Summary & Conclusions
Chapter VI

SUMMARY AND CONCLUSION

Ageing process involves changes in physiological, pathological, social and psychological conditions of a person. Added to this, due to changing socio-economic environment, elderly people are sometimes left alone to fend for themselves to maintain their health. In such a situation, provision of nutritious recipes involving minimal cooking time and dietary modifications would help them to a great extent.

The aged or the elderly (more than 60 years of age) belong to post mature adult group of population. These people with all their wisdom and experience contribute their mite to total family income and welfare of society. It is true, that advances in medical science, improved health care and standard of living have helped people to stay healthy and prolong their longevity. However, during the ageing process, certain inevitable degenerative changes that occur, result in functional decline. These are mostly influenced by genetics, nutrition, socio-economic, psychological conditions, illnesses and availability of health care facilities. Hence proper nutrition and health care are necessary for them to lead a normal life. In this connection, it is important to consider the following inter-related aspects.

(1) The ageing process

(2) Need for good nutrition

(3) Easy dietary tips for the elderly.

As the senior segment of the population becomes larger, there is an increasing awareness of the unique problem faced by people after age 60. These
problems are intertwined and frequently complex, but with the growing social consciousness of many citizens, it is realistic to predict that some of the difficulties of the elderly will come into sharper focus and begin to the alleviated. Adequate nutrition for this age group is an achievable goal if environmental, social and psychological influence do not interfere with the nutritional process.

The physiological and pathological changes that inevitably accompany ageing result in degenerative processes and lower functional capacity. These in turn, influence nutritional status of old people. Some of these nutrition related factors that have a direct influence on food intake are following.

(1) Lack of physical activity reduces Basal Metabolic Rate (BMR) and thereby energy intake needs to be reduced. However, there are no drastic modifications in mineral and vitamin requirements.

(2) Alterations in gastrointestinal tract – a decreased secretion of salivary flow due to involution of salivary glands, a decrease in the volume and acidity of gastric juices and lower rate of absorption.

During old age people tend to be disinterested in cooking food every day and often not keen in opting for variety of foods. In some cases, food becomes monotonous and a few start skipping their meals, resulting in malnutrition. On the contrary, there is another group of elderly people who turn obese by over eating a variety of convenient and fast foods and become the victim of over nutrition. Hence, a survey conducted taking every aspect of the old age problem, emphasizing mainly the dietary pattern of the elderly people.

**Research Methodology**

For the present study, the survey was conducted in urban and rural areas of Faizabad district. Villages namely Anjrauli, Inayatnagar, Khandasa and Sidhauna
were selected for the rural areas and urban area study constituted the survey in Devkali, Rikabganj, Fatehganj and Wazeerganj localities of Faizabad. A detailed questionnaire based on the dietary pattern and food habits was administered on selected elderly of the rural as well as urban areas. Sample size consisted of 200 elderly individuals: 100 from rural areas and 100 from urban areas. Data obtained was statistically analysed and result obtained were tabulated and discussed in detail. The results of the survey are summarized as under:

The level of education, from matric to university is very little in the rural areas (with males only) but in the urban areas like males, females are also towards positive side. The number of illiterates is higher in rural areas with 15 per cent male elderly and 23 per cent female elderly but a few female elderly are educated up to primary and below metric. In the urban areas male and female elderly are comparatively equal in lower education.

Hindu religion was the major religion among the elderly for rural and urban areas, with small percentage of Muslims and other religion. Majority of the respondents belong to the upper caste (26 per cent male and 27 per cent females in the rural areas and 31 per cent males and 28 per cent females in the urban areas). The backward and scheduled caste represented almost equal in number.

The survey also disclosed that in rural areas families are mostly joint whereas in the urban areas they are nuclear irrespective of males and females.

The major source of income in the urban areas seems to be pension (20 per cent males and 11 per cent females) followed by service/business. The major source of income in rural areas was found to be agriculture followed by daily labour and service/business.
Majority of respondents of urban and rural areas under studied have 6 to 10 members family size whereas 18.0 per cent respondents have 11 and above members under urban areas and 23.0 per cent respondents from rural areas.

84.0 per cent urban old age people were belonged medium class economic status whereas 14.0 per cent high economic status. 61.0 rural old age people were belonged to medium economic status and 39.0 per cent low economic status. In rural areas mostly people have low education, low income group.

Regarding BMI of urban and rural elderly the survey revealed that urban old age people have more BMI than rural old age people. In age group of 60-70 years BMI in male respondents was more in comparison to rural old age people.

