, vitamin K, etc. also affect it in menopausal women.

### Materials and Methods

The present study was carried out on 100 urban middle adulthood women. The respondents were between the age group of 50-60 years, who were menopausal women and were living sedentary life style. The subjects for study were selected randomly from the urban area of Uttar Pradesh. For collecting information regarding consumption of green leafy vegetables, fruits and sprouted grains, questionnaire cum interview method technique was used during survey. In the study it was found that majority of the respondents were consuming green leafy vegetables whereas fruits were consumed occasionally and majority of the respondents were not taking sprouted grains in their diet in comparison to GLVs. During study it was observed that on one hand malabsorption of some nutrients like calcium, vitamin D had occurred in the body of post-menopausal women due to the diminished secretion of estrogen whereas on the other hand lack of money, ignorance of healthy and balanced diet, unawareness, lack of time and knowledge of importance of consumption of fruits, vegetables and sprouted grains make menopausal women more susceptible to morbidity and mortality. During study it was advised to the respondents that around 5 servings of fruits and vegetables should be included in the diet daily for inhibiting the risk of various non-communicable and some deficiency diseases like osteoporosis.

### Results and discussion

Information regarding green leafy vegetables consumption of respondents was presented in Table 1. During the study it was found that majority of the respondents were consuming GLVs every day (61%), twenty six percent for days in a week, seven percent three days in a week and six percent respondents were consuming the GLVs occasionally. Information regarding fruit consumption of respondents was presented in Table 2. During the study it was found that thirty two percent respondents were consuming fruits every day, majority of the respondents were consuming occasionally (52%) sixteen percent had never consumed the fruits in their lives. Information regarding respondents taking sprouted grains was presented in table 3. During the study it was found that thirty seven percent respondents were taking sprouted grains, majority of the respondents were not taking sprouted grains and twelve percent respondents were taking the sprouted grains occasionally.

**Table 1:** Green leafy vegetables consumption of respondents

Responses	Frequency	Percentage
Everyday	61	61
5 Days	26	26
3 Days	7	7
Occasionally	6	6
Total	100	100

**Table 2:** Fruit consumption of respondents

Responses	Frequency	Percentage
Every day	32	32
Occasionally	52	52
Never	16	16
Total	100	100

**Table 3:** Respondents taking sprouted grains

Responses	Frequency	Percentage
Yes	37	37
No	51	51
Occasionally	12	12
Total	100	100

### Conclusion

In the present study it was observed that ageing and nutrition both affect the health of the middle aged women. After menopause women are more prone to various chronic and degenerative diseases like diabetes mellitus, hypertension, breast cancer, eye sight weakness, insomnia, dementia, etc. and deficiency diseases like osteoporosis etc. To overcome the morbidity and mortality among women to some extent functional foods like fruits, vegetables and sprouted grains should be included in the diet every day. They are rich source of vital nutrients and non nutritional factors which acts as antioxidants in the body and protects the body from various chronic and degenerative diseases.

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