In this chapter, the findings of the present study are based on 265 individuals (129 males and 136 females) aged 50 years and above have been discussed in order to understand the bio-social aspects of ageing. An attempt has been made to understand the different factors affecting the ageing process and the possible reasons of age and gender variation in different aspects of the studied Sonowal Kacharis.

Old age is associated with different physiological and psychological changes which are generally degenerative and require adaptation with normal environment. Owing to biological degeneration, the older people face a number of socio-economic problems and have to adapt at varying degrees.

SOCIO-DEMOGRAPHIC ASPECTS

Following the modified B.G. Prasad’s Classification for October 2013 (Updated as per CPI October 2013), it has been found that majority of the elderly
belong to the income categories III and IV (table 3.2). It is also apparent that only a negligible few are in the lowest income category (income category V).

The elderly from the younger age group are still actively engaged in earning activity. Some of them are in Government service while some others are engaged in business. Hence, economically they are relatively in a better position than those of the older age groups. Some elderly, aged 80 years and above, are living with their sons who are well established. Moreover, some of them have sufficient agricultural land. With the surplus crops they can earn quite a lot. The elderly from income categories I and II are mostly from these families.

The study reveals that two-thirds of the male (75.19%) and half of the female (50.74%) elderly have their spouse. The number of elderly females living without spouse is higher than that of the males (table 3.3). In each age group the number of widows is higher than widowers. There may be mainly two reasons for this gender variation. One being that, life expectancy in women is higher than men. Secondly, among married couples, women usually tend to be younger than men in chronological age. Women, therefore, live more number of years than men after marriages and in their later years mostly as widows (Sarmah, 2006). Among the Sonowal Kacharis, the age gap between husband and wife is about 10-15 years on an average though the gap has started reducing in recent times. There are a number of studies to show that the number of widows is higher than widowers among the aged (Dzuwichu, 2007; Venkatarao et al., 2005).

Being traditionally an agricultural community, majority (74.42% males and 75.74% females) of the elderly in the present study are found to live in joint families.
Nuclear family is predominant in the younger age group (50-59 years of age). With the increase of age, the number of nuclear families decreases and among the elderly of 80 years and above age category no nuclear family is found. The elderly living alone is found to be very rare in this studied population. Only one male and one female who lost their spouse are found to live alone (table 3.5). The only son of the aged male is now working in Bangalore. The female who is living alone has four sons and two daughters and all are married. She used to stay with her youngest son in the village. For the education of his children the youngest son also shifted to the nearby town but his mother did not like to leave her native place. She preferred to stay alone. With the improvement of educational status there is occupational mobility among the elderly of younger age groups. In most of the cases they migrate out of their village for jobs or for businesses leaving their parents in the village with their unmarried and unemployed sons and daughters. Sometimes, income differences among the brothers because of occupational mobility may also lead to the fragmentation of the joint families. Nuclear families are also found to be relatively much higher in the lowest income category i.e., income group V (table 3.6). These are mostly the landless people who earn their bread working as wage labourers. Here again, when all the able bodied individuals usually do not put equal effort for maintenance of their family, their family harmony and peace, in most cases, becomes difficult to maintain. They finally decide to break off from their joint family and live separately.

Compared to the elderly males (79.84%) literacy level is much lower among the females (41.91%). Though majority of the elderly males are literate, most of them have not received higher education. Only a negligible few among them are found to have studied beyond class X standard. The highest number of illiterate males (40.00%)

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and females (72.73%) are found in income group V (table 3.7). The gender differences in educational status have reduced considerably in recent years as is evident from tables 2.2 and 2.3. In the past, education among girls was not given much importance. Most of the girls did not go for formal education as that was the norm of the society at that time. Usually, most of the girls got married before the completion of primary education and study after marriage was beyond their imagination.

Agriculture is the main source of earning of the elderly under the present study. Majority of the elderly males (45.74%) are found to be engaged in agriculture as their main occupation (table 3.8). It has been found that the number of non-worker females is higher than the males in all age categories (table 3.9). Occupational mobility is observed among the youngest age group. Some elderly belonging to the youngest age category are found to be engaged either in business or in service.

Out of the total sample, 51.16% men and 11.76% women have their own source of income (table 3.11). Most of the women having their own source of income are those who are availing family pension after the death of their husbands who were in Government service. Some women earn from their own cultivable land. A few women belonging to the 50-59 years age group are found to be engaged in Government jobs. 48.84% males and 66.91% females are supported by their children. Only one elderly female is financially supported by her close relatives. She is a widow and does not have any children. Compared to the elderly males, females are more financially dependent on others as they cannot actively participate in any gainful activities. Being either illiterate or barely literate they are always busy with the household activities.
BIOLOGICAL ASPECTS

AGE RELATED CHANGES WITH REGARD TO ANTHROPOMETRIC MEASUREMENTS

To understand the age related changes in anthropometric variables some anthropometric measurements like weight, stature, mid upper arm circumference, chest circumference, waist circumference and hip circumference have been recorded among the elderly Sonowal Kacharis. The subjects are categorized into four age groups: Group I: 50-59 years, Group II: 60-69 years, Group III: 70-79 years and Group IV: 80 years and above. The results of the present study showed a marked reduction in all anthropometric variables except in height from the lowest age group (50-59 years) to the immediately next higher age group (60-69 years). Though the declining trend in the values of all parameters continues throughout with the increase of age, the decline is not so sharp in the later age groups (table 3.1.1). As a result, elderly males of 50-59 years age group differ significantly from that of the older age groups. The differences between other age groups are not statistically significant. However, in case of females the declining trend is not only quite marked between 50-59 and 60-69 years but also between 60-69 years age group and 70-79 years age group. As a result, significant differences are observed between Group I and other groups in all parameters in both the sexes except in height of males. In case of females, the elderly of Group II also differ significantly from Group III in all parameters except in height (table 3.1.2). Since a drastic reduction in the values of all the parameters are observed from the age group 50-59 years to the immediate next age group, 60 years of age may perhaps be considered as a threshold point of old age.
Weight

In the present study, it is found that weight decreases at the rate of 3.46 kg/decade in men and 4.51 kg/decade in women and the total change during this period in weight for men is 10.38 kg and for women it is 13.53 kg (table 3.1.3). Decline in body weight during ageing is a natural phenomenon. Generally women are lighter than men. Males have larger skeletal and body mass as compared to females (Nieves et al., 2005). The present study showed that the rate of decrease in body weight in women is higher than in men. In all the tribal communities of North East India, women, in addition to household works, have to work hard in the agricultural fields. They have to carry these workloads till late age. Moreover, women usually provide the best of the available food to their children and other family members neglecting their own requirements. These may be some of the reasons for the higher decrease of weight in women.

