



# A STUDY ON AWARENESS FOR LATE ADULT ON HEALTHY LIFESTYLE TOWARDS NUTRIGENOMIC KNOWLEDGE

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## Abstract

Lifestyle diseases are associated with cardiovascular disease, cancer, diabetes and mortality. In Lucknow started to experience population was suffering with these. It is important to consider and address the late adult's people needs and concerns which might have direct impact on their wellbeing and quality of life. There have been few researches into different aspects of life of the late adult population in Lucknow, Uttar Pradesh, India. So, this study aimed to assess the prevalence, knowledge and practices (PKP) of late adult people in Lucknow. This study was cross-sectional that conducted in Lucknow city. Self-administered structured questionnaire was designed to measure prevalence, knowledge and practice about healthy lifestyle. The questionnaire completed by 122 late adult's people during survey. Frequency, percentage and chi-square tests were applied and analysis of variance was used in data. A higher score means better. The score frequency of male respondent was significantly higher than in female. Furthermore, the average score of late adult's population in social activities was our finding revealed that the population have a low level of knowledge about nutrigenomic and performance towards healthy lifestyle.

**Key words:** Lifestyle disease, nutrigenomic, sex prevalence, knowledge, practices, healthy lifestyle.

## Introduction

The number of elderly people and their percentage of the whole population are greater than ever. According to the data of the United Nations, in 2002, the worldwide total number of people aged 60 and older was 629 million (10% of the whole population) and by the year 2050 it will increase to 1.964 billion (21% of the whole population) (ECOSOC, 2002) (united nations, dept. of economic and social affairs, 2002). Census has been conducted in India since 1872 and 2011 marks the primary time biometric data was collected. According to the tentative reports released on 31 March 2011, the Indian population increased to 1.21 billion with a decadal growth of 17.70%. Most populated state was Uttar Pradesh (Census of India, 2011). Total population in a single state was (199,812,341) (16.50%) of the total population of India. According to census data 2011 total rural population was (155, 111, 022), urban population was (44,470,455) and literacy rate was (67.68%) in state of Uttar Pradesh, India. The total no. of population in age between 40-60 was (18.24%) (census of India, 2011). Due to over populated state pace of the healthy life will be diminishes and population was

endured with way of life related difficulties due to keeping up of presence of society status.

Indian Council of Medical Research (ICMR) and alternative Institutes conduct studies on lifestyle disease. According to ICMR India State-level diseases burden study report in India. Health of the nation's states, the normal extent of all passing due to Non-Communicable Diseases (NCDs) has expanded from 37.09% in 1990 to 61.8% in 2016. As per the National Family Health Survey (NFHS); 2015-16, 11% of women (1 in 10) and 15% of men (1 in 7) of age 15-49 are hypertensive. The survey has also found that about 60.4% of persons screened have ever had their blood pressure measured (healthcare policy, [www.indianexpress](http://www.indianexpress)).

As per ICMR's cancer register information, the estimated incidences of cancer patients in India are 13,28,229, 13,88,397, 14,51,417 and 15,17,426 during the years 2014, 2015, 2016 and 2017 respectively. While calculable deaths due to cancer throughout these years are 670541, 701007, 732921 and 766348, respectively (healthcare policy, [www.indianexpress](http://www.indianexpress)).

The Government has formulated the National Health

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Policy, 2017, which aims attainment of the highest possible level of good health and well-being for all at all ages, through a preventive and promotive health care orientation in all the developmental policies, and universal access to good quality health care services without anyone having to face financial hardship as a consequence. The policy seeks to move away from Sick- care to Wellness, with thrust on prevention and Health promotion. The policy, *inter alia*, seeks to reduce premature mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases.

Government of India is also implementing National Programme for hindrance and management of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) under the National Health Mission. The objective of the programme includes awareness generation for Cancer prevention, screening, early detection and referral to an acceptable level institution for treatment. For Cancer, the focus is on three Cancer namely breast, cervical and oral (healthcare policy, www.indianexpress).

Thus, it is no longer possible to ignore the commencing ageing phenomenon in India and therefore, it is vital to anticipate requirements of this age group in India to plan appropriate policies to address their growing needs and to support their healthy life style. In fact the total size of population of India will fail to double in the next fifty years, but the number of elderly aged 65 years and over will experience about six-fold increase (census of India, 2011). So, aging phenomenon in India can create healthy, economic and social consequences due to increasing of diseases and their burden (Mohammad beigi *et al.*, 2013).

Healthy life styles in elderly are described as a lifelong process optimizing opportunities for improving and preserving health and physical, social and mental wellness; independence; quality of life; and enhancing successful life-course transitions (Brunner, 2005).

Recent research has provided fresh evidence that a healthy lifestyle in elderly individuals that combines of health prevalence (Haveman-Nies-Ford, 2003-2008), nutritional information, regular physical activity, general health problems. These information were collected from the questionnaire of survey method and conclusion has been drawn to check the rate of prevalence in the among population and having the knowledge about the nutrigenomic foods which can improve their health complication and consuming foods in day to day life. The purpose of this study was to identify prevalence, knowledge and practices of late adult person's towards healthy lifestyle during health complication. The study

focuses on late adult aged between 40-60 year and upper.

