

## MORBIDITY PROFILE OF ELDERLY A CROSS SECTIONAL STUDY OF URBAN AGRA

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### ABSTRACT :

**Research Question :** What is the morbidity profile of geriatric population in urban Agra?

**Objectives :** 1. To assess the morbidity profile of geriatric population in Urban Agra.

2. To make comparison of above findings among urban slum and elite area.

**Settings :** Urban Agra.

**Study Subject :** 500 people aged 60 years and above.

**Statistical Analysis :** Percentages, chi-square and z test.

**Results :** Morbidity load was found to be increased with increasing age. 89.2% population of elderly were having morbidities in urban areas. Most common cause of morbidity observed was anaemia (26.20%) followed by cataract (24.4%), hypertension and arthritis both as 22.2%. System wise musculoskeletal problems were most common (37.2%) and problems of nervous system were least (1.8%).

**Key words :** Geriatrics, morbidity profile, urban.

### 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<sup>1</sup>. The increasing number of older people in Indian society has been well perceived. While population ageing is a success story of socioeconomic development and good public health practice, it has also lead to economic and social crisis due to crumbling support system, with increased demand for health and welfare services<sup>2</sup>. Goel PK et al<sup>3</sup> reported that 46.3% elderly were not aware of any geriatric welfare services and 96.0% of them had never utilized any of the geriatric welfare services. The SRS estimates for the year 2003 were that 7.2% of total population were 60 plus in India<sup>4</sup>. India has thus acquired the label of an ageing nation, with presently 7.7% of its population being more than 60 years old<sup>5</sup>. The old age people suffer from health problems which are of mainly two types i.e. medical and psychosocial. Common medical problems are cardiovascular, visual, musculoskeletal and gastrointestinal diseases etc. The common psychosocial problems are reported to be impaired memory and intelligence, rigidity of outlook, anxiety, depression, dependency & unsatisfaction with family members, occupation and earning. In light of above facts, the present study was conducted with the objective to assess the morbidity pattern of elderly and to make comparisons among urban slum and elite of Agra district.

### Material and Methods :

A cross sectional study was conducted in the department of Social & preventive medicine, S.N. Medical College, Agra

on the persons aged 60 years and above living in the urban areas of Agra district. Study was conducted from July 2009 to June 2010. Many studies have been conducted on elderly in different parts of our country, which report different prevalence of morbidities in their field practice area. SPS Bhatia et al<sup>6</sup> found 86.1% morbidity load, likewise Parry SH<sup>7</sup> et al reported 89% prevalence rate. In Uttar Pradesh Gupta SC et al<sup>8</sup> observed 79%, Ravishankar et al<sup>9</sup> found 88.8% and Goel PK et al<sup>10</sup> reported 74.2% morbidity load during their study period. Psychosocial problems studied by Rahul Prakash et al<sup>11</sup> observed 42% prevalence. The prevalence of psychosocial problem which was lower was taken as the basis for sample size calculation. Sample size was calculated by using the prevalence as 42%, with a relative precision (d) as 15% and a confidence level of 95%, using the formula<sup>12</sup>:  $z \left( \frac{1 - \frac{1}{2} \frac{pq}{d^2}}{2} \right)$ . So sample size obtained was 245. As we compared the results in urban mohallas & urban slums a minimum sample of 245 aged persons from both areas was taken to draw the valid conclusions. Since urban slums constitute 51% and urban mohallas 49% population, therefore 245 aged persons from urban mohallas & 255 from urban slums were taken. Thus total sample size came out to be 500. Multistage simple random sampling technique was adopted. In first stage list of wards were obtained from Agra Municipal Corporation. In next stage out of total 15 wards, 6 were selected randomly, from those 6 wards 3 slum and 3 elite localities were selected randomly. In the last stage household were visited in selected locality and from each locality we took 80-90 aged persons assuming the average population of each locality to be 1000-1500 and population of elderly to be 7.5%. Each individual above the age of 60 was interviewed. Information regarding history of current and past illness were taken and general

examination was performed. Prescription of doctor regarding illness was also checked and was taken in to consideration for classifying illnesses. The information was collected on

predesigned and pretested schedule. The data collected were compiled and analyzed with the help of MS- excel software and following observations were made.

