

# AN EPIDEMIOLOGICAL STUDY ON QUALITY OF LIFE AMONG RURAL ELDERLY POPULATION OF NORTHERN INDIA

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## ABSTRACT

**Background:** Population ageing is a recognized international reality, both in developed and developing countries. The number of elderly in the developing world is increasing due to demographic transition, whereas their condition is deteriorating as a result of fast eroding traditional family system coupled with rapid modernization and urbanization. Current statistics for the elderly gives a prelude to a new set of medical, social and economic problems that could arise if a timely initiative in this direction is not taken.

**Aims & Objective:** To determine the pattern of physical morbidity in rural elderly population and to study health related quality of life and utilization of health services among them.

**Material and Methods:** A community based cross-sectional design was adopted for studying the health problems of elderly and their health related quality of life, using WHO Quality of Life-BREF (WHOQOL-BREF) questionnaire. Simple random sampling technique was used for sample collection. A total of 660 individual  $\geq 60$  years of age were taken up for the study purpose.

**Results:** An overwhelming majority (68.2%) of elderly enjoyed a good quality of life, while those having a fair/poor quality of life were  $\leq 15\%$ . Quality of life was better in males in physical, psychological, social and environmental domains. It was more in subjects who had graduated and currently married, belonged to non-scheduled cast and living in extended families ( $p < 0.001$ ). Majority of the subjects were anaemic (64.5%), suffering from dental problems (62.2%) and joint pains (51.4%). Maximum numbers of subjects (92.7%) were utilizing non-government health care facility due to long distance from their houses (33.3%).

**Conclusion:** There is a need to highlight the medical and psychosocial problems that are being faced by the elderly people in India and strategies for bringing about an improvement in their quality of life.

**KEY-WORDS:** Modernization; Morbidity; Population Ageing; Urbanization

## Introduction

The elderly are a precious asset for any country. With rich experience and wisdom, they contribute their might for sustenance and progress of the nation. Their special health and economic issues differ from those of the general population. The United Nations Principles aim to ensure that priority attention will be given to the situation of older persons and addresses their independence, participation, care, self-fulfillment and dignity.<sup>[1]</sup> The world is in the midst of a unique and irreversible process of demographic transition that will result in older populations everywhere. As fertility rates decline, the proportion of persons aged 60 and over is expected to double between 2007 and 2050, and

their actual number will be more than triple, reaching 2 billion by 2050.<sup>[2]</sup>

Ageing is a universal process and it affects every individual, family, community and society. It is a normal, progressive and irreversible process. Sir James Sterling Ross commented "You do not heal old age, you protect it, you promote it and you extend it". These are in fact the principles of Preventive Medicine. Ageing is generally defined as a process of deterioration in the functional capacity of an individual that results from structural changes, with advancement of age.<sup>[3]</sup> It is not merely a matter of accumulating years but also a process of "adding life to years, not years to life." The world health day theme in 2012 was "Good health adds life to years". The focus was how good health throughout life can help older men and women lead full and productive lives and

be a resource for their families and communities. Ageing concerns each and every one of us – whether young or old, male or female, rich or poor – no matter where we live.<sup>[4]</sup>

World Health Organization defined quality of life as “an individual's perception of life in the context of culture and value system in which he or she lives and in relation to his or her goals, expectations, standards and concerns”.<sup>[5]</sup> It is thus a broad concept covering the individual's physical health, mental state, level of independence, social relationships, personal beliefs and their relationship to salient features in the environment. The rapidly growing absolute and relative numbers of older people in both developed and developing countries mean that more and more people will be entering the age when the risk of developing certain and debilitating diseases is significantly higher. The challenge in the 21<sup>st</sup> century is to delay the onset of disability and ensure optimal quality of life for older people.<sup>[6]</sup> A major component of the burden of illness for the elderly derives from prevalent chronic disabling conditions that often accompany ageing. This can be prevented or delayed, not only by medical but also by social, economic and environmental interventions.

Thus, the current statistics for the elderly gives a prelude to a new set of medical, social and economic problems that could arise if a timely initiative in this direction is not taken by the program managers and policy makers. There is a need to highlight the medical and psychosocial problems that are being faced by the elderly people in India and strategies for bringing about an improvement in their quality of life also need to be explored. In Northern part of India (Haryana), less work has been done till date to reveal health status of elderly population. This research is an attempt to study the variables affecting the old age persons residing in the rural areas of Haryana. This may serve as a baseline data and help in planning the services for this section of population.

