



Original Article

A Cross-sectional Study on Magnitude of Geriatric Health Problems in a Rural Area of Singur, West Bengal

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Abstract:

Background and objectives: -

India being a developing nation and with a huge population burden, we need to take care of our aging population above 60 years of age. Thus for their health, comprehensive promotive, preventive as well as curative care services are required to tackle the health problem in this age group. Health camps are arranged for elderly population time to time in the service area of Rural Health Unit and Training Centre located at Singur. Furthermore, estimates of health problems of senior citizens would also help predict trends in disease burden and plan health care for elderly.

With this back ground, we decided to undertake a study by arranging senior citizen camps to identify geriatric health problems in service area of RHU &TC, Singur (Under A.I.I.H & PH) and plan interventions accordingly.

Methodology: The study was carried out in the rural field practice area of RHU &TC, Singur (Under A.I.I.H & PH). The field practice area of RHU&TC, Singur consists of six gram-panchayats. Among them four

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Gram-Panchayats were selected by simple random sampling. They were Anandanagar Gram-Panchayat, Boinchipota Gram panchayat, Bagdanga Chinnamore Gram-panchayat and Nasibpur Gram panchayat.

Senior Citizen Camps were conducted in these four Gram panchayats in four different dates in the month of January, 2018.

Result: Data revealed that 90.82 % of elderly population do not have any old age pension. Among total participants 12.46 % were diabetic, 24.09 % were hypertensive, 2.13% having cardiovascular diseases, 10.33 % were suffering osteoarthritis and 7.87 % were suffering from gastro intestinal disorder.

Conclusion: The study revealed that nearly half of the participants were suffering from non-communicable diseases. To cater to this population, comprehensive health infrastructure has to be framed as per National Programme for the Health Care of the Elderly (NPHCE) for the betterment of their health.

Key words: Singur, Geriatric, Hypertension, Diabetic, Osteoarthritis.

Introduction:

The percentage of elderly people is increasing worldwide. India's elderly population is 2nd largest in the World, after China, which would be 137 million by 2021¹. It is projected that the proportion of Indians aged 60 and older will rise from 7.5 % in 2010 to 11.1 % in 2025². This increase in elder population is mainly due to decreasing fertility; mortality rates and increasing availability of better health care facility.

In India, most of the elderly people live below the poverty level.³ Furthermore, broken family due to unemployment and urban affinity of the younger generation compounds the problems of the elderly in addition to their ailments⁴. Health in old age is also reflected by one's health status in earlier years of life (for example Intrauterine Growth Retardation increases the risk of diseases of the circulatory system and diabetes in later life⁵). Therefore we can say that older population in India faces socio-economic as well as medical problems. These problems of older population in India need to be highlighted and strategies must be made to overcome these problems and to improve their quality of life.

With this background, we conducted a study by arranging senior citizen

camps to identify geriatric health problems in service area of RHU &TC, Singur (Under A.I.I.H & PH) and plan interventions based on the finding for the betterment of the health of geriatric population in service area of RHU &TC, Singur.

Material and Methods:

Study Type: A cross sectional observational study was carried out.

Study Site: Four Gram Panchayats under field practice area of Rural Health Unit & Training Centre, Singur (Under AIH &PH) were selected for this study.

Senior citizen camps for survey were organised in four gram Panchayats namely Anandangar GP (Total population 16373), Boinchipota GP Total population 13589), Bagdanga – China more GP (Total population 27207), Nasibpur GP (population 25061).

Study Subject: Aged population ≥ 60 years from four gram panchayats.

Inclusion criteria: Aged population ≥ 60 years who attended the camp and consented to be examined.

Study Period: Study was done from 1st January 2018 to 30th April 2018.

Sample size: We selected four Gram Panchayats by simple random sampling out of six Gram Panchayats present under field practice area of RHU &TC, Singur. Then we took all the population ≥ 60 years from the mentioned four Gram Panchayats who had attended the senior citizen health camps. Therefore total number of sample was 610.

Study tools: Predesigned questionnaire, Stethoscope, Sphygmomanometer of dial type.

