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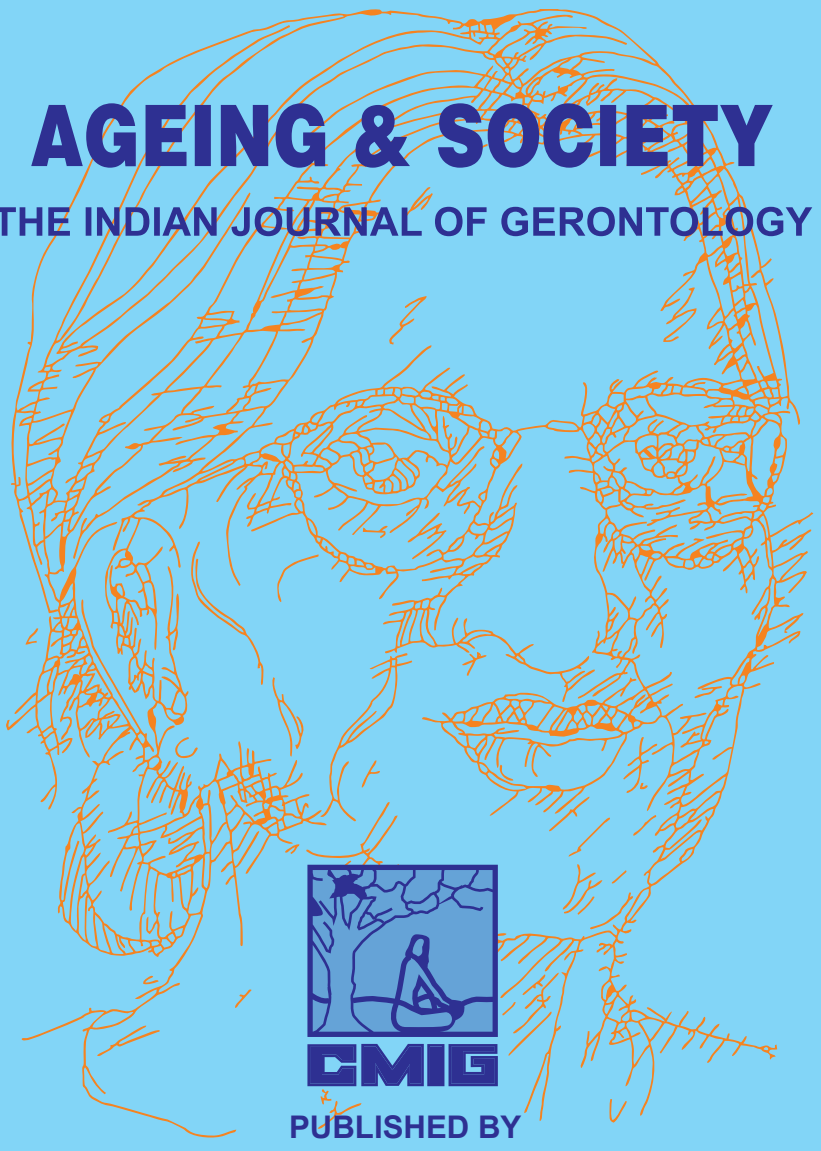

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This Journal will be devoted to papers on the following aspect of human ageing

- ★ Social Gerontology
- ★ Biology
- ★ Medicine
- ★ Behavioural Science

In addition we welcome Abstracts, Book reviews & Interviews with senior citizens

ELDER ABUSE – ROLE OF A VOLUNTARY AGENCY

Indrani Chakravarty *

ABSTRACT

Elder Abuse as a Social problem remains largely hidden within the domain of family privacy. Older persons who are victims of abuses either from very weaker class to voice agony or do not dare to disclose the extent of abuse of their dependency on abusers for physical and financial support. The enhanced adjustment capacity of the helpless elderly is another hindrance to reveal the truth of the events.

This paper attempts to highlight the activities of a non-government organization which has adopted an alternative concepts and methods, not only to prevent mistreatment towards elderly in the community but to improve their quality of life and to integrate them with the mainstream of society.

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INTRODUCTION

Long life is not a blessing to the mankind. It may have tragic consequences. Recent gerontological research has shown elder abuse as one such consequence.

Child abuse, spouse abuse have been well recognized in most of the societies. But elder abuse is indeed a complicated social problem, which has not been adequately defined and brought to the attention of the general public. Even in USA, elder abuse was recognized as a social problem in late 80s.