## Materials and Methods

The study was conducted in rural elderly population of district Ambala, Haryana residing in

field practice areas of Department of Community Medicine of MM Institute of Medical Sciences & Research, Mullana. The three rural health centers of the department cater to a population of 136178. As per survey registers there are 9436 elderly in the study area with 3,324 in Barara, 3,107 in Mullana and 3005 in Nahoni. A community based cross-sectional design was adopted for studying the health problems of elderly and their health related quality of life. Study participants were selected as per following inclusion and exclusion criteria.

**Inclusion Criterion:** All individuals more than or equal to 60 years of age.

**Exclusion Criteria:** (1) Individuals below 60 years of age; (2) Those participants who were not willing or in position to give information due to any reason.

Simple random sampling was used for sample collection. To work out the required sample size the following equation was applied ( $Z^2P(1-P)/e^2$ ). The literature review revealed that the prevalence of various health problems in elderly varies from 8% to 80%. Few studies that have been conducted among elderly in Haryana report the prevalence of morbidity and co-morbidity in the range of 40-50%. The sample size was calculated by presuming the prevalence of health problems in this age group to be 40%. Taking margin of error as 10% the sample size came out to be 600. Assuming non-response rate to be 10%, 660 individuals were taken up for the study.

## Sampling Technique

Simple random sampling technique was used for sample collection. This was done by random number table method. A list of all the elderly residing in the study area was procured from survey register of all the three rural health centers. All the households with elderly were separately allotted a serial number. Now a list of random numbers was generated by random number generator on computer with help of programme Stat trek. available on the following link <http://stattrek.com/Tables/Random.aspx>. This table of 660 random numbers was produced by randomly selecting numbers from within the range of 1 to 9436. Duplicate numbers were

allowed. All the elderly living in the selected house were included in the study.

### Study Tools

- a) Proforma for assessing physical morbidity pattern and associated risk factors: A standardized proforma was used for assessing physical morbidity patterns in rural aged devised by Indian Council of Medical Research (ICMR). It included questions related to socio demographic, clinical and psychosocial factors.
- b) Proforma for assessing health services utilization by Elderly: A self-designed, semi-structured proforma was used to assess pattern of health services utilization among elderly.
- c) Proforma to study the health related quality of life: The WHOQOL-BREF<sup>[5]</sup> was used to assess the quality of life. It took into consideration four domains of quality of life i.e. physical, psychological, environmental and social relationship. It had 26 questions and the mean score of items within each domain was used to calculate the domain score. Method for manual calculation of individual scores are as follows:
  - Physical domain-  $[(6-Q3) + (6-Q4) + Q10 + Q15 + Q16 + Q17 + Q18] \times 4$
  - Psychological domain-  $[Q5 + Q6 + Q7 + Q11 + Q19 + (6-Q26)] \times 4$
  - Social Relationship domain-  $[Q20 + Q21 + Q22] \times 4$
  - Environmental domain-  $[Q8 + Q9 + Q12 + Q13 + Q14 + Q23 + Q24 + Q25] \times 4$

If more than 20% of the data was missing from an assessment then the assessment was discarded. Where up to 2 items were missing, the mean of other items in the domain was substituted. Where more than 2 items were missing, the mean of other items in the domain was not calculated. These scores were then transformed to scale of 0-100 by multiplying each domain scores with 100/16.

### Strategy

The data was collected by house to house visit. Informed and written consent was taken from

participants before initiation of the study. The eligible subjects who agreed to participate were interviewed at home by the investigator. After building rapport with the patient and recording their socio-demographic data, the illness/disease status of the elderly subjects were enquired from the participant and their family members and a detailed history was taken. The participants were asked to show all the medications/medical reports they had. Subsequently, their symptomatology was noted and a general physical examination was carried out. Based on reported illness, clinical features, medical records, investigation and the medication they had with them, a provisional clinical diagnosis was made and coded according to the International Classification of Diseases, Tenth Revision (ICD-10). Information on treatment-seeking behavior, any surgical operation and history of fall after 60 years with its outcome was also noted. After clinical examination, if felt necessary laboratory investigations were done at the health centers attached to the department.

### Ethical Consideration

The present study did not impose any financial burden to the patients and informed and written consent was taken from the participants before conducting the study.

### Data Analysis

Scoring WHOQOL was done with the help of SPSS software and the template provided by WHO for this purpose. Appropriate statistical methodology like percentages, student's t-test, chi-square test was used for analyzing data. Advanced statistical techniques like Logistic regression analysis were also attempted. Data was analyzed by using Epi-Info version 6 and /or SPSS-17 Software packages.

### Results

This community based cross-sectional study was conducted with the objective to determine the pattern of physical morbidity, related socio demographic and psychosocial variables and health related quality of life among rural elderly population of field practice areas of department of Community Medicine, MM Institute of Medical

Sciences & Research, Mullana, Ambala. A total of 660 subjects including 336 (50.9%) male and 324 (49.1%) females were taken.