Regarding food habits of the elderly the survey revealed that most of the respondents (about 50 per cent males and 68.0 per cent females) bear the vegetarian habits. A small portion among the elderly was non-vegetarian (about 26 % males and 22 % females) whereas 24 per cent males and 10 per cent females were occasionally non-vegetarian.

On the use of alcohol the survey revealed that majority of elderly was non alcoholic, with little percentage of male elderly consuming alcohol regularly and occasionally. The tendency to alcoholism however was found more in urban areas.

Smoking and chewing tobacco were the main addiction found in rural areas and urban areas dominated by males but tobacco chewing is also found in female elderly. Bhang used by small percentage (5 per cent) of rural males. The survey showed that male elderly in the rural as well as urban areas are prone to addiction.

Regarding clinical assessment of old age people the study reveals that a large percentage of elderly (48.0 per cent) in urban areas have from eye problem followed by 33.0 per cent in rural areas elderly. 31.0 per cent respondent in rural areas were
suffering from cataract problem. 17.0 per cent urban elderly have normal teeth and 70.0 per cent have no teeth in that stage. 92.0 per cent urban elderly have white hair and 88.0 per cent rural elderly were loss of lustre in their hair whereas 95.0 per cent rural elderly have loss of luster in their skin.

Old age people suffering from various diseases. In urban areas majority of male (43.0 %) and female (42.2 %) were suffered from diabetes respectively. Constipation problem were faced mostly by urban areas people in comparison to rural elderly. Arthritis problem were faced by mostly female in both urban and rural areas. Majority of urban elderly were suffered from obesity problem (20.0 % male and 28.0 % female). About 21.0 per cent urban female and 9.0 per cent rural female elderly were anaemic. Majority of people in both areas (urban and rural) 41.0 per cent urban males, 43.0 per cent urban females and 40.0 per cent rural male and 26.0 per cent rural females elderly were suffered from hypertension. 34.0 per cent urban male and 16.0 per cent rural male were suffered from prostate problem. 4.0 per cent urban females and 3.0 per cent rural females were suffered from stone problem.

Male elderly in the rural areas were found more getting the ayurvedic treatment and in urban areas, allopathic treatment whereas in the females the allopathic treatment was more liked in rural as well as urban areas. The other type of treatment like homeopathic and allopathic + homeopathic treatments were also favoured by the different respondents in small number.

The survey revealed that at the age of 60 and above, the working capacity of about 63.0 per cent males and 55.0 per cent females was reduced either slightly or very much and altogether disability was also found in both the areas.
At this age the impairment of memory was also common in the males (about 67.0%) and females (about 70.0%). However, the urban respondents were more affected by the memory impairment.

The survey also revealed that a larger portion preferred the timely eating whereas significant fraction was still not regular with the timely eating. However, regarding this information there was a mixed response as regard rural and urban areas. Since it is a very common phenomena, the uncertain trend is bound to come.

In urban area 57.0 per cent elderly were going on morning walk and 8.0 per cent respondents were doing simple body exercise due to this stress of body increases and they were taking balanced diet to manage the body energy. In rural areas majority of respondents were not doing any exercises and 37.0 per cent were going in morning walk and 9.0 per cent respondents were doing cycling aerobics due to cycling exercise, sodium salt decreases in his body and iodine requirement were increases and they were eating much onion.

Regarding the food stuffs taken by males and female elderly respondents in rural and urban areas in breakfast, the survey revealed that in the rural areas male elderly prefer generally plain tea or butter milk, chana + puffed rice, whereas in the urban areas they preferred tea + bread as breakfast.

The food stuffs taken as lunch by male and females elderly in both rural and urban sectors purely consisted of rice + chapaties + dal + vegetable by 45.0 per cent male elderly and 39.0 per cent female elderly, chapati + dal + curds + vegetable, chapati + vegetable and chapati + vegetable + chutney etc. combinations were also taken by the respondents.

As evening snacks most of the respondents preferred tea + snacks the next preference was given to tea + namkeen and tea + biscuits especially in urban areas
(22.0 per cent males and 22.0 per cent females) other nutritious and delicious food stuffs were taken in fractions only.

Regarding dinner majority of respondents preferred paratha/chapati + vegetables. However chapati/paratha + vegetable + dal/curds, rice + chapati + dal and rice + chapati + dal + vegetable combination were frequently taken by elderly.

