

Effect of Certain *Dinacharya* Measures and Dietary Practices on Quality of Life of Elderly: A Cross Sectional Survey Study

Research Article

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Abstract

Old age is sensitive period of life that needs extra care, so as to manage many of age related disorders that affect the quality of life of an elderly. As per Ayurveda, Ageing is a natural phenomenon. To achieve the goal of maintaining the health, *Dinacharya* (daily regimen), which includes certain measures like body massage, head and feet massage, incorporation of milk and ghee in diet due to their rejuvenating effect and many more simple and effective modes. Aims: To assess the effect of certain *Dinacharya* (daily regimen) and dietary practices on quality of life of elderly. Methodology: Cross sectional survey of 100 elderly in age group 60-90yrs residing in and around Delhi NCR was conducted. The data was collected with the help of specially designed questionnaire about practices of daily regimens and EQ-5D-5L questionnaire to assess quality of life. Observations and Results: The study shows that 72 % subjects had poor to average score with respect to EQ 5D scale. Regular adoption of daily regimen in the form of exercise (36 % subjects), intake of milk (46 % subjects) Intake of ghee (13 % subjects), proper sleep (85 % subjects) and body massage with oil (39 % subjects) and head massage with oil (39 % subjects) is moderate. Conclusion: Old age being a vulnerable period of life, healthy regimen should be adopted as early as possible to experience less morbidity during old age. Extensive adaptation of daily regimen as mentioned in Ayurveda is needed to reduce the health care burden causes due to geriatric dependency.

Key Words: *Daily regimen, Padabhyanga, Shirobhyanga, Milk, Ghee.*

Introduction

Old age covers 30-40 % of life of an individual on considering life expectancy to be 80-100 years. It enhances financial burden due to increasing incidence of illness during old age. As per Ayurveda, Aging is a natural phenomenon. As the age advances occurrence of chronic diseases like diabetes, hypertension, cardiac ailments, nutritional deficiencies, osteoporosis, psychological ailments like depression and other associated conditions increases. Ayurveda has a major role in increasing the quality of life as age progresses.

Ayurveda advocates, simple and efficient modality *Dinacharya* (daily regimen) for health promotion, longevity and disease prevention. *Dinacharya* (daily regimen) in Ayurveda includes early waking up, timely sleep, exercise various procedures like *Nasya* (nasal instillation of oil), *Abhyanga* (body

massage with oil), *Shirobhyanga* (head massage with oil), *Padabhyanga* (foot massage with oil) etc.

Milk and Ghee are best rejuvenating (1) food items for daily intake (2). Hence, the present study was carried out to know the effect of certain *Dinacharya* (daily regimen) measures and use of milk and ghee in geriatric population.

Objective

To assess the effect of certain *Dinacharya* (daily regimen) and dietary practices on quality of life of elderly.

Materials and Methods

The persons residing in and around the Delhi NCR were interviewed after taking their consent. One hundred subjects belonging to 60-90 years of age group were randomly selected and surveyed about their health conditions along with their daily regimen history as per designed short format.

Types of study design

Cross-sectional Study

Setting

Subjects attending OPDs of All India Institute of Ayurveda, New Delhi and Delhi NCR.

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Inclusion

1. Age -60 year to 90 year.
2. Both the gender.

Exclusion

1. People unwilling to participate in the study.
2. Individuals below 60 years above 90 years.

Sample size calculation

The sample size for the cross sectional studies are calculated as following formula (3)

$$N = Z^2 \times P(1-P) / d^2$$

Where Z= level of confidence; P= expected prevalence; d= precision

For this study we assumed P=0.6 and d=0.1 at 95% level of confidence

$$\begin{aligned} \text{Then} \\ N &= (1.96)^2 \times 0.6 \times 0.4 / (0.1)^2 \\ &= 0.921984 / 0.01 \\ &= 92.1984 \end{aligned}$$

Again minimum sample size for conducting survey study is 100. (4)

Survey Tool

- I. EQ-5D-5L - The 5-level EQ-5D version (EQ-5D-5L) was introduced by the Euro Qol Group in 2009 to improve the instrument's sensitivity and to reduce ceiling effects, as compared to the EQ-5D-3L. The EQ-5D-5L essentially consists of 2 pages: the EQ-5D descriptive system and the EQ visual analogue scale (EQ VAS) (5)
- II. A specially designed questionnaire to know the *Dinacharya* (daily regimen) practices in elderly people.

Observations and Results

The data collected were systematically entered in the Microsoft excel sheets. The analysis of data was also done by using Microsoft excel. The subjects of the study were categorized in to three age groups as shown in the Table-1.

Table 1: Distribution of Subjects according to age group (N=100).

Age group	No of participants
60-70 years	83
70-80 years	12
80-90 years	5

Table 2: Distribution of Subjects according to gender (N=100).

