Comparative Study of the Morbidity Pattern among the Elderly Residing in the Urban and Rural Areas of Surendranagar

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Type of Publication: Original Research Paper
Conflicts of Interest: Nil

Abstract

Background: Elderly suffers from dual medical problems which are both communicable and non-communicable in nature. The study was planned to compare the morbidity pattern in the urban and rural population.

Aim & Objective: 1. To estimates the prevalence of geriatric health problems in urban and rural population. 2. To explore the type of morbidities present among the elderly. 3. To assess the health seeking behavior of elderly

Methods: A cross sectional study was carried out in urban and rural areas of Surendranagar district among 611 elderlies, using a predesigned and pre tested questionnaire. For selection of the area, in both the urban and rural areas, the sampling units were enumerated and samples were collected by using simple random sampling. Data was entered and analysed using MS excel 2007.

Results: Nearly 78% urban males and 68% urban female has no chronic illness.48% rural males and 42% rural females had no chronic illness. The main morbidities included hypertension, diabetes, mental health morbidities and musculoskeletal disorder. Most of the subject preferred going to private allopathic doctors in urban area, whereas their counterparts preferred going to government hospital for treatment

Conclusions: There was large proportion of undetected hypertension and mental disorder like depression & anxiety disordered. There was a significant association of morbidities with age, social class and financial status and that of mental health with physical health complaints. These reiterate the pressing need of the changes in the primary health care system of the elderly. The mental health issue needs more of psycho-social and behavioral therapy than the drug therapies

Keywords: Association, Clinical Examination, Elderly, Hypertension, Morbidity, Urban-Rural

Introduction

Aging is physiological process beginning at conception, resulting in changes that are characteristic of the spices throughout its life cycle. In the later years of life, this results in limitation of adaptability of the organism to the environment because of these changes. The aging of population has resulted from demographic transition occurring with a change for high mortality and fertility to low mortality and fertility due to better health services.

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This has affected the developing countries at faster rate during last three decades due to rapid urbanization and industrialization. In India, elderly suffer from dual medical problems which are both communicable and non-communicable as well as impairment of hearing and vision. [1]

The contribution of elderly populations to demographic profile is increasing day by day. Increasing problem of healthcare, psychosocial, personal and socio- economic factors associated with elderly further accentuates this. Elderly are vulnerable to acute communicable disease as well as long term diseases like cardiovascular disease, cancers, diabetes, musculoskeletal and mental illness. [2]

In India, elderly population is about 10 crore forming 10 % of total population. It is projected to rise to 12.4% by the year 2026.[3] Demographic transition has been accompanied by changes in society and economy. These social implications are also bringing about changes in the social structure and thereby activating the physical and mental health of the elderly. From the morbidity point of view, almost 50% of the elderly in India have chronic diseases and 5% suffers from immobility which poses a greater responsibility on the health services specially in developing like India where there is a greater strain on available infrastructure. [4] Each country should asses the unmet need of elderly and explore most suitable pattern of care which fits in its health care system. The present study was therefore designed to provide the basic steps in this direction, by exploring health problems among the elderly residing in urban and rural population.

Aim & Objectives

1. To estimate the prevalence of geriatric health problems in urban and rural population

2. To explore the type of morbidities present among the elderly

3. To assess the health seeking behavior of elderly

Material & Methods

A total of 611 elderly subjects were studied form both urban and rural areas. A cross sectional study was carried out by directly examining the subjects and questioning for their medical and past history. For selection of the areas the sampling units were enumerated and samples were collected from them. For Rural data collection, out of all the 12 talukas in Surendranagar district, one taluka was selected by using simple random sampling, which came out to be Sayla. For selection of villages, the similar process was followed and Sayla village was selected. For urban data collection, the city which has 14 wards was enumerated and by simple random technique, Ward No. 7 was selected for the study. The estimated geriatric population combined in both Urban and Rural areas amounted to 12,220 (7% of geriatric population as per Census 2001) [5] out which 5 % was selected as sample. This came out to be 611 elderly subjects which were selected equally from both urban and rural areas. Study was conducted for a period of 6 months. For collection of the data, a Self structured, validated and pre-tested Performa was used. Data was entered and analysed using MS excel 2007. For the study, the permission from Institutional ethics committee was taken and the anonymity of the subjects was ensured during data collection and handling. The data was collected after obtaining written consent from the study subjects. The data collection included, interviews, general and systemic examination as well as evaluation of existing health records with them.