DEFINITION

Various authors have defined elder abuse in different ways but the definition given by Council of Europe (1992) includes all the aspects. They define elder abuse as 'A non-accidental act or omission, which undermines the life, the physical and psychological integrity of an older person or harms the development of his/ her personality and/ or undermines or damages his/ her financial security.'

However, definitions of elder abuse usually refer to such acts or utterance of other persons which directly cause harm to the physical condition or mental set up of the elder person.

The nature of abuses of the elderly differs with different socioeconomic-cultural dimensions. As we go down the social ladder, the abuses are bold, open ruthless and the nature of personal intimidation. As we go high up in the social ladder, there may be some instances of overth abuses, but generally they take the form of subtle abuses. One thing should take note of that all abuses create insult, anguish, pain, humiliation etc., whether they are of overt or subtle nature. With this hypothesis in mind, an effort was made to collect information from 50 poor aged and 12 well off aged persons in Kolkata. All the individuals are associated with one voluntary organization.

The first group is the beneficiaries of Day Care Centre run by the voluntary organization and other consists of members of the same organization. The poor aged come to the Day care Centre everyday and spend 4 hours there. They all reside in 33 and 34 wards of Beleghata, Kolkata. The members of other group are computer trainees and render voluntary services in the activities of the organization.

OBJECTIVE

The objective of the study is to find out

a) The nature and type of abuse the poor aged faced in their family settings prior to joining the institution and to evaluate how far the Government aided Day Care Centre is able to integrate them with the mainstream of society, and to asses to what extent this specific measure is helpful in reducing the social malady of abusing the old.

b) To understand older persons' perceptions on elder abuse and what ameliorative measures can be taken to eradicate this social evil?

METHODOLOGY

60 respondents were selected altogether. The data was collected through personal interviews compiled with personal observation by the interviewer. Non-standardized schedule interviews were used to gather data. The non-standardized interviews allowed flexibility and made it possible for the researchers to follow the interest and thoughts of the respondents.

To ensure reliability of data collection, all the researchers cum social workers were exposed to '6-months Professional Geriatric Animator Course' training of the Ministry of Social Justice & Empowerment, Government of India, which gives special emphasis on interviewing skills and techniques.

BACKGROUND OF BENEFICIARIES

No formal education

Low physical working capacity (PWC)

Living under family network but with inadequate support to their minimum needs

Majority of them are females, widows and within 65 to 75 years of age

Most of them live below the poverty line with average household income of Rs. 685/- per month

BACKGROUND OF MEMBERS

All the twelve members are males. They belong to 62-70 years age-group. They retired from organized sector and have financial securities. All are graduates and above and have good health.

MAJOR FINDINGS

Day Care Centre

Among 50 respondents 31 were vocal about the ill-treatment they received from their near and dear ones before joining the Day Care Centre. 4 ill fated widows even experienced physical abuses, that caused injury. The geriatric animators found these beneficiaries are in a wretched conditions. They required months of counselling and treatment to get rid of trauma. For the rest listening to abusive language and neglect were regular phenomena. The common comment that can be highlighted ‘son scolded and used vulgar words on us’. It is observed that all the 31 females were dependent on their sons who themselves are poor. They cannot afford food or fuel and unable to feed their children properly. So neglect and ill-treatment were the result of poverty. These old ladies were always considered as an extra-mouth to feed, a surplus member of the household.

The interviewers concluded that it was the stressful condition that led to abuse. It was further revealed that earning a bit and getting their basic needs fulfilled are the major driving force for the beneficiaries to join the centre. Added to this, staying away from the other younger members of the family for a few hours in a day reduced the extent of abuse.

For 15 beneficiaries it was not financial problem but severe health problem which was ignored by the family members. They all suffer from chronic diseases like diabetes, hypertension, chronic cough and cold and arthritis. They need regular medicines and therapy which is costly. The additional cost of medical treatment being prohibitive for these low income families, those older people are deprived of their care and attention needed for their well being. This is nearly an unfortunate situation where financial constraints lead to so called negligence to elderly persons.

Some respondents (12) including 2 males stated that lack of resources created tension in the family and they themselves felt guilty in this situation. So they joined this Day Care Centre to reduce the burden. 4 respondents live alone and did not face any mistreatments.

Findings – 2 (members)

The educated persons discussed the concepts in general terms. According to participants, with industrialisation and consequent disruption of large undivided family the position of the aged is no longer the same. Young people no longer gather around old for guidance and advice. Some felt that stress of youngsters made them impatient and less tolerant. All the participants (12) felt that abuse is a very sensitive issue and tend to occur at home. Those who witnessed acts of abuse prefer to keep away from it with the attitude that it is family's private affair. They also opined that women were more likely to be abused (9). Most women are homemaker during working years. They are economically dependent on their spouses and may suffer financially in old age. Moreover, the

transition from married to widowed status brings about dependency and vulnerability in women. (Indira Jay Prakash 2003).