In general, the body weight of the elderly tends to decrease as age advances. The causes for this loss are varied. A reduction in the water component is associated with difficulties in maintaining fluid balance. This reduction is one of the causes of loss of weight in older people (Martinez et al., 2012). According to Wilson and Morley (2003) humans over 70 years of age often lose weight due to physiological anorexia of aging as well as a loss of lean body mass and to a lesser extent by fat mass. Maharastrian Brahmins and migrant (Punjabi and Sindhi) women show a decrease of weight after 60 years, with a net decrease of 14.47 kg and 24.04 kg respectively from 40-49 years to 80+ (Bagga, 2008). According to Fischer and Johnson (1990) the involuntary weight loss occurs frequently in elderly due to acute or chronic diseases. The changes in weight and body composition in the older population occur even in the
absence of disease and are associated with mortality and physical functioning level (Woo et al., 2001).

**Height**

The maximum height for both males (159.63 cm) and females (153.48 cm) is observed at the youngest age category. Height declines gradually from the youngest (50-59 years) aged to the oldest (80 years and above) ones. In females, however, the declining trend is relatively sharper than in males. The height increases in early age of life and gradually declines as a result of vertebral compression, change in height and shape of the vertebral disc, loss of muscle tone and postural changes (Gracia et al., 2007).

However, in the present study it is found that decrease in height in women is remarkably higher (9.04 cm/decade) than in men (1.59 cm/decade). The mean height decreased by 0.53 units in males and 3.01 units in females (table 3.1.3). In a cross sectional study, Devi and Bagga (2006) recorded overall decline of 5.82 cm in stature among Meitei females of Manipur and 7.82 cm in Meitei females of Assam. Galloway (1988) reported that loss of height commenced around the age of 45 and the average rate of loss was relatively rapid at 0.16 cm per year. Sorkin et al., (1999) reported that height lost for both the sexes begins at about 30 years and accelerated with increasing age and also reported that cumulative height loss from 30 to 70 years of age averaged about 3 cm for men and 5 cm for women. It is estimated that during old age height decrease at 0.5 - 1.5 cm per decade (Gracia et al., 2007).
BMI

In both males and females the highest mean value is observed in the youngest age group. The total difference and rate of change per decade was almost equal in both sexes and the percent change was 15.69 in males and 16.78 in females (table 3.1.3). As the values of height and weight of a person decline at old age due to various causes, BMI values also decrease with advancing age. Moreover, the rate of decline in weight is much higher than in height. It may affect their Body Mass Index value. BMI increases during adulthood and decreases progressively with old age at a rate of approximately one unit per decade (Garcia et al., 2007). According to Yan et al., (2004), lower quality of life, worse physical performance and less physical well-being are associated with overweight and low weight (BMI). Day et al., (1999) found that height, body weight and BMI significantly decreased in both sexes after the age of 70 years and showed a gender difference.

Circumferences

All circumference measurements i.e., mid upper arm circumference, chest circumference, waist circumference and hip circumference of the aged under present study showed a declining trend and it is more evident in females than in males. According to Enzi et al., (1987) with the increase of age adipose tissue thickness decreases in the arms and legs while the subcutaneous and internal adipose tissue increase on the trunk. James et al., (1994) reported that MUAC and BMI are correlated. Women’s arm circumference values were smaller than men’s at equivalent BMI. They found that MUAC values of 23 cm in men and 22 cm in women were useful cut off points for screening nutritional status. In the present study total mean value of MUAC is
more or less the same with that suggested by James et al., (1994). In all age categories the mean value of men is greater than the female. According to James et al., (1994) a larger muscle mass in men explained their greater MUAC.

Waist circumference by itself is a good index of intra-abdominal fat. The maximum acceptable waist circumference given by International Diabetes Federation for South Asian group (International Diabetes Federation, 2006) is 90 cm for men and 80 cm for women and the cut-off points recommended by World Health Organization (WHO, 2011) is 94 cm for men and 80 cm for women. Weight reduction is strongly advised if the waist circumference is more than 102 cm in men and more than 88 cm in women. However, in the present study both males (76.97cm) and females (68.85cm) have waist circumference much below the recommended cut-off points. Most of the elderly in the present study are found to be actively engaged in different agricultural and household activities till their physical health permits them to do that. Moreover, most of the studied elderly are from the middle and lower income groups.

A declining trend of waist-hip ratio with the increase of age is observed in both the sexes except the males of 80 years and above age group (table 3.1.4). In the present study, abdominal obesity is predominantly higher in the youngest age category (table 3.1.5). Abdominal obesity declines sharply from the age group 50-59 years to the next age group (60-69 years). It increases slightly in the next age group and then declines. This trend remains the same in both the sexes.

PREVALENCE OF DISEASES

An individual becomes more vulnerable to multiple diseases with the advancement of age, the effect of which are reflected in health status (Barbhuiya and
In the present study, the elderly are found to suffer from different types of diseases.

Females are found to suffer more from different diseases than males. 45% of males and 38.97% of females reported not to have any disease. The number of elderly who suffered either from one disease or from more than one disease at a time increases with advancing age (table 3.1.6). Rao (2003) in a study on health status of the rural aged in Andhra Pradesh, found that health problems tend to increase with advancing age and very often the problems aggravate due to neglect, poor economic status, social deprivation and inappropriate dietary intake. Vijayakumar et al., (1992, cited from Sarasa Kumari) found that in Thiruvananthapuram city, Kerala, women were suffering a lot having more morbidity than the men, in spite of their greater life expectancy.