Results

Table 1 shows the Socio Demography profile of study subjects. Majority of the subjects in the urban area were in the age group up to 75 years, where as in the rural area most of the subject aged more than 65 years. In the urban area, majority of subject were females, where as in rural area proportions were same. About 99% of the subjects in urban areas and about 89% of rural subjects were Hindus. Nearly 60 % of the subjects in both urban and rural area were currently unemployed. About 58 % of the subjects in the urban and rural areas were unemployed. Majority of the subject in urban area were professional or semi-professional where those in rural area were skilled or unskilled workers. With respect to education, 28% in urban and 58% rural were illiterate. Majority of the literate in both the areas were educated up to primary. About 14 % in urban, 4 % in rural were graduates. Most of the subjects were married and about 30% in both areas, who were widow/widower.

Modified Prasad's Classification (2009) was used to calculate the social class of the families in both urban and rural areas. Majority of the families in the urban areas were from social class 4 (29%), followed by those from social class 3 (24%); whereas in the rural areas, majority of the families were from social class 5 (47%) followed by those from social class 4 (26%).

The table 2 depicts response to some personal questions in which around 91% of urban male compared with 81% of rural male were staying with their children. 90% of urban females and 82% rural females were staying with children. Only about, 18 % of the male and 11 % female from the urban and also 57.7 % of the male and 20% of the female elderly had history of regular visit from their children. In the urban, nearly 86% of the male and 66.78% of the female from urban area said that the attitude of the family members towards them was respectable whereas, 38.8 % of the male and 59 % of the female from rural area said that the attitude was respectable. Only 2 % male and 8.2% of female from urban area and 9.04% of male and 7.42% female in rural said that they felt neglected by the family members. When asked about their attitude towards life, about 81% of the male and 67% of the female from urban area had a happy attitude towards life, 43.7 % of the male and 64.8 % of the female from rural area had a happy attitude towards life.

Figure 1 shows 33% & 42.7% of the male in urban area and 66.6% and 57.28% in rural reported past history of medical illness. So it clearly reflects that females had significant past history as compared to males.

Table 3 explain that, in urban areas, 78 % of the males and 68% of the female had no any chronic illness in the urban population. Whereas in rural 48.61% of the males and 41.97% of the female had no illnesses. The most prevalent morbidities were ophthalmic followed by hypertension among the elderly. Diabetes mellitus was common in both male (4.87 %) & female (4.94%) population, whereas in rural areas, females (12.96%) had a higher percentage as compared to males. Another most common findings were depression, which as more common in rural almost (5%) both in male and female. Hemiparesis/hemiplegia was more common in rural female (4.32%). Other findings like Goiter, Renal Insufficiency, Ovarian malignancy, Calculi were found equally in both urban (3.29%) and rural female (3.92%).

Figure 2a explain that systemic examination of the subjects in both urban and rural areas showed that most of the positive findings were related to eye problems followed by respiratory morbidities, psychiatric problems and issues related to cardiovascular health. In the urban areas most the findings were similar for male and female expect the respiratory complaints and which were higher in males and pshcytric finings which were higher among the male.

Figure 2b explains the disparity in terms of findings of clinical examination in rural areas. Rural females had more ophthalmic, locomotor and psychiatric complaints, whereas the repository findings were much higher among the males as compared to females. The cardiovascular complaints were found to little be higher among the males as compared to females.

Figure 3 explain that majority of the subjects in the urban areas (82.29%) preferred going to private allopathic for seeking medical attention, whereas only 19.23% preferred going to government medical centres for medical help. Majority of the subjects in the rural areas (83.33%) preferred going to Government centres for seeking medical attention, whereas an equal percentage of the subjects preferred private allopathic and classical medicine for medical help.

Table 4 explains that age was significantly associated with the presence of morbidities meaning higher age group had higher morbidities in both urban and rural areas. Similar association was also seen for social class and financial positions of the elderly. Similarly, mental health status was associated with reported chief complaints to see if mental and physical health had relationship, the relation was statistically significant in urban areas but not in rural areas. Similarly, other factors like children visiting and being cared for were associated. The relationship was found significant in rural areas where the social fabric is still intact whereas the relationship was not significant in urban areas.