None of them discussed personal examples of abuse and said that fruitful engagement and positive outlook in life help them to remain happy. To them abuse means lack of respect. It is in accordance with Indian values, where the Culture is automatically respectful and supportive of elders (Soneja 2001), disrespect was even considered as a part of elder abuse. Whereas in western countries, the definitions stress more on the harm aspects caused by abusers.

They all strongly felt that helpline intervention can help to fight against this evil. The counselling is also important. Value-system which results in ill-treatment of the elderly can be influenced through increased effort in public education as they stated. Some respondents are not sure about the role of police and law in helping abuse. One commented 'I am not sure how the law can assist in these abuse cases. There was no evidence that mandatory reporting of elder abuse was effective in improving the treatment of elder abuse.' The Geriatric Animators of the voluntary organisations agreed that intervention in elder abuse is among the difficult task faced by them, given the fact that the causes and the factors are complex.

REMEDIES

The existence of abuse of the elderly, in all its forms, challenges society and particularly the social service sectors to be more aware of the needs of family members and to provide its services in such a way that such abuse is minimised if not eradicated.

In this context we attempt to highlight the activities of a non-government organisation which has adopted alternative concepts and methods, not only to prevent mistreatment towards elderly in the community but to improve their quality of life as well and to integrate them with the main stream of the society.

All these 50 beneficiaries were picked up by social workers through door to door survey in slum areas. The social workers have rapport with the local clubs, local councillors, and other influential persons in the locality. Through Day Care Centre cum income-generation programmes this voluntary organisation in Kolkata saves older persons from being lonely, depressed, dependant and gives them a chance to share their joys and sorrows with persons of own age group as well as to earn money from income generation programs during their stay from morning till evening. The beneficiaries also receive free medicine, free treatment, day-meal, participate in religious and recreational activities. The basic objective of this program is to keep the aged integrated in their respective families and to supplement the activities of family.

The organization also extends support to very old frail and needy elderly who cannot come regularly to the centre through various outreach programmes, like Sponsor-A-Grandparent Programme, (HAI) Feeding Programme (Seva Kendra, Calcutta), Mobile Medicare Unit etc.

Computer Training Course

In this voluntary organisation a special computer familiarization course has been designed for older people. Two factors are there to make it compulsory for older people to become aware of computer basics: physical decline results in limited mobility, some essential activities such as drawing a pension, visiting a bank become essential for the elderly who are not living with their children. Secondly, people need some secondary communication for interaction (Chakravarty 1996). Another factor is to promote productive ageing. The organisation acts as opportunity centre for the aged to be familiar with specially designed computer course. Computer trend elderly persons find pleasure, pride and comfort to part with their knowledge amongst other family members, specially with grandchildren.

This organisation is unique because of its accents on self help and independence. In this institute the aged are taught to be self-sufficient both financially and emotionally.

CONCLUSION

The aged are subject to many stresses. Adjustment is a natural instinct. Nature has provided to every individual some strength and ability to get adjusted to altered circumstances. But when the stress is excessive it crosses the limit of tolerance and abusive behaviours come up to the surface. So it is the stressful environment that leads to abuse. Government's projects like Day Care Centre, Adoption Programme, Short-stay-home and Domiciliary services can reduce the stresses of the elderly as well as the burden of the care providers.

This study reveals that abuse takes place more often when elder persons have nothing to offer to younger generation. Presence of elder person throughout the day and most of the days within the premises may not also be liked by other members of the households due to several reasons. This may also be a cause of abuse. If the younger family members get some respite from this 'boredom' perhaps that will reduce their tension which may effectively change their attitude towards elderly inmates.

That is why more and more Day Care Centres cum income generating programmes should be set up. This services encourage older people to feel positive about themselves and also liberate them from the complete state of dependency. While the outlook of the other members of their families to elderly persons may improve.

Well educated, professionals in particular tend to have interests in variety of activities. They have control over their home environment and rarely feel lonely and unhappy. According to them social interaction is the key to successful ageing. Voluntary organisation throughout the country should promote the concept of productive ageing. If not financially weak such persons have several options to live happily.

The problem area is the economically backward group who may not even get a bed to sleep or a blanket to save himself from the cold winter night. If they get a little, their pleasure would be enormous, and these are the people who really need assistance and assistance programme need to be expanded in all areas to elivate at least a little bit of the quality of their lives.