The most prevalent combination of diseases of elderly males and females under present study is digestive and musculo-skeletal disorders. The proportion of this disorder is found to increase with the increase of age in both the sexes. The most prevalent disease among the elderly males is digestive disorder (21.70%) and among the females it is musculo-skeletal (29.41%) (table 3.1.11). Srinivasan et al., (2010) reported that hypertension, diabetes, arthritis and coronary artery diseases were the leading chronic diseases among the Indian elderly. A study conducted by Kerela State Planning Board (2009) found that hypertension, diabetes, arthritis and asthma/bronchitis are some common chronic diseases. Nair (1989) found that the incidence and prevalence of chronic as well as non-chronic diseases are more in rural elderly, such as 1) respiratory diseases, 2) locomotor illnesses and 3) blood pressure. Pappathi and Sudhir (2005) found that majority of the rural females suffer from joint pain, blood pressure and chest pain. A few complaints of asthma, piles, loss of weight, diabetes and skin diseases were
also detected. Only 30 per cent among the rural aged were in good health. In the present study, however, the situation is much better- 38.97% females and 44.96% are found to be in good health.

When one disease at a time is considered, it is found that gastritis is the most common form of disorder followed by musculo-skeletal disorder and high blood pressure in men. On the other hand, musculo-skeletal disorder is highly prevalent among the women followed by gastritis and high blood pressure. The occurrence of diabetes is much higher in males than in females and majority of the diabetic persons are found in the youngest age groups. Asthmatic problems is slightly higher in men (4.65%) than in women (3.78%) (table 3.1.11).

The most common chronic forms of ailments prevalent among the Sonowal Kachari elderly are gastritis, musculo-skeletal disorders and high blood pressure. In the present study, high blood pressure is one of the common disorders associated with age. It is found that the mean systolic and diastolic pressure in all age categories is higher in men than in women, except in diastolic pressure in 50-59 years age group. In men, there is a rise in the mean systolic and diastolic pressure from the 50-59 years age category to 70-79 years age category. In the 80+ years and above age category, there is, however, a decline in the mean of both the systolic and diastolic blood pressure. But in women, there is a decline in the mean systolic and diastolic pressure from 50-59 years age group to 70-79 age group and then increase in the 80 years and above age group (table 3.1.17).

In the process of ageing, some structural and functional changes take place in the heart which leads to increase in blood pressure. The two structural changes that take place in the heart with age are accumulation of fat deposits and stiffening of the heart muscles due to tissue change (Strait and Lakatta, 2012).
The prevalence of high blood pressure and diabetes are found to be higher in the youngest age category and higher income group (I) in both males and females (tables 3.1.12 and 3.1.13). The life style of the younger generation has undergone certain changes due to various factors. With higher education, occupational mobility has increased among the people of the younger age group. With their new occupation having relatively more strenuous life, the younger age group has been exposed to new situation. Their physical activity level is changed and at the same time shift of dietary habit from traditional to modern is also evident among them. All these changes might be responsible for higher incidence of high blood pressure and diabetes among the elderly of the younger age group.

The occurrence of gastritis disorder is found to be higher in females (27.20%) than in males (21.70%). Among females, it is highest in the 60-69 years age group, whereas among males it is the highest in the 70-79 years age group. Traditionally among the Sonowal Kacharis, women do not eat anything without taking bath. It is mandatory that in the morning they have to complete all the household works including cleaning the rooms, courtyard, cow shed, washing clothes, collection of vegetables for lunch, etc. They take bath after finishing all these works, and eat breakfast only thereafter. Having breakfast quite late may be one of the reasons of higher incidence of gastritis among the females. Family members of most of the elderly males suffering from gastritis reported that they (the elderly males) start the day with home made rice beer or locally available distilled beer. This may be one of the reasons for higher prevalence of gastritis among them.

While examining the digestive disorder of the elderly, the self-rated appetite has been taken into account. The self rated appetite shows variation according to age
and sex. Higher number of females considered their appetite as ‘bad’ as compared to males. Though some elderly assessed their appetite as ‘very good’, ‘good’ and ‘fair’, but such number declined with the increase of age. On the other hand, the number of elderly males and females who have assessed their appetite as “bad” increased with age (table 3.1.16). As people become old, they have to face certain age related problems like gradual decline in smell and taste, reduced chewing efficiency, etc. Physical activities gradually decline with age and it may affect the digestive system. Again, the elderly are susceptible to different chronic diseases and these diseases may affect their digestive systems. These might be some of the reasons which affect the appetite condition of an individual during their old age (Boyce and Shone, 2006; Hickson, 2006; Amarya et al., 2015).

In the present study, the occurrence of the musculo-skeletal disorders shows a variation according to age and sex. The incidence of musculo-skeletal disorder is found to be higher in females (29.41%) than in males (17.83%). This disorder is more prevalent in the older age groups. This may be due to some biological as well socio-cultural factors. There is a medical explanation for the higher occurrence of musculo-skeletal disease in women than in men. Generally women are smaller in size than men and lose bone mass approximately twice as fast as men (Garn, 1975, cited from Cavanaugh 1990) due to two main factors:- i) women have less bone mass than men in young adulthood and as a result they start out with less ability to withstand bone loss. ii). Depletion of estrogen after menopause is also believed to speed up bone loss. Among women, musculoskeletal disorders is accelerated by their unending household work along with hormonal decrease. In rural India, 36% of male and 40% of female are suffering from joint pain (NSSO, 1998).
In the present study, different forms of diseases like gastritis, musculo-skeletal disorders, high blood pressure, respiratory disorder and diabetes are found to occur at different ages. Some diseases occur before the onset of old age (60-69 years) and some occur at a very early age. The average age at onset of various diseases in both the sexes is found to be during 60-69 years of age except in high blood pressure among females where the average age of onset is 53.86 years. The mean age of onset of diabetes is 52.69 years in case of males and 49.50 years in case of females. In the present study, it is found that females are affected much earlier than males in all disorders (table 3.1.19).

