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Title

Development of Jara Niramaya Education Pack About Health and its Impact on Behavioural Changes of Senior Citizens

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Introduction :

The entire world has been witnessing an increase in the proportion of the elderly population (60 years and above) as a result of low fertility and mortality rates (Suraiya Ismail, 1999). Geriatrics has become one of the important areas of research among the demographers and social scientists (Zachariah 2001). Over the last fifty years, mortality rate in developing countries has declined dramatically, raising the life expectancy at birth around 41 years in the early 1950s to almost 62 years in 1990. By 2020 it is expected to touch 70 years (WHO fact sheet no. 135). Currently, about 70 million Indians are elderly, constituting about 7% of the total population. According to one of the projections by Registrar General of India, the elderly population would increase to 114 million by 2016 (Zachariah, 2001).

The increase in life span is associated with a variety of physiological problems that may affect dietary intake and mobility of the elderly. The elderly are also subjected to a lot of psychological, health and nutritional problems (Anthony, 1993).

In India, old age population is likely to increase from 70 millions in 1995 to 141 million by 2020 and 508 million by 2100 according to world bank projection. Hence, challenge before us is to prevent physiological ageing getting converted into pathological and psychological ageing. The elderly represent the fastest growing segment of the population throughout the world. However, a healthy 80 years old person is not comparable to a healthy 60 years old. Within any single population, individual variation is increased due to

variable rates of ageing from persons to person. (Rajgopalan 2000). Demographic Ageing of the population and its implication in the next millennium. (Proceedings of the Nutrition Society of India).

In the early traditional society, joint family ensured the security of the old age population unlike the west over the years, nuclear family pattern has taken place of joint family. As a result, at the poor old people suffer without social security from the household. This transition is more painful. Large segment of the self employed or employed in the unorganized sector have not been covered by social security. Hence, the burden of taking care of old people rests on their children. Such dependency seems to be one of the inevitable consequence of the demographic transition. The strength of the family or household, the community, and the society is dependent on the strength of mutual cooperative relationships of the social economy. Unlike market economies which tend to join people on purely impersonal and instrumental relationship social economics create a dense fabric of relationships based on long term sharing and cooperation (Rajgopalan 2000).

Ageing is not a disease, but a slow process through which an adult individual is converted into old person. There is no fixed age at which a person begins to age. This ageing process which is inevitable for all, is always associated with physical functions. There are many effects of ageing on the life style of elderly person. The chronological age might differ from the biological age. (Bagchi, 2000).

Healthy ageing should be the main objective of all age care programmes. It is the responsibility of everyone to ensure that elderly persons are kept healthy so that they have an active meaningful life. This is not simple because, ageing is associated with physiological and structural changes in all organs of the body which bring about functional decline of the body. Simple measures to ensure healthy ageing are (1) Physical activity, (2) Proper diet, (3) Social interaction with each other, (4) Taking precautions, (5) Preparation for old age, (6) Consulting a doctor in sickness.

Importance of the study :

Indian citizens should be healthy and vibrant to achieve the status of a Developed Nation. In turn, it is possible only when the senior citizens are active, health conscious and emotionally settled. Health problems pose burden on country's economy. Money spent on looking after sick population can be saved if 'Health for all' is attained. With lesser number of healthy elderly people, the other family members will have spare time, energy, efforts and money to uplift their own life. Majority of the health problems among the aged are diet related and nutrition dependent. It is the responsibility of everyone to ensure that elderly people are kept as healthy as possible so that they lead an active meaningful life. This is not so simple because, as mentioned earlier, ageing is associated with tremendous changes in all organs of the body which bring about the functional decline of the body. The physiologically declining

body of the elderly individual becomes extremely vulnerable to several diseases of old age like diabetes, CAD, CHD, strokes in brain and malignancy.

On the other hand, there is a danger that diseases affecting the older persons are ignored because they are supposed to be manifestations of old age and no doctor's attention is needed. As a result, doctors attention to old age patient is brought at a much later date when the condition had already advanced to a significant level. This makes the health status still worse.

It is, therefore, important to increase access to improved and updated knowledge to elderly persons. Strong research is needed to develop appropriate demand driven research agenda based on current and futuristic projections in this field. Accordingly, high priority has to be given to strengthen the health knowledge access to the older people.

Taking into consideration the importance of the subject this study aims to fulfill this requirement and develop a Jara Niramay E pack and evaluate its impact on the behavoural changes (Knowledge, Altitude and Practice), with certain objectives.

Objectives of the study :

In the light of prevailing knowledge pertaining to the present subject the present study was undertaken to develop & evaluate the package through systematic procedure with the objectives mentioned below :

1. To develop Jara Niramay Education Pack for elderly.

2. To assess the impact of standardized Jara Niramay package on behavioural changes on part of elderly people.

3. To understand the problems encountered in the adoption of standardized Jara Niramay package by elderly persons.

4. To invite suggestions from the elderly persons for adoption of package.

Hypothesis :

Hypothesis were framed on the basis of objectives laid down.

1. There is a positive influence of education through Jara Niramay pack on knowledge level of responsible.

2. There exists a positive influence of education through Jara Niramay pack on Attitude level of respondents.

3. There is an impact of education through Jara Niramay pack on practice level of respondents.

Limitations of the Study :

Within the limited resources of the researcher at the disposal of the researcher, some limitations are listed below:

1. The researcher for the purpose of this study considered respondents belonging mainly to middle socio economic group from Amravati city.

2. The findings of the study are based on individual respondents personal perception.

3. Respondents belonging to both the sexes were selected in the age group of 60 to 70 years that is early old age. This provided scope for behavioural changes during later span of old age.

Chapter 2

METHODOLOGY

Detailed methodology was developed for studying various aspects of the study. Attempts have been made to develop and standardized Jara Niramay Education pack JNE Pack for senior citizens. Scales for knowledge (K), Attitude (A) and Practice (P) of senior citizens were also developed and evaluated.

This chapter has been divided in different sections and subsections. Procedures and techniques used for the investigation are also mentioned in the following sections.

3.1 Locale of the study

3.2 Development and standardization of JNE Pack for senior citizens.

3.3 Selection of sample

3.4 Collection of data

3.5 Statistical analysis of data

3.6 Variables and their measurements

3.1 Locale of the study

The locate of the study was area in Amravati Municipal corporation in Maharashtra.