Table- 1  
DISTRIBUTION OF STUDY POPULATION AS PER NUMBER OF MORBIDITIES

Age (Years)	Number of Morbid Persons														
	Urban Slum					Urban Elite					Total				
	N	Single Morbidity		Multiple Morbidities		N	Single Morbidity		Multiple Morbidities		N	Single Morbidity		Multiple Morbidities	
		No.	%	No.	%		No.	%	No.	%		No.	%	No.	%
60-64	109	45	41.28	57	52.29	108	39	36.11	42	38.89	217	84	38.71	99	45.62
65-69	71	30	42.25	40	56.34	50	17	34	29	58	121	47	38.84	69	57.02
70-74	39	9	23.07	27	69.23	50	5	10	34	68	89	14	15.73	61	68.54
75-79	20	3	15	16	80	7	2	28.57	5	71.42	27	5	18.52	21	77.78
80+	16	1	6.25	15	93.75	30	6	20	24	80	46	7	15.22	39	84.78
Total	255	88	34.51	155	60.78	245	69	28.16	134	54.69	500	157	31.4	289	57.8

For Single morbidity:  $\chi^2 = 52.81$   $p < 0.05$

For multiple morbidities:  $\chi^2 = 13.58$   $p < 0.05$

Table 1 depicts the distribution of study population as per no. of morbidities and it was observed that 95.29% elderly were morbid in slum area and 82.85% in elite area. The load of single morbidity was more in 60-69 years age group and multiple morbidities were more among 70 plus population, this trend was common in both slum and elite area. With increasing age the number of morbidities were found to be increasing and this association with age was found to be statistically significant. Highest load of morbidity was found in 80+ population in both slum (93.75%) and elite area (80%). Least load of morbidities were observed in 60-64 years age group (45.62%).

Table 2  
DISTRIBUTION OF LEADING CAUSES OF MORBIDITY

S. No.	Morbidity	Urban Slum N=255		Urban Elite N=245		Total N=500		Z Test
		No.	%	No.	%	No.	%	
1.	Anemia	98	38.43	33	13.47	131	26.20	5.08*
2.	Cataract	76	29.80	46	18.04	122	24.40	1.52
3.	Hypertension	44	17.96	67	27.35	111	22.20	1.62
4.	Arthritis	62	24.31	49	20.0	111	22.20	0.79
5.	Hearing Impairments	55	21.57	28	11.43	83	16.60	1.83
6.	Dental caries	61	23.92	14	5.71	75	15.00	3.33*
7.	Chronic pain	41	16.07	13	5.31	72	14.40	1.87
8.	COPD	45	17.65	26	10.61	71	14.20	0.85
9.	Constipation	12	4.71	38	15.51	50	10.00	1.27

Table Contd.

10.	Diabetes	6	2.35	25	10.20	31	6.20	0.91
11.	Skin lesions boils, pustules	17	6.67	14	5.71	31	6.20	0.11
12.	Urinary tract infection	15	5.88	15	6.12	30	6.00	0.02
13.	Epilepsy/Psychiatric prob./	2	0.78	7	2.86	9	1.80	0.24
	CNS prob.							
14.	Chronic gastritis	2	0.78	7	2.86	9	1.80	0.24
15.	Blindness	7	2.75	-	-	7	1.40	-
16.	Hypo/hyperthyroidism	-	-	7	2.86	7	1.40	-
17.	Spondylosis	-	-	7	2.86	7	1.40	-
18.	Hernia	-	-	7	2.86	7	1.40	-
19.	Fracture	6	2.35	-	-	6	1.20	-
20.	Gall Stones	-	-	5	2.04	5	1.00	-
21.	BPH	2	0.78	3	1.22	5	1.00	0.05
22.	Nephropathy	-	-	4	1.63	4	0.80	-
23.	Angina/Coronary block	3	1.18	13	5.31	16	0.03	0.45
24.	Diarrhoea	10	3.92	-	-	10	0.02	-

\*significant ( $p < 0.05$ )

Table 2 shows the distribution of leading causes of morbidity in elderly of two study area. The most common morbidity found was anemia (26.20%) followed by cataract (24.40%), hypertension (22.20%), arthritis (22.20%), hearing impairments (16.60%), dental caries (15.00%), chronic pain (14.40%) and COPD (14.40%). Slum elderly were found to be more affected with anaemia and dental caries as compared with elite area and this difference was found to be significant. Diabetes, skin problems and urinary tract infections account for less than 10% individually. Nephropathy, angina and diarrhoea were having less than 1% prevalence rate.

