

A Study to Assess the Health Care Utilization Pattern of Elderly Rural Population of Mangalore

Digant C Divya¹, Rohit A², Chandan N³, Vijayalaxmi Mangasuli^{4*}

¹Assistant Professor, Department of Community Medicine, Srinivas Institute of Medical Sciences, Mangalore, Karnataka, India

²Associate Professor, Department of Community Medicine, J.J.M Medical College, Davangere, Karnataka, India

³Assistant Professor, Department of Community Medicine, JSS Medical College, Mysuru, Karnataka, India

⁴Assistant Professor, Department of Community Medicine, Basaveshwara Medical College and Hospital, Chitradurga, Karnataka, India

Received: 21-09-2021 / Revised: 17-11-2021 / Accepted: 25-12-2021

Abstract

Background: The Indian aged population is currently the second largest in the world after China. In India, as per 2001 census the population of elderly was 76.6 million as compared to 20 million in 1951.¹ The absolute number of 60 years and over in India will likely to increase to 137 million by 2021 (United Nations,2003). Urbanization, modernization and globalization have changed the traditional concept of family in India, which was to provide social support to ill, dependent and older family members. Over the years, urbanization has led to change in the economic structure, diminishing societal values, weakening the importance of elders in the family. As a consequence of which the older generation is caught between the decline in traditional values and absence to adequate health, care and social security. This study puts in an effort to assess the health care utilization pattern of elderly population of rural population of Mangalore. **Aims and Objectives:** To assess the health care utilization pattern of elderly population of rural population of Mangalore. **Materials and Methods:** The study was conducted in Mangalore and 11 neighbouring villages utilizing the health services of Rural field practice area, Department of Community Medicine, Srinivas Institute of Medical Sciences. **Results:** 89.8% of the elderly subjects didn't have any difficulties in utilizing health care services. **Conclusion:** Majority of the people are utilizing and are very happy with the services provided.

Keywords: Access, Health Care, Utilization, Elderly Population, Rural Population.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Ageing is a process that is universal which involves every living being. It is a normal biological phenomenon, progressive and irreversible process that has been an inevitable part of human existence. It is the results of bodily structural and functional changes taking place in various parts of the body as the age progresses from infancy towards old age[1]. It affects every aspect of human body bringing along a number of changes in the physical, psychological, hormonal and the social conditions. These changes are known to affect the quality of life of the elderly. There will be changes in the body morphology, reduced ability of functioning of body organs, change in interests towards day to day activities, attitude, behaviour and life styles. Health problems will start to accompany as the age progresses. These changes are expected to affect the quality of life of the elderly[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 above[2]. UN projections reveal that India has added a total of about 12.6 million aged persons between 2005 and 2010.

In India, the elderly account for 7.4% [1] (as per 2001 statistics) of the total population of which two-thirds live in villages and nearly half of them in poor conditions. This trend is likely to accelerate further in the coming decades for a variety of socio-demographic and health related reasons which points to the need for understanding its various ramifications, particularly those in the realm of health and its delivery mechanism.

The world health day topic in 2012 was Ageing and health with the theme "Good health adds life to years". The focus was how good health throughout life can help older men and women lead full and productive lives and are a resource for their families and communities. Ageing concerns each and every one of us – whether young or old, male or female, rich or poor – no matter where we live[3].

The Indian aged population is currently the second largest in the world after China. In India, as per 2001 census the population of elderly was 76.6 million as compared to 20 million in 1951[1]. The absolute number of 60 years and over in India will likely to increase to 137 million by 2021 (United Nations,2003). The decadal growth rate among elderly population during 1991-2001 was about 40 percent, which is double than the general population growth of 21 percent. Population ageing is the most significant consequence of the process known as Demographic transition. Reduction in fertility leads to a decline in the proportion of young in the population. Coupled with fertility decline, reduction in mortality enhances the life span of individuals leading to higher life expectancy at older ages. In other words, population ageing involves a shift from high mortality and

*Correspondence

Dr. Vijayalaxmi Mangasuli

Assistant Professor, Department of Community Medicine, Basaveshwara Medical College and Hospital, Chitradurga, Karnataka, India.