Discussion

The present study which was conducted as comparative study primarily to understand the

differences and morbidity patterns among the elderly in residing in rural and urban area. Some of the morbidities showed similar pattern in both the urban and rural area like cardiovascular, gastrointestinal system, central nervous system, psychiatric, orthopaedic and Skin related morbidities. Whereas some the morbidities showed a lot of disparities with respect to those living in urban and rural area, this includes respiratory and ophthalmic morbidities.

As for gender, Census 2011 indicated that, overall percentage for older population is 8.6%, in which male proportion was 8.2% and for the female it was 9%. Similar to this was observed in the present study where females formed a higher percentage than males in the 60+ age group in urban area; however in the rural area proportions were same. A study by Vijayanchali S. S et al. showed reversal of the result in which male proportion of elder population in study group was higher as compare to female. [5]

In our study, majority of the families in the urban areas were from social class 4 (29%), whereas in the rural areas, majority of the families were from social class 5 (47%) followed by those from social class 4 (26%).This could be as an influence of more total income of the families in urban area than rural area. The present study showed about 91% of subjects in urban area and 81% in rural area living with their children. The NSS data indicated that children support more than 70% of the elderly. In terms of living arrangements, around 3.45% of elderly live alone. While 75% of elderly men live with their spouses, only 39% of elderly women live with their spouses and the rest live with their children.[3]

Study conducted by Singh J et al. showed the Prevalence of Diabetes at around 18% among elderly residing in urban slums of Nagpur. These findings are little different from the one reported in the current study where the prevalence found higher in rural area among females. The prevalence in the urban area is around 5%. [6]

The overall prevalence of hypertension of elderly in the urban area was around 39.67% and in the rural area was around 54.90%. And when it specifies with gender it was seen that, overall prevalence for male was 33.33% and for female was 43.71 % in the prevalence of among rural male was 56.25%. Prevalence of hypertension among rural female was 53.7%. A study carried out by chinnakali P et al.

showed the prevalence of hypertension among elderly in kerala at 40%. The prevalence was similar among the males and females. Theses prevalence found similar to the current study, where in the rural area, similar place was noted, how were in the urban area, the prevalence found to be higher at around 55%. [7]

In our study, it was seen that majority of the subjects in the urban area (82.29%) preferred going to private allopathic for treatment, whereas only 19.23% preferred going to government medical centres. Where as in the rural area (83.33%) preferred going to Government centres for treatment. In a study conducted by Hakmaosa A et al. in Assam found that nearly half of the subject found short treatment from government hospital, also most 99% of the subjects in the study took an allopathic treatment for the illnesses. [8] Sharma D et al. explained that most of the elderly 60% Preferred going to PHD/CHC/Government hospitals for the treatment of their illness where as 26 % of the preferred to take in private hospital, about 12% of the study subject took drug over the counter. [8]

Conclusion & Recommendation

It can be concluded from study that large proportion of the subject from both urban and rural area at some and the other morbidities. Some of them reported it as present complains, others reported the same as past morbidities while others had presences of chronic illnesses. Most of the complains related to ophthalmic, Respiratory and cardiovascular systems. There was large proportion of undetected hypertension among the study subjects. Nearly one third was prehypertensive and almost half either stage one or two hypertension. The mental health of the subjects had its derivations form the social implication like not being cared for by family members and feeling of worthlessness. And therefore the prevalence of mental disorder like depression and anxiety disordered were high.

These reiterates the prising need of the changes in the primary health care system of the elderly with the focus not just being on curative care but also on social actions to ensure support to them. The mental health issue need more of psycho and behavioural therapy then the drug based therapies. A. long with these interventions there is improve need to evaluate the health problems at regular intervals. With

inception of Ayushman Bharat, these coincide with programme objectives and shall therefore go a long way in improving the elderly in India.

