Death is inevitable so is aging. Most people do not want to die; instead they would like to live forever in full vigor, without wrinkles or gray hair. In the early days of science, in the days of the alchemists—man's quest for the 'elixir of life' to halt aging and attain immortality began. Thanks to the discovery of many potent drugs, improved sanitation and nutrition, and breakthrough in surgery, man's lifespan has increased and is further increasing all over the world.

Aging in the Asia/Oceania region is unique in the world. It is home to more than half of the older population of humankind. 200 million older persons reside in its boundaries, and each and everyday adds many more. In India; though the proportion of aged (60+) population is low, but the absolute number is very high. Out of 171 countries the total population of 151 countries is less than the elderly population in India.

It is no exaggeration to suggest that the physical, psychological, social, and economic well-being of the people of the region as a whole will eventually rest to some significant extent upon the degree to which an individual nation is able to foster, develop, and maintain the health, happiness, and productivity of the growing number and proportion of older persons.

Transformation from joint family to unitary small family due to industrialization and urbanization changing the traditions and customs very rapidly. With socio-cultural changes underway and severe burden for state's capacity to meet welfare-needs of the vulnerable section of the society, improving the quality of life of the rapidly increasing section of India's population is emerging as a formidable challenge. A relevant, valid, and adequate understanding of the social, cultural, psychological, economic, health and other dimensions of the processes of aging, on the basis of which appropriate strategies for gerontological welfare would be formulated, is an urgent need of the day.

A combination of rapidly falling child death rate, sanitation and health awareness through media, and the conquest of acute diseases are confronting many governments with the practical problems of rapidly expanding geriatric population. Individually, we must also face old age and make our personal adaptation to it. The society cannot but feel concerned about such a large section of its population. This awareness is noticeable in the increasing number of gerontological studies in western countries particularly during the last two decades of the past century.
The undersigned joined in the Department of Physical Education of Kalyani University in the year 1996. Being the junior most faculty member I was introduced to the subject with three definite functions – teaching, research, and extension. When the possibility of research work leading to Ph.D. came up, eminent exercise physiologist and physical educationist Prof. A. K. Banerjee of the department implanted the seed of thought in the mind of the researcher to experiment long term exercise effect on 'aging'. The Department of Physical Education also organized a seminar on 'Problems and Prospects of Aging' in the year 1999, commemorating the 'International Year for the Older People' declared by the UNO. The researcher took part in the seminar and listened to the various aspects of aging. The seed of thought was ready to be charged and the seminar provided a fascinating bed for germination. The researcher did not hesitate to finalise his research topic. The present thesis is the outcome of that thinking related to aging.

The present study makes no attempt to solve ultimate mystery of aging. Rather, it explores how far we can improve our adaptation to the early part of old age through an increase of personal fitness. The intention of the researcher is very clear. We are all moving in a biological train, our destination is fixed. The point of concern is whether the train is moving fast towards the destination or the biological process can delay the train. Through chronic exercise there is a possibility to make some adaptive changes so that the biological train may be delayed and we may reach to our destination late with little bit of smartness. An attempt has been made to unearth this missing link between exercise and aging among the senior citizens of our population.

The thesis presented in five separate chapters. The first chapter deals with introductory materials. Quite a good number of related literatures are being reviewed in the second chapter. Methods, materials and processes of data collection are incorporated in chapter three. Results are presented in chapter four with an elaborate discussion on findings and relevant information. Summary, specific conclusions, and recommendations are presented in chapter five. At the end a very extensive list of references are given which will really be useful for any young investigator for further research.

The researcher will be delighted if this voluminous research work can generate enthusiasm among young researchers to make them select a topic for their research related to the present one.

Kalyani

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