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ROLE OF VITAMIN E IN AGEING PROCESS

B.K. Patnaik*
Subhendu Das

ABSTRACT

Vitamin E, an antioxidant slows down the accumulation of lipofuscin, the age pigment and prevents the formation of lipid peroxides which cause damage to cell organelles and macromolecules during the ageing process. There is some evidence that Vitamin E extends the life span of a few mammalian species. Vitamin E may be partially responsible for the prevention of some age related diseases like cataract and atherosclerosis. It may also counteract cardiovascular diseases and cancer. In human beings there is no definite report of malabsorption of Vitamin E in old age. However the deficiency state can be compensated through dietary supplementation. Moderate doses are recommended as in much higher doses the vitamin may have toxic effect.

INTRODUCTION

The fat-soluble vitamin E group consists of tocopherols and tocotrienols which occur in almost all living tissues. The richest sources are vegetable oils (corn, safflower and soyabean). Animal products (eggs, liver) and most legumes and greens contain small but nutritionally adequate amounts of vitamin E. The qualitative and quantitative requirements of vitamin E and the effects of its deficiency differ from species to species. Vitamin E deficiency diseases of various types have been described for fish, reptiles, birds and mammals (1). Only in rare cases Vitamin is relatively non-toxic (2). The daily requirement in adult man is 10-15 mg and the requirement rises with

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increased intake of polyunsaturated fatty acids. Vitamin E is absorbed in the intestine with the help of bile salts. Blood carries the vitamin to liver where it is incorporated in lipoproteins. The vitamin is stored in muscle and adipose tissues. Tocopherol deficiency is observed in certain diseases like obstructive jaundice and pancreatitis.

The naturally occurring forms of vitamin E have closely related chemical structures, but may exhibit a wide range of biological activities. Some forms (α-tocopherol) have long retention in the body and the others are eliminated rapidly. This might cause differential effect in functions of different forms of vitamin E. There are several views regarding the function and mode of action of vitamin E. Only the salient views would be mentioned with particular reference to mammals.

FUNCTIONS

Erythrocytes from vitamin E deficient mammals are abnormally susceptible to haemolysis in vitro. Vitamin E is believed to stabilize the red blood cell membrane (3). Muscular disorders are commonly encountered in vitamin E deficient mammals (4). In rats of both sexes and all age groups vitamin E deficient diet leads to muscular dystrophy and liver necrosis (5). Testicular degeneration has been observed in vitamin E deficient dogs, hamsters, monkeys, pigs, rabbits and rats. Therefore the vitamin is called “antisterility vitamin”. In pregnant rats, mice, guinea pigs and hamsters vitamin E deficiency causes resorption of the foetuses (6). Vitamin E deficiency leads to yellow fat disease (steatis) in cats and lions (7). In this disease yellow globular material is deposited in subcutaneous and adipose tissues. Mice and rats show greater accumulation of the age pigment, lipofuscin following administration of vitamin E deficient diets (8, 9). In mouse cerebral cortical cells in primary culture vitamin E inhibited the accumulation of lipofuscin containing florescent material (10). Packer and Smith (11) found that addition of vitamin E at the 45th generation of a fibroblast culture which normally died out after

65 population doublings, increased the lifespan to over 100 doublings. But in high doses vitamin E may have an inhibitory effect on cell proliferation and colony formation in the cultured human fibroblast cell line. But toxicity has not been observed in the whole organism even at very high doses of vitamin E (12). Deficiency of vitamin E may retard normal growth and cause degeneration of renal tubular cells (2).

MODE OF ACTION

Some authors have suggested the involvement of vitamin E in specific biochemical mechanisms such as mitochondrial respiration, biosynthesis of heme or the induction of drug metabolizing enzymes. But the most attractive and dominant hypothesis is that vitamin E functions as an antioxidant and protects sensitive cellular and intracellular (microsomes, mitochondria and lysosomes) structures from damaged caused by the accumulation of ceroid and related pigments like lipophuscin, freeradicals and lipid peroxides produced during normal metabolic processes indused by pro-oxidants like metals and polyunsaturated fatty acids. The lipid peroxides are known to yield aldehydes which cross-link proteins, lipids and nucleic acids and thus cause functional derangement in cells. Vitamin E is the most important scavengers of free radicals and lipid peroxides due to its lipids solubility and occurrence in membranes (13, 14). The function of glutathione peroxidase, an example of enzymatic defense systems to convert lipid peroxides (ingested or formed endogenously) to harmless primary and secondary alcohols is dependent on certain dietary factors like selenium and vitamin E (15). Another enzyme xanthine oxidase promotes the production of free radicals during catabolism of purines to uric acid. Vitamin E deficient diseases may possibly be attributed due to the accumulation of pigments and lipid peroxides leading to degenerative changes.