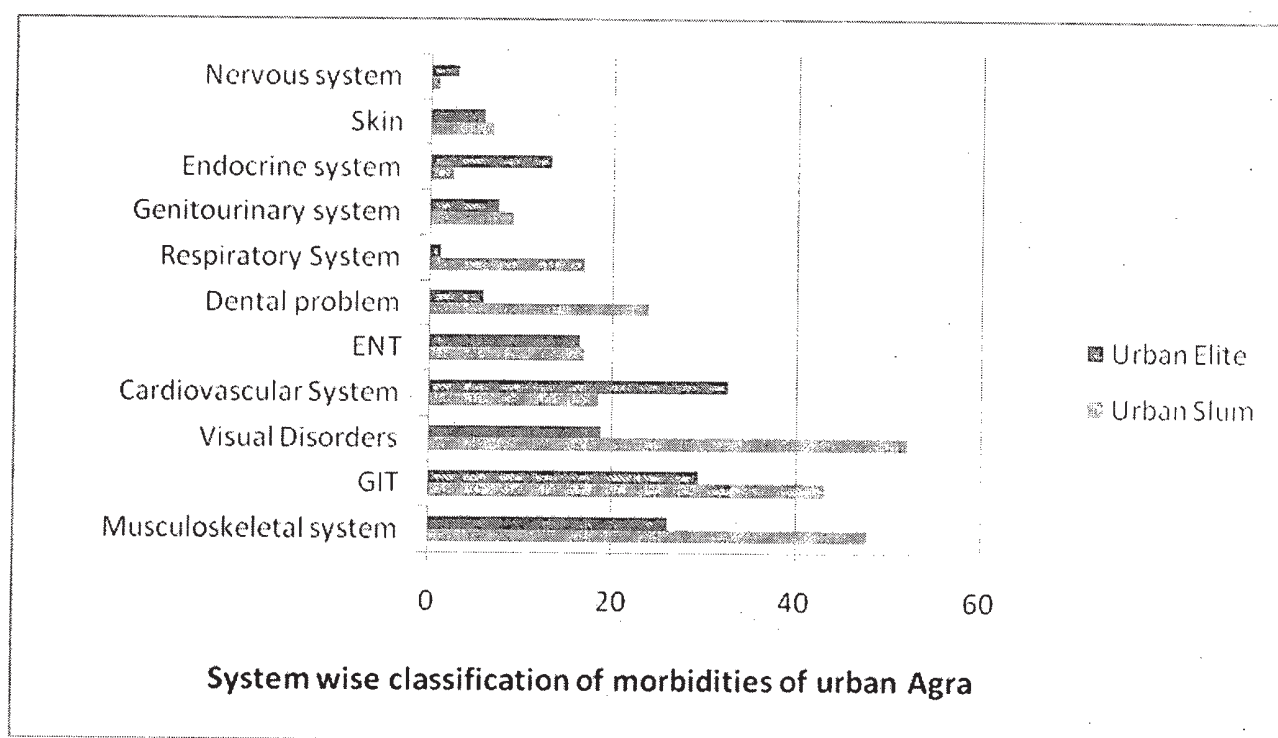
Table 3

SYSTEM WISE CLASSIFICATION OF THE MORBIDITIES IN STUDY POPULATION

S. No.	Diseases	Urban Slum N=255		Urban Elite N=245		Total N=500		Z Test
		No.	%	No.	%	No.	%	
1.	Musculoskeletal system	122	47.84	64	26.12	186	37.20	3.05*
2.	GIT	110	43.14	72	29.39	182	36.40	1.92
3.	Visual Disorders	133	52.16	46	18.78	179	35.80	4.62*
4.	Cardiovascular System	47	18.43	80	32.65	127	25.40	2.51*
5.	ENT	43	16.86	40	16.33	83	16.60	0.06
6.	Dental problem	61	23.92	14	5.71	75	15.00	3.33*
7.	Respiratory System	43	16.86	26	1.06	69	13.80	1.10
8.	Genitourinary system	23	9.02	18	7.34	41	8.20	0.2
9.	Endocrine system	6	2.35	32	13.06	38	7.60	1.73
10.	Skin	17	6.67	14	5.71	31	6.20	0.16
11.	Nervous system	2	0.78	7	2.86	9	1.80	0.33

\*significant ( $p < 0.05$ )

Table-3 shows System wise classification of the morbidities in study population and most common morbidity among geriatrics came out to be of musculoskeletal system (37.20%) followed by GIT problems (36.40%) and problem of low vision (35.80%). Problems of cardiovascular system, ENT and dental system accounted for 25.40%, 16.60%, and 15 % respectively. Problems related to respiratory, genitourinary, endocrine, skin and nervous system together contributed to 37.60% morbidity load. Musculoskeletal problems, visual disorders and dental problems were found to be more among slum dwellers than elite area and this difference was statistically significant. Cardiovascular problems were more in elite area and this difference was statistically significant.



#### Discussion :

It was observed in our study that health problems have significant relationship with age. As age increases number of health problems also increases. This relationship of age and morbidity was statistically significant. Highest morbidity was seen among 80 plus population (84.78%), Goel PK<sup>10</sup> also observed prevalence of morbidity as 98% in this population group. Diseases of Musculoskeletal system constituted the major fraction of illnesses (37.20%). In our study higher prevalence was seen in slum dwellers (47.84%) compared to elite (26.12%). Arthritis was the major musculoskeletal problem contributing to 22.2% in our study group. Similar results were reported by Prakash R et al (14.8%)<sup>11</sup>. Diseases of gastrointestinal