E-mail: dr.vijugoka@gmail.com

high fertility to low mortality and low fertility. The population of the world stood at around 6.1 billion in the early 21st century and projected to increase to 9.4 billion in 2050 and 10.4 billion in 2100. If we compare the global population, it has doubled between 1950 and 2000 and likely to add another 4.4 billion in the next 100 years. However, the growth of the elderly population is much higher than that of general population. The proportion of elderly aged 60 and above is expected to grow from 7 percent in 2000 to 14.6 percent in 2025 and 21.1 percent in 2050. Among the elderly, the oldest old (80+) is likely to increase its proportion from just 1.1 percent in 2000 to 3.4 percent in 2050 and 7.1 percent in 2100 AD. If the percentage of elderly population is above seven percent in any country, as per the UN criterion, that country is ageing. In other words, India has emerged as "aging India" in the beginning of the 21st century. Thus twenty first century is the century of old[4].

In Karnataka, the estimated elderly population was 3,837,000 in 2001 and projected to be 9,681,000 by 2026 (Census of India, 2001)[5]. This increasing number of elderly has a great demand on the health services and social security measures. At present the ageing has become a social problem as the socioeconomic shifts are affecting the family to continue with the care of their aged. Traditionally our Indian families had always borne the responsibility of looking after the aged but the changing times and industrialization has threatened this yester year culture. As a result family care of the elderly becomes more and more difficult and is leaving the aged to feel lonely, dependent and marginalized[1].

Urbanization, modernization and globalization have changed the traditional concept of family in India, which was to provide social support to ill, dependent and older family members. Over the years, urbanization has led to change in the economic structure, diminishing societal values, weakening the importance of elders in the family. As a consequence of which the older generation is caught between the decline in traditional values and absence to adequate health, care and social security[5].

These collective changes are affecting the quality of life of almost all the elderly. Chronic morbid conditions that generally accompany elderly are associated with increased prevalence of social and psychological disturbance. These problems in turn can aid in precipitating, exacerbating and aggravating the physical illness leading to a vicious cycle. So the factors such as health status, extent of disability, perceptions about one's illness, availability of familial support, social security, medical care and psychological well-being are important determinants of the quality of life of elderly. This study puts in an effort to assess the health care utilization pattern of elderly population of rural population of Mangalore.

Aims and objectives

To assess the health care utilization pattern of elderly population of rural population of Mangalore

Materials and methods

Study Design

This was a community based cross sectional study.

Study Period

The study was conducted over a period of one year, from December 2017 to November 2018.

Study Area

-

Results

Table 1: Nearest health facility for the study subjects (n = 441)

Nearest health centre	Male		Female		Total	
	n	%	n	%	n	%
Govt PHC	57	12.9	37	8.4	94	21.3
SIMS RHTC	187	42.4	160	36.3	347	78.7
Total	244	55.3	197	44.7	441	100

The study was conducted in Mangalore and 11 neighbouring villages utilizing the health services of Rural field practice area, Department of Community Medicine, Srinivas Institute of Medical Sciences.

Study Subjects

The study subjects consist of population aged 60 years and above residing in the study area.

Inclusion criteria: Individuals who were aged 60 and above residing in the study area and willing to give consent to be a part of this study.

Exclusion Criteria

The study excluded those individuals who were:

- individuals who are aged around 60 but age could not be validated that the age is above 60.
- individuals who didn't want to reveal their details about their health.
- families who refused to let their elderly family member to be a part of the study.

Sample Size

The formula used for calculating sample size as follows:

$$n = Z^2 P (1-P)/e^2$$

Where, Z = level of confidence (1.96)

e = margin of error

P = Prevalence of the disease (a few studies that have been conducted among the elderly in Southern India, reported the prevalence of morbidity in the range of 40-50%^{14,15}) P was taken as 50% for calculation of sample size for the current study.