Accumulation of the age pigment, liphofuscin and lipidperoxides in the various tissues with advancing age, is an almost universal phenomenon (17, 18). The effect of such changes in ageing process has also been well-recognized (19). Since it prevents the accumulation of lipofuscin and acts as scavenger of lipid peroxides, it is very likely that vitamin E would have beneficial effect in slowing down the ageing process.

AGE RELATED CHANGES IN VITAMIN E CONTENT :

The plasma tocopherol content increases with advancing age of normal healthy male person (21). On the otherhand concentration in heart, liver, muscle and body fat increase during adolescence period and in fourth decade of life it shows a decline (22). Young and old human red blood cells contain about the same amount of α-tocopherol. It appears that old age changes in vitamin E content are tissue specific and therefore no consistent pattern is observed. The age-related increase in vitamin E content may indicate improper utilization and the declining trend due to inadequate supply. In humans there are no reports of malabsorption and the deficiency state can be made through dietary supplementation (23). In geriatric subjects with impaired glucose tolerance, there is elevated requirement of vitamin E (24). In red blood cell membrane the α-tocopherol/membrane lipid ratio rises with age rather than declining, an observation contradicting the views envisaged in the free radical theory of ageing (25).

VITAMIN E AND LIFESPAN:

The findings are again not consistent. In mice even higher doses of vitamin have no beneficial effect on the extension of lifespan (26). On the otherhand vitamin E has been found to increase the maximum longevity of mice (27, 28) and rabbit (22). In in vitro culture vitamin E extends the lifespan of human fibroblasts (29). The lifespan of erythrocytes can be extended by vitamin E supplementation (30).

VITAMIN E AND LIPOFUSCIN ACCUMULATION DURING AGEING:

Vitamin E deficiency increases the rate of lipofuscin accumulation in tissues. Animals fed with vitamin E diet showed slower rate of accumulation of lipofuscin (19, 20). Accumulation of lipofuscin with advancing age may have deleterious effect on cell function leading to which degeneration in due course. This may be one of the causes of loss of neurones (31). Such a loss would be detrimental as the brain has over-riding influence on the ageing process. Therefore it may be essential to maintain an adequate supply of vitamin E in old age.

VITAMIN E AND ACCUMULATION OF LIPID PEROXIDES DURING AGEING:

It has been well established that free radicals (OH, O_2) derived from oxygen during normal metabolic processes, attached membrane polyunsaturated fatty acids and produce hyperoxides. These lipid peroxides generate aldehydes, which attack and cause damage to macromolecules and membrane bound cell organelles. They may interfere with enzyme activities and thus have detrimental effect on cell function (11). Lipid peroxides are known to increase with advancing age in brain (32), liver, kidney and testis (33) of rat. Free radicals are responsible for the generation of lipid peroxides. The free radicals concentration also increases during ageing. Thus the accumulation of both free radicals and lipid peroxides may be one of the important causes of cellular degeneration and ageing. This forms the basis of free radical theory of ageing (34).

The fact that vitamin E acts as a radical chain breaker and prevents lipid peroxidation, thus favours the concept of its antiageing action. But besides the vitamin E there are a number of cellular antioxidants which are either non-enzymatic (vitamin C, Uric acid, β-carotene) or enzymatic (superoxide dismutase, catalase, glutathione peroxidise). Therefore vitamin E is partially responsible for slowing down the ageing process.

VITAMIN E AND AGE-RELATED DISEASES:

It is believed that the development of cataract may be linked to deficient antioxidant defense in blood. Vitamin E along with ascorbic acid and β-carotene may be effective in protecting the ageing lens (35) and administration of a combination of antioxidants may be recommended as preventive measure (36).

A decline in reproduction though not a disease, is usually associated with the ageing process. There is evidence that vitamin E improves reproductive performance of senescent hamsters (37).

Vitamin E seems to prevent and cure atherosclerosis in rabbits (22). It inhibits accumulation of plaques characteristics of atherosclerosis (38). Administration of vitamin E to patients with muscular dystrophy has not proved to be of any benefit (2).

Loss of memory functions have been reported in rats on vitamin E deficient diet (39).

Vitamin E administered to aged patients stimulated the growth of white blood cells and other parts of the immune system. Along with other antioxidants it is believed to counteract cardiovascular diseases and cancer (38). Vitamin E-treated mice aged 5 months exhibited a 53% decrease in lipid peroxide content of the heart (40).