The questionnaires were developed after reviewing related Indian studies and were translated in local vernacular language and pretested. The questionnaires contained question relating to both general and clinical information.

Data Entry: Data were entered and analysed by using MS Excel2010 software. Rate, Ratio and proportions were calculated.

Method of Data Collection: Health workers of RHU &TC, Singur did door to door campaign in these four Gram-Panchayats and informed the elderly citizens about this Senior Citizen Camps and motivate them to participate in the health camps.

Senior Citizen Health check-up camp was organised in Anandanagar GP on 15/01/2019 at Anandanagar Primary Health Centre (under RHU&TC, Singur). In Boichipota GP it was held on 16/01/2019 at Balidipa sub-centre (under RHU&TC, Singur). Senior Citizen Health check-up camp were organised in Bagdanga – Chinamore GP and Nasibpur GP on 18/01/2019 and 19/01/2019 at Nanda Sub-Centre (under RHU&TC, Singur) and Gobindapur Primary School respectively.

During the time of registration, participants were interviewed with the predesigned questionnaires regarding their general and clinical information.

Blood pressure was measured by BP machine of dial type. The blood samples for blood sugar estimation were taken by Laboratory Technicians according to the advice of medical officers and were examined in the Public Health Laboratory of RHU &TC, Singur.

Results:

The results of the study are as follows:

Table 1: General Information of Participants of Age ≥60Years.(N=610)

General Information	Anandanagar GP	Boichipota GP	Bagdanga-Chinamore GP	Nasibpur GP	Total
Total Registered population	179(29.34%)	162(26.55%)	137(22.45%)	132(21.63%)	610
Male	73(40.78%)	62(38.27%)	43(31.39%)	50(37.88%)	228(37.38%)
Female	106(59.2%)	100(61.72%)	94(68.61%)	82(62.12%)	382(62.62%)
Old age Pensioner	0	6(3.70%)	12(8.76%)	20(15.15%)	38(6.23%)
Service pensioner	0	0	3(2.18%)	15(11.36%)	18(2.35%)

Without Pension	179(100%)	156(96.30%)	122(89.05%)	97(73.48%)	554(90.82%)
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During these four camps total 610 patients were registered and provided health care and counselling. Among four Gram Panchayats (GPs) Maximum participants comes from Anandanagar GP (29.34%, 179/610) and minimum participants were from Nasibpur GP (21.63 % 132/610).

It was noted that most of the participants were females (62.62%) and rest were males. Most of the participants were totally depends on RHU &TC, Singur for all type of treatment and medication. (Table-1)

It was noted that out of this total population 554 (90.82%) were not having any source of income as they are not covered under old age pension scheme nor they had any other source of income.

Table 2: Morbidity Pattern of Participants Aged ≥ 60 Years (N=610)

Morbidity	Anandanagar GP(n=179)	Boichipota GP(n=162)	Bagdanga-Chhina-more GP(n=137)	Nasibpur GP(n=132)	Total(N=610)
Diabetes	37(20.67%)	18(11.11%)	13(9.48%)	08(6.06%)	76(12.46%)
Hypertension	33(18.43%)	46(28.39%)	36(26.28%)	32(24.24%)	147(24.09%)
Osteoarthritis	18(10.05%)	26(16.05%)	12(8.76%)	07(5.30%)	63(10.33%)
GI Tract Disease	32(17.88%)	1(0.16%)	1(0.16%)	14(10.61%)	48(7.87%)
Cardiovascular Diseases	8(4.47%)	5(3.09%)	0	0	13(2.13%)
Others Diseases *	51(8.36%)	63(10.33%)	75(12.96%)	71(11.64%)	263(43.11%)

*other diseases includes Cataract , Refractive Error , Other Eye diseases , ENT , Skin and Dental Diseases , viral fever, diarrhea, conjunctivitis, cough and cold and nonspecific sign and symptoms.

