



MORBIDITY PATTERN AMONG THE ELDERLY POPULATION IN A RURAL AREA OF DAKSHINA KANNADA, KARNATAKA-A CROSS SECTIONAL STUDY

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Financial Support: None declared
Conflict of interest: None declared
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How to cite this article:

Hameed S, Kumar N, Naik PM, Sachidananda K, Prasanna K S. Morbidity Pattern Among the Elderly Population in a Rural Area of Dakshina Kannada, Karnataka - A Cross Sectional Study. Ntl J of Community Med 2015; 6(2):89-92.

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Date of Submission: 12-04-15

Date of Acceptance: 23-06-15

Date of Publication: 30-06-15

ABSTRACT

Introduction: As the ageing population is increasing, the burden of their health problems is on a rise.

Methods: A cross-sectional community-based study was conducted among elderly population aged 60 years and above residing in the rural field practice area of A.J. Institute of Medical Sciences & Research Centre in Dakshina Kannada district, Karnataka, India.

Results: The mean age of the participants was 66.9±6.3years. Out of 375 elderly participants, females were 57.9%. In the study population only 3.7% elderly were not suffering from any form of morbidity. Majority (25.3%) of them were suffering from 3 morbidities and 12.5% had 5 and more morbidities. Major morbidities of the study population were impaired vision followed by hypertension and joint problems. The proportion of arthritis, anaemia and obesity were significantly higher among females than among male participants.

Conclusion: The study among the elderly in Dakshina Kannada District, has highlighted a prevalence of visual complaints, hypertension and joint problems in the population. As the study shows that there is a higher prevalence of multimorbidity among the rural population, geriatric health care should be given due emphasis in health care services.

Keywords: Geriatric, Morbidity pattern, Kannada, Rural

INTRODUCTION

India has acquired the label of "an ageing nation" with the contribution of elderly population to demographic figures increasing day by day.¹ Geriatric medicine is yet to acquire an important place in India.² 'National Policy on Older Persons' 1999 adopted by Government of India defines 'senior citizen' or 'elderly' as a person who is of age 60 years or above³. The absolute number

in India increased from 76 million in 2001 to 100 millions in 2011. There has been a progressive increase in proportion of elderly population in India from 6.8% in 1991 to 8.6% in 2011⁴ and projected to increase to 19% in 2050⁵. As the ageing population is increasing, the burden of their health problems is on a rise. The elderly people suffer from dual medical problems, i.e, both communicable as well as non-communicable dis-

eases. This is further compounded by impairment of special sensory functions like vision and hearing.¹ This study focuses on such problems of elderly, which will provide vital information in setting priorities in health services among the rural elderly population of Dakshina Kannada district Karnataka.

METHODS

A cross-sectional community-based study was conducted among elderly population aged 60 years and above residing in the rural field practice area of A.J. Institute of Medical Sciences & Research Centre coming under Bantwal Taluk limits in Dakshina Kannada district, Karnataka, India, after taking approval from institutional ethics committee. The rural health training centre has adopted 6 different localities (areas) under field practice area, which includes a total population of 6400.

There were 410 (6.4%) persons in the age group of 60 and above of which 375 were included in the study and rest 35 were either non-co-operative or could not be contacted despite making sincere efforts.

Study was done over a period of six months (1 July 2013 to 31 Dec 2013). Following a detailed present and past history, physical examination was carried out by MBBS doctor. The physical equipments used were Stethoscopes, B.P. Apparatus, torch and Snellen's Chart (for illiterate, Snellen's E Chart) has been used to assess the morbidity status of the elderly.

Statistical Method: All the data was entered into Microsoft Excel and analyzed using SPSS (trial version 16) computer software. Chi-square test was used to assess the statistical association between the groups. The statistical significance level was fixed at $p < 0.05$.

Operational definition

Arthritis: Diagnosis was based on the reporting of previous diagnosis by a doctor or having painful/stiff/swollen joints during the current clinical examination.

Stroke: Diagnosis was based on physical examinations: presence of hemi or mono paresis judged to be of central origin or presence of pseudobulbar symptoms (dysarthria, dysphasia).

Impaired vision: Diagnosis was based on visual acuity less than 6/60 using Snellen's chart in the better eye in bright day light.

Impaired hearing: Impaired hearing is defined as inability to hear a whisper at a distance of 1 meter.

Respiratory morbidities: a) This condition was diagnosed from clinical examination: presence of abnormal breathing sounds like ronchi, crepitations, on auscultation. And/or b) Chronic obstructive pulmonary disease and tuberculosis were accepted as diagnosed by clinician earlier with necessary investigations.

Cardiovascular Morbidities: Particularly ischaemic heart disease, congestive cardiac failure, valvular heart disease was accepted as diagnosed by clinician earlier with necessary investigations.

Hypertension: a) Defined as systolic blood pressure (SBP) of 140mmHg or more and / or diastolic blood pressure (DBP) of 90mmHg or more and/or b) Subjects on anti hypertensive medications.

Diabetes Mellitus: Has been diagnosed by clinician earlier to have high blood sugar levels and is on medications for the same.