Thus considering the role of vitamin E in general metabolism and the ageing process, its supplementation through diet or other media in moderate but not high doses may be expected to yield beneficial result. Much higher doses of α-tocopherol interfere with cell growth (10) and therefore should be avoided as a precautionary measure.

Even though the role of vitamin E in preventing accumulation of lipofuscin and lipid peroxides during ageing is well-established, much more work is needed to resolve the controversial issues such as its role in extension of lifespan and its metabolism and synergetic action with other antioxidants during ageing. Further research would clarify the concerned issues.

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A STUDY OF BLOOD PRESSURE ON THE AGED

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ABSTRACT

Ageing is a biological process of any living organism and because of which very interesting structural, functional, biological and physiological changes take place in its entire life span. Man is not an exception to it. From day to day, the problems of ageing, social, psychological and biological are increasing in India. Though there are lesser number of aged in India compared to developed countries, the life span has been increased greatly. Because of this coronary heart disease have been into the forefront in India as it greatly affiliated in the aged. The hypertension i.e., the high blood pressure is one of the major contributors for the cardiovascular deaths. In India there are a few studies on the health status of the aged and the epidemiological and statistical information regarding gerontology is very scanty. So the present study is an attempt to know the health status, especially of blood pressure and anthropometry of the aged.

MATERIAL AND METHODS

The blood pressure study is undertaken in three districts namely Chittoor, Cuddapah and Nellore of Andhra Pradesh. The blood pressure and anthropometric measurements were taken on 96 males and 135 females aged 50 years and above. The same measurements were also taken on the controls, aged below 49 years. The

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control sample included 350 males and 505 females. Each subject was personally interviewed by one of the authors (A. N.) to get the information on age, dietary habit, habitual activity, income and smoking habit. The same author collected anthropometric data such as height, weight and four skinfold measurements as per Weiner and Louri (1981) on all the subjects. The seated blood pressure measurements were taken on the left arm of each subject with Austropulse 78 Digital Electronic Blood Pressure/Pulse Monitor in the morning. The readings were checked periodically i.e., at least once in a week, with that of the readings obtained with a mercury sphygmomanometer so as to ascertain the working conditions of the electronic instrument. The hypertension is classified according to WHO (1962) (SBP >/= 160 AND / OR >/= 95 mm Hg).

RESULTS AND DISCUSSION

The income and physical activity levels and dietary and smoking habits of the aged subjects are shown in table 1. Both in males and females, more than 50 per cent belong to low income group followed by middle and high income group. In physical activity, above 50 per cent belong to light followed by heavy and medium levels; but in females all the three activity groups are represented more or less equally. In both males and females the non-vegetarians are represented by over 70 per cent. In males 74 per cent are smokers. The mean are of the aged who are 50 years and above is 60 years for males and 58 years for females. The mean age of controls (20-49 years) in 33 years for both the sexes (table 2 & 3).

The means and standard deviations of blood pressure and anthropometric measurements are given in table 2 and 3. The mean height of males is 162.4cm for the aged and 162.7cm for the controls whereas these values for females are 150.1cm and 152.1cm for the aged and controls respectively which fall in the general average of the populations of these areas. In males, the mean height gradually decreases from 50-54 years age group to 70+ years age group which is generally observed in the aged population. In females also the same trend

is observed but with some exceptions. Similar is with the weight of the males which must have been due to changes in physiological characters of the aged. The aged females did not show such an expected trend with regard to weight. However, the mean weights of control males and females are lower than the aged males and females respectively. The values are significant in females. The average skinfolds at four sites of males also show decreasing trend from 50-54 to 70+ years age groups with some exceptions. However, such a decreasing trend is not observed in females. The male controls are characterised by greater mean values compared to the aged except in supra-iliac skinfold. But the female controls show greater values in triceps and subscapular skinfolds only. In general, the mean values of all the skinfolds are greater in females than in males.

The mean systolic blood pressure of females is slightly greater than that of males, but the mean diastolic blood pressure is greater in males. The mean systolic and diastolic blood pressures of both the sexes of the aged are significantly greater than the controls. An increasing trend of Systolic pressure with age is observed with some exceptions but this trend is consistent in the females. A significant association between age and blood pressure was observed by Nirmala (1987) through correlation and regression analysis. The mean diastolic pressure decreases consistently with age with some exceptions. Nirmala (1987) also observed a positive association of blood pressure, with income and smoking and negative association with physical activity. All these factors must have been involved in the increasing of blood pressure with age. The ageing effect on blood pressure is consistent in most of the world populations, the exceptions are being the primitive and uncultured populations (see Nirmala, 1987). Nirmala (1987) observed the positive association between weight, skingfolds and girth measurements and blood pressure. The body mass index (w/h^2) and sum of four skinfolds did show a clear positive association with blood pressure which is evidenced through the correlation and regression analysis (Nirmala, 1987).