Taking margin of error as 10%, the sample size came out to be 400. Assuming non-response rate to be 10%, 440 individuals were included for the study from the study area, which was having a total population of 30,258.

Sampling Technique

The subjects were selected from each village by proportion to the population of eligible subjects present in the village. The population of 12 selected villages was 3069, 1989, 1950, 2050, 2500, 600, 3200, 3400, 3500, 2600, 2300 and 3100. Number of elderly subjects selected among these villages using Probability Proportional to Size (PPS) sampling technique are 45, 29, 28, 30, 36, 9, 46, 49, 51, 38, 33 and 45 respectively. And then, the respective ASHA workers of the concerned village(s) were contacted. A list of elderly people in that particular village was prepared. The first subject was randomly selected from the first 10 names in the list and was interviewed for the study after valid consent. Thereafter, next elderly was selected from the list using every third person (Systematic random sampling technique), until the required sample size was obtained in that village. If elderly person was not available at the time of visit to the house, then a maximum of 2 more visits were paid to meet the particular elderly during subsequent visits to that village. When that elderly person was still unavailable, then the next elderly person in the list was chosen as the subject. This procedure was followed in all the villages till the required sample number was obtained from the study area.

Study Instruments

The following study questionnaires were used for the study:-

- A proforma for collection of socio-demographic profile and assessment of health services utilization by the elderly.

Table 2: Distribution of preferred health centers among the study subjects (n =441)

Nearest Health Facility			Sex				Total	
			Male		Female			
			n	%	n	%	n	%
Govt. PHC	Preferred centre	Govt. PHC	36	38.3	29	30.9	65	69.1
		SIMS RHTC	10	10.6	8	8.5	18	19.1
		Private hospital	11	11.7	0	0.0	11	11.7
	Total	57	60.6	37	39.4	94	100	
SIMS RHTC	Preferred centre	Govt. PHC	15	4.3	5	1.4	20	5.8
		SIMS RHTC	167	48.1	143	41.2	310	89.3
		Private hospital	3	0.9	5	1.4	8	2.3
		AYUSH doctors	2	0.6	7	2.0	9	2.6
	Total	187	53.9	160	46.1	347	100	