Table 3: Sex Wise Distribution of Morbidity among the Participants aged ≥ 60 years.(N=610)

Morbidity	Male	Female	Total
Diabetes	29 (38.15%)	47(61.85%)	76
Hypertension	45(30.36%)	102(69.38)	147
Arthritis	11(17.46%)	52(69.38%)	63
GI Tract Disease	14(29.17%)	34(70.83%)	48
Cardiovascular Diseases	4(30.77%)	9(69.23%)	13
Others Diseases	125(47.52%)	138(58.67%)	263
Chi square =26.7, P value= 6.3, df (degrees of freedom)=5			

It was seen in this study that among total participants 12.46 % were diabetic Among the diabetic participants 61.84 % were females.. (Table2&3). Among the participants, 20.67% from Anandanagar GP and 6.06% from Nasibpur GP were found to be suffering from diabetes.

Hypertension was present among 24.09% of the present study population. Among the hypertension patients 69.38 % (102/147) were females and rest were males. Majority of hypertensive patients came from Boichipota GP 46(28.39%) and minimum from Anandanagar GP i.e 32(18.43%). (Table2&3).

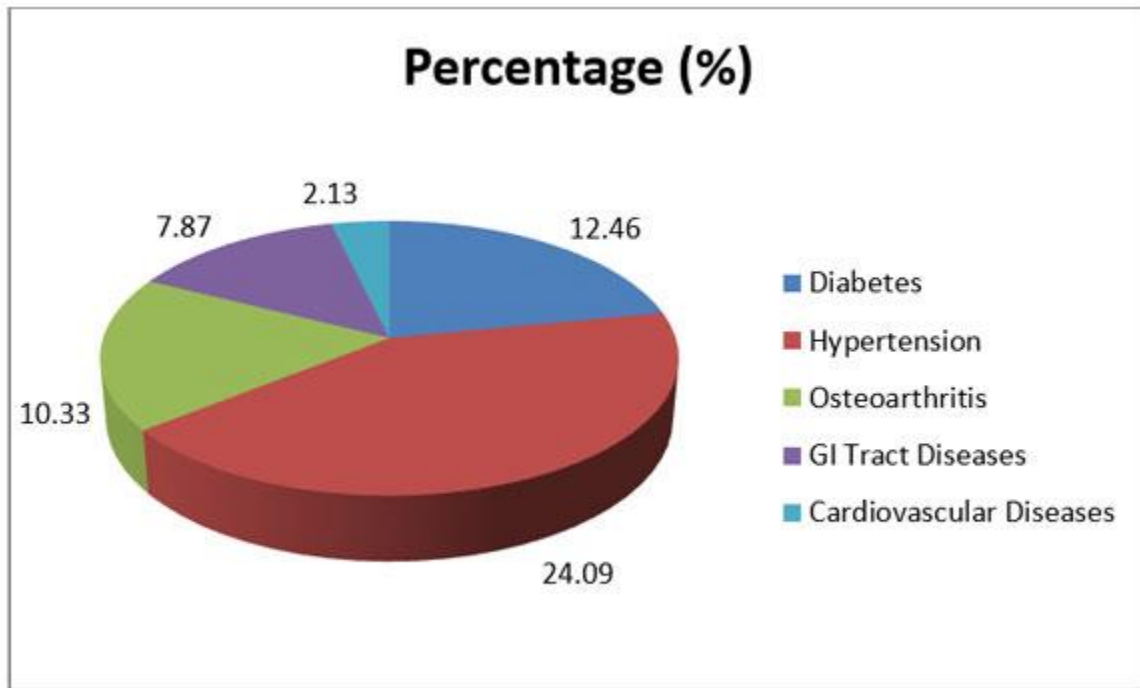
Overall 10.33 % (63/610) of the elderly population was found to suffer from osteoarthritis. Among osteoarthritis population 84% (52/63) were females and rest were males. Maximum osteoarthritis patients in this study belonged to Boichipota.(Table2&3).

Among those who participated in the senior citizen camps 7.87 % (48/610) were reported to suffer from G.I Tract Diseases specially gastritis. Among patients with G.I Tract Diseases, 70.83 % (34/48) were females and rest were males. Participants having G.I Tract Diseases were maximum comes from Anandanagar GP (17.88%) and minimum from Bagdanga Chhinamore GP and Boichipota GP. (Table2&3).