The ageing effect on blood pressure is further evidenced in the differences of the incidence of hypertension between the aged and controls (table 4). The sex difference of hypertension is also observed. The prevalence of hypertension is greater in males. The incidence of hypertension increases with age in both males and females with some fluctuations. 1.3 per cent are hypertensives in controls (1.1% in males and 1.4% in females) compared to 11.3 per cent of hypertensives of the aged (15.6% in males and 8.1% in females).

SUMMARY AND CONCLUSION

The present study of blood pressure on 231 subjects aged 50 years and over shows ageing effect, which in accordance with the earlier studies on general populations. This ageing effect of blood pressure must have been due to the changing way of life with respect to modernization, dietary pattern, physical activity, etc. The anthropometric characters used in the assessment of body composition have their definite influence on the blood pressure. All these are resulted in elevation of blood pressure and greater prevalence of hypertension with age.

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TABLE - I

Socio-economic status and other characters of the sample of the aged

Character	Males	Females	Total
Income			
Low	51 (53.1)	87 (64.4)	138 (59.7)
Middle	29 (30.2)	32 (23.7)	62 (26.4)
High	16 (16.7)	16 (11.9)	32 (13.9)
Physical activity			
Light	52 (54.2)	45 (33.3)	97 (42.0)
Medium	20 (20.8)	48 (35.6)	68 (29.4)
Heavy	24 (25.0)	42 (31.1)	66 (28.6)
Food habit			
Vegetarian	25 (26.0)	39 (28.9)	64 (27.7)
Non-vegetarian	71 (74.0)	96 (71.1)	167 (72.3)
Smoking			
Smokers	71 (74.0)	-	71 (30.7)
Non-smokers	25 (26.0)	135 (100)	100 (69.3)

Figures in parentheses indicates percentages.

TABLE - 2

Mean and S.D of age, blood pressure and anthropometric characters of the aged and control males

Variable	(Controls)	Age Groups						't'
	20-49	50-54	55-59	20-49	65-69	70+	50+	Value
Sample size	350	25	18	24	12	17	96	
Age (yr.)	32.9±9.5	50.9±1.3	58.1±1.5	60.5±1.2	66.0±1.4	75.2±6.2	60.4±1.4	
SBP (mm Hg)	111.6±13.0	122.2±17.0	118.8±16.5	127.4±16.2	123.6±18.3	131.4±9.8	124.7±16.7	4.51*
DBP (mm Hg)	72.7±9.8	78.8±13.8	75.7±11.7	79.4±13.1	73.6±11.3	72.8±7.0	76.5±12.4	2.77*
Height (cm)	162.7±6.4	164.3±5.8	163.1±5.4	162.8±6.2	160.2±6.8	159.7±5.3	162.4±6.0	0.43
Weight (Kg)	52.8±9.5	58.1±10.2	55.8±13.1	53.6±10.3	52.3±9.5	50.9±8.7	54.4±10.6	1.33
Triceps (mm)	8.8±4.0	9.7±4.1	8.8±3.5	8.2±4.6	8.5±3.8	7.1±3.3	8.5±4.0	0.64
Biceps (mm)	6.8±3.1	7.5±3.1	6.7±3.4	5.7±3.3	5.9±3.0	5.3±3.0	6.3±3.2	1.35
Subscapular (mm)	12.6±4.1	13.0±4.5	12.2±4.6	12.2±5.3	11.3±3.1	10.2±4.8	11.9±4.6	1.35
Supra-iliac (mm)	12.4±4.6	14.7±4.9	13.6±5.6	12.6±5.5	11.4±4.3	11.5±5.3	13.0±5.2	1.03

**Significant at greater than 1% level of probablity.*

TABLE - 3

Mean and S.D of age, blood pressure and anthropometric characters of the aged and control females