## Materials and Methods

### Study design and data collection

This was cross-sectional survey of a random sample of elderly Indians selected from the general population in Lucknow. It has more than 3,580,967 inhabitants and 8 zones and it is most densely populated region in India. The sampling method was based on a multi-stage stratified sampling approach. Information on the total number of households and their addresses were available for selected zone (provided by the health centers in each region of Lucknow). Proportionate allocation sampling was used to identify a sampling fraction for each of the zones. Then, random sampling was applied within each stratum to select the required households in the zones to ensure that every household within the zones has the same probability of being sampled. All participants were interviewed at their respective place. To collect data, researcher conducted face-to face interviews. Each interview lasted for approximately 20 minutes. Those who were not available for interview at given time were asked for another appointment. Information about elderly people on prevalence, knowledge, and practice (PAP) concerning healthy lifestyle during aging has not been studied previously.

### Structured questionnaire

A structured questionnaire was designed. It contains 35 core questions or statements; 5 for demographic characteristics, 9 for prevalence, 11 for knowledge and 10 for practice on healthy lifestyle in old age. A self-administered, structured questionnaire was designed and modified by the aid of previous researches. Questionnaires were completed by a sample 122 from 122 respondents in 2 zones of Lucknow.

Each questionnaire was comprised of four distinct parts; demographic characteristics of the participants, healthy lifestyle during aging prevalence knowledge, and practices. Questions about sex, age, education, level of education, employment, how to provide cost of living were included in the first part of the questionnaire.

In the prevalence part, there were 9 questions emphasizing on the diseases in which they were suffered like any disease, blood pressure related complication, back ache, regular medication, bone health, family history, regular exercise. Each question was provided possible answers. The prevalence was assigned to respondents according to their answer of questions.

In the knowledge part, there were 11 close-ended questions that was focus on the knowledge related to

nutrigenomic, like you consume daily medicinal property food, functional food, nutraceutical food, allyl sulfur, fibers, phytoestrogens, isoflavones, green tea, beta carotene related questions. Each question provides two possible answers (yes/no). The knowledge score were assigned to respondents according to their answers to questions.

Food practices of late adult were assigned by their self reported healthy behavior in the last part of the questionnaire. In the last part 10 questions were provided with two point rating scale (having practice/Not practice). One additional question concerning how alcoholic rate gives yourself in this age (Not at all/ occasionally/ regular).

After collecting data and entering data into computer the final analysis using statistical software SPSS 20 version appropriate statistical tests was performed for testing the association between prevalence, knowledge and practice points.

## Results

The response rate was 98% out the 122 elderly people in the sample. In demographic 5 major information added of the respondent age, gender, education, occupation and income. These were as follows-

**Table 1:** Socio-demographic characteristic of late adult in Lucknow, India.

Characteristic	Frequency (n=)%
Age(yr)	
40-45	24 (19.7)
46-50	41(33.6)
51-55	19(15.6)
56-60	24(19.7)
61-above	14(11.5)
Gender	
Male	79(64.8)
Female	43(35.2)
Transgender	0
Education qualification	
High school	40(32.8)
Intermediate	34(27.9)
Graduation	23(18.9)
Post graduation	25(20.5)
Other	0
Occupation	
Employed	73(59.8)
Unemployed	13(10.7)
Students	2(1.6)
Retired	5(4.1)
Income group	
LIG	20(16.39)
MIG	95(77.86)
HIG	7(5.73)

In the prevalence part, there were 9 questions emphasizing on the diseases in which they were suffered like any disease, blood pressure, insomnia, back ache, regular medication, bone health, family history, and regular exercise. Each question was provided possible answers. The prevalence was assigned to respondents according to their answers to questions. Maximum prevalence rate was seen in their family history and major population was taking medicines for related causes.

In the knowledge part, there were 11 close-ended questions that was focus on the knowledge related to nutrigenomic like you consume daily medicinal property food, functional food, nutraceutical food, ally sulfur, fibers, phytoestrogens, isoflavones, green tea and beta carotene related questions. Each question provided two possible answers (yes/no). The knowledge score were assigned to respondents according to their answers to questions. The best knowledge were seen that they consume foods that have medicinal properties and source of vitamin-A.

Practices of late adult were assigned by their self-reported healthy behaviors in the last part of the questionnaire. In the last part, 10 questions were provided with two-point rating scale (Having practice/ not practice). One additional question concerning how to rate yourself in alcoholic in this age (not at all/regular/ occasionally). In case of frequency of meal intake measurement was on the basis of times in a day (2times/3times/4times/5times).

## Discussion

Generally there is a direct relationship between physical activity and high level of education, considering the physical activity components of a healthy lifestyle, higher awareness in people with higher education is satisfactory (Lee *et al.*, 2001). Based on research findings, the average knowledge score of studied population has decreased with increasing age; the average attitude score of studied population has decreased with increasing age and also the average practice score of studied population has decreased with increasing age. With decreasing knowledge and attitude mean scores with increasing age seems Considering the educational level of most elderly group old and oldest old is lower from level of education group young old, the result was predictable. It was also predictable, average practice score decreases with age due to reduced ability of older people in old age.

