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# Prevalence of Health Related Disability among Community Dwelling Urban Elderly from Middle Socio-Economic Strata in Serampore

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## Abstract

The present study has been conducted in Serampore, West Bengal. The health of geriatric population is a present as well as future concern. This poses mounting pressures on various socio-economic fronts of the state, including pension outlays, health care expenditures, saving levels etc. This makes it necessary to look into the various aspects of their problems: Health, social rejection, economic, psychological and other allied aspects. In the traditional joint families, infirmities were taken care of by the individuals, immediate circle of relations and family members. Older people enjoyed a sense of honour and authority and had the responsibility in decision-making. However, in recent times, as a result of changing circumstances due to demographic transition, rapid pace of industrialization and urbanization, disintegration of joint family structures into unitary ones, the older people become more vulnerable to physical disabilities as a result of different morbidities and poor health seeking behaviour. This study will prove to be useful for the planners and policy makers in Government and private organizations and will help in enhancing the understanding of the problems of elderly people in the state.

***Index terms***— morbidity, elderly population, ageing, physical disabilities.

## 1 I. Introduction

he phenomenon of population ageing is becoming a major concern for the policy makers all over the world during the last two decades. Ageing of population is affected due to downward trends in fertility and mortality i.e. due to low birth rates with long life expectancies. Life expectancy at birth is projected to continue to rise in the coming years all over the world. The aged population has specific health problems that are basically different from those of adults or young persons. Most diseases in the aged are chronic in nature-cardiovascular, arthritis, stroke, cataract, deafness, chronic infections, cancer. Disease process is usually multiple. Availability and utilization of health services is an important determinant of the health status of population. The needs for health services tend to vary directly with the age of the individuals. The older the one gets, the more health care he needs. Although the aged people face multiple health problems, even then, they do not consider seeking medical aid and as a result, many conditions remain unreported and untreated till they become complicated. This emphasizes the need for strengthening of health care system for elderly population. According to Paul Wallace, all individuals should be prepared to face later years in life within their own limitation gloriously. Chhattisgarh is moving fast towards an 'aged society', with the aged population constituting 7.2 percent (India 8 percent) and in another 10 years, percentage of elderly is projected to be 10 percent. Though a large number of studies on various factors influencing the aged are available in western countries, not much data have been generated as applicable to the Indian scenario. Urban areas are expected to grow at higher rate as compared to nonurban. Consistent with

these changes; there were health institutions both demographically and epidemiologically, hence associated with the changes in prevalence of chronic illnesses.

## 2 II. Material and Methods

Serampore is an important city of Hooghly district, state of West Bengal, India. At the time of 2011 census, the population within the Municipal area of Serampore was 181,842.Study was conducted in randomly selected 32 areas distributed in Serampore city including Urban and Slum areas. List of zones and wards including Slum and Urban areas were obtained from Municipality of Serampore. From eight zones of Serampore city by simple random technique, four zones were selected. Out of the four zones, four wards were selected by simple random technique. From each ward, one slum area and one urban area were included in the study using simple random technique. A total of 32 areas were included in this study. Door to door survey was conducted. From each area, 20 elderly were included in study.

Sampling method: Multi stage simple random sampling technique.

## 3 Sample size: 640

Sample size was calculated by using statistical formula, n= Z2 l-a/2 P (l-P)/d P = Morbidity Problems (50%), d= Absolute Precision (4%), Confidence level= 95%

As there was no baseline study in Serampore, therefore it was not possible to estimate 'P', so a figure of 0.5(50%) was used. This is the 'safest' choice for the population proportion, since the sample size required is largest when P = 0.5(50%) **??**128].

A total of 600 figures come using statistical formula. For making uniformity, 20 subjects from each of 32 areas were selected that comes 640. Therefore, a total 640 subjects were included in the study.

