Chapter: 6

Summary and Conclusion

6.1 SUMMARRY

The study intended to reveal the prevalence of malnutrition and nutritional risk among the elderly women living freely and in the old-age homes in Kolkata and the association of nutritional status with various factors. 169 free living women and 196 old-age home residents, living in Kolkata participated in the study during March, 2011- December, 2014. Out of the total 365 participants, 249 women gave consent for collection of blood samples; therefore blood samples were collected from 124 free living women and 125 old-age home residents.

Majority of the free living elderly women and old-age home residents were widow, suffering from various health problems particularly joint pain.

Result of this study ascertained that poor nutritional status was common among the elderly participants in both free living and old-age home residents. Majority of the elderly women were observed as either 'at risk of malnutrition' or 'malnourished', among the free living, old-age home and total participants. No significant difference was found between free living elderly and the inmates of old-age homes. MNA scores were found to decrease with age significantly.

Nutritional status according to MNA scores has been found to be associated with anthropometric parameters like BMI, calf circumference, mid-arm circumference and waist circumference. BMI, calf circumference and mid arm circumference were found to decrease with age while waist-to-hip ratio was found to increase with age. Significant difference of BMI was found between free living and old-age home groups.

Most of the participants from both the groups were non vegetarian. Significant association of nutritional status (according to MNA) was found with their protein and energy consumption and no significant difference was observed between the two groups in terms of their protein and energy consumption. However, significant difference was found in the consumption of some food items like hand-made bread, fried hand-made bread, pulses, green leafy vegetables, potato, fruits, nuts, milk, ghee/butter and fish. Significant difference was also found in the preference for consumption of table salt and oily foods.

Participants from both the groups were also found to suffer from anorexia. Their appetite was found to be significantly associated with nutritional status, depression and cognitive function.

In retrospective, both depression and cognitive functions of the participants from both the groups were found to be significantly associated with nutritional status (according to MNA). Depression and cognitive function also found to decline with age. Significant difference in the cognitive functions, according to MMSE, was found between free living and old-age home participants.

In this study it has been found that 'activities of daily living' (ADL) declined with poor nutritional status. So dependency level increases with poor nutritional status and vice versa. ADL was also found to be associated with age and protein intake.

High prevalence of anaemia was found both among free living and old-age home participants. Haemoglobin level has been found to have significant association with hematocrit, mean corpuscular haemoglobin concentration and ferritin, indicating presence of iron deficiency anaemia among the participants. But, no significant association of MNA scores was found with haemoglobin, haematocrit, MCHC and ferritin. Significant difference was found between free living and old-age home groups, in the parameters viz. haemoglobin, haematocrit, ferritin and MCHC, tested for anaemia.

MNA score has been found to be significantly associated with albumin and total cholesterol level indicating significant risk of protein-energy malnutrition among the elderly participants.

Bio-chemical markers related to nutritional status have also been found to decrease with age. Albumin and total cholesterol levels were found to decrease significantly with age. Significant difference in albumin level was found between free living and old-age home participants.

But, no significant association of total lymphocyte count was observed with both age and MNA scores, indicating total lymphocyte count may not be a good marker for the assessment of nutritional status among the studied elderly participants.

High prevalence of metabolic syndrome was found among the participants. Though poor nutritional status was observed among the participants, both MNA scores and BMI were found to be significantly associated with metabolic syndrome.

6.2 CONCLUSION

Majority of the elderly women of Kolkata, both free living and old-age home residents, participated in the study were having poor nutritional status. This was found to be associated with various psychological, functional, anthropometric and nutritional parameters that are age dependent, establishing ageing as the most significant risk factor for malnutrition.

Growth of aging population is a major concern in our country. In general women live longer than men. Consequently they often face more health related problems, depression, social isolation and loneliness. Nutrition related health problems are even more underrated. Reports in this area of research among elderly Indian women and in particular elderly women of Kolkata are limited. Outcome of the present study can add new information regarding the nutritional status of elderly women and its relation with various co-morbidities which can be of significance in public health attention.

However, this study has some limitations. A comparative sample size between old-age home and free living participants in larger numbers could add more significant findings in terms of the public health intervention policies. As the diet survey was done by food frequency method, quantity of oil consumption was omitted and not considered in energy calculation.