3.2 Development and standardization of JNE Pack for senior citizens :

The package to be developed was named as JNE Pack (Jara Niramay Education Package) with the specific objective of retaining health of the senior citizens.

3.2.1 JNE Package contents :

An exhaustive search was carried out in literature and in libraries. Internet was referred and discussions were held with nutrition experts, medical professionals, senior colleagues, psychologists in the locale. This confirmed the non-existence of such a package. Hence, it was a challenging for the researcher to decide as to what should be the matter and contents in the package.

3.2.1.1 Selection of content :

The contents were decided by the researcher by reading related materials, discussing with knowledgeable senior citizens, practicing psychologists and nutritionists and referring reports, journals and magazines. The list of content was made after the exhaustive efforts. Sub contents covering all the important factors related to that particular content were also prepared. Contents with all sub contents were formed as a result of this exercise. These contents and subcontents were then listed, arranged in the tabular format (Appendix – 2) with sufficient space in the list for judges. Numbers were not placed to avoid the bias in the minds of the judges.

3.2.1.2 Collecting Judges 'Opinion for JNE Pack contents :

Judges were selected on the basis of their interest, inclination, devotion, time available at their disposal. They were requested to give their opinion in

terms of ranking, rating, selecting and giving suggestions for the contents of the package.

Ranking :

Judges were requested to rank (1- 20) the contents numerically taking into consideration their importance.

Rating :

Rating involved 5 points subdivision of importance of each content.

Very Important –VI, Important – I, Less Important – LI, Not Important – NI and Cannot Say – CS.

This was based on Likert Type Scale of item analysis. A request was made to rate the importance of each content by ticking one of these five.

Selecting :

Subdivision of effective education method in each content was as follows :

Lecture – L, Individual Discussion – ID, Group Discussion – GD, Any other – AO. Selection of the method of education was done as per the opinion of the judges. They were requested to note down their remarks and suggestions.

3.2.1.3 Obtaining judges opinion :

Format of contents (Appendix 2) along with self explanatory covering letter was personally given to 30 experts to obtain their judgment. They were given time of 15 days to give their opinion. The forms were personally collected by the researcher and out of these, improperly filled were rejected. Thirty forms were selected for the standardization of JNE Pack.

3.2.1.4 Formation of JNE Pack :

Educational utility of each content was considered for elaboration with the objectives to make it attractive, simple to understand and easy to adopt.

3.2.2 Standardization of JNE Pack :

Ranking, Rating and selecting were the three procedural steps involved in analyzing the Judges opinion. Remarks and suggestions from the judge were also considered while standardizing the JNE Pack.

Ranking :

Rearrangement was done in a fresh list according to the ranking given by majority of the judges. Content that received first rank from majority of the judge was listed first and so on.

Rating :

The rating of the importance of each content was studied by the researcher more importance to the contents give in the package which were considered important by the judges. Some contents were deleted as per judges opinion. Weightage according to rating was carried out.

Selection of Remarks and suggestions :

For each content of the package the first two most effective methods as perceived by the judges, were arranged in a tabular format. All the remarks and suggestions, which were applicable, were considered in this JNE Pack.

Thus, the above procedures resulted in the development of standardized JNE Pack for senior citizens. Care was taken to make the package informative, interesting and attractive. The aim of the researcher was each beneficiary senior

citizen would feel curious enough to go on reading the booklet completely with interest. Standardized JNE Pack was printed and attached to this research work as Appendix-1. The same standardized JNE Pack was utilized in the booklet form while imparting education to senior citizens.

3.2.3 Testing the Reliability of the JNE Pack formed :

The reliability and validity of the contents and sub contents was assessed in their expanded form as mentioned below.

The reliability of the JNE Pack was confirmed by test-retest method. The standardized package was administered to 15 selected senior citizens belonging to both the sexes. They were subjected to knowledge test based on JNE Pack, firstly, a week after the JNE Pack exposure and it was termed as 'test'. Secondly, the same group was reassessed 3 weeks after the exposure and it was termed as 're-test'. The difference in scores of test and re-test was compared with Chi square test. It showed non significance at 0.01 per cent level, thus, confirming the reliability of the package.

Face validity was confirmed by the commonly used method. When the JNE Pack was shown to laymen, they felt that, it possessed the knowledge of the health of senior citizens.

It was the objective of the present research to assess impact of JNE Pack on behavioural changes among the respondents. With this in view in mind, 3 sets of questions were prepared as

- Itemwise knowledge of respondent – K

- Itemwise attitude of respondent – A

-   Itemwise practices of respondent – P

JNE Pack was considered as a base for formulation of these questions (Appendix 3)

The responses from the respondents prior to imparting education through this package, were labeled as 'Pre-test responses'. Similarly, the responses from the respondents after imparting nutritional education through this, package were labeled as 'Post Tests Responses'.

3.3 Selection of sample :

List of senior citizens from senior citizen's clubs located in Amravati city was obtained. As mentioned earlier separate lists of male and female senior citizens in the age group of 60 to 65 years and 65 to 70 years were prepared. Sample size was determined with the help of 'Stratified purposive proportionate random sampling technique. It was about 17 per cent of the total number. Care was taken that each category contained 25 samples who attend the club regularly for facilitating the procedure. Thus, total sample of 100 beneficiaries was included in the experiment.

Total beneficiaries.

100

Male 50   Female 50

61 to 65 years   65 to 70 years   61 to 65 years   65 to 70 years

25   25   25   25
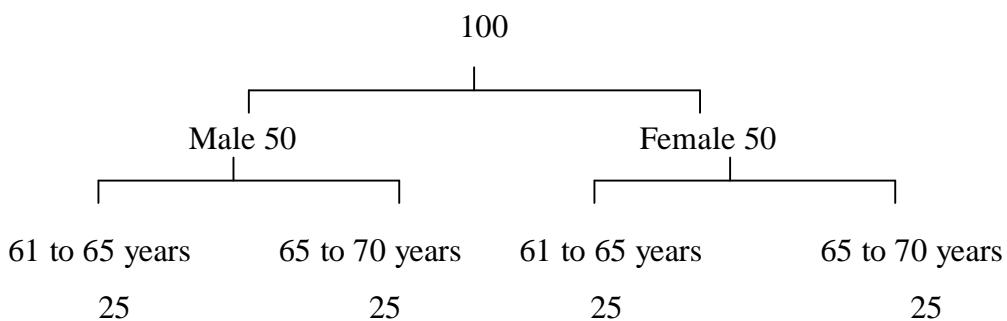
3.4 Collection of data :

During the process of data collection, the information was obtained regarding following factors of each individual senior citizen.

i.   General information

ii.   Family information

iii.   Social information

iv.   Health information

v.   Data related to knowledge, Attitude and Practice about health before and after imparting JNE Pack.