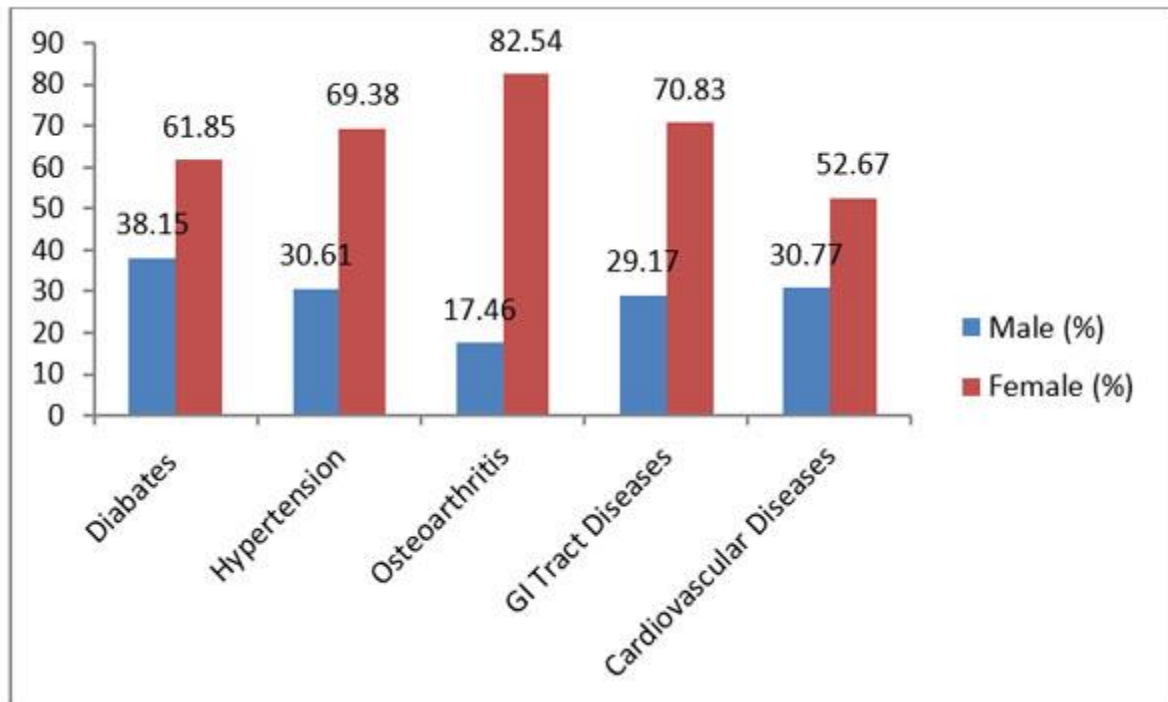
In this study, number of participants suffering from Cardiovascular Diseases was significantly very low (2.13%) and no body was found in Nasibpur and Bagdanga –Chhinamore Gram Panchayat. (Table 2&3). The

study indicated that there was a relation between morbidity pattern and gender of the participants and all the diseases have a higher prevalence among females.

Figure 1: Distribution of Major Morbidity among Participants:



It shows that non communicable diseases (Like Diabetes, Hypertension, and Osteoarthritis) comprises major (47% approximately) cause of morbidity.

Figure 2: Sex wise Distribution of Major Morbidity among the Participants:

It appears from Figure-2 that all the diseases have a higher prevalence in Female.

Discussion:

Financial dependence was found in 9.18 % (56/610) elderly participants which was unlike the finding of NSSO⁷ 52nd round (51.1%) and Elango et al (66%)⁶. Females had outnumbered (62.62 %) males (37.38 %) similar to 55% and 45 % respectively in a study done by Kishore et al. at Wardha ⁶.

Diabetes is becoming an emerging epidemic among the elderly age group⁹. Unlike the study by Kamble et al¹⁰. (5.9%), in the present study 12.46 % were diabetic. Like this study Bhatia et.al¹¹ reported in the Chandigarh study that diabetes was significantly more in females than males.