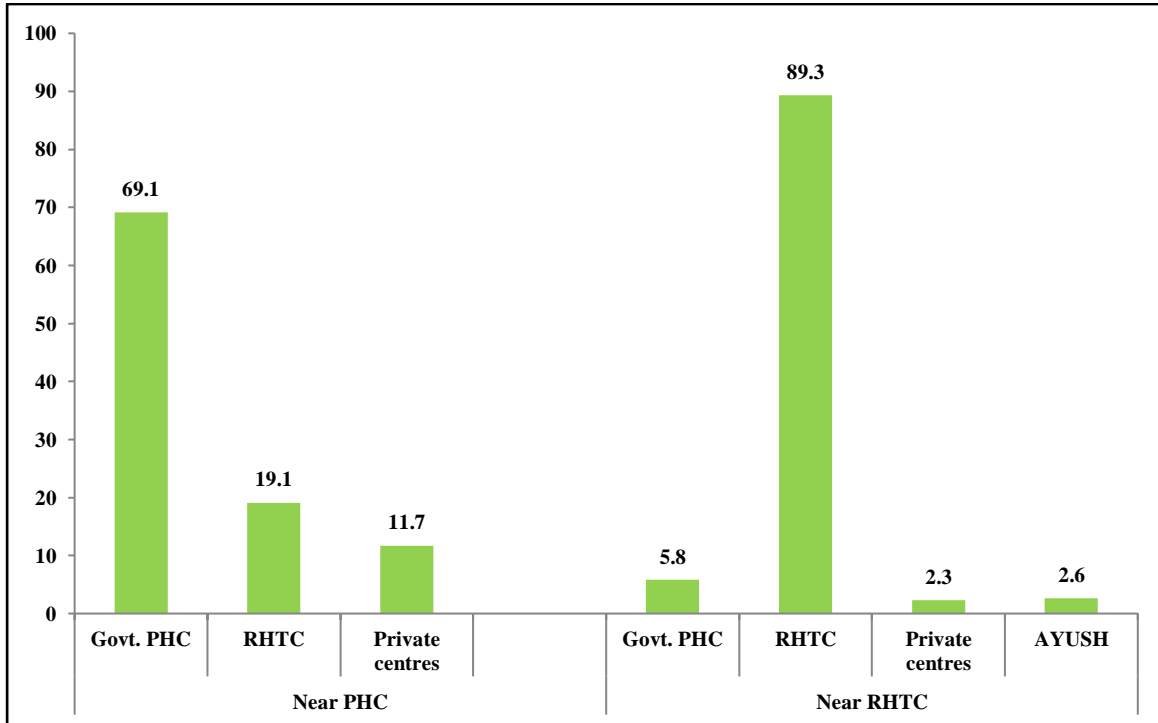


Fig. 1: Distribution of most preferred health centers among the subjects residing close to PHC and RHTC

Table 3: Frequency of utilization of healthcare services (n = 441)

Nearest health facility			Sex				Total	
			Male		Female			
			n	%	n	%	n	%
Govt. PHC	Frequency	Weekly once	3	3.2	0	0	3	3.2
		Monthly once	7	7.4	4	4.3	11	11.7
		When ever ill	45	47.9	33	35.1	78	83
		Not utilizing	2	2.1	0	0	2	2.1
	Total	57	60	37	39.4	94	100	
SIMS RHTC	Frequency	Weekly once	6	1.7	8	2.3	14	4
		Monthly once	20	5.8	23	6.6	43	12.4
		Whenever ill	161	46.4	128	36.9	289	83.3
		Not utilizing	0	0	1	0.3	1	0.3
	Total	187	53.9	160	46.1	347	100	

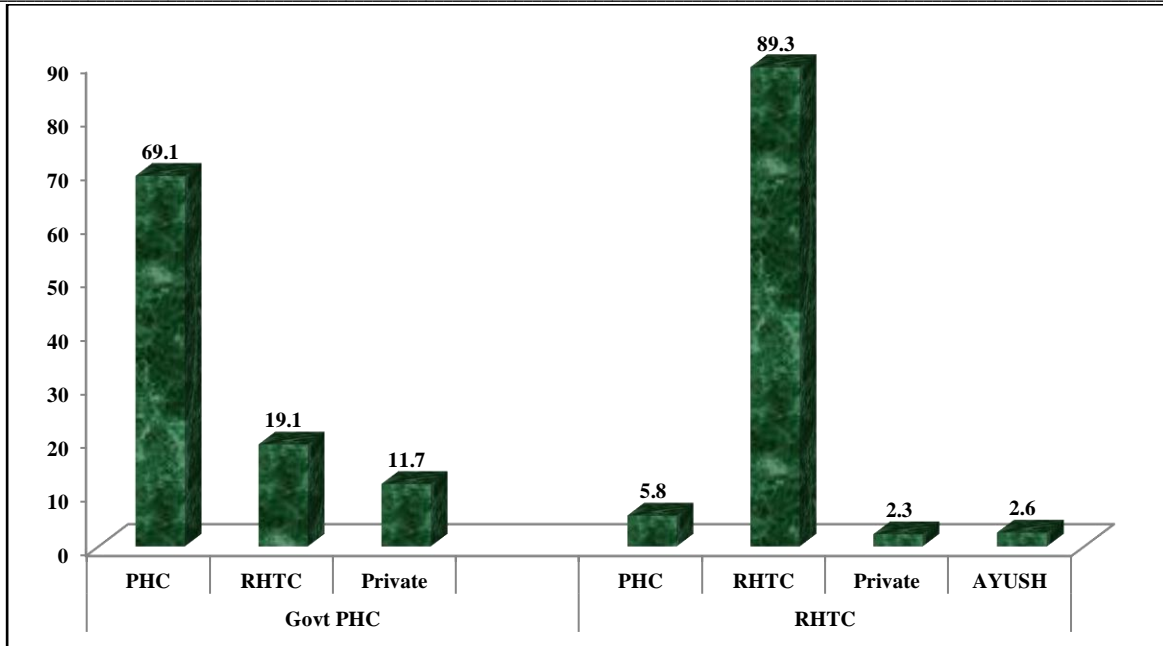


Fig. 2: Frequency of utilization of healthcare services as per residence to nearest health care centers