## 4 III. Objectives of the Study

1) To study morbidity pattern in elderly population of Serampore city. 2) To determine the pattern of morbidity in elderly population of Serampore city. 3) To study the health-care seeking behaviour of elderly population. 4) To make suitable recommendations on the basis of the study. Chi-square = 11.162 (df = 4, p = 0.024)

## 5 IV. Observations and Discussion

Above Table-2 shows that there is statistically significant association between morbidity and socioeconomic status. Maximum morbidity(37.54%) was observed in Class IV Socioeconomic status(98.28%) followed by Class V (97.22%), Class III (95.23%), Class I (94.44%) and Class II (91.32%).In present study, maximum morbidity was in Class IV and V Socioeconomic group and all belonged to slum areas and were vulnerable group related to both environmental factors and literacy status. ( D D D D ) B Above Table-3

shows that, out of 640 elderly included in the study, 610 (95.31%) were found to have one or more illnesses at the time of examination. There was 2461 illnesses in 610 persons, 913 in males and 1548 in females. Mean number of illness was 4.03. In males, 3.78 whereas in females, mean number of illness was 4.19. There was positive association between mean number of illness and advancement of age. Mean illness for young old was 3.94, for old was 4.34 and for very old was 6.33.

Prevalence of illness was 100% among very old, 98.24% among old and 94.64% among young old. Similar findings were observed in another study done by M Jamal et al **??**1977), observed that 88.66% in their study were found to be ill;86.67% males and 90.78% females. Illness was observed more frequently in older age group; 79.36% in young old to 100% in very old. Raj and Prasad (1970) observed that the brunt of illnesses fell on the persons who were 80 years and over. Chi-square = 40.538 (df = 2, p < 0.0001)

Above Table-4 shows statistically significant relation between age and illness of slum and urban elderly. Overall total illness was more in young old (79.43%), followed by old (19.78%) and very old (0.77%); but the mean was increasing with advancement of age. In urban areas, 83.95% of illnesses lying in young old whereas in slum areas, 75.15% illnesses were in young old. Young old in urban areas were more overweight and obese and physically less active, whereas young old in slum areas were more active and were heavy activity performer. In old and very old, illnesses were more in slum than urban dwellers. Chi-square = 4.999 (df = 1 , p = 0.025).

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Above table shows that72.81% population perceived themselves ill. Out of the total female population, 76.13% and out of the total male population, 68.16% perceived themselves ill. Above table shows that 97.85% of the elderly were observed to be receiving treatment where as 2.14% were not receiving treatment. With advancement of age, health care seeking was increased from 97.30% in young old to 100% in very old. Chi-square 1.559 (df=1, p = 0.211).

Above table shows that, out of total 466 elderly who perceived themselves ill, 97.85% were taking treatment whereas 2.14% did not take any treatment.

Among males who perceived themselves ill, 98.90% had taken treatment whereas among females 97.18% had taken treatment. Chi-square = 86.24 (df = 3, p= 0.000).

Above Table-10 shows that, out of total 466 elderly who perceived themselves ill, 456 elderly were taking treatment. Out of 456 elderly who were taking treatment, 53.94% were residing in urban areas whereas 46.05% were residing in slum areas. Out of various agencies, maximum were utilizing private facility (35.52%) followed by Government agency (27.85%), quacks (26.31%) and 10.30% from other source. In urban elderly, maximum were utilizing private facility (51.62%), followed by Government (29.26%), quacks (15.44%) and others (3.65%). Among slum dwellers, maximum elderly went to quacks (39.04%) followed by Government facility (26.19%), others (18.09%) and private facility (16.66%).This may be due low socio-economic status of slum elderly and high socio-economic status among urban dwellers. Above table shows that majority of the elderly availed modern allopathic system of therapy (87.06%). Homeopathy was also used by a substantial percentage of elderly (3.94%). Advancement of age had positive association with allopathic system of therapy from 85.31% in young old to100% in very old age groups. Out of 466 who perceived themselves ill, only 10 did not take any treatment. Above table shows that 50% were not seeking health-care due to nobody was available to take them to hospital, 30% were not seeking health-care due to too far health services, where as 10% shows financial reasons and disease due to old age were observed in 10%. Above table shows statistically significant relation between urban and slum elderly on health spending. Table-14 shows that, expenditure on health was more in urban than slum elderly. This is similar to trend at national and international level. Those who are more developed and economically more sound are spending more on health than developing countries. In slum areas, maximum of their income is spent on food. In another study by Srinivasan Krishnamachari et al (2010), reported that majority of the elderly spent less than 10% of their monthly income on medication and health related issues. The study shows, prevalence of Genitor urinary system disorders was 7.37%; among males prevalence was 12.03% whereas in females 4.33%. Above table shows, out of all disorders of Genitor-urinary system, common disorders were Urinary tract infection (UTI) (3.77%), Benign Prostatic Hypertrophy (BPH) (3.44%), Urinary Incontinence (1.14%). The least common condition was Trichomonas vaginitis (0.49%), Prolapsed Uterus (0.32%), Stress Incontinence (0.16%), and Carcinoma Cervix (0.16%). Among males, the commonest condition observed was Benign Prostatic Hypertrophy followed by UTI, whereas among females, Urinary Tract Infection was the commonest illness. In other study done by Shradha K et al (2012) reported prevalence of Genitourinary disorders as only 1.7%. The commonest condition was Renal calculi (1.4%), Urinary Incontinence (0.9%), Urinary frequency (0.9%) and Urinary Tract Infection (UTI) (0.9%). Renal Calculi and Urinary Incontinence was almost equally distributed in both genders, while Urinary frequency and UTI was reported by only female respondents. Present study was different from Shradha K et al (2012), UTI were distributed in both genders. P Ray Karmakar et al (2012), in their study showed that 9.8% elderly had Genito urinary system disorders. Male suffered more (10.3%) than females (9.3%), which is comparable to 9.35% observed by Purohit and Sharma (1976). In present study almost similar feature has been reported. A study from Israel by Polliack and Bialik (1975) revealed very high prevalence (over 33.0%) of Benign Prostatic Hypertrophy, which might be due to older study population (65 years and above) and possibly better cooperation in conducting internal examination, on account of greater awareness and health consciousness. In the present study, the elderly population is 60 years and above thereby diluting the percentage of BPH cases found, as this is a disease more common in higher age groups. In present study, there was limitation for internal examination of female and male genital organ. Diagnosis was made on the basis of history, presenting symptoms and available medical records and medicines if possible.