3.4.1 Data collection before education :

The steps involved in data collection prior to JNE-Pack education were as follows :

i.   Pre-education briefing

ii.   The team

iii.   The material

iv.   Education method

v.   Interaction

vi.   Time schedule

In order to ascertain the Knowledge, Attitude and Practice (K-A-P), related to health prior to imparting nutrition education the respondents were asked to answer the questions based on KAP. The score given by every respondent for every correct answer was totaled that represented the pre-test score of that respondent.

i) Pre-Education briefing :

Each respondent prior to actual teaching of JNE Pack was briefed about health aspects of senior citizens.

ii) The Team :

The researcher was the sole educator of JNE-Pack. She was assisted by a doctor, a nutritionist, psychologists, yoga expert, orthopedic, wherever the teaching course was being conducted.

iii) The material :

The JNE Pack in the form of a booklet was the main material used. Wherever necessary hand made posters and overhead projector (OHP) were used. Group discussion and demonstration methods were implemented wherever necessary and possible.

iv) Education method :

Each respondent was personally educated by the researcher. At the beginning and at the end of each educational session, all the respondents who had gathered on that particular day were addressed to by the researcher. All the contents of JNE-Pack were taught.

v) Interaction :

The researcher interacted with the respondents during the course of education. Any queries raised by the respondents were answered not only during the teaching process but also in the second meeting with the respondents, which was held one week after the day of teaching session with that group of respondent.

vi) Time schedule :

The day on which a given respondent was imported JNE Pack education was the Day-1 for that particular respondent. One week later, she was interacted with for solving her queries, if any.

3.4.2 Data collection after education :

Six months from day-1 post test assessment was done. The same set of questions based on Knowledge, Attitude and Practice, as asked earlier during pre-test were asked to the respondents. The procedure followed for assessment of the answer was the same as in pre-test assessment.

Thus, pre and post-test scores for KAP of each respondent were obtained.

Data, thus collected was tabulated firstly in the primary tables and frequencies and per centages were worked out and then were presented in secondary tables.

3.5 Variables and their measurement :

Brief Description of variables and their scoring is given in Table -1.

S.N.	Nature and Type of Variable	Category of respondents	Measurement strategy
1	A – Independent Variable • Age • Sex Relision • Education • Family size	Senior citizens	-

	• Family Income • Social Status • Occupation		
2	B – Dependent Variables Behaviour i) Knowledge ii) Attitude iii) Practice	Senior citizens	Scoring system

Dependent variables :

Age provides an accumulation of rich experience with the advancement. Chronological age was reported by the subject was considered for the study.

Education is considered as a prerequisite of knowledge. The level of education influences level of knowledge. The formal education was considered.

Family is the smallest and most intimate group of the society. Respondents were divided into two groups, Nuclear and Joint.

Family income from all sources was totaled and categories were formed.

Social status of the respondents was determined according to their social participation.

Profession (Past and present) was recorded as it also influences the knowledge.

Independent variables :

Behaviour as per oxford dictionary is "the way in which someone acts or conducts oneself in a specified way or conducts oneself in accordance with accepted norms". In practical terms, it can be said that behaviour is a series of processes beginning with thoughts in mind and culminating in actual practice.

Researcher feels that an individual gets to know something based on this knowledge so acquired. Accordingly, person develops his attitude towards it. This attitude influences the extent and nature of practice that he adopts in his life. These serial processes constitute his behaviour.

Hence, behaviour was considered by the researcher in Knowledge, Attitude, Practice sequence. The change in K-A-P was considered as behavioural change.

Index of Knowledge, Attitude and Practices :

Calculation of Index is a crude scoring method which was used for assessing K-A-P.

The formula is mentioned below

$$Index = \frac{Obtained\ Score}{Obtainable\ Score} \times 100$$

For the purpose of calculating per cent change in K-A-P following formula was used.

$$\text{Per cent change} = \frac{\text{Change in Score} \times 100}{\text{Pre-test Score}}$$

(Change in score = Post test score – Pre-test Score)

While considering per cent changes in K-A-P the respondents were divided into three levels as under :

Low – 0-33   Medium 34-66   High – 67-100

3.6 Statistical Analysis of the Data :

Data so collected were analysed using statistical techniques as under

- Mean
- Per centages

Mean is the most common measure of central tendency and may be defined as the value, which we get by dividing the total of the values of given items in a series by the total number of items.

Chapter – 4

RESULTS AND DISCUSSION

The results obtained from the critical analysis of the data collected through interviews, observations, discussions with the respondents of this study as well as discussions of the same revealed the scenario of senior citizens of Amravati city are included in this chapter. The impact of this JNE Pack on behavioural change (Knowledge, Attitude, Practice) of the respondents can be judged from these results, which are presented under the following heads and subheads.

4.1 Distribution of samples according to Independent variables.

4.2 Distribution of samples according to their Knowledge, Attitude and Practice (Dependent variables).

4.3 Mean values of Impact of JNE Pack and per cent change.

4.1 Distribution of samples according to Independent variables :

The data on relevant in dependent variables are presented in this sub-topic.

Age and Sex :

A chronological age is shown in Table 2.

Table 2. Distribution of respondents according to age and sex.

S.N.	Age in Years	Male	Female
1	61	5	7
2	62	2	1
3	63	7	8
4	64	7	6
5	65	4	3
		25	25
6	66	12	14
7	67	7	2
8	68	3	2
9	69	1	4
10	70	2	3
		25	25

The sample selected was in the age group of 61 to 70 years and distribution according to age, however, does not have much importance in the present experiment. Equal number of male and female was purposely chosen.

Religion :

Table 3 : Distribution of samples according to religion.

S.N.	Religion	61 – 65				66 – 70				Total
		Male		Female		Male		Female		
		No	%	No	%	No	%	No	%	
1	Hindu	20	80	22	88	19	76	21	84	82
2	Muslim	1	4	0	0	2	8	0	0	3
3	Buddhist	3	12	3	12	2	8	3	12	11
4	Other	1	4	0	0	2	8	1	4	4
	Total	25	100	25	100	25	100	25	100	

Figures in parenthesis are per centages.