Limitation of the study

The following are the study limitations:

1. The study participants couldn't be followed up over a given period of time and the morbidity were assessed only in cross sectional manner

2. Data could be collected from only one taluka in rural and one ward in urban, a larger sample couldn't be studied due to limitation in resources

3. Laboratory investigations related to morbidities couldn't be carried out

Relevance of the study

Morbidity assessment of the elderly population should be carried out from time to time. This is often not being regularly done. As it is one of the integral components of the comprehensive primary health care, this study will work as a baseline for carrying out similar assessments in future. This will help in planning of the health services for the elderly in the areas of the data collection and the whole district thereafter.

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Tables:

Table 1: Socio –Demography profile of study subjects

Age group	Urban (N=305)		Rural (N=306)	
	Number	%	Number	%
60-65	119	39	84	27.45
66-75	136	44.5	136	39.2

76-100	50	16.5	102	33.32
Gender				
Males	123	40.3	144	47.1
Females	182	59.7	162	52.9
Religion				
Hindus	302	99.01	273	89.21
Muslims	3	0.99	32	10.78
Occupation				
Professional	33	10.81	13	4.24
Semi Professional	18	5.9	3	0.98
Clerical/Shop/Farm	25	8.19	28	9.15
Skilled Worker	21	6.88	38	12.41
Unskilled worker	23	7.54	44	14.37
Unemployed	175	57.37	180	58.82
Education				
Graduate	42	13.77	13	4.24
Intermediate diploma	18	5.9	3	0.98
High school	24	7.86	18	5.88
Middle school	39	12.78	31	10.13
Primary school	98	32.13	65	21.24
Illiterate	84	27.54	176	57.51
Marital Status				
Married	200	65.57	206	67.32
Single	6	1.96	2	0.65
Divorcee	0	0	3	0.98
Widow/Widower	99	32.45	90	29.47
Separated	0	0	5	1.63
Social class*				
Class 1	18	9	10	5
Class 2	32	16	8	4
Class 3	48	24	34	18
Class 4	59	29	49	26
Class 5	45	22	89	47

*The number of families from where the study population originated were taken into account, which was 202 in urban and 190 in rural areas.

Table 2: Table depicting response to the personal questions - (Urban - Rural comparison)

Responses to personal questions	Urban (N=305)				Rural (N=306)			
	Male	%	Female	%	Male	%	Female	%
1. Do You Stay with Your Children?								
Yes	112	91.03	164	90.1	116	80.55	132	81.48
No	11	8.94	18	9.89	28	19.44	30	18.51
2. Do your children regularly visit?								
Yes	2	18.18	2	11.11	16	57.74	6	20
No	9	81.19	16	88.82	12	42.86	24	80
3. Attitude of family members towards you								
Respectable	106	86.17	121	66.48	56	38.88	96	59.25
Neglected	14	11.38	46	25.27	75	52.08	54	33.33
Misbehaviour	3	2.45	15	8.25	13	9.04	12	7.42
4. Attitude towards life								
Happy	100	81.3	122	67.73	63	43.75	105	64.81
Not happy	23	18.69	57	31.31	72	50	54	33.33
Loss of interest	0	0	3	1.64	9	6.25	3	1.85

Table 3: Table showing the chronic illnesses present among the subjects- Urban (N=305) v/s Rural (N=306)

Illness present	Urban (N=305)				Rural (N=306)			
	Male	%	Female	%	Male	%	Female	%
No illness	96	78.04	124	68.13	70	48.61	68	41.97
Hypertension	41	33.33	80	43.95	81	56.25	87	53.7
Ophthalmic problems	120	97.56	157	86.26	125	86.80	150	92.59
Diabetes Mellitus	6	4.87	9	4.94	9	6.25	21	12.96
Angina Pectoris	3	2.43	4	2.19	4	2.77	3	1.85
Bronchial asthma	3	2.43	3	1.64	4	2.77	0	0
Hemiparesis/	0	0	4	2.19	5	3.47	7	4.32