**Table-1a: Socio-Demographic Profile of Respondents**

| Characteristics       |                                   | Males (N & %) | Females (N & %) | Total (N & %) |
|-----------------------|-----------------------------------|---------------|-----------------|---------------|
| Age (years)           | 60-64                             | 90 (26.8)     | 96 (29.6)       | 186 (28.2)    |
|                       | 65-69                             | 90 (26.8)     | 96 (29.6)       | 186 (28.2)    |
|                       | 70-74                             | 78 (23.2)     | 69 (21.4)       | 147 (22.2)    |
|                       | ≥ 75                              | 78 (23.2)     | 63 (19.4)       | 141 (21.4)    |
| Marital Status        | Currently Married                 | 240 (71.4)    | 155 (47.8)      | 395 (60.8)    |
|                       | Unmarried                         | 24 (7.2)      | 03 (0.9)        | 27 (4.2)      |
|                       | Widower/ Widow                    | 68 (20.2)     | 162 (50.0)      | 230 (34.8)    |
|                       | Divorced                          | 1 (0.3)       | 03 (0.9)        | 04 (0.6)      |
|                       | Living away from spouse           | 03 (0.9)      | 1(0.3)          | 04 (0.6)      |
| Education             | Illiterate                        | 165 (49.1)    | 257 (79.3)      | 422 (63.9)    |
|                       | Primary                           | 60 (17.8)     | 42 (12.9)       | 102 (15.5)    |
|                       | Middle                            | 54 (16.1)     | 21 (6.5)        | 75 (11.4)     |
|                       | High School                       | 45 (13.4)     | 03 (0.9)        | 48 (7.3)      |
|                       | Graduate                          | 12 (3.6)      | 1 (0.3)         | 13 (1.97)     |
| Occupation            | Household                         | 129 (38.4)    | 230 (71)        | 359 (54.4)    |
|                       | Agriculture                       | 84 (25.0)     | 1 (0.31)        | 85 (12.9)     |
|                       | Business                          | 33 (9.8)      | 03 (0.9)        | 36 (5.6)      |
|                       | Service                           | 06 (1.8)      | 1 (0.31)        | 07 (1.06)     |
|                       | Unskilled labour                  | 12 (3.6)      | 18 (5.6)        | 30 (4.5)      |
|                       | Skilled labour                    | 21 (6.2)      | 03 (0.9)        | 24 (3.6)      |
|                       | Not working                       | 51 (15.2)     | 68 (20.9)       | 119 (18.2)    |
| Source of Livelihood  | Own Income                        | 189 (56.2)    | 24 (7.4)        | 213 (32.3)    |
|                       | Receiving Support from Government | 15 (4.5)      | 21 (6.5)        | 36 (5.4)      |
|                       | Supported by family               | 129 (38.4)    | 278 (85.8)      | 409 (61.97)   |
|                       | Destitute                         | 03 (0.9)      | 1 (0.31)        | 04 (0.5)      |
| Socio-Economic Status | Category I (>3001)                | 29 (8.6)      | 18 (5.5)        | 47 (7.1)      |
|                       | Category II (2001-3000)           | 60 (17.9)     | 48 (14.8)       | 108 (16.4)    |
|                       | Category III (1001-2000)          | 108 (32.1)    | 99 (30.6)       | 207 (31.4)    |
|                       | Category IV (251-1000)            | 130 (38.6)    | 150 (46.2)      | 280 (42.4)    |
|                       | Category V (<250)                 | 09 (2.7)      | 09 (2.8)        | 18 (2.7)      |
| <b>Total</b>          |                                   | <b>336</b>    | <b>324</b>      | <b>660</b>    |

**Table-1b: Characteristics of Subjects according to Religion and Type of Family**

| Characteristics |              | Total      | %          |
|-----------------|--------------|------------|------------|
| Religion        | Hindu        | 594        | 90         |
|                 | Sikh         | 40         | 6.1        |
|                 | Muslim       | 25         | 3.8        |
|                 | Christians   | 1          | 0.10       |
| Type of Family  | Joint        | 480        | 72.7       |
|                 | Nuclear      | 108        | 16.4       |
|                 | Extended     | 39         | 5.9        |
|                 | Living alone | 33         | 5.0        |
| <b>Total</b>    |              | <b>660</b> | <b>100</b> |

A total of 660 respondents (50.9% male and 49.1% females) were included in the present study. Out of the total subjects, maximum were in the age group of 60-69 years (Males=53.6% &

Females = 59.2%) respectively. Regarding marital status, majority of the subjects were currently married (60.81%) whereas <1% were divorced/living away from spouse. In regards to educational status 63.9% were illiterates (Females=79.3% > Males=49%) and very less number of subjects were graduate or had high school education. As far as occupation was concerned, majority (71.0%) of the females were engaged in household activities whereas 18.2% were sitting idle. Table further illustrates that 61.97% were supported by family and more than half of the subjects (56.2%) had their own income as far as source of livelihood was concerned. A total of 72.8% belonged to lower socioeconomic status (SES-IV and SES-III) respectively (Prasad's classification) [Table 1a].Majority of the respondents were Hindus (90%) and living in joint families (72.2%) whereas only 5% were living alone [Table 1b].