Distribution of samples according to their religion showed that in all the categories Hindus formed the largest group (82%) followed by Buddhist (11%) much distance was observed in number of these two categories. Muslim formed the smallest group (03%). In conclusion, as Amravati city is of Hindu majority, more people belonging to this community visit and join the senior citizens club. No female muslim lady was observed in the respondents selected.

Family Size :

Size of family has a direct bearing on health. It was measured in terms of number of family members with one kitchen in the house. The family size is described in Table – 4.

Table – 4 : Distribution of samples according to family size.

S.N.	Family Members	61 – 65		66 – 70		Total
		Male	Female	Male	Female	
1	1	2 (8)	1 (4)	4 (6)	2 (8)	9
2	2	7 (28)	7 (28)	6 (24)	3 (12)	23
3	3	8 (32)	9 (28)	5 (20)	6 (24)	28
4	4	4 (16)	1 (4)	2 (28)	5 (20)	12
5	5	2 (8)	3 (12)	1 (4)	4 (16)	10
6	>6	9 (8)	4 (16)	7 (28)	5 (20)	18
	Total	25 (100)	25 (100)	25 (100)	25 (100)	100

Figures in parenthesis are per centages.

Table 5 describes respondents as per the size of family to which they belonged. It was observed that highest number of respondents belonged to 3-Member family (28%) followed by 2-Member family (23%). The least number respondents belonged to 1-Member family (9%) followed by 5-Member family (10%). Four member family was recorded in 12 per cent respondents while more than 6-Member family was noted in 18 per cent respondents. Most of the respondents belonged to small family, which means they have few or no helping hands at home. They will definitely be benefited by JNE Pack.

Education :

Normal education influences learning capacity of an individual. The data related to education are depicted in Table -5.

Table – 5 Distribution of samples according to education.

S.N.	Education	61 – 65		66 – 70		Total
		Male	Female	Male	Female	
1	H.S.S.C	0 (0)	2 (8)	0 (0)	6 (24)	8
2	Graduate	20 (80)	19 (76)	15 (60)	10 (40)	64
3	Post graduate and above	5 (20)	4 (16)	10 (40)	9 (36)	28
	Total	25 (100)	25 (100)	25 (100)	25 (100)	100

Figures in parenthesis are per centages.

It was observed that, relatively more respondents belonged to graduate category (64%). While, H.S.S.C. and below formed the smallest group (24%). Post graduate and above category constituted the middle educated group (28%). The easing respondents the education process of JNE Pack.

Income :

Annual income of respondents is likely to affect their living standards including factors like food consumption. It was measured in terms of Rupees per annum and presented in Table 6 (Converted in class).

Table 6 : Distribution of respondents according to income.

S.N.	Class	61 – 65		66 – 70		Total
		Male	Female	Male	Female	
1	Lower	0 (0)	0 (0)	0 (0)	0 (0)	0
2	Lower Middle	10 (40)	9 (36)	12 (48)	15 (60)	46
3	Upper Middle	10 (40)	11 (44)	10 (40)	6 (24)	37
4	Upper	5 (20)	5 (20)	3 (12)	4 (16)	17
	Total	25 (100)	25 (100)	25 (100)	25 (100)	100

Figures in parenthesis are per centages.

Table 6 reveals that among the respondents maximum (46%) belonged to lower middle income group. Whereas, least number (0%) belonged to the lower income group. Considerable number (37%) was observed in lower middle class and very few respondents (17%) were from upper class.

It is clear from Table 7 that, lower middle and upper middle class formed a majority group. Banhate (1966) and Deb et. al. (1968) found that income level of the farm operators was significantly and positively associated with the rationality in decision making. Sarkar (1996) opined that the farmers with higher income were economically better placed to meet the cost of innovation. Economically better-off section of society can derive more benefit out of and put into practice more effectively a purely educational package.

Social status :

Social status is indicative of social position of a person in the community. It differs from person to person and influences the development positively. It refers to their involvement in various social activities. Its measurement was done according to the participation of the respondents in social groups. The data on social status is depicted in Table 8.

Table 8 : Distribution of respondents according to social status.

S.N.	Social status	61 – 65		66 – 70		Total
		Male	Female	Male	Female	
1	Low	0 (0)	0 (0)	0 (0)	0 (0)	0
2	Medium	13 (52)	10 (40)	19 (76)	18 (72)	50
3	High	12 (48)	15 (60)	6 (24)	7 (28)	50
	Total	25 (100)	25 (100)	25 (100)	25 (100)	100

Figures in the parenthesis indicate per centages.

Table 8 reveals that among the respondents all were socially active either medium (50%) or high (50%).

Roy and Jaiswal (1971) had found that socio economic status was associated with the adoption of improved agricultural practices whereas Singh and Patel (1988) showed that Social participation develops a wider outlook.

Occupation :

Occupation is the type of employment. The respondents were in the age group of 61 to 70 years. All of them were retired from their jobs. However, few businessmen were still working for their business. The same data is shown in Table 9.

Table 9 : Distribution of respondents according to their ex and present occupation.

S.N.	Occupation	61 – 65		66 – 70		Total
		Male	Female	Male	Female	
1	Service	21 (84)	4 (16)	22 (88)	2 (8)	49
2	Home work	0 (0)	19 (76)	0 (0)	21 (84)	40
3	Business	4 (16)	2 (8)	3 (12)	2 (8)	11
4	Farming	0 (0)	0 (0)	0 (0)	0 (0)	0
	Total	25 (100)	25 (100)	25 (100)	25 (100)	100

Figures in the parenthesis indicate per centage.

From Table 9, it is clear that among the respondents 84% and 88% males from 61-65 years and 66-70 years age group were in service. In the same age group very few (16% and 8%) were housewives. Very few i.e. 11% were in business and none were farmers. Employment was the major occupation of the males and females were just homemakers.

4.2 Distribution of samples according to their Knowledge, Attitude and Practice (Dependent variables).

Knowledge level being a very important parameter in assessing the impact of education, respondents were subjected to pre and post knowledge test. Knowledge is a very important parameter in assessing the impact of education pack. Pre and post test scores on knowledge were calculated for each respondent and are presented in Table 10 and 11.

Table 10 : Distribution male respondents according to knowledge level.