Hemiplegia								
Tuberculosis	3	2.43	0	0	0	0	3	1.85
Osteoarthritis	0	0	6	3.29	4	2.77	5	3.08
Depression	3	2.43	3	1.64	7	4.86	8	4.93
Anxiety spectrum disorder	0	0	3	1.64	5	3.47	6	3.7
Postural Vertigo	0	0	3	1.64	5	3.47	6	3.7
Frozen shoulder	3	2.43	3	1.64	3	2.08	4	2.46
Ventricular Premature Beats	3	2.43	3	1.64	2	1.38	3	1.85
Parkinson`s disease	2	1.62	3	1.64	4	2.77	5	3.08
COPD	3	2.43	4	2.19	2	1.38	3	1.85
Coronary Artery Disease	3	2.43	2	1.09	3	2.08	4	2.46
Inter vertebral disc prolapse	3	2.43	0	0	0	0	3	1.85
Others (included Goiter, Renal Insufficiency, Ovarian malignancy, Calculi etc.)	0	0	6	3.29	3	0.98	12	3.92

Table 4: Association between morbidities and socio-demographic factors among subjects (Urban, N=305) vs. Rural (306)

Factors	Urban		Rural		Chi square	P value
Age	**Morbidities present**	**Absent**	**Morbidities present**	**Absent**		
60-65	27	92	27	57	U= 19.10	U= 0.004
66-75	40	96	41	79	R= 19.18	R= 0.008
76-100	18	32	51	51		
Social class						
Class 1	5	22	6	9	U= 9.59	U= 0.048
Class 2	21	27	13	0	R= 22.03	R=<0.01
Class 3	20	53	17	37		

Class 4	18	69	29	51		
Class 5	21	49	54	90		
Financial position						
Independent	12	76	25	55	U= 14.72 R= 32.94	U= 0.001 R= <0.01
Partially dependant	21	29	37	12		
Fully dependant	52	115	57	120		
Mental health status	**Chief complaints reported by subjects**					
	Yes	**No**	**Yes**	**No**	U= 7.09 R= 0.031	U= 0.008 R= 0.861
Normal	83	188	221	58		
Abnormal	3	31	21	6		

Figures:

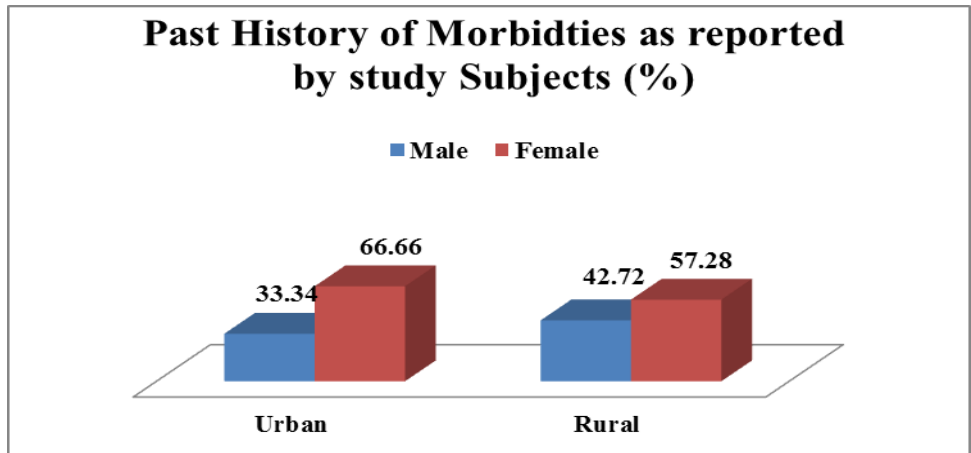**Figure 1: Past history of morbidities among the subjects-Urban (N=305) vs. Rural (306)**