IMPAIRMENT

Different types of impairment are found to be associated with the ageing process. These are hearing, locomotor and vision impairments. Vision problem is the dominating problems among the elderly followed by locomotor and hearing problems (table 3.1.20). Majority of the elderly reported that they found difficulty in identifying both distant and very close objects. Some of them reported that they found difficulties because of cataract. Others reported that they have irritation of eyes. Visual impairment is found to be higher in females than in males. Though it is difficult to explain, regular exposure to smoke in the kitchen may be one of the reasons of higher incidence of vision problem among women. Firewood is still in use for cooking their meals. There is, however, only one lady in the present study who has total visual disability and yet manages to move within the village. With advancing age, locomotor problems increased in both males and females. At younger age they consider locomotor problems as serious and undergo treatment. But as age progresses, they ignore this problem considering it to be a natural phenomenon. In the present study, majority of the elderly are unable to hear low voices but no problems with high tones. Some have ringing sensation in their ears.
and some elderly complain that they can hear the voices but not clearly. They experienced difficulties in communicating with others. None of them are found to use any hearing aid. The elderly somehow manage their day-to-day activities but because of hearing disability some of them had to restrict their movement particularly outside the village. Hurlock (1981) stated “With advancing age auditory disability begins to increase, as in old age they lose the ability to hear extremely high tones, as a result of atrophy of the nerves and end organs in the basal turn of the cochlea”. Prevalence of all forms of impairment is found to be higher in females than in males. These could be probably due to a combination of different factors like poor nutritional status, poor access to health care, postmenopausal status, etc. Shah and Prabhakar (1997) are of the opinion that hearing impairments and vision disorders are the most common health problems of the elderly. Audinararyana (2005) reported that in Tamil Nadu 50 per cent of elderly males and 53 per cent of elderly females suffered from visual disability.

The age of onset of different impairment shows that majority of the elderly males and females faced their hearing impairment first in between 60-69 years of age. Vision impairment was, however, felt by the females first between 50-59 years of age and by males between 60-69 years. Most of the females informed that this problem started with menopause. Majority of the elderly women found difficulty in locomotion first between 60-69 years; on the other hand, majority of the male elderly faced it first between 70-79 years (table 3.1.21). These gender differences may be due to their biological variation. The biological process of ageing is earlier in women than men. The same trend was also observed by Sarmah (2006).
PREFERRED TYPE OF TREATMENT TAKEN BY THE RESPONDENTS

The preferred type of treatment of the elderly shows that majority of them (70.42% males and 57.83% females) prefer allopathic system of medicine which was followed by ethno medicine (table 3.1.22). Compared to other types of medicine, the recovery of allopathic treatments is faster and generally people adopt this treatment (Nair, 1998). Some elderly prefer combination of different types of treatment. Though the Sonowal Kachari elderly prefer modern treatment, they also practise traditional healing system at the same time. Such type of traditional healing treatment is basically applied in case of minor illness and curing different diseases related to women and children. Despite allopathic medicine being the first preference for majority of the elderly, they take resort to traditional medicine because of various reasons. The people belonging to the low income group cannot bear the expenses required for allopathic treatment. Traditional medicines are mostly expense free and according to them it has no adverse effect. Some also practise magico-religious practices for treatment of some of the diseases. If, however, all these fail to cure the disease, they finally go for allopathic treatment.

FINANCIAL SUPPORT RECEIVED FOR TREATMENT OF DISEASES

Dependency for treatment is increased with age in both male and female elderly. But females are found to be more dependent (92.77%) than males (57.75%). It is found that majority of the elderly are financed by their children for their treatment (56.34% males and 81.93% females) (table 3.2.23). Usually children look after their old parents yet sometime they are to seek help from close relatives in case their children are incapable of bearing the burden of expensive treatment.
J.S, a 67 year old male, lives with his youngest son. One day while thrashing paddy he fell down and got his hip fractured. His son immediately admitted him to the nearby PHC. The doctor in the PHC referred him to the Civil Hospital of the town. Somehow, the son, who is a cultivator, admitted him to the Civil Hospital, but when the doctor advised them to go for a surgery, the son became little worried because it was difficult for him to manage the money required for this purpose. He approached one of his cousins, who was a doctor in that hospital, and sought his advice. The doctor cousin then voluntarily took the entire responsibility and got him operated. J.S. thus got cured and is now leading a normal life. He and his family members are always grateful to the doctor who saved the life of J.S.

NUTRITIONAL STATUS

Health is one of the principal assets of every human being and it has a very close association with chronological age (Bhatia, 1983). The present study revealed that prevalence of CED malnutrition is higher in both sexes. It is, however, higher in females (40.14%) than in males (30.25%) (table 3.1.24). The prevalence of CED malnutrition is found to be higher in the present study as compared to the urban Assamese elderly (2.34% in males and 6.43% in females) (Sarmah, 2006). Agarwalla et al., (2015) also found higher prevalence of malnutrition among females. In the present study, obesity is totally absent in males. In females also it is found only in the age group of 50-59 years. As has already been discussed, occupational mobility is found more in this age group. When the husbands are in higher Government service, educated wives are seen to depend mostly on helping hands for their household works. Working in the agricultural fields and performing the normal household works are considered to be
below their dignity. Consuming more food with less energy expenditure might have led to their obesity. Moreover they face menopausal trauma during that stage where some physiological changes occur and it may affect their physical health. According to Javoor et al., (2008) the physiological and psychological changes in menopause have an impact on food intake and nutritional status of women. Menopause is one of the critical periods of a woman’s life during which weight gain and worsening of obesity is favoured (Khokkar et al., 2010).

CED malnutrition is also found to be the lowest in the age group 50-59 years in both the sexes (tables 3.1.24). In the higher age groups it is much higher in both the sexes. As mentioned earlier some socio-cultural factors are also responsible for undernutrition. Bisai et al., (2009) also found a declining trend of BMI with the age for male and female elderly. It was also reported that BMI in men is greater than in women. According to NNMB reports 2002, the prevalence of CED among the geriatric population as assessed by BMI <18.5 was relatively more among males (53.5%) than in females (49.41%) (Shankar and Balamurugan, 2011). It also stated that over two decades there is reduction in the prevalence of CED in both men and women (Shankar et al., 2011).

There is a relationship between the eco-system in which people lives, their culture as well as their socio-economic condition and their nutritional status. For an active healthy ageing life, proper nutrition along with other factors like exercises is important (Krishnaswamy and Shanthi, 2010). Wadhwa et al., (1997) note a distinct difference in food consumption pattern in rural and urban areas, and consequent variations in nutritional status. The major nutrient deficiencies in urban areas were those
of calcium, iron and vitamins, while in rural areas chronic energy deficiency is the major problem. The study notes a declining pattern in consumption of cereals and milk products with increase in age in rural areas.