S.N.	K Level	60 to 65 years		66 – 70 year	
		Pre	Post	Pre	Post
1	Nil	0 (0)	0 (0)	0 (0)	0 (0)
2	Low	20 (80)	2 (8)	21 (84)	2 (8)
3	Medium	4 (16)	4 (16)	3 (12)	18 (72)
4	High	1 (4)	19 (76)	1 (4)	5 (20)
	Total	25 (100)	25 (100)	25 (100)	25 (100)

Table 11 : Distribution Female respondents according to knowledge level.

S.N.	K Level	60 to 65 years		66 – 70 year	
		Pre	Post	Pre	Post
1	Nil	0 (0)	0 (0)	0 (0)	0 (0)
2	Low	22 (88)	3 (12)	20 (80)	3 (12)
3	Medium	3 (12)	21 (84)	5 (20)	22 (88)
4	High	0 (0)	1 (4)	0 (0)	0 (0)
	Total	25 (100)	25 (100)	25 (100)	25 (100)

Table 10 clearly indicates that, in case of 60 to 65 years old male respondents, the observed level was low in 80 per cent, Medium in 16.7 per cent and high in 4 per cent; which changed to 8 per cent, 16 per cent and 76 per cent in low, medium and high level, respectively. In case of 66 to 70 years old male respondents low, Medium and High K level was observed in 84 per cent, 12 per cent and 4 per cent, respectively at pre-test stage. However at the post test stage, these figures changed to 8 per cent 72 per cent and 20 per cent in Low, Medium and High K level, respectively.

Further, Table 11 reveals that in case of female respondents the similar trend was observed. Low, Medium and High K levels were observed in pre test in 60 to 65 year old female in 88 per cent, 12 per cent and 0 per cent, respectively. It changed to 3 per cent, 84 per cent and 4 per cent Low, Medium and High levels, respectively. Similarly, in 66 to 70 years age group in females Low, Medium and High K level at pre stage were 80 per cent, 20 per cent and 0 per cent, respectively, changing to 12 per cent 88 per cent and 0 per cent, respectively. This finding is depicted in Fig. 1.

It is pertinent to note that, there were two significant changes at post stage as compared to pre-test stage. Firstly there was significant decrease in the per centage of respondents in the Low K level category, secondly, there was a significant increase in High K level respondents at post test level stage.

In case of overall respondents, there was remarkable improvement in the K level at post-test. A vast majority respondents were in Low K level at pre-test stage, and the JNE Pack markedly improved the situation, by lowering the

per centage of respondents in Low K level at post-test stage. This data supports the hypothesis that health education influences the knowledge level of the respondents.
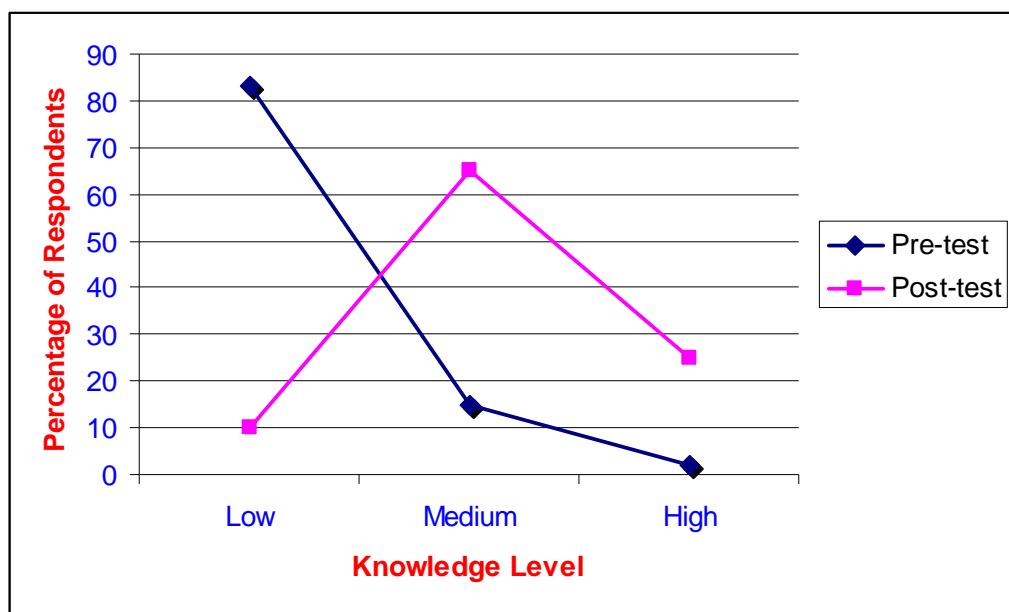
Fig : 1 : Distribution of total respondents according to their knowledge level.

The above mentioned figure show the gain in knowledge level due to JNE Pack.

Attitude level :

Attitude about health of respondents in this study was assessed in terms of Attitude level. Psychology of the individual plays greater role in the development of Attitude. Pre and Post-test Attitude levels were calculated and same are presented in Table 12 and 13.

Table 12 : Distribution of male respondents according to Attitude level.

S.N.	K Level	60 to 65 years		66 – 70 year	
		Pre	Post	Pre	Post
1	Nil	0 (0)	0 (0)	0 (0)	0 (0)
2	Low	21 (84)	3 (12)	23 (92)	2 (8)
3	Medium	4 (16)	13 (52)	2 (8)	16 (64)
4	High	0 (0)	9 (36)	0 (0)	7 (28)
	Total	25 (100)	25 (100)	25 (100)	25 (100)

Table 13 : Distribution of female respondents according to Attitude level.

S.N.	K Level	60 to 65 years		66 – 70 year	
		Pre	Post	Pre	Post
1	Nil	0 (0)	0 (0)	0 (0)	0 (0)
2	Low	22 (88)	2 (8)	21 (84)	1 (4)
3	Medium	3 (12)	12 (48)	4 (16)	15 (60)
4	High	0 (0)	11 (44)	0 (0)	9 (36)
	Total	25 (100)	25 (100)	25 (100)	25 (100)

Figure in parenthesis indicate per centage.

It can be observed from Table 12 that, there was a definite improvement in Attitude level at the post-test stage. In case of male respondents (60-65 years), at pre-test stage, 84 per cent, 16 per cent and 0 per cent belonged to Low, Medium and High Attitude level, respectively which improved to 12 per cent, 52 per cent and 36 per cent respectively at post-test stage. In case of male respondents (66 to 70 years) Low, Medium and High Attitude level was found in 92 per cent, 08 per cent and 0 per cent respondents, respectively. At post-test stage, these improved to 8 per cent, 64 per cent and 28 per cent, respectively.