Table 4: Opinion about facilities available at preferred health center (n = 441)

Nearest Health Facility			Sex				Total	
			Male		Female		Total	
			n	%	n	%	n	%
Govt PHC	Adequate facilities	No	3	3.2	0	0	3	3.2
		Yes	54	57.4	37	39.4	91	96.8
	Total		57	60.6	37	39.4	94	100
SIMS RHTC	Adequate facilities	No	2	0.6	4	1.2	6	1.7
		Yes	185	53.3	156	45	341	98.3
	Total		187	53.9	160	46.1	347	100

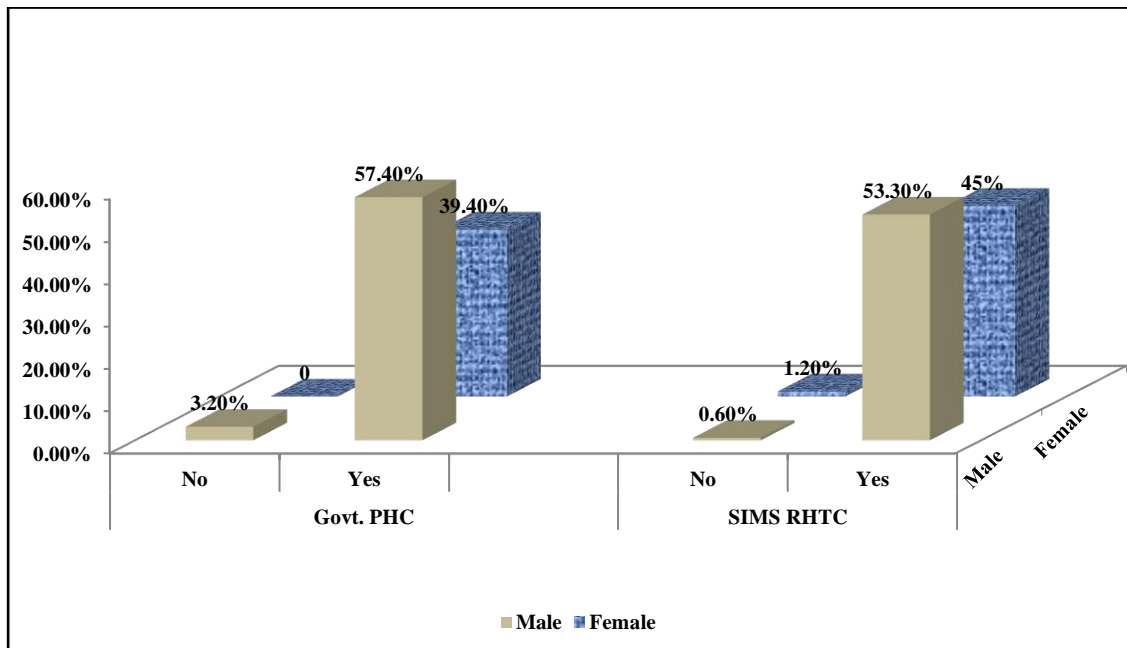


Fig. 3: Opinion about adequate facilities being available at preferred health center (n = 441)

Table 5: Distribution of preferred centers for healthcare among the study subjects (n = 441)

	Sex				Total	
	Male		Female		n	%
	n	%	n	%		
Govt. PHC	51	11.6	34	7.7	85	19.3
SIMS RHTC	177	40.1	151	34.2	328	74.4
Private hospital	14	3.2	5	1.1	19	4.3
AYUSH	2	0.5	7	1.6	9	2
Total	244	55.3	197	44.7	441	100

