

## Health Problems Among Rural Elderly Population of Ambala, Haryana: A Cross Sectional Study

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### Abstract:

**Background:** It is essential to plan health care services for the elderly people in the era of population ageing. Morbidity assessment plays a major role in planning of health care services. The ageing of population is an inevitable consequence of process of demographic transition and creates an imbalance in the age structure over a period of time.

**Aims and Objectives:** To determine the pattern of physical morbidity in rural elderly population of field practice area of MMIMSR.

**Methodology:** A cross sectional study was conducted in rural population of district Ambala, Haryana. Using the standard formula, sample size came out to be 600. Taking a non-response rate of 10%, the sample size came out to be 660.

**Results:** The most common morbidity prevalent was anaemia (64.5%) followed by dental problems (62.2%), joint pain (51.4%), cataract (46.8%), hypertension (44.5%), senile deafness (25.4%), acid peptic disease (22.2%). 13.6% suffered from chronic obstructive pulmonary disease whereas 9% had diabetes mellitus.

**Conclusion:** The elderly constitute a vulnerable population whose health care requirements need to be identified and addressed through suitable interventional measures in order to protect and promote healthful ageing, enabling them to lead independent and productive lives with freedom and dignity.

**Keywords:** Acid peptic disease, Anaemia, Cataract, Geriatric, Haryana, Joint pains, Morbidity, Senile deafness.

### I. Introduction

The elderly are a precious asset for any country. Their special health and economic issues differ from those of the general population. The United Nations Principles address the independence, participation, care, self-fulfillment and dignity of older persons as the priority.<sup>[1]</sup> Aging is not merely a matter of accumulating years but also a process of "adding life to years, not years to life." Ageing concerns each and every one of us – whether young or old, male or female, rich or poor – no matter where we live.<sup>[2]</sup> In 2000, there were 600 million people aged 60 years and above; there will be 1.2 billion by 2025 and 2 billion by 2050. Today, about two thirds of all older people are living in the developing world; by 2025, it will be 75%. According to projections by the UN Population Division, there will be two elderly persons for every child in the world by 2050. This implies that the aged 60 and above population will account for 32 % of the population by 2050.<sup>[3]</sup> 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. These changes are expected to affect the quality of life of the elderly. Chronic disabling conditions that often accompany ageing are associated with increased prevalence of social and psychological disturbances.

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 21st century is to delay the onset of disability and ensure optimal quality of life for older people.

### II. Aims And Objectives

To determine the pattern of physical morbidity in rural elderly population of field practice area of MMIMSR.

### III. Material and Methods

#### 1.1. Study Area

The study was conducted among elderly population in district Ambala, Haryana, in 3 rural blocks. As per census 2011, rural population of Ambala comprises of 6,32,243 of which males are 2,97,679 and females are 3,34,564.

**1.2. Study Population**

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.

**1.3. Study Design**

Community based cross sectional study.

**1.4. Sample Size**

The literature review revealed that the prevalence of various health problems in elderly varies from 8% to 80%. The sample size was calculated by presuming the prevalence of the health problems in this age group to be 40%.

**The equation used for calculating sample size as follows:**

$$n = \frac{Z^2 P (1-P)}{e^2}$$

Taking margin of error as 10% the sample size came out to be 600. Assuming non- response rate to be 10%, 660 individuals was taken up for the study.

**1.5. Strategy**

Ethical clearance for conducting the study was sought and obtained. Family folders from health care delivery points were utilised for identification of households with target population. The households to be included in the study were chosen randomly using a Random Number Table. Informed consent was obtained from the study participants and those not willing to participate were excluded from the study. Only one geriatric age person from each of the selected households was included in the study. The study population underwent a complete physical examination in addition to history elicitation and inspection of their health records. Only documented cases of hypertension, diabetes, acid peptic disease, chronic bronchitis, cataract and senile deafness were labelled as such. Haemoglobin levels were measured using the Dried Blood Sample method. Dental problems were assessed by direct visualisation using a flashlight.

**1.6. Data Analysis**

Data thus generated was analysed by using appropriate tests in standard Software packages.

**IV. Results**

**Table 1:** Distribution of Subjects according to Morbidity

Morbidity	Male N= 336 (100%)	Female N= 324 (100%)	Total N= 660 (100%)	Significance
Anaemia	186(55.4)	240(74.1)	426(64.5)	$\chi^2= 8.417, df=1, p=0.004$
Dental problem	207(61.6)	204(63.0)	411(62.2)	$\chi^2=0.043, df=1, p=0.836$
Joint pains	126(37.5)	213(65.7)	339(51.4)	$\chi^2=17.55, df=1, p<0.001$
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)	$\chi^2=0.147, df=1, p=0.701$

Table 1 shows that out of 660 subjects 426 (64.5%) were anaemic, 411 (62.2%) had dental problem, 339 (51.4%) had joint pain, 309(46.8%) had cataract, 294 (44.5%) were hypertensive, 168 (25.4%) were having senile deafness, 147 (22.2%) suffered from acid peptic disease, 90(13.6%) had chronic obstructive pulmonary disease and 60 (9%) were diagnosed cases of diabetes mellitus. The prevalence of anaemia, joint pains and acid peptic disease was found to be higher among females (74.1%, 65.7% and 29.6% respectively among females as compared to 55.4%, 37.5% and 15.2% respectively among males) and this difference was found to be statistically significant (p value 0.004, <0.001 and 0.010 respectively).