Among females as shown in Table 13, (60 to 65 years) 88 per cent, 12 per cent and 0 per cent had Low, Medium and High Attitude level and 8 per cent 48 per cent

44 per cent post attitude level. Females in the age group of 66 to 70 years had pre-test Attitude level of 84 per cent, 16 per cent and 0 per cent at Low, Medium and High level, whereas, the post-test Attitude level improved to 4 per cent, 60 per cent and 36 per cent, respectively.

In post-test among all the respondents of the study 8 per cent, 56 per cent and 36 per cent belonged to Low, Medium and High Attitude level, respectively, accepting the hypothesis, that JNE Pack influences attitude level of respondents.

It can be concluded that, respondents had attained relatively higher level of change in Attitude about health because of JNE Pack. The same is depicted in Fig. 2.
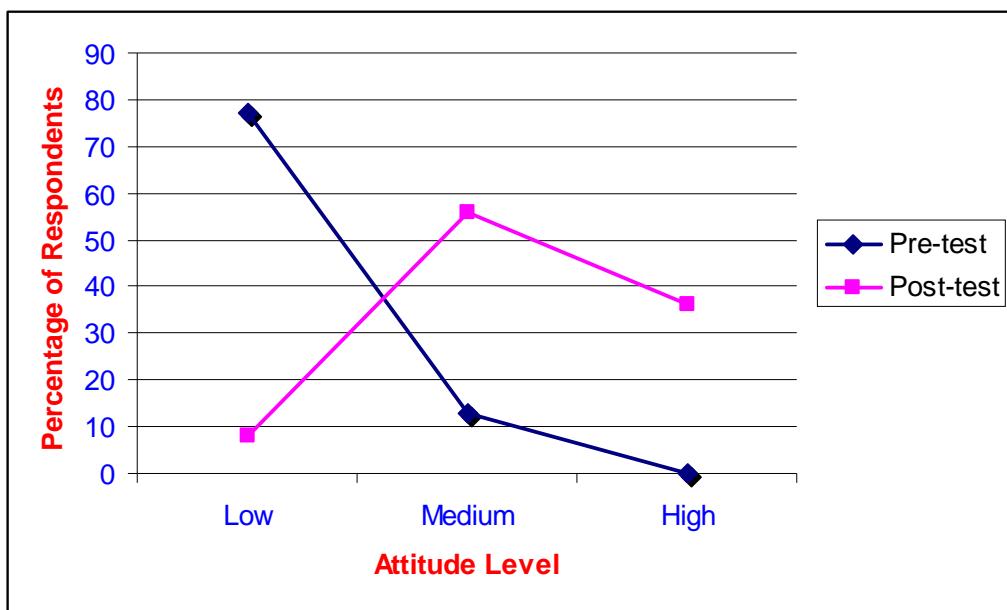
Fig. 2 : Distribution of Total Respondents According to their Attitude Level.

Practice (P) Level :

Practice gives idea about adoption of knowledge acquired. P level helps in assessing the practical impact of education in the study. The respondents were subjected to pre and post practice test. The data related are presented in Table 13 and 14.

Table 13 : Distribution of male respondents according to their practice level.

S.N.	K Level	60 to 65 years		66 – 70 year	
		Pre	Post	Pre	Post
1	Nil	0 (0)	0 (0)	0 (0)	0 (0)
2	Low	19 (76)	2 (8)	21 (84)	1 (4)
3	Medium	6 (24)	20 (80)	3 (12)	19 (76)
4	High	0 (0)	3 (12)	1 (4)	5 (20)
	Total	25 (100)	25 (100)	25 (100)	25 (100)

Table 14 : Distribution of female respondents according to their practice level.

S.N.	K Level	60 to 65 years		66 – 70 year	
		Pre	Post	Pre	Post
1	Nil	0 (0)	0 (0)	0 (0)	0 (0)
2	Low	18 (72)	2 (8)	20 (80)	1 (4)
3	Medium	6 (24)	20 (80)	4 (16)	19 (76)
4	High	1 (4)	3 (12)	1 (4)	5 (20)
	Total	25 (100)	25 (100)	25 (100)	25 (100)

Figure in parenthesis indicate per centage.

Table 13 and 14 clearly indicate that there was remarkable improvement the practice level at post stage.

Among male respondents (60-65 years) Low, Medium and High levels of practice were observed in 76 per cent, 24 per cent and 0 per cent respondents. There figures, at the post-test stage, changed to 8 per cent, 80 per cent and 12 per cent showing improvement. In 66 to 70 years old male respondents, 84 per cent, 12 per cent and 4 per cent at pre-test stage were in Low, Medium and High practice level, respectively. At post-test level, the corresponding figures were 04 per cent, 76 per cent and 20 per cent, respectively.

In case of 60 to 65 years old female respondents 72 per cent, 24 per cent and 4 per cent at pre-test stage were in Low, Medium and High level respectively. At post-test stage, the corresponding figures were 8 per cent, 80 per cent and 12 per cent, respectively. While in 66 to 70 years age group the values obtained were 80 per cent, 16 per cent and 4 per cent in the pre-test.

The corresponding values in post-test stage were 4 per cent, 76 per cent and 20 per cent in Low, Medium and High Practice level, respectively.