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# 8 V. conclusion

The present study is an endeavour to find out the morbidity pattern among elderly in Serampore city on a small scale of young growing state of West Bengal, along with the existing health practices and finally to suggest a pattern of health services suitable for the elderly population in the city. The study was conducted in 640 elderly subjects selected randomly from 32 areas including urban and slum areas from 8 zones and 77 wards of Serampore city. Elderly persons in the age group, 60 years and above were 63635 (6.3% of total population in Serampore city), out of which only 640 persons (267 males and 373 females) were included in the study. Elderly females 373 (58.28%) out-numbered elderly males 267 (41.71%). Majority of the elderly persons (81.71%) belonged to "young old" age group. Bulk 40.15% of the elderly persons received education upto higher secondary. Graduates and above was only 15.78%, out of which 83.16% were in urban whereas 16.83% were from slum areas.

36.40% of the elderly population belonged to socio-economic Class IV, followed by Class II. A large proportion (84.07%) was living in joint families and 15.93% in nuclear family settings. Only 5.93% were living alone. 51.09% of the elderly were themselves heading the family with males predominating. A large proportion 42.03% of elderly population was unemployed. The principle occupation of the persons who were currently employed in some gainful occupation was agriculture/ shop owner/clerical 11.25%, while 18.12% were professional including retired persons. A large proportion 48.28% was financially dependent on others. Only 14.84% were receiving old age pension. Out of total dependent, 66.66% were dependent on their children, 13.26% on grand children and 1.29% on spouse, 14.56% on others. A small proportion 33.59% was aware about various Government welfare schemes for the elderly. The geriatric population is a dependent population. Hence, health care delivery system

158 should reorganize their timing other than routine schedule. Periodic comprehensive health check up, preferably twice a year must be carried out and primary health care delivery must be ensured to geriatric population.


Figure 1: T

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**1**

| Level of cognition | Male | | Female | | To | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Normal | 89 | 47.34 | 99 | 52.65 | 188 | 29 |
| Some degree of mental confusion | 155 | 37.25 | 261 | 62.74 | 416 | 65 |
| Severe confusion | 23 | 63.88 | 13 | 36.11 | 36 | 5.6 |
| Total | 267 | 41.71 | 373 | 58.28 | 640 | 10 |

Chi-square = 13.123 (df = 2, p < 0.001)

Above table shows statistically significant relation between level of cognition and sex of study population. Cognition was normal in 29.37% elderly whereas 65% had some degree of mental confusion, 5.62% had severe confusion. Severe confusion was more among males(63.88%) than females (36.11%).In another study by Srinivasan Krishnamachari et al (2010), that cognitive impairment was shown to be positi associated with disability and was independent of gender and co-morbid medical condition. Present shows sex differentiation among cognitive impairm More males were severely confused than females.