Health awareness and health-seeking behaviour are influenced by economic condition which in turn contributes to nutritional status. The economic status of a household is an important determinant of nutritional status. Irrespective of all income groups the number of undernourished women (71.32%) is higher than men (51.16%) (table 2.1.25). Among the studied population the variation in nutritional status appears to be associated with socio cultural factors along with economic condition. In the rural areas of Assam, more particularly among the Sonowal Kacharis the common practice is that the women (especially the married ones) do not take their meal without taking bath. They take bath only after finishing their regular household tasks- like cleaning the house and court yard, washing clothes, collecting vegetables from kitchen garden for lunch, etc. By the time they finish these works, it becomes too late to take their breakfast. Moreover, during lunch and dinner, they usually take their meal only after offering to the male adults and children. The women always enjoy providing best of available food to their children and other members of the family neglecting their own. These may be some of the reasons of gender variation in nutritional status.

Elderly people are susceptible to different diseases and the forms and patterns of diseases are multiple. It has been found that high blood pressure is more prevalent among the people belonging to above normal category, while gastritis is found to be higher in the below normal category (table 3.1.27). This difference may be due to socio economic factors as well as life style of an individual. Irrespective of all nutritional grades, musculo-skeletal problems are observed to be more prominent among the
women, except in the above normal category. Majority of the elderly who do not have any diseases are found to be in the normal BMI category.

Sarmah (2006) found among the urban Assamese elderly that the incidence of high blood pressure, diabetes and musculo-skeletal diseases increased from below normal through normal category to above normal. In women the increase is especially significant with regard to the incidence of high blood pressure and musculo-skeletal disorders. No women from below normal category are found to have diabetes. The proportion of elderly having diabetes increases from the normal to the above normal categories. Reverse is found to be the case with weak digestion and respiratory disorders. The highest incidence of the two diseases is found among the people having below normal BMI value. Weak digestion occurs in elderly with normal and above normal nutritional status but its incidence is significantly higher among women having below normal nutrition.

SELF-ASSESSMENT OF HEALTH CONDITION

The present study shows that with increasing age, the perception of the health condition of the elderly males and females worsen. The number of elderly who reported their health as ‘bad’ is found to be higher in women than in men (table 3.1.28). Various studies suggest that though women live longer they report poorer health than men. This is due to biological, social and behavioural factors (Bora and Saikia, 2015). U.N. (1989) in a study found that 39% elderly reported their health as good and this self perception declined with the age. In the present study also it has been observed that higher number of males than females reported their health to be “good”.

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In the present study, majority of the elderly males and females from lower income group considered their health as ‘good’. Even a few elderly male from lower income groups (IV and V) considered their health as ‘very good’ (table 3.1.29). Longino et al., (1989) in their study have found that people from lower economic condition have mostly assessed their health as ‘poor’. Some studies, show that economic hardship is directly related to poorer self-health assessment (Dutta and Prashad, 2015; Sarmah, 2006). The positive self perception on health even among the elderly of low income group in the present study may be because of their active engagement in work, ignorance or lack of awareness on health, accepting the deteriorating health as a natural phenomenon in ageing process, etc.

While examining the subjective health rating against prevailing diseases it is found that majority of the elderly males and females having disease of any kind considered their health as ‘bad’. 10.0% of elderly males and 15.38% of elderly females who have digestive disorder alone rated their health as ‘very good’. 10.0 % elderly males who have only cardiovascular disease assessed their health as ‘very good’. But no elderly having multiple disorders rated their health as ‘very good’ (table 3.1.30).

When self-assessment of health with leading chronic disorder is examined it is found that the perception of health vary between males and females according to their prevailing diseases. Females are found to consider their health as “bad” more than males in all types of chronic diseases (table 3.1.31).

When self-assessed health status is examined against their nutritional grading, it has been found that in case of males the “good” and “very good” response increases from below normal to above normal nutritional grading. In females, on the other hand,
“good” and “very good” responses come mostly from below normal category whereas “bad” responses come from normal and above normal category (table 3.1.32). However, majority of elderly requiring assistance in ADL and IADL (outdoor and indoor) assessed their health as ‘bad’ (table 3.1.39).

A substantial proportion of the people (62.79% males and 55.15% females) assume to be in good health according to their self rated health status. This situation may reflect that though their physical health is deteriorating, their emotional or mental health condition is quite well. Or they may consider that the declining physical health is an expected condition in ageing process. Many of them are of the opinion that they are maintaining a better health status than the present day younger generation.

FUNCTIONAL ABILITY IN ACTIVITIES OF DAILY LIVING

The present study looks into how much the elderly are able to continue to carry on or perform different activities essential to daily living. The present study showed that almost equal proportion of males and females require assistance in personal care activities (table 3.1.33). In both sexes, dependence for personal care activities increased with the advancement of age. It is found that most of the males require assistance for using toilet. On the other hand, majority of the elderly females require assistance in bathing. Traditionally in a Sonowal Kachari village, washroom is situated little away from the house. The elderly found difficulty in going to the toilet, particularly at night. Their poor eyesight also adds more trouble. Another difficulty is to carry water from the storage point, usually located near the residence close to tube well or ring well, to the toilet. They collect water from pond, tube well or ring well and store in buckets or big drums. In the absence of running water, the elderly come near the storage point for
taking bath. For using toilet they are to carry water to the toilet from the storage point. They, therefore, need assistance for using toilet. Usually children are found to help their parents in such cases. Besides, they need assistance at the time of bathing. Most of the elderly cannot carry water from pond or collect water from tube well or ring well. Other family members usually store water from different sources to be used for such purpose.

The study has revealed that women needed more assistance than men in performing outdoor as well as indoor activities. In females dependency for outdoor IDAL begins at early age as compared to males. Deteriorating health, loss of self-confidence and not habituated with modern transportation are some major factors which affect the ability of an elderly to move out alone. Generally, the younger generation is habituated or comfortable with the modern transport system. But 6.45% of females belonging to 50-59 years age category also require assistance in outdoor activities. All of them reported to have some health problems. Therefore, as a precautionary measure they never move out alone. The number of elderly requiring assistance for both indoor and outdoor IADL increase with age. Compared to elderly males, females are more dependent or disabled. Though no regular pattern of relationship is observed between income and functional ability, the elderly belonging to income group I and II, however, are found to require more assistance than other groups (table 3.1.35).