Anaemia: Assessed by examination of palpebral conjunctiva, oral mucosa and palms. If any of the examined part was pale, then was considered as anaemic.

Gastrointestinal disorders: History of Gastritis or constipation or faecal incontinence were considered.

Urinary Disturbance: History of Urinary hesitancy or Stress incontinence or Urge incontinence were considered.

RESULTS

The mean age of the participants was 66.9 ± 6.3 years. Out of 375 elderly participants, females were 57.9%, 62.9% were illiterate and majority (66.1%) were below poverty line (BPL) card holders. It was also noted that 38.9% of the population were widow/widowers (36% widows and 2.9% were widowers). Majority (68.3%) were unemployed and 71.5 % were living in a joint family set up. Among the study population, 48.3% (46.8% males, 49.3% females) did not use tobacco in any form.

In the study population only 3.7% elderly were not suffering from any form of morbidity. Majority (25.3%) of them were suffering from 3 morbidities and 12.5% had 5 and more morbidities (Table No. 1).

Major morbidities of the study population were impaired vision followed by hypertension and joint problems (Table No. 2). The proportion of

arthritis, anaemia and obesity were significantly higher among females than among male participants. But the proportion of respiratory morbidities, urinary symptoms, stroke and cardiovascular morbidities were significantly higher among males (Table No. 2).

In this study the overall prevalence of impaired vision was 62.9%. 70 (18.67%) were newly diagnosed to have cataract in one or both eye. 62(16.5%) had undergone cataract operation either in one eye or both for reduced visual acuity. Overall prevalence of hypertension among the study population was 56.8% of which previously diagnosed hypertensives and who were on medication were 156 (41.6%) and the remaining 15.2% were newly diagnosed to be hypertensive. Among the joint complaints, 47.14% had knee pain, 12.38% low back pain, 3.33% shoulder pain,

and 2.38% hip pain. 32.85% had multiple joint pains. The overall prevalence of impaired hearing was 7.2%. None of the study population was using any hearing aid for impaired hearing. In this study, 110(29.3%) of the population had gastrointestinal symptoms. Among them, 48.2% had gastritis, 50% constipation, and 1.8% had faecal incontinence.

Table 1: Distribution of the elderly according to number of morbidities (n=375)

Number of morbidity	Percentage
1	16.8
2	23.5
3	25.3
4	18.1
5 and more	12.5

Table 2: Morbidity profile of the study population (n=375)

Morbidity condition	Total (%) (n=375)	Male (%) (n=158)	Female (%) (n=217)	p Value
Impaired vision	236 (62.9)	97 (61.4)	139 (64.1)	0.59
Hypertension	213 (56.8)	86 (54.4)	127 (58.5)	0.429
Arthritis	210 (56.0)	65 (41.1)	145 (66.8)	<0.001
Anaemia	125 (33.3)	37 (23.4)	88 (40.6)	0.001
Gastrointestinal disorders	110 (29.3)	48 (30.4)	62 (28.6)	0.704
Respiratory morbidities	107 (28.5)	65 (41.1)	42 (19.4)	<0.001
Obesity(BMI≥25 kg/m ²)	78 (20.8)	23 (14.6)	55 (25.3)	0.011
Diabetes mellitus	74 (19.7)	36 (22.8)	38 (17.5)	0.205
Urinary disturbance	46 (12.3)	27 (17.1)	19 (8.8)	0.015
Edentulous mouth	44 (11.7)	22 (13.9)	22 (10.1)	0.261
Cardiovascular morbidities	29 (7.7)	19 (12.0)	10 (4.6)	0.008
Impaired hearing	27 (7.2)	16 (10.1)	11 (5.1)	0.06
Stroke	17 (4.5)	11 (7.0)	6 (2.8)	0.05

p value analysed by chi-square test for 2 x 2 contingency table. Many of the subjects reported with multiple symptoms.

Table 3: Body mass index and morbidity among study population

BMI (kg/m ²)*	Present (%)	Absent (%)	pvalue
Musculoskeletal symptoms in			
Underweight (<18.5)	48 (46.2%)	56 (53.8%)	<0.01
Normal (18.5-22.9)	67 (48.6%)	71 (51.4%)	
Overweight (23-24.9)	37 (67.3%)	18 (32.7%)	
Obese (≥ 25)	58 (74.4%)	20 (25.6%)	
Diabetes mellitus in			
BMI <25	47 (15.8)	250 (84.2)	<0.01
BMI ≥25	27 (34.6)	51 (65.4)	
Hypertension in			
BMI <25	159 (53.5)	138 (46.5)	0.013
BMI ≥25	54 (69.2)	24 (30.8)	

p value analysed by chi-square test; *Body mass index

DISCUSSION

The present study recorded a high prevalence of morbidity (96.3 %) among elderly population.

93% of the study population have one or more health-related complaints. However in other studies, the results are varied. In the study done at rural area of Tamil Nadu (2006)⁶ and Southern India (2012)⁷ reported a morbidity prevalence of 86.1% and 72.4% respectively. A study at Chandigarh (2007)⁸ reported, 86.1% of elderly population were having one or more health-related complaints with an average of 2 illnesses. A higher prevalence of morbidity among the study population might be due to different approach in data collection (previously diagnosed diseases by other doctors or specialists were included under the prevalence), better health seeking behaviour by the study population and better access to health care near the study area.