tract contributed to 36.40% in our study with higher prevalence in slum dwellers (43.14%), it may be due to malnutrition and anaemia. Anaemia makes a major fraction for gastrointestinal problems (26.20%) for both slum and elite group. Padda et al<sup>13</sup>, studied acid peptic disease (5.87%) and hernia (4.3%) in his study. Ocular disorder constitute 35.80% in our study, which is similar as found by RB Gaurav et al<sup>14</sup> as 32.8%, Parry SH et al<sup>7</sup> (39%) and Naveen KH et al<sup>15</sup> (36%). Cataract was most common ocular disability and was higher in slum population (29.80%). 25.4% population

complained about Cardiovascular problems. Hypertension (22.2%) was the main culprit for cardiovascular problems and it was found to be higher in elite aged (27.35%) compared to slum population (17.96%), showing the effect of western life style. Different studies reported its prevalence as 11.25%<sup>9</sup> and 33%<sup>16</sup>. Major ENT problem was hearing impairments contributing to 16.60% load in urban aged and was found to be more among slum population (21.57%). Its prevalence was found as 20% by Naveen KH et al<sup>15</sup>. Among dental problem dental caries was sole problem found in study population. Poor hygiene was supposed to be responsible for more caries in slum (23.92%) compared to elite (5.71%). Khokhar A et al<sup>17</sup> seen 90.62 % suffered from dental problems. 13.8% urban aged suffered from Respiratory system problems. Among respiratory problem chronic obstructive pulmonary diseases was most common (14.20%). Chandwani et al<sup>1</sup> reported bronchial asthma as 12.2%. Other system problems were less than 10% like genitourinary, skin, nervous system and endocrine.

As we have seen that aged suffered from various health problems as mentioned above, so strategies are required to bring about an improvement in their quality of life. The need of the hour is to set up geriatric wards that would fulfill the



specific needs of the geriatric population by provision of distinct OPD services. Providing screening services as well as curative and rehabilitative services and convalescent homes to provide long-term care, which may be a part of designated hospitals, is also a priority.

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