**Table-2: Distribution of Subjects according to Quality of Life**

| Quality of Life Grades (scores) | Males (N & %) | Females (N & %) | Total (N & %) |
|---------------------------------|---------------|-----------------|---------------|
| Excellent (110-89)              | 84 (25.0)     | 27(8.3)         | 111 (16.8)    |
| Good (88-67)                    | 219 (65.2)    | 231(71.3)       | 450 (68.2)    |
| Fair (66-45)                    | 30 (8.9)      | 63(19.5)        | 93 (14.1)     |
| Poor (44-22)                    | 03 (0.9)      | 03 (0.9)        | 06 (0.9)      |

**Table-3: Depicts scores for different Domains of Quality of Life among Study Subjects**

| Domains of Quality of Life | Males (SD + Mean) | Females (SD + Mean) | Total (SD + Mean)  |
|----------------------------|-------------------|---------------------|--------------------|
| Physical Domain            | 65.67 ± 9.46      | 79.33 ± 12.24       | 74.29 ± 10.38      |
| Psychological Domain       | 75.67 ± 8.45      | 83.33 ± 17.22       | 80.29 ± 10.38      |
| Social Relationship Domain | 73.67 ± 12.34     | 85.33 ± 17.22       | 88.25 ± 12.38      |
| Environmental Domain       | 65.67 ± 9.46      | 72.10 ± 10.29       | 74.29 ± 10.38      |
| <b>Total</b>               | <b>70.17±9.93</b> | <b>80.02±14.24</b>  | <b>79.28±10.88</b> |

An overwhelming majority (85%) of elderly enjoyed an excellent/good quality of life, while those having a fair/poor quality of life were 14.1 and 0.9% respectively [Table-2]. The quality of life was better in males in all the domains ie; physical, psychological, social and environmental (79.33, 83.33, 85.33 and 72.1) respectively as compared to females (65.67, 75.67, 73.67 and 65.67). Total score for all the domains in males was also much higher (80.02) than in females (70.17) [Table-3].

Table 4 depicts the distribution of subjects according to Quality of Life Score. Gender wise the



**Table-4: Distribution of Subjects according to Quality of Life**

| Characteristics         |                    | No.          | QOL Scores (Mean ± SD) | Source of Variation | Df  | Mean Square | F-value | *Significance (p-value) |
|-------------------------|--------------------|--------------|------------------------|---------------------|-----|-------------|---------|-------------------------|
| Gender                  | Male               | 336          | 80.02 ± 14.24          | Between<br>Within   | 01  | 1183.170    | 10.705  | <b>0.001</b>            |
|                         | Female             | 324          | 70.17 ± 9.93           |                     | 658 | 110.527     |         |                         |
| Caste                   | Schedule caste     | 330          | 75.6 ± 10.4            | Between<br>Within   | 02  | 1502.841    | 13.78   | <b>0.00</b>             |
|                         | Non schedule caste | 330          | 80.80 ± 10.4           |                     | 657 | 109.061     |         |                         |
| Education               | Illiterate         | 423          | 52.99 ± 10.08          | Between<br>Within   | 04  | 713.855     | 6.845   | <b>0.00</b>             |
|                         | Primary            | 102          | 54.41 ± 11.59          |                     |     |             |         |                         |
|                         | Middle             | 75           | 57.68 ± 9.33           |                     |     |             |         |                         |
|                         | High school        | 48           | 61.75 ± 9.82           |                     |     |             |         |                         |
|                         | Graduate           | 12           | 61.90 ± 8.96           |                     | 655 | 104.291     |         |                         |
| Occupation              | Agriculture        | 84           | 58.14 ± 11.93          | Between<br>Within   | 06  | 422.828     | 3.960   | <b>0.001</b>            |
|                         | Business           | 36           | 67.75 ± 9.71           |                     |     |             |         |                         |
|                         | Service            | 06           | 69.00 ± 1.41           |                     |     |             |         |                         |
|                         | Unskilled labour   | 30           | 54.70 ± 12.74          |                     | 653 | 106.766     |         |                         |
|                         | Skilled labour     | 24           | 56.37 ± 8.63           |                     |     |             |         |                         |
|                         | Household work     | 360          | 54.68 ± 10.17          |                     |     |             |         |                         |
| Marital Status          | Not working        | 120          | 53.25 ± 9.56           | Between<br>Within   | 04  | 550.027     | 5.124   | <b>0.001</b>            |
|                         | Currently Married  | 396          | 69.46 ± 10.687         |                     |     |             |         |                         |
|                         | Unmarried          | 27           | 68.67 ± 8.139          |                     |     |             |         |                         |
|                         | Widow/Widower      | 231          | 59.67 ± 8.139          |                     | 654 | 107.339     |         |                         |
|                         | Divorced           | 3            | 58.86 ± 0.00           |                     |     |             |         |                         |
| Living away from spouse | 3                  | 58.61 ± 0.00 |                        |                     |     |             |         |                         |
| Type of Family          | Nuclear            | 108          | 67.44 ± 10.61          | Between<br>Within   | 03  | 1048.263    | 10.230  | <b>0.000</b>            |
|                         | Extended           | 39           | 70.31 ± 9.29           |                     |     |             |         |                         |
|                         | Joint              | 480          | 64.16 ± 9.99           |                     | 656 | 102.469     |         |                         |
|                         | Living alone       | 33           | 59.36 ± 11.38          |                     |     |             |         |                         |