Major morbidities of the study population were impaired vision followed by hypertension and joint problems. Similarly, in the study at Chan-

Chandigarh (2002)⁹ most common diseases in order of their magnitude were hypertension (58%), joint pains/arthritis (50.5%), and cataract (19.1%). It was found that 63% was suffering from impaired vision which was similar to the finding of study done at southern India (2012)⁷. Similarly in the done study at Puducherry (2011)¹⁰, 68.2% were visually impaired. Similarly in the study done at Chandigarh (2003)¹¹, 61% of the subjects had visual impairment. This highlights that similar comorbidities and morbidity pattern are encountered in the geriatric population across the Indian subcontinent.

A study done at Udupi¹² (adjacent district-2009) showed hypertension prevalence to be 59.1% which is similar to the present study. In this study, those who were obese or overweight had more musculoskeletal complaints as compared to those whose body mass index was normal or underweight and this association has been found to be statistically significant. Similar result was seen in the study done at Chandigarh (2007)¹³. It was noted that prevalence of osteoarthritis increased as body mass index (BMI) increased. In this study, those who were obese had a higher prevalence of diabetes, hypertension than those who were not obese and similar results were seen in the study done at Chandigarh (2005)¹⁴.

CONCLUSION

The study among the elderly in Dakshina Karnataka District, has highlighted that nearly two-thirds suffered from visual problems, and more than half the subjects suffered from hypertension and joint problems. The proportion of arthritis, anaemia and obesity were significantly higher among females than among male participants. But the proportion of respiratory morbidities, urinary symptoms, stroke and cardiovascular morbidities were significantly higher among males. Those who were obese or overweight had more musculoskeletal complaints as compared to those whose body mass index was normal or underweight. As the study shows that there is a higher prevalence of multimorbidity among the rural population, geriatric health care should be given due emphasis in health care services. There is also a need to increase awareness among the geriatric group by IEC activities regarding the need to utilize the available health care services.

REFERENCES

1. Ingle GK, Nath A. Geriatric health in India: concerns and solutions. *Indian J Community Med* 2008; 33(4): 214-8. [PubMed]
2. Singh AP, Shukla A, Singh PA. Perceived self-efficacy and mental health among elderly: a study from India. *J Indian Acad Geriatr* 2009; 5: 171-6. [Google]
3. India. Central Statistics Office. Situation analysis of the elderly in India. Delhi: Ministry of Statistics and Programme Implementation; 2011. [Google]
4. Devi SB. Attitudes towards old age: a study of the self-image of aged. *Indian J Gerontol* 2007; 21(3): 294-303. [Google]
5. Prasad S. Deprivation and vulnerability among elderly in India [Internet]. Mumbai: Indira Gandhi Institute of Development Research; 2011 [cited 2012 Aug 7]. Available from: <http://www.igidr.ac.in/pdf/publication/WP-2011-013.pdf>
6. Purty AJ, Bazroy J, Kar M, Vasudevan K, Veliath A, Panda P. Morbidity pattern among the elderly population in the rural area of Tamil Nadu, India. *Turk J Med Sci* 2006; 36: 45-50. [Google]
7. Kumar AT, Sowmiya KR, Radhika G. Morbidity pattern among the elderly people living in a southern rural India- A cross sectional study. *Nat J Resp Com Med* 2012; 1(1): 15-19. [Google]
8. Bhatia SPS, Swami HM, Thakur JS, Bhatia V. A study of health problems and loneliness among the elderly in Chandigarh. *Indian J Community Med* 2007; 32(4): 255-8. [Google]
9. Swami HM, Bhatia V, Dutt R, Bhatia SPS. A community based study of the morbidity profile among the elderly in Chandigarh, India. *Bahrain Med Bull* 2002; 24(1): 13-16. [Google]
10. Bharati DR, Pal R, Rekha R, Yamuna TV, Kar S, Radjou AN. Ageing in Puducherry, South India: an overview of morbidity profile. *J Pharm Bioall Sci* 2011; 3: 537-42. [PubMed]
11. Joshi K, Kumar R, Avasthi A. Morbidity profile and its relationship with disability and psychological distress among elderly people in Northern India. *Int J of Epidem* 2003; 32: 978-87. [PubMed]
12. Lena A, Ashok K, Padma M, Kamath V, Kamath A. Health and social problems of the elderly: a cross-sectional study in Udupi taluk, Karnataka. *Indian J Com Med* 2009; 34(2): 131-4. [PubMed]
13. Sharma MK, Swami HM, Bhatia V, Verma A, Bhatia SPS, Kaur G. An epidemiological study of osteo-arthritis in geriatric population of UT Chandigarh. *Indian J Community Med* 2007; 32(1): 77-8. [Google]
14. Swami HM, Bhatia V, Gupta AK, Bhatia SPS. An epidemiological study of obesity among elderly in Chandigarh. *Indian J Community Med* 2005; 30(1): 11-3.