There is an association between functional ability in daily living activities and diseases. Among the elderly males and females, those with no reported disease exhibited better physical ability. Requiring assistance with diseases increased with age in both the sexes. Some elderly without any reported disease required assistance in day to day activities. Requiring assistance without any diseases also increases with age in both sexes except in indoor IADL in women (tables 3.1.37). In both activities,
irrespective of diseases, higher number of females require more assistance than males (tables 3.1.36). According to Gupta et al., (2014) the prevalence of functional disability was less among men (35.9%) than women (38.8%). The functional disability was found to be positively associated with increasing age, marital status other than married, diabetes and chronic obstructive airway disease. A survey conducted among 60 and above population by WHO (1984) in Fiji, Philippines, Malaysia and South Korea found that one quarter or two-third of the studied population reported that they kept themselves outside from normal activities due to their illness or injuries. In India about 5 percent of the elderly tend to be physically immobile and generally seems to be more among women than among men (Rao, 1993; Dandekar, 1996).

When functional ability is examined with nutritional grading it is found that majority of the elderly males belonging to below normal category are more incapable in their functional activity as compared to females (table 3.1.38). In the present study, majority of males and females who required assistance in outdoor and indoor IADL assessed their health as ‘bad’ (table 3.1.39).

PREVALENCE OF MENOPAUSAL PROBLEMS

The mean age at menopause is found to be 46.81 years among the studied Sonowal Kacahri women (table 3.1.40). Sarma (2015) found that the mean age at menopause was 46.66 years among urban Assamese women. The study found significant difference in mean age at menopause between working (47.17 years) and non-working (46.04 years) Assamese women. According to the study, working women attained menopause at a later age than the non-working women. According to Kaufert and Syrotuik (1981), the worldwide estimate for the mean age at menopause ranges
from 45-55 years. According to different social, economic, ethnic and residential status, the age at menopause may differ (Sharma et al., 2007; Sidhu et al., 2005; Dasgupta and Ray, 2009).

42.86% of elderly women reported that they faced different problems during menopause and majority of them belong to the youngest age category (table 3.1.41). Increased body temperature is the most common difficulty they faced which is followed by sweating at night (table 3.1.42). Elderly women from higher income group found more difficulty than women of other income groups. Educated women also found more difficulty than illiterate women (table 3.1.41). Women belonging to higher income group having sufficient leisure time may take any discomfort very seriously. Illiterate and economically poor women, on the other hand, are actively involved in their day-to-day activities and in this process they hardly get time to think about the changes in their body. Even if they feel some discomfort they may ignore these as a natural phenomenon.

SOCIAL ASPECTS

ACTIVITY STATUS OF THE ELDERLY

It is apparent from the present study that all the elderly males and 93.55% females are fully active in the 50-59 years age group. In the next higher age group (60-69 years) only 53.85% males and 55.93% females remain fully active. The declining trend of fully active status continues with increasing age and in the 80+ age group no elderly female is found to be fully active. However, about 11% of male elderly are found to remain fully active in that age group (table 3.2.1). In almost all the age groups, the number of fully active males is higher than that of females. It may be because of the
fact that females suffer more than males from different diseases (table 3.1.6). Moreover, since females are biologically more advanced than males, the ageing process among them also starts much earlier. Sarmah (2006) also found higher number of active males as compared to females among the Assamese elderly of Guwahati city. It needs mention, however, that in the present study nobody in the 80+ age group is confined to bed. About 1.5% of the total elderly belonging to age group 60-69 years and 70-79 years age groups are confined to bed (table 3.2.1). The two males of the age group 60-79 year confined to bed had strokes and the two females belonging to age group 70-79 year had fracture.

CARE PROVIDER

Children are found to be the main care provider to their elderly parents. They look after their physical health, financial as well as social and emotional needs. They also provide help in their daily activities, if required. Basically, the sons look after the financial and material needs of the parents. Other responsibilities, more particularly the indoor responsibility, go to the daughters-in-law. In the Sonwal Kachari society it is expected that daughters-in-law take care of their in-laws. However, elderly parents are found to be more comfortable with their unmarried daughters than daughters-in-law. Elderly parents, therefore, seek care from their unmarried daughter, if they have any. The unmarried daughters also usually feel happy to be able to serve their old parents. Sometimes, married daughters who live close to their parent’s house, are also found to take care of their old parents. In case of men, the spouse is the first choice of care provider followed by the unmarried daughters and daughters-in-law. Only one woman of the present study of the age group 50-59 years is reported to take care from the husband when she became sick (table 3.2.2). Some elderly males belonging to this age
group also required care. Most of them reported that they needed only health care and that they were taken care of by their spouse and children. A study at Hyderabad (rural and urban) showed that 74% of the elderly got care during illness from their spouses and their children (Kumar and Reddy, 1993).

It is observed from the present study that the number of elderly not requiring any help is higher in females (66.18%) than in males (40.31%). It is interesting to note that number of female elderly not requiring any help is much higher than the males in the younger age groups i.e., 50-59 years and 60-69 years. However, the situation is reverse in the 70-79 and 80+ age groups. This is indicative of the fact that females try to remain self dependent until their health permits. They seek help only when they are incapable of doing any work. The present study also shows that the spouse and children are the main care provider for the elderly. There are only a few elderly who are found to receive care from other family members or their relatives. In the Sonowal Kachari society, traditionally, there is an in-built system of taking care of parents by their children in the absence of spouse. Being an agricultural society, joint family structure is the norm in which elderly people in the family are well taken care of by any family member in addition to the spouse and children. With time, the society has changed; occupational mobility with education has become more common in their society at present. This has resulted in the breaking down of the joint family structure and formation of nuclear family. There are some instances where sons get separated from their parents after they get married. The parental property is also shared at that stage. In such situation also, the system is such that a share of the landed property is given to the parents. If any of the sons volunteers to take responsibilities of the parents and live with them, then he is given the share meant for their parents. It becomes mandatory for the
son who takes the share of landed property reserved for the parents to look after their
parents even during their old age. In spite of all these, a few parents are found to be
dissatisfied with the behaviour of their sons and daughters-in-law.