\*ANNOVA

**Table-5: Distribution of Subjects according to Morbidity Profile**

| Morbidity           | Males (N & %) | Females (N & %) | Total (N & %) | Significance                   |
|---------------------|---------------|-----------------|---------------|--------------------------------|
| Anaemia             | 186 (55.4)    | 240 (74.1)      | 426 (64.5)    | $\chi^2= 8.417, df=1, p=0.004$ |
| Dental Problems     | 207 (61.6)    | 204 (63.0)      | 411 (62.2)    | $\chi^2=0.043, df=1, p=0.836$  |
| Joint Pain          | 126 (37.5)    | 213 (65.7)      | 339 (51.4)    | $\chi^2=17.55, df=1, p=0.00$   |
| Cataract            | 156 (46.4)    | 153 (47.2)      | 309 (46.8)    | $\chi^2=0.014, df=1, p=0.906$  |
| Hypertension        | 135 (40.2)    | 159 (49.1)      | 294 (44.5)    | $\chi^2=1.761, df=1, p=0.184$  |
| Senile Deafness     | 84 (25.0)     | 84 (25.9)       | 168 (25.4)    | $\chi^2=0.025, df=1, p=0.875$  |
| Acid Peptic Disease | 51 (15.2)     | 96 (29.6)       | 147 (22.2)    | $\chi^2=6.632, df=1, p=0.010$  |
| Chronic Bronchitis  | 60 (17.9)     | 30 (9.3)        | 90 (13.6)     | $\chi^2=3.451, df=1, p=0.063$  |
| Diabetes Mellitus   | 33 (9.8)      | 27 (8.3)        | 60 (9.0)      | $\chi^2=0.147, df=1, p=0.701$  |