Figure 2: Table 1 :

**2**

| SES | Morbid | | Healthy | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Class I | 68 | (94.44) | 4 | (5.55) | 72 | 11.25 |
| Class II | 158 | (91.32) | 15 | (8.67) | 173 | 27.03 |
| Class III | 120 | (95.23) | 6 | (4.76) | 126 | 19.68 |
| Class IV | 229 | (98.28) | 4 | (1.71) | 233 | 36.40 |
| Class V | 35 | (97.22) | 1 | (2.77) | 36 | 5.62 |
| Total | 610 | (95.31) | 30 | (4.68) | 640 | 100 |

Figure 3: Table 2 :

**3**

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| Age groups in yrs | No examined | Persons ill | Number of illness | | Total illnesses | Mean no of illnesses |
|---|---|---|---|---|---|---|
| | | | Male | Female | | |
| 60-74 | 523 | 495(94.64) | 652 | 1303 | 1955 | 3.94 |
| 75-84 | 114 | 112(98.24) | 261 | 226 | 487 | 4.34 |
| >85 | 03 | 3(100) | 0 | 19 | 19 | 6.33 |
| Total | 640 | 610(95.31) | 913 | 1548 | 2461 | 4.03 |

Figure 4: Table 3 :

**4**

| Age group | | Slum | Urban | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| 60-74 | 950 | (75.15) | 1005 | (83.95) | 1955 | (79.43) |
| 75-84 | 295 | (23.33) | 192 | (16.04) | 487 | (19.78) |
| >85 | 19 | (1.50) | 0 | 0 | 19 | (0.77) |
| Total | 1264 | (51.36) | 1197 | (48.63) | 2461 | (100) |

Figure 5: Table 4 :

**5**

| Age groups in years | Persons ill | | | Spells of illnesses | | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Mean Spells | Female | Mean Spells |
| 60-74 | 176 | 319 | 773 | 4.39 | 1526 | 4.78 |
| 75-84 | 65 | 47 | 293 | 4.50 | 262 | 5.57 |
| >85 | 0 | 3 | 0 | 0 | 22 | 7.33 |
| Total | 241 | 369 | 1066 | 4.42 | 1810 | 4.90 |

Chi-square = 83.484 (df = 2, p < 0.0001)

Above Table-5 shows statistically significant relation between mean of spells of illness and age. In both sexes, mean spell was increasing with advancement of age. In males, mean was more ( comparison to females (4.90).

Figure 6: Table 5 :

**6**

| Perceived Health status | Number of elderly | Percentage (%) |
|---|---|---|
| Well | 174 | 27.18 |
| Ill | 466 | 72.81 |
| Total | 640 | 100 |

Table-6 shows that 72.81% population perceived themselves ill, whereas 27.18% perceived well.

Figure 7: Table 6 :

**7**

| Health status | Male | Female | Total |
|---|---|---|---|
| Well | 85(31.85%) | 89(23.86%) | 174(27.18%) |
| Ill | 182(68.16%) | 284(76.13%) | 466(72.81%) |
| Total | 267 | 373 | 640(100%) |

Figure 8: Table 7 :

**8**

| Age group (years) | Treatment taken | Treatment not taken | Total |
|---|---|---|---|
| 60-74 | 361(97.30%) | 10(2.69%) | 371 |
| 75-84 | 92(100%) | 0 | 92 |
| >85 | 3(100%) | 0 | 3 |
| Total | 456(97.85%) | 10(2.14%) | 466 |

Chi-square 2.617 (df 2, p = 0.270).