According to the activity, heavy workers were more in rural areas (23.0 %) in comparison to urban areas (2.0 %). More than (50.0 %) sedentary elderly in urban area and only 30.0 per cent in rural areas. Moderate workers were (47.0 %) in rural area more than urban area (34.0 %).

In urban area the sedentary old age people were taking 2012±179.1 Kcal energy. Moderate and heavy worker were taking 2313±166.3 and 2762±203.1 Kcal energy respectively. In rural areas people were taking less energy to compare to urban. Heavy worker were taking 41 g/d protein in urban area while in rural area protein intake was 34 g/d. Females of both areas were taking more fats and oil in comparison to male of both areas. Females of both areas were taking lower calcium compared to standard level. In urban and rural areas females were taking lower amount of iron in diet especially in rural area they were taking 17 mg/d iron it was quite lower than standard.

The survey revealed that certain food like potato, banana calocassia, brinjal, pumpkin, spicy foods and sweets etc. were avoided by most of the elderly in both the sectors. However, the avoidance of certain foods by the elderly was on account of digestion problem.

In both rural and urban sectors the respondents preferred to take the meals twice or thrice but a small percentage including both the sectors took the meal only
once a day, however this practice was found more in rural areas as compared to urban areas.

Regarding the survey the rural and urban elderly both have a tendency to eat slowly as 54 per cent rural and 40 per cent urban prefer to eat slowly.

As for the place of eating majority of elderly preferred to eat in front of T.V. and in kitchen. Females in the rural areas could also eat anywhere. The urban exclusively preferred to eat in dining room whereas a certain number also liked to eat in bedroom.

The majority of the respondents in rural as well as urban areas preferred to eat familiar foods. The percentage of male elderly was higher i.e. about 65.0 per cent as compared to females about 62.0 per cent. However, there was also a tendency to adopt the unfamiliar foods like Chinese dishes, pasta, macaroni etc. by the respondents in urban and to some extent in rural also.

The survey revealed that decreased appetite due to indigestion is the major problem with the elderly respondents that cause them to reduce the frequency of utilization of certain foods. The problems regarding salt and sugar intake particularly in the urban males and females are also there. However, there is no sugar problem in the rural areas with little presence of salt problem.

Regarding the consumption of foods whether fresh or stale the survey revealed that majority of males (76.0 %) and females (72.0 %) consumed the fresh foods. Although there is no point in consuming stale food irrespective of area or gender because it is always against the maintenance of health and this practice needs to be discouraged.

The tendency of taking the balanced diet however is increasing in the rural areas also (48.0 %) but is still greater in the urban areas (82.0 %). Irrespective of
male and female there is also a general trend in taking the balanced diet as about 65.0 per cent males and 65.0 per cent females preferred it however a big percentage was uniformed about the advantages of taking the nutritionally balanced diet. They need proper tutioning.

In urban areas economic status and income group positively correlated with dietary pattern. Age and family size negatively correlated with diet because according to age and family size of old age people increases then diet were reduced.

The study showed that the food habits of the elderly were the result of the life time influences of cultural, social, economic and psychological factors. The individual who has had poor food habits throughout life is not likely to be in as good health as the one who has enjoyed the benefits of a good diet. Insufficient income is probable the chief factor in rural areas to limiting dietary adequacy (65.0 %). In urban areas psychological factors were more in elderly (60.0 %) but socio-economic factors influenced dietary pattern (40.0 %) in urban areas.

Ageing is a continuous process that begins with conception and ends with death. Study showed that 39.0 per cent urban old age people were suffering from ageing process whereas 30.0 per cent rural old age people. With ageing a progressive decline in the water content and lean body mass is accompanied by an increasing proportion of body fat. Majority of 47.0 per cent rural old age people were suffered by body composition process whereas 38.0 per cent urban old age people. With ageing the skin loses its flexibility the joint creak and the back becomes bent. With increasing age the blood cholesterol and blood triglyceride levels gradually increases 23.0 per cent urban and rural old age people were suffering from metabolism process respectively the degree of overweight, the stresses of life and many other factors are believed to be responsible for these changes.
Conclusion

The findings from the study “A comparative study of dietary pattern of old age people (above 60 years) residing in urban and rural areas of Faizabad district” can be concluded as:

Among elderly Hindu religion was the major religion in both rural as well as urban areas. Majority of the elderly respondents both from rural and urban areas belong to upper caste with almost equal distribution in backward and scheduled caste. About 70.0 per cent of the rural elderly belong to joint families whereas majority of the urban elderly belong to nuclear family. The number of illiterate elderly was higher in the rural areas while reverse was in the case of urban elderly. Regarding widowism greater number was found among elderly from rural areas. The major source of income in rural areas is agriculture whereas among urban elderly it was pension.