Total exceeds 'n' because of multiple responses

**Table-6: Distribution of Subjects according to Morbidity and Age**

| Morbidity           |     | Age Groups (years) |            |            |            | Total | Significance                  |
|---------------------|-----|--------------------|------------|------------|------------|-------|-------------------------------|
|                     |     | 60-64              | 65-68      | 69-74      | ≥75        |       |                               |
| Hypertension        | Yes | 72 (38.7)          | 102 (54.8) | 63 (42.9)  | 57 (40.4)  | 294   | $\chi^2=3.89, df=3, p=0.273$  |
|                     | No  | 114 (61.3)         | 84 (45.2)  | 84 (57.1)  | 84 (59.6)  |       |                               |
| Anaemia             | Yes | 99 (53.2)          | 114 (61.3) | 105 (71.4) | 108 (76.6) | 426   | $\chi^2=7.76, df=3, p=0.051$  |
|                     | No  | 87 (46.8)          | 72 (38.7)  | 42 (28.6)  | 33 (23.4)  |       |                               |
| Diabetes Mellitus   | Yes | 12 (6.5)           | 27 (14.5)  | 15 (10.2)  | 06 (4.3)   | 60    | $\chi^2=4.134, df=3, p=0.247$ |
|                     | No  | 174 (93.5)         | 159 (85.5) | 132 (89.8) | 135 (95.7) |       |                               |
| Cataract            | Yes | 63 (33.9)          | 87 (46.8)  | 72 (49.0)  | 87 (61.7)  | 309   | $\chi^2=8.45, df=3, p=0.038$  |
|                     | No  | 123 (66.1)         | 99 (53.2)  | 75 (51.0)  | 54 (38.3)  |       |                               |
| Joint Pain          | Yes | 96 (51.6)          | 84 (45.2)  | 72 (49.0)  | 87 (61.7)  | 339   | $\chi^2=3.079, df=3, p=0.380$ |
|                     | No  | 90 (48.4)          | 102 (54.8) | 75 (51.0)  | 54 (38.3)  |       |                               |
| Chronic Bronchitis  | Yes | 27 (14.5)          | 21 (11.3)  | 27 (18.4)  | 15 (10.6)  | 90    | $\chi^2=1.620, df=3, p=0.655$ |
|                     | No  | 159 (85.5)         | 165 (88.7) | 120 (81.6) | 126 (89.4) |       |                               |
| Senile Deafness     | Yes | 18 (9.7)           | 42 (22.6)  | 42 (28.6)  | 66 (46.8)  | 168   | $\chi^2=19.95, df=3, p=0.00$  |
|                     | No  | 168 (90.3)         | 144 (77.4) | 105 (71.4) | 75 (53.2)  |       |                               |
| Acid Peptic Disease | Yes | 45 (24.2)          | 33 (17.7)  | 42 (28.6)  | 27 (19.1)  | 147   | $\chi^2=2.255, df=3, p=0.521$ |
|                     | No  | 141 (75.8)         | 153 (82.3) | 105 (71.4) | 114 (80.9) |       |                               |
| Dental Problem      | Yes | 108 (58.1)         | 123 (66.1) | 81 (55.1)  | 99 (70.2)  | 411   | $\chi^2=3.193, df=3, p=0.363$ |
|                     | No  | 78 (41.9)          | 63 (33.9)  | 66 (44.9)  | 42 (29.8)  |       |                               |

Figure in Parentheses indicate percentages.

**Table-7: Distribution of Subjects according to Main Source of Health Care Facility Availed**

| Source of Health Care Facility |                                | Males (N & %) | Females (N & %) | Total (N & %) |
|--------------------------------|--------------------------------|---------------|-----------------|---------------|
| Government                     |                                | 36 (10.7)     | 12 (3.7)        | 48 (7.3)      |
| Non-Government                 | Rural Health & Training center | 72 (24.0)     | 105 (96.3)      | 177 (28.9)    |
|                                | Private Hospitals              | 06 (2.0)      | 09 (2.9)        | 15 (2.5)      |
|                                | Private Doctor (Qualified)     | 63 (21.0)     | 27 (8.6)        | 90 (14.8)     |
|                                | Private Doctor (Unqualified)   | 153 (51.0)    | 170 (54.8)      | 323 (52.7)    |
|                                | Faith Healer/ Religious Person | 06 (2.0)      | 01 (0.03)       | 07 (0.11)     |
|                                | Total                          | 300 (89.3)    | 312 (96.3)      | 612 (92.7)    |

**Table-8: Distribution of Subjects according to Reasons for Not Utilizing Government Health Care Facility**

| Reasons               | Males (N & %) | Females (N & %) | Total (N & %) |
|-----------------------|---------------|-----------------|---------------|
| Lack of doctors       | 24 (8.0)      | 42 (13.5)       | 66 (10.8)     |
| Lack of medicine      | 69 (23.0)     | 57 (18.3)       | 126 (20.6)    |
| Staff not cooperative | 45 (15.0)     | 63 (20.2)       | 108 (17.7)    |
| Far from home         | 114 (38.0)    | 90 (28.8)       | 204 (33.3)    |
| Not aware             | 12 (4.0)      | 15 (4.8)        | 27 (4.4)      |
| Takes more time       | 27 (9.0)      | 39 (12.5)       | 66 (10.8)     |
| Others                | 09 (3.0)      | 06 (1.9)        | 15 (2.4)      |

**Table-9: Distribution of Subjects according to System of Medicine Preferred**

| System of Medicine Preferred | Total (N=660) | Percentages |
|------------------------------|---------------|-------------|
| Modern Medicine              | 618           | 93.6        |
| Ayurveda                     | 27            | 4.1         |
| Homeopathy                   | 12            | 1.8         |
| Home remedy                  | 03            | 0.4         |
| <b>Total</b>                 | <b>660</b>    | <b>100</b>  |