B.S., aged 67 years, is the father of two sons and four daughters. All of them
are now married. He now lives with his wife, youngest son and his wife. His eldest son
and daughter-in-law stay separately in the same village. His youngest son is now
availing the share of the landed property meant for him. At present, he (B.S.) and his
wife cannot do so much of strenuous work as they did earlier. But he feels that his son
and daughter-in-law expect the same service from him as earlier. He reported that he
and his wife had to hear harsh words from daughter-in-law when any one of them fall
ill. His eldest son also tries to avoid the responsibility. All these cause great pain to B.S.
and his wife.

FREQUENCY OF CONTACT WITH COMMUNITY (FRIENDS/NEIGHBOUR)

Elderly people get relief of many of their problems, both social and
psychological, through interaction with the neighbours and friends. The present study
shows that majority of the males (50.39%) and 41.91% of females have regular contact
with the villagers. In the age group 50-59 years regular contact is much higher. With the
increase of age, regularity of contact is reduced and occasional contact increased. Only
1.55% of males and 2.20% of females are incapable of making contact by themselves.
However, they are not devoid of any contact. People of the village come and contact
them almost regularly at their residence (table 3.2.3). Rural elderly are able to maintain
some community connection despite high levels of disability (Keating, 2008). Due to
increased difficulties in mobility and increased chronic illness, aged people have to limit
their social interaction (Prasad, 2011). Aged people are more or less dissatisfied with this narrowing social interaction as it may lead to social isolation and loneliness. Lesser number of social contact expresses subjective dissatisfaction. Some studies showed that elderly people are socially isolated (Chambers, 1995; Maddox, 1999; Singh and Misra, 2009; (CDH), 2016). The changing social system and breaking down of cultural and traditional system of various societies lead to social isolation of elderly (Kinsella and Velkolf, 2001).

It is observed that the elderly Sonowal Kacharis are able to enjoy active social life in their society. It provides them social and psychological support. In rural areas, the elderly can visit their neighbours without any prior appointment or without informing. Whenever they feel bored at home, they usually walk around the village and talk with their friends and relatives. In every Sonowal Kachari village there is a community prayer hall, called Namghar, where the elderly people gather regularly or weekly and sing devotional songs and read religious scripts. Such institutions help them to continue maintaining social ties with others. Moreover, in all ceremonies the elderly people always have an important place and role. To organise or to celebrate any ritual or rite the younger peoples seek advice of the elderly and the elderly enjoy taking such responsibilities. Some of the elderly are unable to move out from their home due to their ill health. But majority of them reported that their friends and neighbours often visit their home and spend time with them. When there is a community level religious or social function in the village, the villagers send or keep a portion of the offering or other food items to those aged who are unable to attend the ceremonies due to ill health. These handicapped elderly also get their share of food at home even if any ritual, rite or feast is organised by any villagers at the individual level.
NATURE OF PROBLEM (自我-识别)

Physical problems (33.33% in males and 44.85% in females) followed by family tension (12.40% in males and 13.24% in females) emerge as major self identified problems (表3.2.4). The elderly having family tension are mostly from low income group. Many of them are not sure as to how the family will run in their absence. In some cases, the family is maintained by the family pension received by the elderly female. After her death there will be no other source of income. Loneliness and being perturbed are found to be the problems of only a negligible few. In most of such cases it has been found that after the death of spouse or very close relatives or friends some people suffer from mental depression and prefer to live alone without having contact with anybody. Sometimes deteriorating health condition also compels people to remain isolated.

22.48% of the male and 13.97% of the female elderly reported that they do not have any problem. Some aged consider ageing as a normal phenomenon. For them all the problems are quite natural and, therefore, they do not consider these as problems. Most of the aged belonging to the lowest age group reported that there is no problem at old age. Majority of elderly who reported not to have any problem at old age are found in the higher income category. But elderly belonging to lower income category are found to face multiple problems at their old age. Utilisation of time appears to be one of the problems at the old age (Sarmah, 2006). But most of the Sonowal Kachari elderly use their leisure time in different activities. Sometimes they even involve themselves in productive works. They spent their leisure time with their friends and neighbours and also look after their grandchildren (表3.2.13). Such activities help them to overcome different age related problems.
J. S., a widow aged 78 years, living in Bherekichuk village, is the mother of five sons. All her sons except the fourth son who is a government employee and with whom she lives at present, are engaged in agriculture. In 2007, she fell down and had multiple fractures. Since then she is confined within the house and spends most of her time sitting on a chair. Although she can walk around in the house she cannot go outside. She can look after her four year old grandson and six year old granddaughter. The other sons, who stay elsewhere, also come to visit her often and try to meet her needs according to their capabilities. Earlier she was a regular visitor to the village ‘Naamghar’ where she could meet all the women of the village. The present health condition does not permit her to go to ‘Naamghar’ or to attend any social function. She does not have any regret for that as the women in the village visit her and apprise her of the happenings in the village. She also reported that she was getting love and care from all the members of her family. According to her, good health is definitely important at old age but one can tide over all the sufferings through the love and care received from the family. She is very happy with her present condition.

EXPECTING THE NATURE OF SUPPORT FROM CHILDREN IN OLD AGE

Irrespective of age, sex and income, a good number of elderly (30.23% males and 39.70% females) in the present study are found to expect physical help from their children (tables 3.2.6 and 3.2.7). The elderly expecting monetary, social and emotional helps are very few in number. Monetary help is expected mostly for their treatment. There are a few who want to have some cash at their disposal so that they can spend the amount whenever they feel like. These elderly are basically from the higher income group. Most interestingly, emotional help expected from the children is found to be the lowest (5.43% males and 2.94% females) in the present study. This shows that elderly
are getting all emotional support from their family. They cannot imagine of a situation where old parents are not looked after by their children. Whereas, in urban area this expectation emerges to be the highest (Saxena, 2006).

The average number of male elderly not expecting any help from their children is 34.88%. This number is higher in the lower age group. Some of them reported that they only wish that their children are well settled. The elderly belonging to this age category are also aware of the changing social life and they have prepared themselves to cope with the changing situation. But some elderly from the older age groups also reported that they do not expect any help from their children. Most of them think that becoming old is a natural process; at that stage they do not require any extra care. Elderly from low income group families think that their children are not in a position to maintain their own family and as such nothing can be expected from them.