Regarding physical growth it can be concluded that BMI of urban elderly was more than rural elderly. According to increase the age Body Mass Index were lower in both urban and rural areas.

Regarding food habits an almost equal distribution was found among vegetarian and non-vegetarian elderly both from rural and urban areas majority being the vegetarian ones. The tendency towards alcoholism was found greater among urban elderly than the rural elderly. Elderly both from rural and urban areas found to be prone to addiction. Regarding nutritional deficiency diseases majority of urban male and female suffering from diabetes because they were not doing work hard in comparison to rural people. Majority of females from both areas were suffering from arthritis. Constipation problems were faced in urban people in comparison to rural areas elderly. Lack of exercise, a low fibre diet and not drinking
enough fruits are the major causes of constipation. In urban areas environment were more polluted and city water supply was impure and lack of minerals so constipation problem developed more frequently. Most of the elderly from both areas have suffered from nutritional deficiency diseases because physiological changes influences nutrient intake such as decreased secretion of salivary flow, a disease in the volume and acidity of gastric juices and lower rate of absorption. Rural elderly mostly suffering from diabetes and arthritis whereas in urban areas the major medical problem among elderly were diabetes and hypertension, while urban elderly preferred allopathic treatment for diseases there was mixed response to homeopathic, ayurvedic and home remedy treatment with a little preference to allopathic treatment among rural elderly. The reduction in working capacity as well as memory impairment were found almost similar among rural and urban elderly.

The habit of timely eating was found more among urban elderly in comparison to rural elderly. Regarding breakfast rural elderly preferred plain tea or butter milk + chana + puffed rice or tea, biscuit, namkeen whereas urban elderly preferred tea, bread as breakfast. As for lunch majority of elderly preferred chapati, vegetable chutney or rice, chapati, dal, vegetable etc. combination whereas majority of elderly consumed rice chapati, dal, vegetable or chapati, dal, curds, vegetable as lunch which was nutritionally better for older people. Majority of rural elderly preferred plain tea as evening snacks whereas in urban areas, it was tea, biscuits followed by tea, namkeen. Regarding dinner majority of the rural as well as urban elderly preferred Paratha/chapati, vegetable followed by the addition of dal and curds to it but in urban areas. Avoidance of meal, fish or egg was found greater among rural elderly. The practice of taking two meals per day was comparatively greater among rural elderly whereas practice of taking three meal per day was greater in urban elderly. In comparison to about two-third of the elderly population
of rural areas and only half of the urban elderly preferred eating alone. Majority of the elderly preferred to eat slowly, the number being higher among the urban elderly. Majority of the urban elderly preferred to eat in front of T.V. whereas in rural areas elderly prefer to eat in kitchen. Majority of the rural as well as urban elderly preferred familiar foods the number being higher in rural areas. Elderly both from rural and urban had problems of decreased appetite, the number being higher in rural areas. In comparison to 95.0 per cent of the urban elderly only 70.0 per cent rural elderly were taking fresh foods. Regarding the effect of food prices on consumption majority of the urban elderly preferred to consume but less frequently whereas rural elderly preferred either to omit the consumption or to consume less frequently. In comparison to about 90.0 per cent of the urban elderly, only 45.0 per cent of the rural elderly were taking nutritionally balanced diet.

Hence, it can be said that there are a number of aspects as health, education, nutrition and job opportunities which need to be given attention in the rural areas.

From the study it can be concluded that nutritional adequacy is basic for survival and good nutrition throughout the life serves as a sound insurance for health for the years of old age marked physiological changes in the body resulting in inadequate dentition, diminished sensitivity to taste and smell, diminished secretion of hydrochloric acid in the stomach and digestive enzymes, biliary impairment, if any, which interferes fat digestion, irregular bowel evacuation, general ill health, economic and emotional insecurity and unwanted feelings are some of the problems common among old people. Loss of appetite is a common complaint of old people. Modification in the life style of the individual and in the functioning of the body result in modified dietary pattern during their phase of life. In particular, the elderly will need a proper caloric intake while maintaining a highly nourishing diet. Modification may include a shift toward eating more
frequent, small meals, a softer diet and the ingestion of more warm beverages. There should be growing community awareness of the problems of the elderly. Both in urban as well as rural areas to assist the senior citizens in overcoming the problems that may cause them to be poorly nourished.