mean score of quality of life was  $80.02 \pm 11.3$  in male subjects as compared to  $70.17 \pm 9.93$  in female subjects. The difference was found to be statistically significant ( $f = 10.705, p=0.001$ ). Subjects belonging to schedule caste category had mean quality of life score  $75.6 \pm 10.4$  as compared to mean score of  $80.8 \pm 10.4$  in non-schedule caste ( $f = 13.78, p = 0.00$ ). Regarding educational status, the quality of life mean score was  $52.99 \pm 10.08$  in illiterate subjects,  $54.41 \pm 11.59$  in subjects who passed primary class,  $57.68 \pm 9.33$  those cleared middle class,  $61.75 \pm 9.82$  in those passed high school and  $61.50 \pm 8.96$  in graduate subjects respectively. This difference between groups was found to be statistically significant ( $f=6.84, p=0.00$ ). In respect to occupation of subjects, it was found that the quality of life score was  $58.14 \pm 11.93$  in agriculturists,  $67.75 \pm 9.71$  in subjects doing business,  $69.00 \pm 1.41$  in subjects doing service,  $54.70 \pm 12.74$  in those engaged in unskilled labour,  $56.37 \pm 8.63$  in subjects doing skilled labour  $56.68 \pm 10.17$  in those doing

household work and  $53.25 \pm 9.56$  in those not working. The difference between various occupations was found to be statistically significant ( $f=3.96, p=0.001$ ). The mean score of quality of life was more in currently married ( $69.46 \pm 10.687$ ) and living in extended families ( $70.31 \pm 9.29$ ) and the difference was found to be significant ( $f=5.124, p=0.001$ ).

Morbidity profile of the subjects revealed that out of 660 subjects majority were anaemic (64.5%) and had dental problems (62.2%), followed by joint pains (51.4%), cataract (46.8%), hypertension (44.5%) respectively. Further 25.4% were having senile deafness, 22.2% suffered from acid peptic disease, 13.6% had chronic obstructive pulmonary disease and 9% were diagnosed cases of diabetes mellitus. There was preponderance of female subjects as far as the morbidities vis anemia ( $p=0.004$ ), joint pain ( $p=0.00$ ), acid peptic disease ( $p=0.010$ ) were concerned [Table-5]. Regarding morbidity with respect to age it was observed that in the age group of 65-68yrs 54.8% were hypertensive, 14.5% were suffering from Diabetes Mellitus. In the age group >75yrs 76.6% were anaemic, 61.7% were suffering from cataract, 70.2% were having dental problems. Anaemia, cataract and senile deafness were found to be statistically significant with regards to age ( $p<0.05$ ) [Table-6].

Majority of the subjects (92.7%) were utilizing non-government health care facility as main source of health care. Out of the total using non-government facility 52.7% were going to unqualified doctors, 28.9% going to private hospitals for health care [Table-7]. The most common reason for not utilizing government health care facility was long distance from house (33.3%), lack of medicine (20.6%), non-cooperative staff (17.6%), lack of doctors (10.8%), more waiting time (10.8%) and unawareness regarding health services (4.4%) respectively [Table-8]. Majority (93.6%) of the elderly people believed in modern system of medicine as far as their mode of treatment was concerned whereas a very less number of subjects had faith in Ayurveda and Homeopathy (4.1% and 1.8%) respectively [Table-9].

## Discussion

The present study was a community based cross sectional study carried out over a period of one year i.e. from January 2011 to December 2011 conducted in three rural field practice areas of the Department of Community Medicine, MMIMSR, Mullana, District Ambala, Haryana. The well-being of older persons has been mandated in Article 41(5) of the Constitution of India, which directs that the state shall within the limits of its economic capacity and development; make effective provision for securing the right to public assistance in old age.

### Quality of Life

Our research revealed that that majority (68.2%) of elderly had good quality of life whereas only 0.9% had poor and further it was better in males in physical, psychological, social and environmental domains. It was more in subjects who had graduated and currently married, belonged to non-scheduled cast and living in extended families. Similar findings were revealed by WHOQOL-OLD project<sup>7</sup>, who found males, married people and those with higher level of education have better quality of life. Barua A et al<sup>8</sup> also observed in their study on geriatric population that currently married had better quality of life than those divorced, widowed or separated. Joshi K<sup>9</sup> also found a positive association between quality of life and occupation. The reason for better Quality of life in this rural elderly population could be attributed to the fact that QOL would be affected by a number of significant positive and negative life events and these life events may be related either to his family or society or community where he lives. QOL need not be poor in poor man's home or in a handicapped person's home.<sup>10</sup>