Table 6: Distribution of problems in accessing healthcare (n = 441)

	Sex				Total	
	Male		Female		n	%
	n	%	n	%		
Monetary	1	0.2	0	0	1	0.2
Distance	8	1.8	10	2.3	18	4.1
Non-Co-operative family members	3	0.7	7	1.6	10	2.3
Non availability of services	8	1.8	0	0	8	1.8
Other reasons	6	1.4	2	0.5	8	1.8
No difficulties for accessing	218	49.4	178	40.4	396	89.8
Total	244	55.3	197	44.7	441	100

Discussion

Though majority of the subjects preferred their respective nearest health centers, but some subjects had different preference. Though only their most preferred centers are listed below, subjects used either of the available services depending on the necessities and situation. Some of the patients, who felt they are healthy, reported that they do not utilize any of those services at all but still they had preference to avail the service, if deemed necessary. In a study by Choudhary M et al, in the year 2012 did a study to assess the morbidity pattern and treatment seeking behavior of geriatric population in Jamnagar city, 29% of the subjects approached the health care facility regularly and 71% of them visited only when ill[6]. In a study done by Gupta RD et al, at Dhaka, in the year 2014 to study the morbidity pattern and health care utilization pattern, 12.19% of males and 11.38% of female subjects, so a total of 12.23% of the subjects were utilizing the health care once a month. 28.13% of the study subjects were utilizing the services, once in 3 months. 4.6% of the subjects visited only when required without any fixed pattern of visit. There were none among the subjects who didn't utilize the services[7]. In a study done by Qadri S et al, the coverage of utilization of government services among the elderly was just 7.3% in contrast to our study. 28.9% of the subjects were using the RHTC facility which was significantly lower compared to our study. And notably, 52.7% of them depended on unqualified private doctors. 17.3% of them depended on private hospitals and 0.11% of them depended on faith healers[8]. In a study done by Gupta RD et al, at Dhaka, in the year 2014 to study the morbidity pattern and healthcare utilization pattern, 33% subjects utilized the government health facility. 8% utilized private hospitals & 25% of them depended on private practitioners. 20% of them depended on self-medication from pharmacies. 12% of the subjects depended on homeopathic treatment and 2% depended on home medications[7]. In a study done by Narpureddy B et al, 18.8% of the elderly utilized the government service which was close to our study finding. 45.8% of elderly depended on private practitioners for treatment. 32.2% of the subjects depended on non-registered practitioners and 3.2% depended on other services[9]. In a study done by Hakmaosa A et al, 51.5% of the elderly subjects were using government services. Private practitioners were depended upon by 25.7% subjects. 26.5% of the subjects depended upon self-medication through pharmacies and 0.7% of the subjects depended upon quacks. The same study also revealed that 98.5% of the subjects depended on Allopathic medications and traditional medicines were preferred by 0.7% subjects. Whereas Ayurveda and Homeopathy medicines were preferred by 0.4% of elders[10]. In a study done by Nipun A et al, 72% of the elderly depended on Allopathic medicines, Ayurveda medicines by 3% and Homeopathic medicines by 8% in contrast to our study where only 2% preferred AYUSH treatment[11]. In a study done by

Gupta M et al, the elderly utilizing the government healthcare services was 35.3%. Private hospitals were preferred by 26.7% of the subjects, 4% preferred unqualified persons and 34% said they didn't take any treatment in contrast to our study where only a fraction of percentage of subjects didn't prefer to take any treatment[12]. In a study done by Narpureddy B et al, elderly subjects faced issues in accessing healthcare from the nearest government hospital and among the reasons stated, non-availability of drugs was the reason stated by 10.5% of the subjects and poor facilities was stated by another 10.5% subjects[9]. In a study done by Hakmaosa A et al, in contrast to our study, around 62.3% of the elderly subjects were not seeking treatment for their ailments due to financial reasons. 39.6% reasoned it to be due to old age disease. Distance was the major problem for 27.4% subjects[10]. In a study done by Jabeen S et al, 23% of the elderly study subjects said medicines were expensive, 20.3% said health care services were far away & 20.9% felt service providers were not available[13]. In a study done by Yerpude PN, to study the health problems and health - seeking behavior of elderly, the most common reasons for non-compliance for medications was high cost of medicines which accounted to 39.34% of the study subjects[14]. A study done by Qadri S et al, found that 33.3% of elderly felt the nearest health care facility was far from home. 10.8% felt there was lack of doctors, 20.6% felt there was lack of medicines and 17.7% felt the staffs were not cooperative[8].