FULFILMENT OF EXPECTATION

In the present study, it has been found that more than 80% of elderly are found to be receiving care from the children. But majority of the elderly stated that the care received from their children are not up to their expectation. It has been observed that the lifestyle of the younger generation has drastically changed. The elderly of the younger age group might be dissatisfied with such changed behaviour of their children. Secondly, the problems of the elderly increase with increasing age. In such a situation the elderly may not feel fully satisfied with their children.

The elderly from the lower income groups are more dissatisfied with their children (table 3.2.9). Poor economic condition compelled the elderly to bear the responsibilities of their unmarried children by involving themselves in earning activities
ignoring their ill health. They also cannot expect any help from the married children as they are not in a position to maintain even their own family. Sarmah (2006) also found higher dissatisfaction level among older age group and lower income group.

INvolvement in decision making

Generally in India children are found to seek advice more from elderly males than the elderly females (Sarmah, 2006). In the present study also, it has been found that the elderly males are consulted more than the females under the category ‘always’. The response under the category ‘most of the time’, on the other hand, is more in favour of elderly females than elderly males. However, if we combine both these categories, it is found that elderly males are consulted little more than the elderly females in decision making irrespective of their income (tables 3.2.10 and 3.2.11). It is evident that the advice of the elderly are sought in decision making by their children even at the oldest age group. The participation of the elderly females in decision making is quite encouraging. It may be because of the fact that the Sonowal Kachari is a tribal community and they subsist on agriculture. In all the tribal communities of North East India, both the males and females participate and are more or less equally experienced in agriculture and as such the contribution of females to their economy is equally important. Moreover, in agricultural community the advice of the seniors is always important. It is also evident from the present study that children seek advice more in agriculture and religious ceremonies than in other matters. Vankayalapati (2008) reported that the advice of 69.30% of the elderly were not valued. He found a significant association between marital status and validity of decision.
OLD AGE PENSION

Although the concern for the welfare of the elderly was recognised in India from the Third Five Year Plan onwards, a National Old Age Scheme was initiated by the Central Government only in 1995 during the Eight Five Year Plan period. This aspect has been reinforced in the National Policy for the Older Persons (1999) of the Ministry of Social Justice and Empowerment. The approach paper for the Twelfth Five Year Plan (2012-2017) proposes health care for the elderly along with pension and insurance reforms to enhance the quality of life of senior citizens.

Social security benefits are used as a main policy instrument to eradicate poverty, reduce income inequalities and enhance human capital and productivity (UNFPA and Help Age International, 2012). These measures are important mechanisms for financing the elderly in many western countries. In India, there is no universal social security measure for the elderly, but there are schemes addressing the people below poverty line, which is in line with Article 246, item 24 of the Concurrent List of the Indian Constitution. Furthermore, Article 41 of the Directive Principles of the State Policy under Part IV of the Constitution of India mandates securing the human rights of the citizens in the country.

The National Policy aimed at strengthening their legitimate place in society and help older people to live the last phase of their life with purpose, dignity and peace. This policy provides a broad framework for intersectoral collaboration and cooperation both within the government as well as between government and non-governmental agencies. In particular, the policy has identified a number of areas of intervention; financial
security, health care and nutrition, shelter, education, welfare, protection of life and property, etc. for the wellbeing of older person in the country.

In the present study, 34.61% of males and 31.43% of females are availing old age pension (table 3.2.14). But majority of the beneficiaries are not satisfied with this scheme since the amount is too meagre. Irregularity is another reason of their dissatisfaction. Some of them have bitter experience, like being asked to bribe the middle men, to get this amount.

**PSYCHOLOGICAL ASPECT**

Some psychological aspects like memory, alertness, perception and motion and depression were also examined in the present study. All psychological aspects were tested with the help of a battery for assessment of mental efficiency in elderly.

The memory score show a variation according to age, sex and income group. In all age categories the mean memory score among the elderly is higher in men than women. This gender variation is difficult to explain. In the present study it has been observed that there is hardly any difference in the activity level between the two sexes. The activity level of both the males and the females centre round agriculture. Females, in addition to their normal household works are found to engage themselves in agriculture with men. The difference is, however, observed in the level of education and occupation. Males are found to be more educated than the women. It has also been found that mean memory score increases with the increase of educational level in both the sexes (table 3.3.1). Educated people are better aware of the day-to-day happenings and they remain engaged in different activities both personal and social. Relationship of memory score with income is also observed in the present study. However, memory
score is found to decline with the increase of age. It may because the number of literates decreases successively in each older age group; the younger elderly are more literate than the older ones. Such a declining trend of memory score with age is also observed in many other studies (Sarmah, 2006; Carol and Rabbit, 1991; Agrawal and Kumar, 1992; Gupta and Srivastava, 2000).

As in case of memory score, the same trend of gender and age variation is observed in alertness and perception and motion equity tests. Here also, no clear association between alertness and perception motion equity score with income could be observed.

Another aspect of the battery is the geriatric depression scale. Depression is the most predominant disorder affecting the quality of life in elderly. Depression among elderly often remains undetected and thereby untreated. In the present study, moderate and severe form of depression is found prevailing both among elderly men and women. In men, both the moderate and severe form of depression is much higher than in females and increasing with the increase of age, except 80+ years of age (table 3.3.10). With the increase of age, their dependency on others increase due to their deteriorating health condition and in the ailing condition sometimes they may not get the care as expected which may lead to different forms of depression among elderly men. In addition, they gradually lose regular contact with the neighbour and status in the society as enjoyed earlier. All these add more complexity in the quality of life among elderly. This is more apparent in males than in females. This may be because at one stage males enjoy a higher status in the society and in the family which they lose with the increase of age. In case of women, however, change of status in the society and at the household level is not so marked. As a result they suffer less. Among the elderly women the highest
proportion of moderate form of depression (67.74%) is found in 50-59 year age group. This may be the effect of menopause as majority of them at this age just cross that transition line. Depression levels do not show any trend in relation to income group in both men and women. In the present study, severe form of depression is found to be higher among educated men and women. However, about 56% males and 48% elderly females are found to be free from any kind of depression. Contrary to this, in other studies depression level has been found to be more than 80% (Sarmah, 2006; Payghan, 2013). Rural people have a slower less pressured life, strong community feeling, close connection to the land and conservative traditional values (Atkin, 2003). The social set up and kinship ties in rural areas provide socio-psychological support and help eradicating negative self-image as well as loneliness.