### Morbidity Profile

It was observed in our study that anaemia was the commonest morbidity, with 2/3<sup>rd</sup> of population (64.5%) suffering from it, followed by dental problems (62.2%), joint pains (51.4%), cataract (46.8%) and hypertension (44.5%) respectively. Similar results were revealed by Sharma MK et al (Chandigarh)<sup>11</sup> who found that commonest

morbidity among elderly was anaemia (95.3% of males and 98.4% of females), osteoarthritis (46.1% of males and 64.9% of females) and cataract (58.8% of males and 65.4% of females). Joshi K et al<sup>12</sup> in their study also found similar results who reported that most prevalent morbidity among elderly people was anaemia followed by dental problems, cataract, hypertension and osteoarthritis. Whereas in a study by Kishore S et al (Dehradun)<sup>13</sup> and Woo EK (South Korea)<sup>14</sup>, it was found that the most prevalent morbidity was hypertension (41.4% and 37.5%). Jacob A et al (Tamil Nadu)<sup>15</sup>, Gaur DR et al (North India)<sup>16</sup> and Padma AS et al (Amritsar)<sup>17</sup> observed in their respective studies that the most common morbidity was joint pain/joint stiffness (43.4%, 46% and 60.6%), cataract (68%, 45.3% and 54.01%) and dental problems (45.3%, and 21.9%) respectively. According to Multicentric Study for health care status of elderly conducted by GOI<sup>18</sup>, 45.4% had cataract, 21.6% had hearing problem, 31.6% had bowel complaints and 13.4% had urinary problem. In our research it was revealed that morbidity was more in female subjects and increased with increasing age of the subjects. Similar results were seen by Swami HM et al<sup>19</sup> reported that elderly females had higher rate of morbidity. Other common morbidities were anaemia (68.2%), hypertension (58%), osteoarthritis (50.55%), and cataract (18.51%). A study of sociomedical problem of aged population in a rural area of Wardha<sup>20</sup>, showed that morbidity rates increased with increasing age of elderly. The reason for high morbidity in our study could be attributed to the fact that people in rural areas are devoid of the basic health care facilities. Moreover anaemia in elderly is multifactorial with aetiology as nutritional, physiological and pathological problems. A high prevalence of joint pains among women possibly reflecting the hard life faced by women who never retire from household work unless totally disabled.

### Health Care Seeking Behaviour

In our study it was observed that majority (92.7%) of subjects do not generally seek health care from government source and the most common reason for not utilizing government facility was long distance (38%). NFHS-3 data<sup>21</sup>

also showed that 72% of household generally do not seek health care from government facility. Among households that do not use government health facilities, the main reasons given for not doing so are poor quality of care (55%), lack of a nearby facility (42%), and long waiting times (25%). Similar results were found in a study conducted in Bangladesh<sup>[22]</sup> who revealed that more than half the respondents did not avail government facilities because of a lack of proper and /or sympathetic care from the doctors. About one-sixth of the respondents mentioned the distance to be travelled or the long waiting time as deterrents to the use of government hospitals. Goel PK et al<sup>[23]</sup> in their study also found that in 59.2% of cases the distance of government health facilities was more than 3 kms. As far as system of medicine was concerned 93.6% preferred modern medicine as system of choice in our study. Similar findings were observed by Joshi K in his study in urban and rural area of Chandigarh<sup>[9]</sup>, who reported that most preferred system of medicine was allopathic system in 92.2% of elderly and the rest 7.7% relied on either ayurvedic or homeopathic system of medicine.

### Limitations of the Study

Due to lack of time and resources we could not follow up the study. Misreporting and under reporting might increase with age and varies greatly with the disease considered. There are increased chances of recall bias in the study as it deals with elderly population. One possible source of biased reporting of medical conditions may arise from differential access and utilization of health care services by different segments of the population.

### Conclusion

The study among the elderly in the rural area of Haryana, India has highlighted a high prevalence of morbidity and identified common existing medical problems such as like anaemia, arthritis, cataract, hypertension, and diabetes mellitus. As there is a rapid expansion in the elderly population, there is an urgent need to develop geriatric health care services in the developing countries like India and provide training to health

care providers to manage the commonly existing health problems in the community.

### Recommendations

- The government agencies should carry out special surveys to identify the vulnerable aged and the deprivations suffered by them.
- Maintenance and Welfare of Parents and Senior Citizens Act, 2007 should be implemented in letter and spirit.
- There is need to sensitize the community at large and the opinion group leaders, particularly about the special health needs of geriatric age group, particularly the females/widows.
- Panchayati Raj institutions should develop system for social protection in form of assuring old age pension from relevant source and supply of drugs from proper source. It was felt by researcher during the study that there was no involvement of panchayat or any other opinion leader in taking care of the aged and the infirm.
- Appropriate and relevant indicators of health of the aged be developed, taking in to account the way in which the elderly perceive their quality of life and value their health.
- Evaluate reasons for failure of government institutions to attract large number of elderly population. It is strongly recommended that qualitative studies should be carried for a focused and an in depth analysis of special health needs.

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