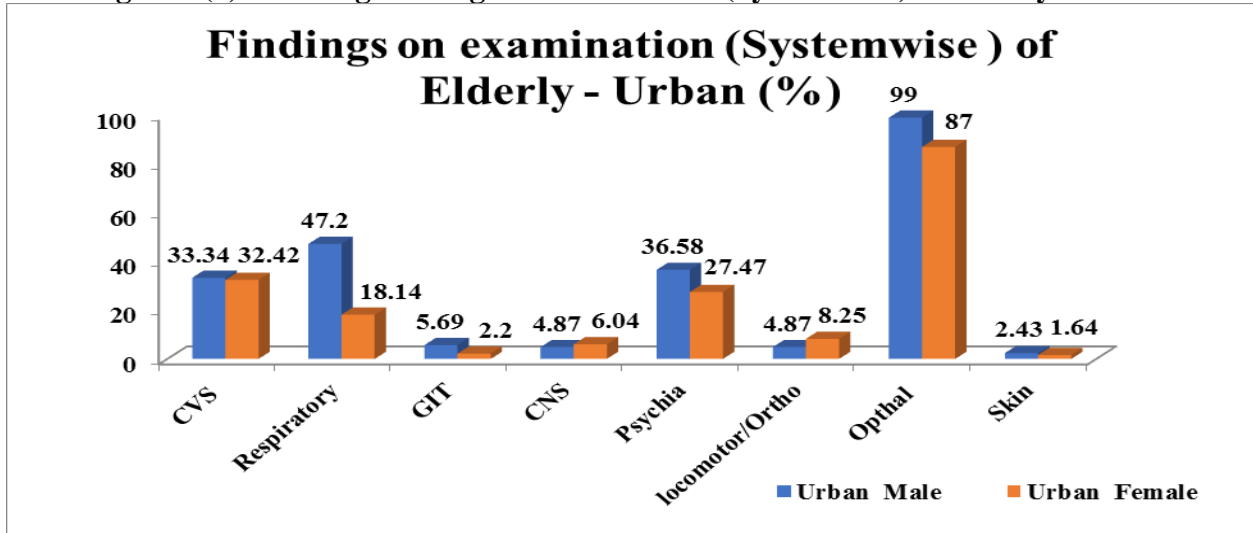**Figure 2(a): showing Findings on examination (System wise) of Elderly – Urban**

Figure 2(b): showing Findings on examination (System wise) of Elderly – Rural
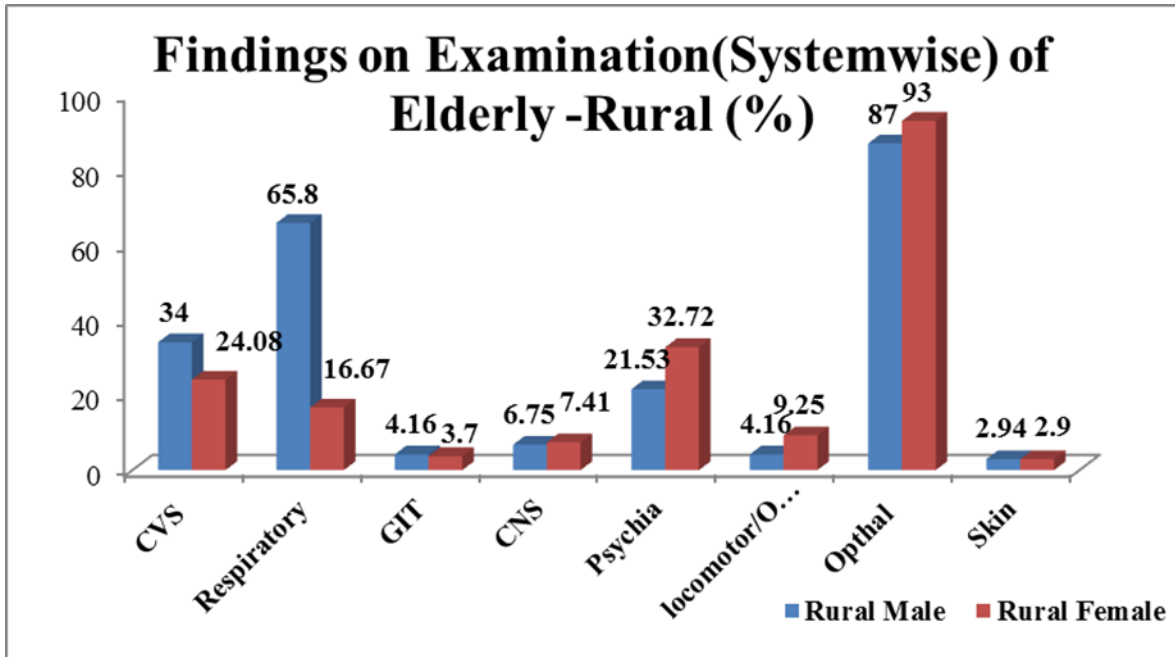

Figure 3: showing Health seeking behaviour of the subjects (Urban, N=305)

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