**Table 2:** 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	Yes	12	27	15	06	60	$\chi^2=4.134, df=3,$

Mellitus		(6.5)	(14.5)	(10.2)	(4.3)		p=0.247
	No	174 (93.5)	159 (85.5)	132 (89.8)	135 (95.7)	600	
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)	351	
Joint pains	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)	321	
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)	570	
Senile Deafness	Yes	18 (9.7)	42 (22.6)	42 (28.6)	66 (46.8)	168	$\chi^2=19.95$ , df=3, p=<0.001
	No	168 (90.3)	144 (77.4)	105 (71.4)	75 (53.2)	492	
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)	513	
Dental problems	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)	249	

Table 2 shows that out of 184 subjects in the 60-64 year age bracket, 38.7% were hypertensive, 53.2% had anaemia, 6.5% had diabetes mellitus, 33.9% had cataract, 51.6% had joint pains, 14.5% suffered from chronic bronchitis, 9.7% were suffering from senile deafness, 24.2% had acid peptic disease and 58.1% had dental problems. In contrast to this, of the 141 subjects aged above 75 years, 40.4% were hypertensive, 76.6% had anaemia, 4.3% had diabetes mellitus, 61.7% had cataract, 61.7% had joint pains, 10.6% suffered from chronic bronchitis, 46.8% were suffering from senile deafness, 19.1% had acid peptic disease and 70.2% had dental problems. However, the difference in the morbidity profile across age groups in the geriatric population was statistically significant only in case of cataract and senile deafness with a p-value of 0.038 and <0.001 respectively.

## V. Discussion

A perusal of Tables 1 and 2 shows that in the present study most common morbidity prevalent was anaemia (64.5%) followed by dental problems (62.2%), joint pain (51.4%), cataract (46.8%), hypertension (44.5%), senile deafness (25.4%), acid peptic disease (22.2%), chronic obstructive pulmonary disease (13.6%) and diabetes mellitus (9%). Jacob A et al reported in their study on elderly in Tamil Nadu that joint pain/ joint stiffness was present in 43.4%, dental and chewing problem in 45.3%, visual problems in 68%, hypertension in 25.9%, diabetes mellitus in 8.3%, gastrointestinal complaints in 12%, heart disease in 9% and respiratory problems in 7.3%. Prakash R et al in their study on morbidity pattern among geriatric population in urban area of Udaipur reported that out of 300 elderly subjects examined 44% had cataract, 48% had hypertension, 38% male and 49% female subjects had psychosocial problems.

Gaur DR et al found in their study that joint pain and cataract occupy the top position among different morbid conditions i.e 46% and 45% respectively. Hypertension (22%), GIT problems (14.8%), Diabetes (11%) and loneliness & depression (9%) were among other major morbidities. In another study on morbidity in elderly conducted in South Korea, it was reported that the most prevalent morbidity was hypertension (37.5%), followed by arthritis (15.6%), diabetes mellitus (14.9%), osteoporosis (14.1%), and gastritis/gastric ulcer (13.1%). Diseases of the musculoskeletal system, such as osteoporosis and arthritis, were more prevalent in women. Sharma MK et al in their study in urban area of Chandigarh found that commonest morbidity among elderly was anemia, 95.3% of males and 98.4% of females were anaemic, 58.8% of males and 65.4% of females had cataract, 61% were hypertensive, 46.1% of males and 64.9% of females were having osteoarthritis, 25.5% were diabetics, and 34.2% had respiratory problems. Swami HM et al reported that elderly females had higher rate of morbidity, other common morbidities were hypertension (58%), osteoarthritis (50.55%), cataract (18.51%), gastritis (17.67%), deafness (13.53%), diabetes mellitus (12.51%), anaemia (68.2%). A study of sociomedical problem of aged population in a rural area of Wardha, showed that morbidity rates increased with increasing age. Conditions commonly seen amongst aged were cataract (30%), arthritis (15.7%), refractory error (13.7%), anemia (13.3%), chronic bronchitis (7.3%), dental caries (7%), hypertension (5.2%), hearing problem (5%), filariasis (1.5%) and general disability (1.3%).<sup>[11]</sup>

According to Multicentric Study for health care status of elderly conducted by GOI, out of total 10000 elderly surveyed 45.4% had cataract, 21.6% had hearing problem, 31.6% had bowel complaints, 13.4 had urinary problem, 0.8% were detected with cancer, 2.7% had reported an episode of paralytic attack, 1.4% were having Parkinson's disease. Joshi K et al in their study in rural area of Chandigarh reported that most prevalent morbidity among elderly people was anaemia followed by dental problems, hypertension, chronic obstructive airway disease (COAD), cataract, osteoarthritis, skin and nail (fungal) infection, urinary incontinence, and senile pruritis.<sup>[13]</sup>

Padda AS et al reported in their study in urban and rural area of Amritsar found that most common diseases were arthritis (60.60%), cataract or visual impairment (54.01%), caries teeth (21.91%). Other morbidities were hypertension (16.6%), chronic bronchitis (14.04%) and asthma (12.61%). Kishore S et al in their study in rural area of Dehradun reported that hypertension was commonest morbidity (41.4%), followed by musculoskeletal problems (36.8%) and respiratory problems (36.1%). Other morbidities were eye problems (27.7%), psychosocial problems (28.8%), ear problems (5.6%), gastrointestinal track problems (12.3%) and skin problems (4.2%).<sup>[15]</sup>

## **VI. Conclusion**

This study demonstrates that the morbidity profile of the geriatric age group comprises mainly of conditions that can be effectively tackled by instituting appropriate and timely measures including behaviour change communication, promotion of a healthy life style and provision of primary, secondary and tertiary levels of prevention at all tiers of health care delivery systems. The study, therefore, illustrates the need for an interventional programme focussed towards meeting the special needs and health concerns of the vulnerable ageing population. In this direction, the National Programme for the Health Care of the Elderly represents a significant benchmark. Functional implementation of the programme should be ensured by advocating political commitment in addition to establishing a quality monitoring and feedback mechanism.

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