Variable	(Controls)	Age Groups						't'
	20-49	50-54	55-59	20-49	65-69	70+	50+	Value
Sample size	505	57	31	19	8	20	135	
Age (yr.)	32.5±9.0	50.7±1.2	55.8±1.2	60.3±1.0	66.5±1.6	76.9±6.6	58.1±9.7	
SBP (mm Hg)	109.5±14.5	119.7±19.6	128.2±17.8	126.2±20.8	131.0±17.8	138.6±16.4	126.0±19.9	9.02*
DBP (mm Hg)	70.9±10.1	76.1±10.7	78.2±9.3	73.9±10.2	73.0±6.2	71.2±8.9	75.3±10.1	4.49*
Height (cm)	152.1±7.9	150.8±6.4	151.2±6.8	147.4±5.8	150.1±6.5	148.6±7.6	150.1±6.7	2.99*
Weight (Kg)	46.3±9.6	48.5±10.8	50.7±10.6	43.2±7.3	49.4±11.2	43.9±6.0	47.7±10.0	2.38*
Triceps (mm)	11.0±4.6	10.9±4.4	11.7±4.6	10.5±3.5	12.8±3.5	9.4±3.3	10.9±4.3	0.24
Biceps (mm)	7.6±2.9	7.9±3.4	8.9±3.4	7.5±2.8	7.9±2.8	7.3±2.6	8.0±3.2	1.29
Subscapular (mm)	12.7±3.9	12.2±4.7	14.4±5.9	10.9±3.4	13.0±5.7	11.6±3.9	12.5±4.9	0.64
Supra-iliac (mm)	13.2±4.1	13.8±4.9	15.0±5.5	13.0±3.9	13.4±5.9	12.0±3.5	13.7±4.8	1.11

**Significant at greater than 1% level of probablity.*

TABLE - 4

Hypertension among the aged and controls

Age Group	Sample Size		Normal			Hypertensives		
	Males	Females	Males	Females	Total	Males	Females	Total
20-49	350	505	346(98.6)	498(98.6)	844(98.7)	4 (1.1)	7 (1.4)	11 (1.3)
50-54	25	57	20(80.0)	55(96.5)	75(91.5)	5 (20.0)	2 (3.5)	7 (8.5)
55-59	18	31	16(88.9)	26(83.9)	42(85.7)	2 (11.1)	5 (16.1)	7 (14.3)
60.64	24	19	21(87.5)	19(100)	40(93.0)	3 (12.5)	-	3 (10.0)
65-69	12	8	9(75.0)	8(100)	17(85.0)	3 (25.0)	-	3 (15.0)
70+	17	20	15(88.2)	16(80)	31(83.8)	2 (11.8)	4 (20.0)	6 (16.2)
50+	96	135	81(84.4)	124(91.9)	205(88.7)	15 (15.6)	11 (8.1)	26 (11.3)

Figures in parentheses represent percentages.

NOTES FOR CONTRIBUTORS

All Contributions and correspondence should be sent to Dr. Indrani Chakravarty, Calcutta Metropolitan Institute of Gerontology, E-1, Sopan Kutir, 53B, Dr. S. C. Banerjee Road, Kolkata-700 010. Contributors are requested to conform to the following norms and those articles that do not conform may not be considered.

Journal articles that deal with the biological, medical, psychosocial, service or other aspects of ageing are welcome.

Articles should be original contributions. Redundancy is discouraged. The articles should be written in English, free of grammatical or spelling errors, repetitions etc.

Articles shall contain: A brief introduction (reflecting the context, the review of relevant work and why the present study was planned) : relevant details of plan methodology, sample, (including standardization properties of tools) etc., the results or findings and their discussion and conclusions arrived at. At the beginning of the article the title and names of authors shall be mentioned. (Their affiliation may be given at the bottom of the page). This shall be followed by a brief abstract of the article (not exceeding 100 words) in single space, bold and set off the margins (inset by two spaces). Two or three key words of the article should be provided at the end of the abstract separately.

Articles may be computer generated. Two hard copies, double spaced in A4 size (one side only) with wide margin may be sent. The articles would be adjudicated by referees and the result would be communicated. When the article is accepted contributors are requested to send 2 corrected versions of the article (hard copies) and the same in an electronic version in CD, press ready.

(a) References as below in international style (e.g. journal of Gerontology) arranged in alphabetical order in the Text : (Altekar, 1973, Birren, 1959, Tyson 1983 ....). End list of references:

Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23,611-626.

Baltes, P. B. Reese, H. W., & Nesseiroade, J. R. (1988). *Life-span Developmental Psychology*: Introduction to Research Methods. Hillsdale, NJ : Eribaum.

(b) Footnotes should be avoided unless absolutely essential.

(c) Tables and figures should be clearly laid out, typed in standard format, numbered consecutively, and designed to fit on the page of the journal “AGEING & SOCIETY” of CMIG.