Conclusion

89.8% of the elderly subjects didn't have any difficulties in utilizing health care services. 4.1% of the subjects had difficulty due to distance from their residence. 2.3% of the subjects had non-cooperative family members. 1.8% subjects cited non availability of services to be the reason for not availing.

References

1. Sowmiya KR, Nagarani. A study on quality of life of elderly population in Mettupalayam, a rural area of Tamilnadu. *Nat J Res Comm Med* 2012;1(3):139-43.
2. Hameed S, Brahmabhatt KR, Patil DC, Prasanna KS, Jayaram S. Quality of life among the geriatric population in a rural area of Dakshin Kannada, Karnataka, India. *Global J Medicine and Public Health* 2014;3(3):9604.
3. World Health Day - 7 April 2012; Theme Ageing and health: Good health adds life to years [Internet]; Available from: <http://www.who.int/world-health-day/en/>. [Last accessed on 2nd September 2016]
4. Indira Gandhi institute of development research.[homepage on the Internet]. IGIDR Working Paper: Deprivation and vulnerability among elderly in India [Internet]; Available from:

-
- <http://www.igidr.ac.in/pdf/publication/WP-2011-013.pdf>[Last accessed on 2nd September 2016]
5. Asadullah M et al. A study on morbidity profile and quality of life of inmates in old age homes in Udupi district, Karnataka, India. *Int J Basic and Applied Med Sci* 2012;2(3):91-7.
 6. Mahesh et al. Morbidity pattern and treatment seeking behavior of geriatric population in Jamnagar city. *J Res Med and Dental Sci* 2013;1(1):12-6.
 7. Gupta RD, Loha A, Roy S. Morbidity pattern and health seeking behavior among the senior citizens in a selected urban area of Bangladesh: a cross sectional study. *South East Asia Journal of Public Health* 2015;5(2):43-9.
 8. Qadri SS, Ahluwalia SK, Ganai AM, Bali SP, Wani FA, Bashir H. An epidemiological study on quality of life among rural elderly population of Northern India. *Int J Med Sci Public Health* 2013;2:514-22.
 9. Narupureddy B, Navven KH, Madithati P, Singh RK, Pirabu RA. Socio-demographic profile and health care seeking behavior of rural geriatric population of Allahabad district of UP: a cross sectional study. *Int J Med Science and Public Health* 2012;1(2):87-92.
 10. Hakmaosa A, Baruah KK, Baruah R, Hajong S. Health seeking behavior of elderly in rani block, Kamrup (rural) district, Assam: a community based cross sectional study. *Int j Community Med Public Health* 2015;2(2):162-6.
 11. Agarwal N, Shrotriya VP, Singh K, Danish I. Healthcare services utilization by geriatric population in rural area of district Bareilly, India. *Int J Current Microbiology and Applied Sciences* 2015;4(5):720-7.
 12. Assessment of clinic-socioeconomic status and health care support among the elderly people aged older than 60 years in urban population of Bhopal, central India. *Int J Medical Sciences and Public Health* 2015;4(4):558-64.
 13. Jabeen S et al. Morbidity pattern and health seeking behavior among the senior citizens in selected rural areas of Bangladesh. *J Dhaka Med Coll* 2013;22(2):129-35.
 14. Yerpude P, Jogdand K, Jogdand M. A cross sectional study of health problems and health care seeking behavior of aged population from rural area of South India. *Int J Health Sci Res* 2014;4(3):29-32.

Conflict of Interest: Nil Source of support: Nil