In all the categories the results showed a significant improvement in practice because of the JNE Pack. The overall data is represented in Fig. 3.
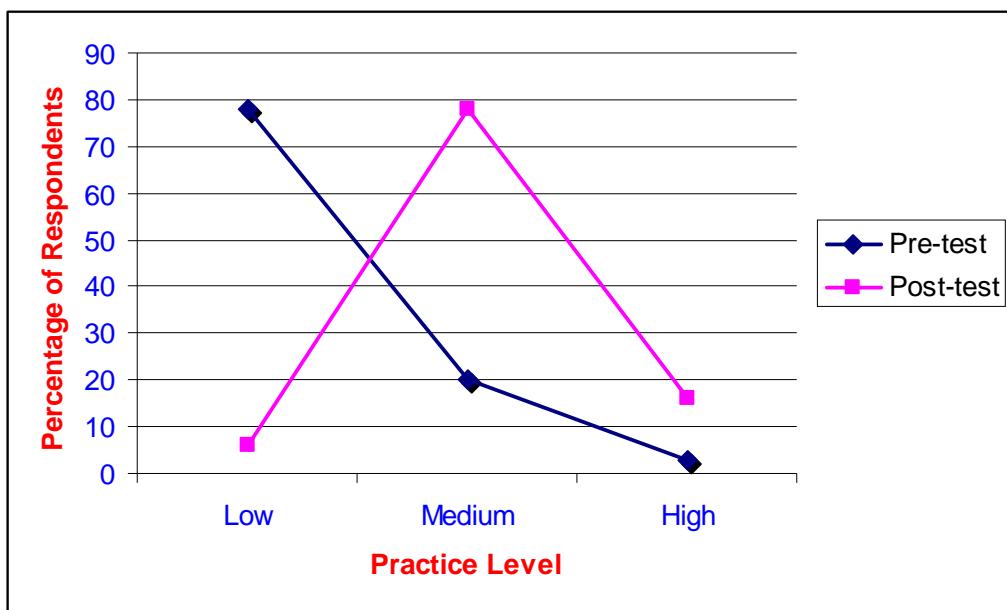
Fig. 3 : Distribution of total respondents according to their practice level.

The data related to practice clearly show a definite improvement because of the JNE Pack. It was observed that there was positive influence of health education through JNE Pack on Practice level of the respondents.

4.3 Mean per cent change in KAP.

Per cent change in Knowledge, Attitude and Practice of respondents reflects the impact of JNE Pack on their behavioural changes. The findings are listed in Table 15.

Table 15 per cent change in Knowledge, Attitude and Practice (Behaviour) of the respondents.

Impact of JNE Pack was calculated in terms of per cent change in the Knowledge, Attitude and Practice. The mean values of per cent change in Knowledge, Attitude and Practice of respondents belonging to different groups is presented in Table 15.

Table 15 : Mean values of per cent change in Knowledge, Attitude and Practice of the respondents (N-100).

S.No.	Group	Mean per cent change		
		Knowledge	Attitude	Practice
1	60 – 65 years Male	147	121	98
2	66 – 70 years Female	174	151	102
3	60 – 65 years Male	156	129	109
4	66 – 70 years Female	179	172	118

The conclusions drawn from Table 15 are mentioned below.

i)   Generally, the impact of JNE Pack assessed in terms of per cent change is maximum in case of knowledge, closely followed by Practice, leaving attitude in 3rd Position. Respondents, when exposed to JNE Pack found it easy to enhance their knowledge of health. Changing their Attitude was more difficult for them, while changing their Practice was most difficult.

ii)   In Indian society, traditionally there are so many fads related to health and hence change in attitude is very difficult. However, in the present research significant change in Attitude was achieved as evidenced in Table 15.

iii)   The trend in per cent change in KAP was the same in both the age groups and both the sexes.

Hence, it can be concluded that, there was significant influence on per cent change in KAP due to administration of the JNE Pack. Further per cent change in Knowledge, Attitude and Practice. This in turn reflects the impact on their behavioural change.

In short, it can be concluded that, within a short period of 6 months, respondents were definitely benefited by JNE Pack health education. If this education is applied in depth and ongoing basis, results can be better.

Chapter 4

SUMMARY AND CONCLUSION

Old age population in India is likely to increase from 70 millions in 1995 to 141 million by 2020 and 508 million by 2100 according to World Bank Projection. Hence, challenge before us is to prevent physiological ageing getting converted into pathological and psychological ageing. In the early traditional society, joint family ensured the security of the old age population unlike the western countries. Over the years nuclear family pattern has taken place of joint family. Healthy ageing should be the main objective of all age care programmes.

Taking into consideration the importance of the subject this study aims to fulfill this requirement of elderly people. This was achieved by developing a Jara Niramay Education Pack (JNE Pack) with the following objectives.

1. To develop Jara Niramay Pack for elderly.

2. To assess the impact of standardized pack on Knowledge, Attitude and Practice of elderly people.

Hypothesis were framed on the basis of objectives laid down. There is a significant change in behaviour (KAP) of the respondents after adopting JNE Pack.

Detailed methodology was developed for studying various aspects of the study. The locale of the study was area in Amravati Municipal Corporation in Maharashtra. The package developed was named as JNE Pack with the specific objective of retaining health of the senior citizens. The contents were decided

by the researcher by reading related materials, discussing with knowledge senior citizens, practicing medical experts and nutritionists, referring reports, journals and magazines. The list of contents and subcontents was made covering all the important factors.

Judges opinions were obtained in terms of ranking, rating, selecting and giving suggestions. Educational utility of each content was considered for elaboration. This JNE Pack was further standardized and Reliability was tested.

Selection of the sample was done by purposive stratified random sampling method. The total sample of 100 beneficiaries was included 25 each in form groups. (i) 60-65 years (male), (ii) 66 – 70 years (female), (iii) 60-65 years (male) and (iv) 66-70 years (female). Thus, total 100 beneficiaries were included in the experiment.

Data and information was collected regarding i) General information ii) Family information iii) Social information iv) Health information and v) Data related to Knowledge, Attitude and Practice about health before and after imparting JNE Pack.

Six months from day 1 post-test assessment was done. The same set of questions based on Knowledge, Attitude and Practice as asked earlier during pre-test were asked to the respondents. Thus, pre and post-test scores for KAP of each respondent were obtained. Data thus collected was tabulated with frequencies and per centages. Age, education, religion, family type, income, social status and profession were dependent variables and knowledge, Attitude and Practice were independent variables. Low, Medium and High were the

categories prepared for KAP indices. Per cent change was noted using the standard formula. Mean and per cent change were calculated.

The findings of the study reveal that more respondents belonged to Hindu religion. Most of the respondent belonged to small family, which means that they have no helping hand. Further the results reveal that maximum respondents were graduates (64 per cent) followed by post graduate group (28 per cent) and very few 8 per cent were matriculate. Among the respondents maximum (46 per cent) belonged to higher middle income group and considerable number (37 per cent) was observed in lower middle class. Very few respondents (17 per cent) were from upper class. It was noted that all the samples were socially active either medium or high (fifty per cent each). Among the respondents all of them were retired from their jobs. Very few were from business class.

Important results of the present research were regarding the knowledge they possess, the attitude they keep and the practice they adopt regarding health aspect.