Gender	No. of Participants
Male	53
Female	47

Table 3: Distribution of subjects according to their health complaints (N=100).

Dimensions	No complaint	Mild	Moderate	Severe	Unable to perform/ extreme
Mobility	26	34	25	14	1
Self-care	32	52	13	3	0
Usual activity	30	36	26	3	5
Pain and Discomfort	19	47	15	12	7
Anxiety and Depression	13	52	32	3	0

Table 4: Distribution of subjects according to their general wellbeing (N=100).

Sl. No	Score	Interpretation	Number	Percentage
1	40-55	Poor	13	13
2	55-70	Average	59	59
3	70-85	Good	25	25
4	85-100	Very good	3	3

Table 5: Distribution of subjects according to their *Dinacharya* practices (N=100).

Regimens	Daily	Twice in a week	Once in a week	Occasionally	Never
Exercise	36	1	3	13	47
Milk intake	46	0	4	28	22
Ghee intake	13	3	2	36	46
Day sleep	48	4	0	30	18
Awakening at night	15	0	0	43	42
Oil massage on body	39	10	2	21	28
Head Massage	39	26	8	19	8

Discussion

Exercise

About 47 % among elderly never exercised and 16 % rarely exercised (Ref. Table 5). That may be the reason for poor to average scores among 59 % and 13 % respectively among elderly in the study (Ref. Table 4). It may also contribute to the high proportion (19% severe and 15 % moderate) of pain and discomfort and anxiety and depression (32 % moderate and 3 % severe) in the study group (Ref Table No. 3). Exercise gives stability (6). Exercise is a solution for various non-communicable diseases like diabetes, obesity, hypertension etc. Research in India, show a prevalence from 13% to 25%, which is similar to observations in present study (7). Corticosterone secretions are enhanced in psychological disorders (8). The hypothalamus releases corticotrophin-releasing factor (CRF) and anterior pituitary releases ACTH after Voluntary exercise. (9) (10) Hence, physical, psychosomatic and psychological ailments can be prevented as well as managed by regular exercise in geriatric population.

Milk and ghee intake

The study shows that 46% of subjects were taking milk daily (Ref. Table 5) which may be the cause that only 15% of people had severe mobility disorder (Ref. Table 3). Because as per Ayurveda Cow's milk and ghee are best among *Rasayana Dravyas*. Depletion of tissues (*Dhatu Kshaya*) occurs in old age due to aggravation of *Vata* and milk and ghee pacify *Vata* and promote formation of tissue (*Dhatu*) (11) (12). Milk is considered as complete food and a rich source of calcium (13). Milk also contains micronutrients like phosphorous, Retinol, Riboflavin, Niacin and folic acid which are helpful for preventing early aging (14).

Day sleep

Forty-eight subjects were sleeping at day time (Ref. Table 5) which may be the cause for high prevalence (19 %) of pain and discomfort (Ref. Table 3). Day sleep aggravates *Kapha* which may obstruct the channels (15). The channel obstruction may further reduce *Dhatu Poshana*. Reduced *Dhatu Poshan* can again cause early aging.

Awakening at night

Only 15% of subjects were awakening at night which shows that rest of subjects had good sleep (Ref. Table 5). Old age is a stage of *Vata* predominance (16). Awakening at night further increases *Vata* (17). The increased *Vata* reduces *Bala* (Strength/vitality) of the body.

Body and head massage with oil

About 39 % of subjects practiced Massage daily (Ref. Table 4). Massage is indicated daily and will be very much helpful in geriatric population as it pacifies *Vata* and nourishes *Dhatu*s (18). This may be the reason for good sleep at night among 85% (Ref. Table 5). Further, this may be the reason for majority (66%) of

subjects experiencing no or mild pain despite of their old age (Ref. Table 3). The score in self-care and usual activity (68% and 70% respectively Ref. Table 3) was not much satisfactory which may be the cause of 59% (Ref. Table 4) of subjects were having average general wellbeing score.

Limitation of the study

This is a pilot study comprising only 100 subjects and only in Delhi NCR. Large sample study is needed for the complete evaluation.

External Validity of study

Over all it has been observed that the quality of life was better in subjects following practices in daily regimen like exercise, body and head massage with oil and healthy sleeping habits. These are very simple cost-effective measures that can be implemented in one's life for health promotion and better quality of life especially in country like India.

Conclusion

The study shows that 72 % subjects had poor to average score with respect to EQ 5D. Regular adoption of daily regimen in the form of exercise (36 % subjects), intake of milk (46 % subjects) Intake of ghee (13 % subjects), proper sleep (85 % subjects) and body massage with oil (39 % subjects) and head massage with oil (39 % subjects) is moderate. Old age being a vulnerable period of life, healthy regimen should be adopted as early as possible to experience less morbidity during old age. Extensive adaptation of daily regimen as mentioned in Ayurveda is needed to reduce the health care burden causes due to geriatric dependency.

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