Present study observed hypertension among almost one fourth of the participants which is not in concordance with a study done by Kavita Banker et al¹², where two fifth participants were suffering from hypertension . Wilking et al¹³. also observed that hypertension appeared to be greater for women than men.

Osteoarthritis (a musculoskeletal disorder) was observed among 10.33 % of participants, which is in disparity with a study done by Kamble et al¹⁰.

Prevalence of G.I diseases is low in present study 7.87 % than the study done by Kamble et al¹⁰. where prevalence of GI diseases is 11.5 %.

According to the Government of India Statistics, Cardio Vascular disorders account 1/3 elderly mortality. In this study, prevalence of Cardiovascular Diseases was significantly low (2.13%) than study done by Bayapareddy¹⁴ et al (49.25%)¹⁴.

Conclusion:

To sum up it was found that most prevalent health problems of the elderly were Diabetes, Hypertension, Osteoarthritis, and G.I Tract Diseases. Organizing counselling / awareness program by health workers to motivate the family members for taking care of elderly population , conducting sensitization programs like Gramin mela or Senior Citizen camps for empowering the geriatric population for self care and adopting healthy life style would reduce these geriatric problems to some extent.

Since in India 75 % of the elderly live in rural area, it is mandatory that geriatric health care service should be made a part of primary health care service. This calls for specialized training of medical officer and health workers. Health infrastructure has also to be framed as per guideline of National Programme for the Health Care of the Elderly (NPHCE), launched by the Government of India in 2011.

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References:

1. The Population year Book 2001 and 2003, (2003) United Nations. Available from <http://unyearbook.un.org>. Accessed on 16/07/2019.

2. United Nations Department of Economic and Social affairs, Population Division (2008), World population Prospects (2008, Revision). Available from www.un.org/en/development/desa/population/.../trends/population-prospects.shtml Accessed on 09/08/2019.
3. Ranjan SI (2004) Chronic Poverty among the Elderly. Working Paper 17, chronic Poverty research Centre, IIPA.
4. Scrow W (2001) Economic and Social implications of Demographic Patterns Book , Hand Book of ageing the social Sciences , Academic Press , New York , USA.
5. WHO. World Health Day–toolkit for organizers. [Last cited on 2012]. Available from <http://www.who.int/world.health.day/2012/toolkit/background/en> Accessed on 19/12/2018.
6. Kishore S, Garg BS: Socio-medical problems of aged population in a rural area of Wardha District Ind. J. Pub. Health, 1997; 41(I): 43-8.
7. NSSO: The aged in India - A socio-economic profile of NSS 52nd round (July 1995-June 1996) Government of India, 1998.
8. Elango S: A study of health and health related social problems in the geriatric population in a rural area in Tamil Nadu Ind. J. Pub. Health, 1998; 42(I): 7-8.
9. Kesavadev JD, Short KR, Nair KS. Diabetes in old age: An emerging epidemic. J Assoc Physicians India 2003;51:1083-94

10. Kamble S.V , Y.D Ghodke , Dhumale G.B , Avcha S. S , Goyal R. C. Health Status of Elderly Persons in Rural Area of India. Indian Medical Gazette August 2012. Available from medind.nic.in/ice/t12/i8/icet12i8p295.pdf accessed on 16/07/2019
11. Bhatia SP, Swami HM, Thakur JS, Bhatia V. A study of health problems and loneliness among the elderly in Chandigarh. Indian J Community Med 2007; 32:255-8.
12. Banker K, Prajapati B , Chauhan J . Indian Journal of Forensic and Community Medicine, October-December 2017;4(4):216-220.
13. 13)Wilking SV, Belanger A, Kannel WB, D'Agostino RB, Steel K. Determinants of isolated systolic hypertension. JAMA 1988;260:3451-5.
14. Piramanayagam A, Bayapareddy N, Pallavi M, Madhavi E, Reddy N.N, Radhakrishna L . A Cross-sectional Study of the Morbidity Pattern Among the Elderly People South India. Int J Med Res Health Sci. 2013;2(3):372-379