Knowledge level being a very important parameter, pre and post-test scores on knowledge were assessed and categories were made. In initial testing, majority samples belonged to 'Low' knowledge level group that changed to medium and high levels in the post test. It is pertinent to note that there were two significant changes at post stage. Firstly, there was significant decrease in the per centage of respondents in the Low K level category, secondly, there was a significant increase in High K level respondents at post test level stage.

This conclusively demonstrate the effectiveness of JNE Pack. This supports the hypothesis that health education influences the knowledge level of the respondents.

Attitude about health of respondents was assessed as psychology of the individual plays greater role in the development of an attitude. It was concluded that respondents had attained relatively higher level of change in Attitude about health because of JNE Pack. This also accepted the hypothesis, that JNE Pack influences attitude level of respondents.

Practice gives idea about adoption of knowledge acquired. It helps in assessing the practical impact of education in the study. In all the categories the results showed a significant improvement in practice because of the JNE Pack. A positive influence of health education through JNE Pack on practice level could be observed that support the hypothesis.

Per cent change in Knowledge, Attitude and Practice of respondents reflects the impact of JNE Pack on their behavioural change. The findings show that, the impact of JNE Pack assessed in terms of per cent change is maximum in case of Knowledge, closely followed by Practice, leaving attitude in third position. Respondents, when exposed to JNE Pack found it easy to enhance their knowledge of health, changing their attitude was more difficult while changing their practice was most difficult.

Hence, it can be concluded that there was significant influence of JNE Pack on Knowledge, Attitude and Practice which in turn reflect behavioural change.

IMPLICATIONS :

The present research has developed a standard health education package for senior citizens and has assessed its impact on behavioural changes among them. The assessment has revealed a significant positive impact on behaviour.

1. The JNE Pack can become a part and parcel of welfare programme meant for senior citizens.

2. It will help the community or nation to resolve the problems of health (Physical, Mental and Psychological) of senior citizens.

3. Nutrition education through the JNE Pack will be of immense help in giving boost to empowerment of senior citizens.

4. Various organizations, both Governmental and non governmental, that are engaged in the fields like family welfare, community nutrition, nutrition education can duly adopt the JNE Pack in their respected fields.

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Appendix 1

Jara Niramaya Education Package

Appendix 2

Judges Rating for JNE Package Contents

S.N.	Contents of Package	Ranking Importance as regards to education	Rating Importance of contents in Column 1 Tick ✓					Selecting Effective Education Method			
			VI	I	LI	NI	CS	L	ID	GD	AO
	Old age										
1	**General Information**										
	Status of old age										
	Importance of adjustment										
	Features of old age										
	Individual difference										
	Unfavourable social attitude										
	Decline in comparionship										
	Decline in mental functions fatigue										
2	**Developmental tasks of old age**										
	New living arrangements										
	Change in pattern of living										
	Finding new activities										

	Involve in community activities													
	Safety at home													
3	**Adjustments in old age**													
	Social													
	Psychological													
	Health													
4	**Common complications in old age**													
	Brain related													
	Heart related													
	Digestive system related													
	Bones related													
	Other													
5	**Malnutrition during old age**													
	Causes													
	Types													
6	**Socio psychological problems**													
	Withdrawal													
	Cause of the problems													
	Overcoming the problems													

7	**Exercise in old age**												
	Importance												
	Types of exercises												
8	**Stress management**												
	Causes												
	Overcoming stress												
9	**Diet during old age**												
	Rules of diet												
	Menu plan (sample)												
	Nutrient requirement												
10	**Any other comment**												

Remarks and Suggestions :

Appendix 3

Item wise knowledge of the respondents

S. N.	Description of item	Respondents			
		Pre-test		Post-test	
		Correct	Wrong	Correct	Wrong
1	What is an old age ?				
2	Why old age needs attention ?				
3	Is there any physical, mental change ?				
4	Do you feel that family members should respect you ?				
5	What are the physical features of old age?				
6	What are the mental features of old age?				
7	Why different living arrangements are needed during old age?				
8	What is the role of friends?				
9	Why old people should involve in social activities?				
10	How should old people protect themselves from sales persons, criminals etc?				
11	Do old people need entertainment? Give causes.				
12	Do old people need to know the physiology of old age disorders?				
13	What are the characteristics of diseases commonly faced during old age?				

14	What is the function of food?				
15	What are the different nutrients?				
16	What are the functions of nutrients?				
17	What are the benefits of exercise ?				
18	What are the types of exercise suitable for old people?				
19	What is stress ?				
20	What are the causes of stress and stress releasing techniques ?				

Appendix 4

Item wise Attitude of the respondents

S.N.	Description of item	Respondents			
		Pre-test		Post-test	
		Agree	Disagree	Agree	Disagree
1	Old age is an unavoidable stage of life.				
2	Attention is needed during old age				
3	There are tremendous changes in old age				
4	There are certain physical features of old age				
5	There are certain mental changes in old age				
6	Different living arrangements are needed in old age				
7	Friends play major role in life of old person.				
8	Old people should involve in social activities				
9	Old people should protect themselves from criminals and sales persons.				
10	Old people should engage themselves in entertainments				
11	Old people need to know physiology of common disorders				
12	Old people need lesser food				
13	Old people should consume small meals frequently				

14	All food groups should be included in the diet.				
15	Exercise are beneficial for health				
16	Stress releasing practices must be adopted				
17	Old people must be mentally peaceful and cheerful				
18	Old people must consume easy to digest food				
19	Old people must adopt themselves to younger generation's lifestyle				
20					

Appendix 5

Item wise Practice of the respondents

S. N.	Description of item	Respondents			
		Pre-test		Post-test	
		Correct	Wrong	Correct	Wrong
1	Every old person takes care of oneself.				
2	Old person considers old age is unavoidable stage.				
3	Old person gets respect in the family				
4	Old person adjusts in the changed living arrangement				
5	Old person enjoys in the friend circle				
6	Old person involves in social activities				
7	Old person protects oneself from sales person				
8	Old person gets entertained without disturbing others				
9	Old person knows the physiology of old age disorders				
10	Old person knows the functions of food and takes foods accordingly				

11	Old person knows the nutrients and is nutrition conscious				
12	Old person accepts the meals that are modified to suit the age				
13	Old person has started enjoying walk				
14	Old person exercises regularly				
15	Old person performs stress releasing techniques				