Figure 9: Table 8 :

**9**

| Sex | Treatment taken | Treatment not taken | Total |
|---|---|---|---|
| Male | 180(98.90% | 2(1.09%) | 182 |
| Female | 276(97.18%) | 8(2.81%) | 284 |
| Total | 456(97.85%) | 10(2.14%) | 466 |

Figure 10: Table 9 :

**10**

| Area | Government | Private | Quacks | Others | Total |
|---|---|---|---|---|---|
| Urban | 72(29.26%) | 127(51.62%) | 38(15.44%) | 9(3.65%) | 246(53.94%) |
| Slum | 55(26.19%) | 35(16.66%) | 82(39.04%) | 38(18.09%) | 210(46.05%) |
| Total | 127(27.85%) | 162(35.52%) | 120(26.31%) | 47(10.30%) | 456(100%) |

Figure 11: Table 10 :

**11**

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| Reasons | Persons | Percentage (%) |
|---|---|---|
| Health centre too far | 16 | 4.86 |
| Facility available but lack of faith | 4 | 1.21 |
| Long waiting time | 147 | 44.68 |
| Due to misconduct of staff | 110 | 33.43 |
| Others* | 52 | 15.80 |
| Total | 329 | 100 |

*[Note: *Others included OPD time not suitable.Present study shows that, out of total 456 elderly seeking treatment from different agencies, only 127 elderly were taking treatment from Government facility ; rest 329 were not utilizing Government facility. Above Volume XVI Issue III Version I]*

Figure 12: Table 11 :

**12**

| Reasons | | Urban | Slum | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Health centre too far | 1 | 0.57 | 15 | 9.67 | 16 | 4.86 |
| Facility available but lack of faith | 3 | 1.72 | 1 | 0.64 | 4 | 1.21 |
| Long waiting time | 95 | 54.59 | 52 | 33.54 | 147 | 44.68 |
| Due to misconduct of staff | 23 | 13.21 | 87 | 56.12 | 110 | 33.43 |
| Others* | 52 | 29.88 | 0 | 0 | 52 | 15.80 |
| Total | 174 | 100 | 155 | 100 | 329 | 100 |

Chi-square = 114.34 (df= 4,p = 0.000)

Figure 13: Table 12 :

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Figure 14: Table -

**13**

| Age group (years) | Allopathic | Ayurveda | Homeopathy | Others | Total |
|---|---|---|---|---|---|
| 60-74 | 308(85.31) | 14(3.87) | 18(4.98) | 21(5.81) | 361 |
| 75-84 | 86(93.47) | 1(1.08) | 0 | 5(5.43) | 92 |
| >85 | 3(100) | 0 | 0 | 0 | 3 |
| Total | 397(87.06) | 15 (3.28) | 18(3.94) | 26(5.70) | 456 |

Chi-square = 7.382 (df = 6, p = 0.286) Figure in parenthesis denote percentages.

Figure 15: Table 13 :

**14**

| Reasons for not seeking health care | Persons | Percentage |
|---|---|---|
| Financial reasons | 1 | 10 |
| Considered disease due to age | 1 | 10 |
| Nobody to take me to hospital | 5 | 50 |
| Health services too far | 3 | 30 |
| Total | 10 | 100 |

Figure 16: Table 14 :

| % of Per capita income | Urban | | Slum | | Total | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| <10% | 161 | 50.94 | 155 | 49.05 | 316 | 62.94 |
| 10-20% | 56 | 56 | 44 | 44 | 100 | 19.92 |
| 20-30% | 29 | 80.55 | 7 | 19.44 | 36 | 7.17 |
| >30% | 0 | 0 | 4 | 100 | 4 | 0.79 |
| Total | 246 | 49.00 | 210 | 41.83 | 456 | 100 |

Chi-square = 16.258 (df = 3, p = 0.001)

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Figure 17:

**15**

| Diseases | Male(n=241) | | Female(n=369) | | Total(n=610) | |
|---|---|---|---|---|---|---|
| Urinary Incontinence | 6 | 2.48 | 1 | 0.27 | 7 | 1.14 |
| BPH | 19 | 7.88 | 0 | 0 | 19 | 3.11 |
| UTI | 14 | 5.80 | 10 | 2.71 | 24 | 3.93 |
| Stress Incontinence | 0 | 0 | 1 | 0.27 | 1 | 0.16 |
| Trichomonas vaginitis | 0 | 0 | 3 | 0.81 | 3 | 0.49 |
| Carcinoma Cervix | 0 | 0 | 1 | 0.27 | 1 | 0.16 |
| Prolapsed Uterus | 0 | 0 | 2 | 0.54 | 2 | 0.32 |
| Total | 39 | - | 18 | - | 57 | - |

Note: Multiple disorders have been seen in many subjects.

Figure 18: Table 15 :

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