Regarding the relationship between educational level and knowledge about healthy life style, it seems that we can reduce the mean scores of prevalence, knowledge and practice of elderly women than elderly men, is

**Table 2:** Summary of questions and number of responses for assessment of responder's healthy lifestyle prevalence of 122 late adult in Lucknow, India.

Question no.	Question statement	Responses n(%)	
		Having prevalence	Not prevalence
1	Have you ever diagnose with any disease?	78(64%)	44(36%)
2	Have you ever been suffered with blood pressure complication?	41(33.6%)	81(66.4%)
3	Have you ever been suffered with back ache?	40(32.7%)	82(67.3%)
4	Have you ever been suffered with insomnia?	26(21.3%)	96(78.7%)
5	Are you under regular medication for any health problem?	61(50%)	61(50%)
6	Are you suffering from degenerative bone health?	28(23%)	94(77%)
7	How long have you been ailing with health problem?	26/62, (21.3,62%)	34(27.9%)
8	Do you have any history of diseases in your family?	86(70.5%)	36(29.5%)
9	Do you prefer regular exercise?	70(57.4%)	52(42.6%)

**Table 3:** Summary of questions and number of responses for assessment of responder's healthy lifestyle knowledge of 122 late adult in Lucknow, India.

Question no.	Question statement	Response (N) %	
		Yes	No
1	Do you think that the foods you consume daily have any medicinal properties?	97(79.5)	25(20.5)
2	Have you come across the word "functional food"?	19(15.6)	103(84.4)
3	Have you heard about the word "nutraceuticals"?	21(17.2)	101(82.8)
4	An active component named "allyl sulfur" is present in onion and garlic.	37(30.3)	85(69.7)
5	Do you know What the dietary fibers are?	54(44.3)	68(55.7)
6	Fibers are present in fruits and vegetables?	45(36.9)	77(63.1)
7	Isoflavones are found in soybean?	11(9)	111(91)
8	Phytoestrogens are similar to human estrogen?	12(9.8)	110(90.2)
9	Do you think that isoflavones are phytoestrogens?	32(26.2)	90(73.8)
10	Is green tea rich in catechins?	49(40.2)	73(59.8)
11	Is Beta carotene found abundantly in yellow and orange fruits?	63(51.6)	59(48.4)

associated with a lack or shortage of educational facilities and education in their youth and middle age. The results in this section in relation to yield reduction in the mean scores of women than elderly men, average performance score consistent with another study (Lee et al., 2001).

**Table 4:** Summary of questions and number of responses for assessment of responder's healthy lifestyle prevalence of 122 late adult in Lucknow, India.

Question no.	Question statement	Response(n)%
1	Which type of diet you prefer?	55(45.1)veg. /67(54.9)non veg.
2	The frequency of meal intake?	16(13.1)/86(70.5)/18(14.8)/2(1.6)
Common food related practices:-		
3	Pulses	107(87.7)/15(12.3)
4	Milk and milk product	70(57.4)/52(42.6)
5	Green leafy vegetables	58(47.5)/64(52.5)
6	Fruits	53(43.4)/69(56.6)
7	Sugar/jaggery	103(84.4)/19(15.6)
8	Meat/meat product	69(56.6)/53(43.4)
9	Preference of junk food	35(28.7)/87(71.3)occ.
10	How do you rate yourself in terms of alcohol intake	35(28.7)/6(4.9)/81(66.4)

A similar survey was conducted in elderly population in Belgium, Denmark, France, Italy, Portugal, Spain, Switzerland, Netherlands and India (Haveman-nies, De groot, 2003-04). This huge examination indicated that healthy of life was identified with stable self-saw wellbeing, a postponement in practical reliance, and mortality. In addition, in light of the ongoing investigation results, latency and smoking, and low-quality eating routine have an expanded mortality risk. Multiple unhealthy lifestyle factors have a synergic effect and this study showed that a healthy lifestyle at older ages is related to a delay in the deterioration of health status and a reduced mortality risk (Woo-sims-ford, 2000-02-04).

Since the population of the current study was elderly people, we encounter to some problems. The questions of study were long and so some of participants feel fatigue in interview and answering. We would enforce to remove of some participants due to sever

diseases and other age related problems. So the representativeness of sample confounds. However, regarding to the effect of awareness of practice as an important principle in health policy, increasing of knowledge is the first step for healthy life style. Moreover, Improving and maintaining a healthy lifestyle in elderly people across is a great challenge for the all developed and developing countries. In India especially due to recent demographic changes interventional programs in diet and life style could be more efficient for decreasing of morbidity and mortality in upcoming years.

### Conclusion

It seems designing a comprehensive program regarding a healthy lifestyle in this population to be of prime necessity because this age of life need to be a special treatment for sustaining rest of life. So, our results suggest measuring the quality of life and general health status in elderly people.

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