SUGGESTIONS AND POLICY IMPLICATIONS

Many older adults have eating problems and may easily become malnourished. Each person is a unique individual with particular needs and requires sensitive support to meet both nutritional and personal requirements. A personal approach providing assistance for eating when needed can help meet these needs.

The observations suggest that above all, nutritional recommendations for the elderly should emphasize ways of encouraging and enabling them to maintain an adequate intake of foods rich in essential nutrients and avoid nutritional depletion.

The following suggestion may be used as a guide for care and planning meal for older people.

1. Analyse food habits carefully, Learn about the attitudes, situations and desires of the older persons. Nutritional needs can be met with a variety of foods, suggestion be made in a practical, realistic and supportive manner.

2. Never moralize, never say “Eat this, because it is good for you”. This approach has little value for anyone, especially for those struggling to maintain their personal integrity and self esteem in a youth oriented, age fearing culture that largely alienates its aged.

3. Encourage food variety, Mix new foods with familiar “comfort food”. New tastes and seasoning often encourage appetite and increase interest in eating. Many people think that a bland diet is best for all
elderly persons, but it is not. The decreased taste sensitivity of ageing necessitates added attention to variety and seasoning. Smaller amounts of food and more frequent meals also may encourage better nutrition.

4. Government should make some programme for older people like Health and Human Services Administers programme for older people, Nutritional programmes and Nutrition services. These services should include both congregate and home delivered meals which related nutrition education and food service components.

5. Congregate meals programme should provide elderly Indians particularly those with low income with low cost nutritionally sound meals in senior centres and other public or private community facilities. In these selling older adults can gather for a hot noon meal and have access to both good food and social support.

6. For those who are ill or disabled and cannot attend the congregate meals, meals should be delivered by courier to their homes. This service can meets nutritional needs and provides human contact and support.

7. Research centres for studies on ageing should be established in various areas of India for example, a Human Nutritional Research Centre on Ageing. These studies should involve research on topic such as the protein needs of the aged the nutritional status of elderly men and women, and the prevention and slowing of osteoporosis through nutritional support. Much more knowledge about the nutritional requirements of older adults must be needed to provide better care.
8. The Indian Geriatric Society and the Gerontological Society like national professional organisation of physician, nurses, dieticians and other interested health care workers should be established in the country. This society should publish journals and promote community and government effort to meet the need of ageing persons.

9. Improved health services aimed at improving the health of the elderly should be priority of the government.

10. The elderly population should be encouraged to engage in moderate exercise such as walking and other physical exercise to enhance their quality of life.

11. Dietary advice is necessary for the elderly and this should emphasize increased consumption of fruits, green leafy vegetables and whole grains.

12. There should be provision for the elderly to fully or partially subsidize their medical expenses.

13. Strengthening policies and programmes directed towards the improvement of conditions affecting particularly those related to their health and nutrition.

14. Health education should be imparted with guidelines provided by health functionaries.

15. Avoid serving foods which might cause digestive disturbances such as cabbage, beans, fried foods, rich dressings, gravies and sauces.

16. When chewing is difficult, meat or other food stuff may be chopped or ground and the vegetables chopped or pureed.

17. Plan to serve some hot foods at each meal.
18. Clear soups and relishes help stimulate an appetite.

19. If the main or hearty meal is served in the middle of the day, and the lighter, more easily digested meal in the evening, there are fewer digestive upsets and sleep is less likely to be disturbed.

20. It may be desirable to divide the food for the day into light meals instead of 3 larger ones. This will help and aid digestion and avoid dishes.

21. As a person grows older, the foods which are simply prepared are digested more easily. Combination dishes are not s well accepted as desirable.

22. A cup of warm milk at bed time will often help induce sleep.

23. Older people tend to take an adequate amount of fluids. They will take warm liquids more readily than cold; warm tea and broth taken either between meals or at meals will help increase their intake.

24. Meals should be attractive in colour, texture and flavour in order to appeal to the appetite of the older person.

25. The general attitude towards life of the older person influences his food intake, if he is in different towards his food, an effort should be made to determine the cause.

26. The daily diet of the older person should be evaluated frequently to see that all of the essential nutrients are included as the older person is often eating meals low in protein, vitamin and calcium.

☆